



**16-18 / MAY / 2025**

University Metropolitan Tirana

**TIRANA / ALBANIA**



UNIVERSITETI  
METROPOLITAN  
TIRANA



ΧΑΡΟΚΟΠΕΙΟ ΠΑΝΕΠΙΣΤΗΜΙΟ  
HAROKOPIO UNIVERSITY



UNIVERSIDAD  
DE MÁLAGA

**eAM'**  
ESCUELA ARQUITECTURA MÁLAGA

# 12<sup>th</sup> International **EUROPEAN CONGRESS ON SCIENTIFIC RESEARCH**

Social Sciences and Humanity, Natural and Environmental Sciences, Engineering Sciences,  
Agriculture and Veterinary Sciences, Medicine and Health Sciences,  
Multidisciplinary Studies

## **ABSTRACT BOOK**

**Editor**

**Dr. Karel SMEJKAL**

**ISBN: 979-8-89695-072-1**

# 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES

May 16-18, 2025, Albania  
University Metropolitan Tirana

## ABSTRACT BOOK

### Editor

Dr. Karel SMEJKAL

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adopted by Mariam Rasulan

**ISBN - 979-8-89695-072-1**

# CONGRESS ID

## TITLE OF CONGRESS

12. INTERNATIONAL  
EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES

## PARTICIPATION

Keynote & Invited

## DATE - PLACE

May 16-18, 2025, Albania  
University Metropolitan Tirana

## HONORARY PRESIDENT OF CONGRESS

Prof. Dr. Nikolla Civici  
Rector of University Metropolitan Tirana

## HEAD OF ORGANIZING COMMITTEE

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University Metropolitan Tirana

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University Metropolitan Tirana  
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Institute for Educational Research, Belgrade, Serbia  
Dr. Petra Anić  
Assistant Professor, University of Rijeka, Croatia  
Dr. Muntazir MEHDI  
Professor, National University of Modern Languages  
Dr. Terane NAGIYEVA  
Assist. Prof., Azerbaijan State Pedagogy University

## **COORDINATOR**

Dr. Alina AMANZHLOVA

## **PARTICIPATING COUNTRIES (21)**

Albania, Türkiye, Azerbaijan, Morocco, Canada, India, Nigeria, Algeria,  
Iraq, Vietnam, Tunisia, Pakistan, Georgia, Ukraine, Indonesia, Yemen,  
Malaysia, Bulgaria, Italy, Portugal, Serbia

## **TOTAL PAPERS: 213**

The number of abstracts from foreign countries: **108**

The number of abstracts from Türkiye: **105**

## **LANGUAGES**

Turkish, English



## 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES



### PHOTO GALLERY



## 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES





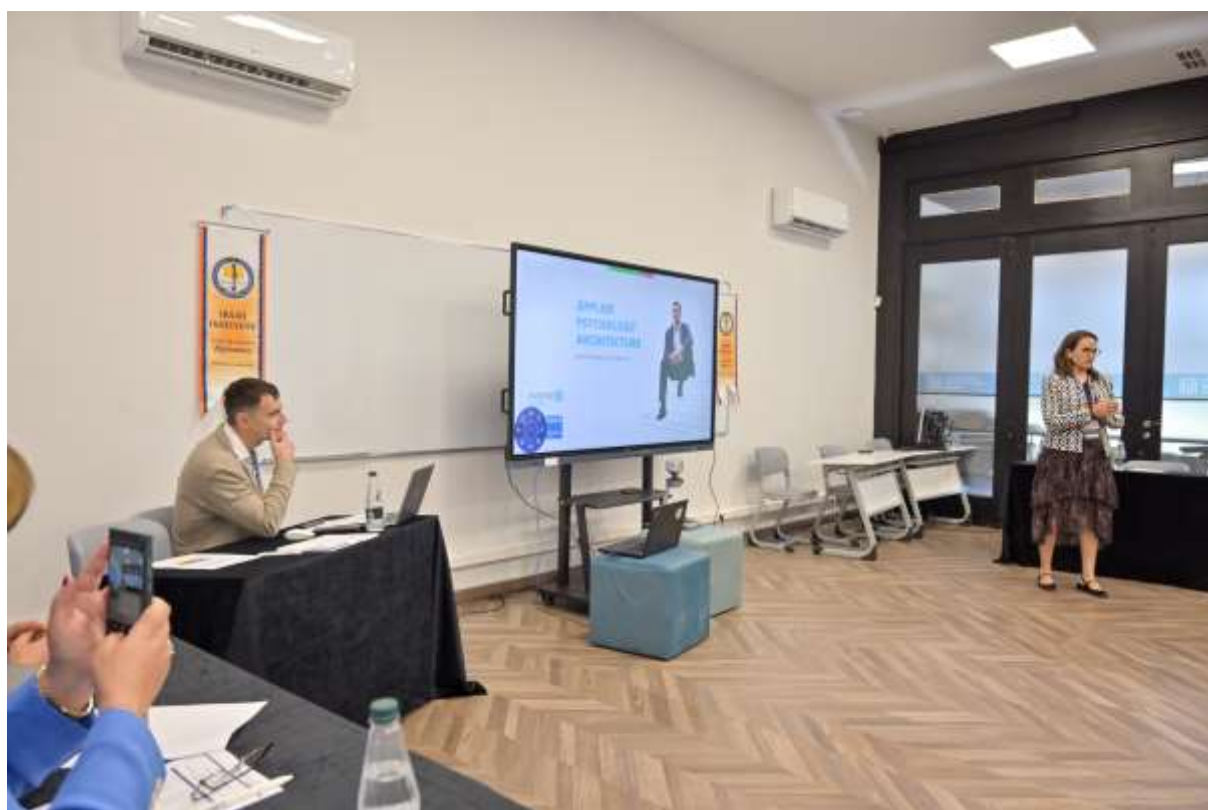
## 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES



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## 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES



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## 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES



## 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES



zoom Workplace Meeting - HALL 4

May 17 09:50

Recording...

MATEMATİK ÖĞRETMENİ ADAYLARININ  
HAZIRLADIKLARI SENARYOLAR YOLUYLA  
MATEMATİKSEL İLİŞKİLENDİRME  
BECERİLERİNİN İNCELENMESİ

DOÇ.DR. NADİDE YILMAZ

observer hall 4

observer hall 4

Nuryeter Şahan Hall 4

Hall-4, Dilek Nalle RUHCAN

Hall-4 Nadide Yılmaz

Hall-4, GÜLSAH GÜLER

Hall-4, Şükriye SAĞLAM

Unmute Start video Participants Pause/stop recording Chat React Share Breakout rooms More Leave room

zoom Workplace Toplantı

Mohamed El Hassan BOUCHARI

Giriş yapın Kaydediliyor... Görüntüle

Observer Hall-7

Mohamed El Ha...

MEZERKET Amina

Observer Hall-7

Mohamed El Hassan BO...

MEZERKET Amina

12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES  
IN BASIC SCIENCES  
MAY 16-18, 2025 / UNIVERSITY METROPOLITAN TIRANA, ALBANIA

Assessment of the Reliability of THE Thiobarbituric Acid (TBA) Method for  
the Quantification of Malondialdehyde (MDA) in *Thymus saturejoides*.

Laboratory of Agro-industrial and Medical Biotechnologies, Faculty of Sciences and Techniques, Sultan Moulay  
Slimane University, Beni Mellal, Morocco.

Laboratory of Agri-food, Biotechnologies and Valorisation of Plant Bioresources, Faculty of Sciences Semlalia, Cadi  
Ayyad University, Marrakech, Morocco.

Prepared by: Mohamed El Hassan BOUCHARI

Supervised by : Pr. Abdelmajid HADDIOUT  
Pr. Abdelilah MEDDICH

Katılımcılar (3)

OH (Ortak oturum sahibi, ben)

ME Mohamed El Hassan BOUC...

MA MEZERKET Amina

Tümünü Sesize Al

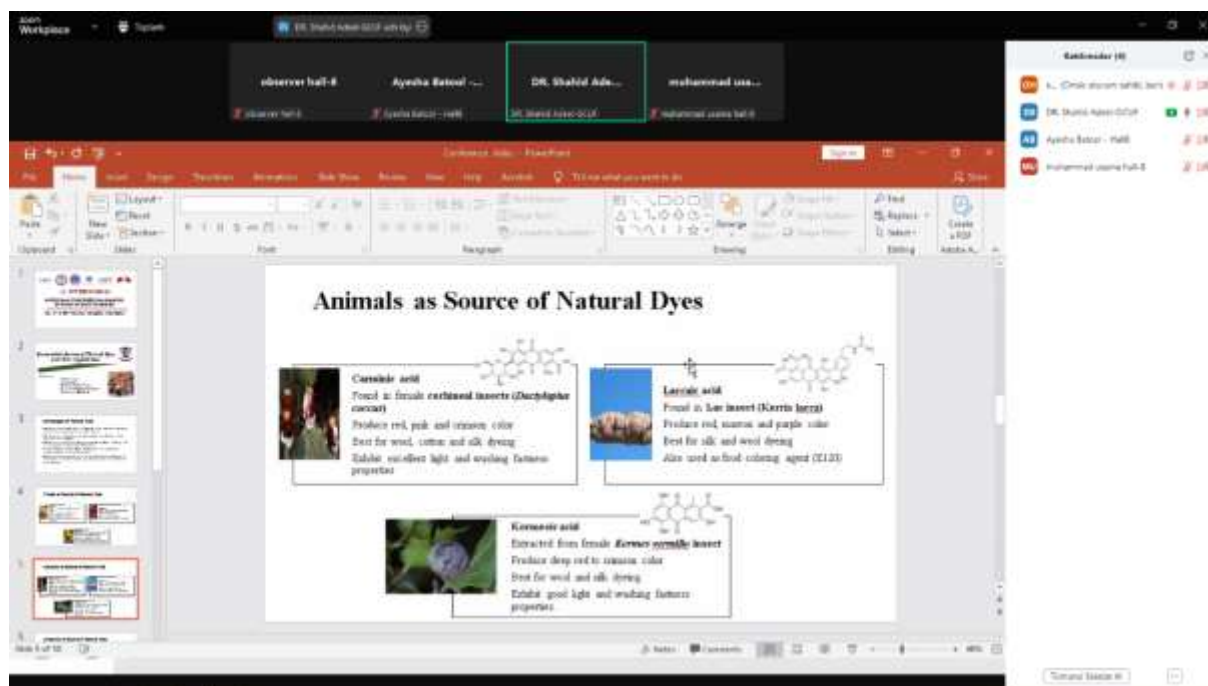
Sık sık yükseliyor

10:33

May 16-18, 2025, Albania  
University Metropolitan Tirana



## 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES





## 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES

May 16-18, 2025, Albania  
University Metropolitan Tirana

### CONGRESS FACE TO FACE PROGRAM



**Address:**

[https://maps.app.goo.gl/vT1idbUDThC1CkUU7?g\\_st=com.google.maps.preview.copy](https://maps.app.goo.gl/vT1idbUDThC1CkUU7?g_st=com.google.maps.preview.copy)

## **- Opening Ceremony-**

17.05.2025

Time (Tirana): 8:30-09:15

## **- Keynote Speakers-**

17.05.2025

Time (Tirana): 9:15-10:15

Dr. Karel Smejkal (Director of Inspireli Awards)

**The story of Inspireli Awards and Inspireli Education**

Dr. Paolo Vimercati (Lecturer at Oxford Brookes or Visiting  
Professor at UMT)

**Human-Centric Urban Regeneration**

Adress: Metropolitan Innovation Center

University Metropolitan Tirana

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**FACE TO FACE  
HALL-1  
Module: Architecture and Engineering  
17.05.2025**

**Moderator: Dr. Karel Smejkal**  
**Address: Metropolitan Innovation Center / University Metropolitan Tirana**  
**Tirana Local Time: 10:30 – 12:00**

TITLE	AUTHOR(S)	AFFILIATION
EFFECT OF STONE COLUMNS IN SOIL IMPROVEMENT	Erdal Emre Çeçen Diana Bardhi	Metropolitan University of Tirana
FROM BAUHAUS TO TIRANA, A COMPLICATED BUT TRUE STORY	Anna Yunitsyna Ernest Shtepani	Metropolitan Tirana University
AN ASSESSMENT OF OPEN SPACE AND ACTIVITIES DISTRIBUTION IN CONTEMPORARY RESIDENTIAL COMPLEX: A CASE STUDY FROM TIRANA, ALBANIA	Anna Yunitsyna Adelina Mehalla Katerina Lika Ketjona Bullari Marinela Pjetri	University Metropolitan Tirana Epoka University
GAMIFIED LISTENING ASSESSMENT FOR ESP LEARNERS: EXPLORING MOTIVATION AND SKILL DEVELOPMENT IN TECH-MEDIATED ENVIRONMENTS	Sonila DAIU Krisalda MIHALI	University Metropolitan Tirana
CHANGE OF STABILITY PARAMETERS AS A RESULT OF DIFFERENT SWEEP ANGLE VARIATIONS FOR A FIXED WING UNMANNED AERIAL VEHICLE	Tolunay DAĞ Barlas ÖZGÜR Fırat ŞAL Tuğrul OKTAY	Iskenderun Technical University Erciyes University
FOR PISTON-PROP POWERED TUAVs EFFECT of BOTH LOWER and UPPER CHORD LENGTHS VARIATION on AUTONOMOUS FLIGHT CONTROL SYSTEM's CONTROLLER COST	Barlas ÖZGÜR Fırat ŞAL Tuğrul OKTAY	Iskenderun Technical University Erciyes University
NOISE POLLUTION FROM ROAD TRAFFIC IN TIRANA	Nikolla NIKA	University Metropolitan Tirana

## FACE TO FACE

### HALL-2

**17.05.2025**

**Moderator: Dr. Ernest Shtepani**

**Address: Metropolitan Innovation Center / University Metropolitan Tirana**

**Tirana Local Time: 10:30 – 12:00**

TITLE	AUTHOR(S)	AFFILIATION
TABLE OLIVE PROCESSING WASTEWATER TREATMENT WITH HOMOGENEOUS FENTON PROCESS	<b>Ebru ÇOKAY</b> Deniz DÖLGEN Necdet ALPASLAN Nagihan ÖZGÜMÜŞ	Dokuz Eylul University
COMPARATIVE LIFE CYCLE ASSESSMENT AND ECONOMIC ANALYSIS OF BIOHYDROGEN PRODUCTION PROCESSES	<b>Serkan EKER</b> Ebru ÇOKAY	Dokuz Eylul University
FOOD CHOICE MOTIVATIONS ON A SAMPLE OF PORTUGUESE CITIZENS	<b>Raquel Guiné</b> <b>Sofia Florença</b> <b>Paula Correia</b>	Polytechnic University of Viseu
ANALYSIS OF GOVERNANCE MODELS FOR SUSTAINABLE AND HEALTHY FOOD SYSTEMS	<b>Sofia Florença</b> Ana Luísa Amaral Filipa Costa Raquel Guiné Cristina Amaro Costa	Polytechnic University of Viseu
PROPERTIES OF DRY PASTA ENRICHED WITH BEE DRONE BROOD POWDER	<b>Paula Correia</b> Gisela Teixeira Ana Ferrão Raquel Guiné António Moitinho Filipa Pitacas João Gonçalves	Polytechnic University of Viseu
INVESTIGATING THE VARIABILITY OF HONEY IN DIFFERENT MUNICIPALITIES: SPECTROSCOPIC AND PHYSICOCHEMICAL INSIGHTS INTO PDO AUTHENTICITY	Soraia I. Pedro Ceren Mutlu Soraia I. Falcão Natália Roque Fátima Peres Miguel Vilas-Boas <b>Ofélia Anjos</b>	Polytechnic University of Castelo Branco Mountain Research Centre (CIMO), Polytechnic Institute of Bragança
BIBLIOGRAPHY REVIEW OF NURSING-RELATED POSTGRADUATE THESES CONDUCTED WITH CHILDREN DIAGNOSED WITH TYPE 1 DIABETES	<b>Merve KOYUN</b>	Ondokuz Mayıs University
DOES CHILD ABUSE AND NEGLECT EDUCATION AFFECT THE AWARENESS LEVELS OF UNIVERSITY STUDENTS? AN EXPERIMENTAL RESEARCH	Hatice UZŞEN <b>Merve KOYUN</b> Esra TURAL BÜYÜK	Ondokuz Mayıs University
NURSING DIAGNOSES BASED ON NANDA AND NIC-NURSING INTERVENTIONS OF A PATIENT WHO HAD INTRACRANIAL HEMORRHAGE DUE TO RUPTURED ANTERIOR COMMUNICATING ARTERY (ACOMA) ANEURYSM	<b>Cansev BAL</b>	Ondokuz Mayıs University



INDIVIDUALISED NURSING CARE AND THE IMPORTANCE OF THE CONCEPT OF SPIRITUALITY	<b>Cansev BAL</b>	Ondokuz Mayıs University
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**FACE TO FACE**

**HALL-3**

**17.05.2025**

**Moderator: Prof. Dr. Ruya SAMLI**

**Address: Metropolitan Innovation Center / University Metropolitan Tirana**

**Tirana Local Time: 10:30 – 12:00**

TITLE	AUTHOR(S)	AFFILIATION
THE EFFECT OF TRUST IN TEAMS AND TEAM-MEMBER EXCHANGE ON TEAM PERFORMANCE	Tamer BOLAT <b>Oya SEYMEN</b> Oya İnci BOLAT Çiğdem GÖKÇE <b>Özlem AYDIN</b>	Balıkesir University
OPTIMIZATION OF MICROCARRIER-BASED CULTIVATION OF VERO CELLS AND STIRRING STRATEGY IN STIRRED BIOREACTOR	<b>Şükran YILMAZ</b> <b>Nilay ÜNAL</b> Yusuf AVCIOĞLU Zeliha DEMİR Taşkın DENİZ Şenol DİNLER Derya ATASOY Hüseyin ZENGİN	Foot and Mouth Disease (Sap) Institute Dollvet Biotechnology
ONE ASPECT OF NATO'S ENERGY SECURITY: THE NEXUS OF CLIMATE AND ENERGY TRANSITION	Çiğdem ŞAHİN	Niğde Ömer Halisdemir University
A BLOCKCHAIN BASED MODEL ENHANCED WITH MACHINE LEARNING IN THE CASE CLASSIFICATION FOR DIGITAL FORENSIC AND INCIDENT RESPONSE (DFIR)	<b>Mehmet MERAL</b> <b>Hasan Hüseyin SAYAN</b> <b>Furkan ÜSTÜNSOY</b>	Gazi University
RNNOISE: EFFICIENT REAL-TIME NOISE SUPPRESSION USING RECURRENT NEURAL NETWORKS	Ertugrul DEMİR Baransel ZONGOR Sinan KARA <b>Ruya SAMLI</b>	AloTech Bilişim Istanbul University -Cerrahpasa
COMPARISON OF MOBILE APPLICATION DEVELOPMENT PLATFORMS	Opeyemi Temitayo Agboola Zeynep Behrin GUVEN AYDIN <b>Ruya SAMLI</b>	Gokkusagi College Dogus University Istanbul University-Cerrahpasa
LINKING KARST GEOLOGY TO GROUNDWATER CHEMISTRY: HYDROGEOCHEMICAL INSIGHTS FROM ULA, SW TÜRKİYE	<b>Günseli ERDEM ALTIN</b>	Yeditepe University



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Institute of Economic Development  
and Social Research



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# 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES

May 16-18, 2025 / University Metropolitan Tirana, Albania

## ONLINE PROGRAM

**Meeting ID: 813 0348 3436**

**Passcode: 161718**

<https://us02web.zoom.us/j/81303483436?pwd=kdJaUpUYX3qbtHn2KeURedoW2zNrYr.1>

### PARTICIPANT COUNTRIES (21):

Albania, Türkiye, Azerbaijan, Morocco, Canada, India, Nigeria, Algeria, Iraq, Vietnam, Tunisia, Pakistan, Georgia, Ukraine, Indonesia, Yemen, Malaysia, Bulgaria, Italy, Portugal, Serbia

## **ÖNEMLİ, DİKKATLE OKUYUNUZ LÜTFEN / IMPORTANT, PLEASE READ CAREFULLY**

### **Önemli, Dikkatle Okuyunuz Lütfen**

- ✓ Kongremizde Yazım Kurallarına uygun gönderilmiş ve bilim kurulundan geçen bildiriler için online (video konferans sistemi üzerinden) sunum imkanı sağlanmıştır.
- ✓ Online sunum yapabilmek için <https://zoom.us/join> sitesi üzerinden giriş yaparak “Meeting ID or Personal Link Name” yerine ID numarasını girerek oturuma katılabilirsiniz.
- ✓ Zoom uygulaması ücretsizdir ve hesap oluşturmaya gerek yoktur.
- ✓ Zoom uygulaması kaydolmadan kullanılabilir.
- ✓ Uygulama tablet, telefon ve PC’lerde çalışıyor.
- ✓ Her oturumdaki sunucular, sunum saatinden 15 dk öncesinde oturuma bağlanmış olmaları gerekmektedir.
- ✓ Tüm kongre katılımcıları canlı bağlanarak tüm oturumları dinleyebilir.
- ✓ Moderatör – oturumdaki sunum ve bilimsel tartışma (soru-cevap) kısmından sorumludur.

### **Dikkat Edilmesi Gerekenler- TEKNİK BİLGİLER**

- ✓ Bilgisayarınızda mikrofon olduğuna ve çalıştığına emin olun.
- ✓ Zoom'da ekran paylaşma özelliğine kullanabilmelisiniz.
- ✓ Kabul edilen bildiri sahiplerinin mail adreslerine Zoom uygulamasında oluşturduğumuz oturuma ait ID numarası gönderilecektir.
- ✓ Katılım belgeleri kongre sonunda tarafınıza pdf olarak gönderilecektir
- ✓ Kongre programında yer ve saat değişikliği gibi talepler dikkate alınmayacaktır

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- ✓ To be able to attend a meeting online, login via <https://zoom.us/join> site, enter ID “Meeting ID or Personal Link Name” and solidify the session.
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- ✓ The application works on tablets, phones and PCs.
- ✓ The participant must be connected to the session 15 minutes before the presentation time.
- ✓ All congress participants can connect live and listen to all sessions.
- ✓ Moderator is responsible for the presentation and scientific discussion (question-answer) section of the session.

### **Points to Take into Consideration – TECHNICAL INFORMATION**

- ✓ Make sure your computer has a microphone and is working.
- ✓ You should be able to use screen sharing feature in Zoom.
- ✓ Attendance certificates will be sent to you as pdf at the end of the congress.
- ✓ Requests such as change of place and time will not be taken into consideration in the congress program.

**Before you login to Zoom please indicate your name\_surname and HALL number,  
exp. Hall-1, Awais Khan**

**Meeting ID: 813 0348 3436**

**Passcode: 161718**



**Session -1 / Hall-1****16.05.2025****Moderator: Merve Küçük****Meeting ID: 813 0348 3436 / Passcode: 161718****Tirana Local Time: 09:00-11:00****Ankara Local Time: 10:00-12:00**

TITLE	AUTHOR(S)	AFFILIATION
INVESTIGATION OF WEAR PERFORMANCE OF SURFACE-MODIFIED LIGNOCELLULOSIC WASTE REINFORCED ECO-COMPOSITE MATERIALS	Aung HTET MOE Sena KABAVE KILINCARSLAN M. Salih GUL	Karabuk University, Türkiye
INVESTIGATION OF THE EFFECT OF ALKALINIZATION PROCESS ON THE TRIBOLOGICAL PERFORMANCE OF AGRICULTURAL WASTE REINFORCED COMPOSITE MATERIALS	Safeer ANSARI Sena KABAVE KILINCARSLAN M. Salih GUL	Karabuk University, Türkiye
THE EFFECT OF MEDIAN FILTER ENHANCEMENT OF DEPTH DATA ON VISUAL SLAM PERFORMANCE	Cemil ZEYVELİ Ali Furkan KAMANLI	Karabuk University, Türkiye
BACA TASARIM PARAMETRELERİNİN PERFORMANSA VE ÇEVRESEL ETKİLERE KATKISI	Ahmet KARAHAN Figen BALO	Malatya Turgut Özal University, Türkiye Fırat University, Türkiye
ALTERNATİF BACA SİSTEMLERİNİN ENERJİ VERİMLİLİĞİ ÜZERİNE SİMÜLASYON TABANLI BİR PERFORMANS ANALİZİ	Ahmet KARAHAN Figen BALO	Malatya Turgut Özal University, Türkiye Fırat University, Türkiye
DEVELOPMENT OF A SUSTAINABLE PBT/PET/ASA MIXTURE WITH RECYCLED PET CONTENT	Buket DOĞAN	Senior Technology & Innovation Engineer, Epsan Plastik
INVESTIGATION OF WATER ABSORPTION CHARACTERISTICS OF BIOCOMPOSITE SAMPLES MADE WITH BIORESIN ADDED WITH PINE TURPENTINE OIL	Berkay KARAÇOR Alperen ŞENGÜL Furkan TOTAVUŞ Kemal GİZLİ Tahir TAŞ Mustafa ÖZCANLI	Çukurova University, Türkiye
EXAMINATION OF WATER ABSORPTION CHARACTERISTICS IN BIORESINS AND BIOCOMPOSITES FORMED USING HEMP FIBER, HEMP OIL AND HEMP POWDER	Berkay KARAÇOR Furkan TOTAVUŞ Alperen ŞENGÜL Mustafa ÖZCANLI	Çukurova University, Türkiye

All participants must join the conference 10 minutes before the session time.

Every presentation should last not longer than 10-12 minutes.

Kindly keep your cameras on till the end of the session.

**Session -1 / Hall-2**  
**16.05.2025**  
**Moderator: Dr. Cansu YILDIRIM**  
**Meeting ID: 813 0348 3436 / Passcode: 161718**  
**Tirana Local Time: 09:00-11:00**  
**Ankara Local Time: 10:00-12:00**

TITLE	AUTHOR(S)	AFFILIATION
DEVELOPMENT OF PRESSURE SORES IN ORTHOPEDIC SURGERY PATIENTS, NURSING CARE AND LATEST TECHNOLOGICAL DEVELOPMENTS	Gamze ÇİL	Cumhuriyet University, Türkiye
THE ROLE OF GALECTIN-9/TIM-3 SIGNALING IN THE IMMUNE ESCAPE OF CHRONIC LYMPHOCYTIC LEUKEMIA CELLS	Cansu YILDIRIM	Afyonkarahisar Health Sciences University, Türkiye
DETERMINATION OF USE OF PERSONAL PROTECTIVE EQUIPMENT AND HEALTHY LIVING BEHAVIOR IN IRON AND STEEL FACTORY WORKERS	Elif TUÇER Gülcan KAR ŞEN Kader MERT	Kardemir A.Ş Sağlık Birimi Karabük University, Türkiye İzmir Bakırçay University, Türkiye
EVALUATION OF NUTRITIONAL BEHAVIOURS IN ADOLESCENTS IN LINE WITH THE INTERACTION MODEL OF HEALTH BEHAVIOUR	Duygu DENİZ Gülcan KAR ŞEN	Atlas University, Türkiye Karabük University, Türkiye
PYRIDOXINE DEPENDENT EPILEPSY: CASE REPORTS AND LITERATURE REVIEW	Ayşegül SARIAYDIN Ali ASLAN	Ordu University, Türkiye
DO FOCUS STRATEGIES MAKE A DIFFERENCE? THE EFFECT OF SINGLE LEG SQUAT ON SOLE PRESSURE AND POSTERIOR CHAIN MUSCLE ACTIVATION IN INDIVIDUALS WITH ANKLE SPRAIN	Ceren Şevval KARATAŞ Çağlar SOYLU	University of Health Sciences, Türkiye
THE AMOUNT OF MEDIUM-MOLECULAR PEPTIDES IN THE LIVER OF WHITE RATS DIFFERING BY TYPE OF NERVOUS SYSTEM	Adila Mammadova Samira İbrahimova	Azerbaijan Medical University Ministry of Science and Education of the Republic of Azerbaijan, Institute of Physiology named after Academician Abdulla Garayev
A STUDY ON THE SUSTAINABILITY ATTITUDES OF FIRAT UNIVERSITY SPORTS MANAGEMENT DEPARTMENT STUDENTS	Fethi YILDIRIM Mustafa KARADAĞ	Fırat University, Türkiye
All participants must join the conference 10 minutes before the session time. Every presentation should last not longer than 10-12 minutes. Kindly keep your cameras on till the end of the session.		

**Session -1 / Hall-3**

**16.05.2025**

**Moderator: Assoc. Prof. Dr. Kadir ÇİÇEK**

**Meeting ID: 813 0348 3436 / Passcode: 161718**

**Tirana Local Time: 09:00-11:00**

**Ankara Local Time: 10:00-12:00**

TITLE	AUTHOR(S)	AFFILIATION
MODELS OF COLLECTIVE PRODUCTION: THE POWER OF COLLABORATIONS FOR ILLUSTRATORS	Elif SARIGÜZMEN E. Nilüfer ÜSTÜNDAĞ	Yaşar University, Türkiye Izmir Kâtip Çelebi University, Türkiye
HUMAN-CENTERED MARITIME SAFETY: INNOVATIVE APPROACHES WITH TRIZ	Kadir ÇİÇEK	Istanbul Technical University, Türkiye Azerbaijan State University of Economics (UNEC), Azerbaijan
SPATIAL DISTRIBUTION OF MASS MOVEMENTS IN MUŞ PROVINCE	İskender DÖLEK	Muş Alparslan University, Türkiye
AYVALIK DESTİNASYONUNA YÖNELİK INSTAGRAM PAYLAŞIMLARININ DESTİNASYON ALGISINA ETKİSİNİN İNCELENMESİ	Esra ÇELİK Ahmet KÖROĞLU	Balıkesir University, Türkiye
A STUDY TO DETERMINE THE RELATIONSHIP BETWEEN ORGANIZATIONAL PRIDE AND EMPLOYEE PERFORMANCE	Murat SUCU	Havaş Havaalanları Yer Hizmetleri A.Ş.
CHANGES IN THE BED OF THE MURAT RIVER DUE TO ANTHROPOGENIC EFFECTS	İskender DÖLEK	Muş Alparslan University, Türkiye
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**Session -1 / Hall-4**  
**16.05.2025**  
**Module: Architecture and Engineering**  
**Moderator: Melik Sami**  
**Meeting ID: 813 0348 3436 / Passcode: 161718**  
**Tirana Local Time: 09:00-11:00**  
**Ankara Local Time: 10:00-12:00**

TITLE	AUTHOR(S)	AFFILIATION
DUAL-COMFORT MATERIALS: HARMONIZING VISUAL TRANSPARENCY AND THERMAL PERFORMANCE IN BUILDING ENVELOPES	Melik Sami, Khelil Sara, Tallal Abdel Karim Bouzir	Mohamed Khider Biskra University, Biskra, Algeria Blida University, Blida, Algeria
TRANSPARENT TOWERS, HIDDEN COSTS: RETHINKING GLASS- DOMINANT FAÇADES IN URBAN SKYSCRAPERS	Melik Sami, Khelil Sara, Tallal Abdel Karim Bouzir	Mohamed Khider Biskra University, Biskra, Algeria Blida University, Blida, Algeria
HEAT-READY URBANISM: DESIGNING THERMALLY ADAPTIVE SPACES IN A WARMING WORLD	Melik Sami, Khelil Sara, Tallal Abdel Karim Bouzir	Mohamed Khider Biskra University, Biskra, Algeria Blida University, Blida, Algeria
THE HEAT BENEATH THE PANELS: THERMAL BEHAVIOR OF PHOTOVOLTAIC FAÇADES IN URBAN ARCHITECTURE	Melik Sami, Khelil Sara, Tallal Abdel Karim Bouzir	Mohamed Khider Biskra University, Biskra, Algeria Blida University, Blida, Algeria
DESIGNING FOR QUIET: ARCHITECTURAL INTEGRATION OF ACOUSTIC GLASS IN HIGH-DENSITY MIXED-USE BUILDINGS	Melik Sami, Khelil Sara, Tallal Abdel Karim Bouzir	Mohamed Khider Biskra University, Biskra, Algeria Blida University, Blida, Algeria
CULTURAL PLACEMAKING: ARCHITECTURAL STRATEGIES FOR ENHANCING CROSS-CULTURAL UNDERSTANDING	Melik Sami, Khelil Sara, Tallal Abdel Karim Bouzir	Mohamed Khider Biskra University, Biskra, Algeria Blida University, Blida, Algeria
CLIMATE RESILIENT URBAN PLANNING & GREEN INFRASTRUCTURE: A LEGAL ANALYSIS TOWARDS CLIMATE CHANGE MITIGATION	Ms. Sudeshna Halder Dr. Mainan Ray	Amity University Kolkata.
FROM TRAFFIC CHAOS TO WALKABLE COMMUNITIES: CAN TIRANA EMBRACE THE 15-MINUTE CITY AND SUPERBLOCKS?	Haxhiaj Ilirjana, Bejtullahu Jeta	Independent researchers

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**Session -1 / Hall-5****16.05.2025****Moderator: Moulai Mostefa Faiza****Meeting ID: 813 0348 3436 / Passcode: 161718****Tirana Local Time: 09:00-11:00****Ankara Local Time: 10:00-12:00**

TITLE	AUTHOR(S)	AFFILIATION
TORULASPORA DELBRUECKII - AN INTERESTING YEAST SPECIES ISOLATED FROM WHITE BRINED CHEESE	Neli Ermenlieva, Natalia Dimitrova, Sevginar Ibryamova, Sylvia Stamova, Gabriela Tsankova, Emilia Georgieva	Medical University of Varna, Bulgaria Shumen University, Shumen, Bulgaria
THE BIOCHEMICAL PROCESS OF HUMAN DEVELOPMENT FROM CONCEPTION TO DEATH	Ravana Gulieva	Baku State University
FORMULATION AND EVALUATION OF ANTIOXIDANT RICH HERBAL LIQUID TONER	Pooja Rasal, Kalyani Khajure, Gaurav Kasar	JES's SND College of Pharmacy, India Divine College of Pharmacy, India
E. COLI IN ALGERIEN UTIS: PREVALENCE, DRUG RESISTANCE, AND NON-DIARRHEAL EHEC RISKS	Metidji Abdelkader	University of YAHIA FARES of Medea
GAS CHROMATOGRAPHY-OLFACTOMETRY (GCO) SCREENING OF ODORANT COMPOUNDS ASSOCIATED WITH THE TAILS-OFF FLAVOUR IN WINE DISTILLATES	Diogo Lopes Ofélia Anjos Eugenia Gallardo Ilda Caldeira	Universidade da Beira Interior, Portugal Polytechnic University of Castelo Branco, Portugal. INIAV, Instituto Nacional de Investigação Agrária e Veterinária, Portugal.
RECURRENT PLEURAL EFFUSION AS A MANIFESTATION OF MULTIPLE MYELOMA WITH LIGHT CHAIN AMYLOIDOSIS	Ibtissam Habte, Mina Moudatir, Khadija Echchilali, Hassan El Kabli	Ibn Rochd University Hospital (CHU Ibn Rochd), Casablanca, Morocco.
METHOTREXATE OVERDOSE: A DIAGNOSTIC AND THERAPEUTIC EMERGENCY IN CLINICAL PRACTICE	Ibtissam Habte, Mina Moudatir, Khadija Echchilali, Hassan El Kabli	Ibn Rochd University Hospital (CHU Ibn Rochd), Casablanca, Morocco.
FROM INFECTION TO AUTOIMMUNITY: THE IMPACT OF VIRUSES ON THYROID DISORDERS WITH A FOCUS ON COVID-19	Moulai Mostefa Faiza	University YAHIA FARES of MEDEA, Algeria
IN SILICO DESIGN OF JNK3 INHIBITORS VIA 3D-QSAR MODELING, MOLECULAR DOCKING, AND ADMET EVALUATION	Hajar El Ouarti, Abdelilah Toughzaoui, Oussama Chedadi, Kamal Laourdani, Abdeslam Dakhama, Abderrafie Drajou, Kamal Moradi, Abdelkrim Ouammou	University Sidi Mohamed Ben Abdellah, Fez 30000, Morocco
PROCEDURE VS. PRACTICE - EXPLORING THE IMPACTS OF PROCEDURAL DEVIATIONS IN DEEP BRAIN STIMULATION FOR PARKINSONISM	Dawson Rebello, Abbas Hussain, Abbas Hatim, Amaan Vajrara, Dr. Khatia Shvili Irina	Tbilisi State Medical University

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**Session -1 / Hall-6****16.05.2025****Moderator: Gulnar Atakishiyeva****Meeting ID: 813 0348 3436 / Passcode: 161718****Tirana Local Time: 09:00-11:00****Ankara Local Time: 10:00-12:00**

TITLE	AUTHOR(S)	AFFILIATION
ASSESSING THE PRESENCE OF HEAVY METALS IN THE AREA OF GLLOOGOC (KOSOVO) BY USING MOSSES AS A BIOINDICATOR FOR HEAVY METALS	Prof. Assoc. Dr. Skender DEMAKU MSc. Arianë DOBRA MSc. Arbnorë ALIU MSc. Donika SYLEJMANI	University of Prishtina "Hasan Prishtina", Kosovo
GREEN SYNTHESIS OF TiO <sub>2</sub> NANOPARTICLES USING GINGER EXTRACT: PHOTOCATALYTIC DEGRADATION OF CRYSTAL VIOLET WITH BOX-BEHNKEN OPTIMIZATION AND DFT INSIGHTS	Soukaina El Bourachdi, Abdelhay El Amri, Ali Raza Ayub, Yassine Rakcho, Fatima Moussaoui, Amal Lahkimi	Sidi Mohamed Ben Abdellah University, Fez, Morocco.
COMPUTATIONAL EVALUATION OF CHOLINE CHLORIDE-GLYCEROL DEEP EUTECTIC SOLVENT FOR CO <sub>2</sub> CAPTURE: A POSSIBLE SUSTAINABLE ALTERNATIVE TO CONVENTIONAL SOLVENTS	Maryam YUNUS Toyese OYEGOKE	Ahmadu Bello University, Nigeria
ENHANCING METRONIDAZOLE SOLUBILITY WITH DEEP EUTECTIC SOLVENTS: COMPUTATIONAL INSIGHTS INTO A GREEN FORMULATION STRATEGY	Mogaji Umar MUHAMMED Toyese OYEGOKE	Ahmadu Bello University, Nigeria
REDUCED 5-HT <sub>2C</sub> RECEPTOR RESPONSIVENESS FOLLOWING REPEATED MIDAZOLAM TREATMENT	Huma Ikram, Shahla Perveen, Sonia Ali, Darakhshan J. Haleem	University of Karachi, Karachi-75270, Pakistan
ANALYSIS OF PHYSICOCHEMICAL PROPERTIES SUPPORTING ORAL BIOAVAILABILITY	Gulnar Atakishiyeva Ayten Qajar Sevinç Muhtarova Shukufa Eyvazova Naila Veysova Namiq Shikhaliyev	Baku State University, Baku, Azerbaijan Azerbaijan Technical University, Baku, Azerbaijan, Baku Engineering University, Baku, Azerbaijan
INTERPLAY BETWEEN LIPOPHILICITY, SOLUBILITY, AND SKIN PERMEABILITY	Gulnar Atakishiyeva Sevinc Mukhtarova Sima Musayeva Ilhama Hamdullayeva Nigar Ahmedova Gulnara Babayeva	Baku State University, Baku, Azerbaijan Azerbaijan Technical University, Baku, Azerbaijan, Baku Engineering University, Baku, Azerbaijan

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**Session -2 / Hall-1**

**16.05.2025**

**Moderator: Assist. Prof. Dr. Semra KILIÇ KARATAY**

**Meeting ID: 813 0348 3436 / Passcode: 161718**

**Tirana Local Time: 11:30-13:30**

**Ankara Local Time: 12:30-14:30**

TITLE	AUTHOR(S)	AFFILIATION
STYLISTIC DEVELOPMENT OF SYEDRA OSTOTHEKS IN ALANYA MUSEUM	Yaşar ARLI	Akdeniz University, Türkiye
THE USE AND IMPORTANCE OF THE RAM'S HORN MOTIF IN THE TURKISH WORLD	Semra KILIÇ KARATAY	Aksaray University, Türkiye
A STUDY ON THE DECORATIONS OF AKSARAY KURŞUNLU AND ULU MOSQUE	Tenzile Nur SERİN Semra KILIÇ KARATAY	Aksaray University, Türkiye
THE ROLE OF INDUSTRIAL DESIGN IN SUSTAINABILITY	P. Elif Karaköylü	Ege University, Türkiye
İSTANBUL'DA TOPLU ULAŞIM UYGULAMALARI	Yavuzhan BEKİRYAZICI Onur ŞAHİN Kerim KOÇ	Yıldız Technical University, Türkiye
TÜRKİYE KART: ULUSAL ULAŞIMDA ENTEGRASYON MODELİ	Yavuzhan BEKİRYAZICI Onur ŞAHİN Kerim KOÇ	Yıldız Technical University, Türkiye
THE MULTILAYERED IDENTITY OF THE VIOLIN AS AN EXPRESSION OF CULTURAL SOUND SHAPED ACROSS MUSICAL GEOGRAPHIES	Barış KARABULUT	Çanakkale Onsekiz Mart University, Türkiye
KÖÇEKÇE TÜRÜNÜN MÜZİKAL ÖZELLİKLERİ VE MÜZİKTE KULLANIM BİÇİMLERİ	Barış KARABULUT	Çanakkale Onsekiz Mart University, Türkiye
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**Session -2 / Hall-2****16.05.2025****Moderator: Assoc. Prof. Dr. Abdurrahman GÜNDAY****Meeting ID: 813 0348 3436 / Passcode: 161718****Tirana Local Time: 11:30-13:30****Ankara Local Time: 12:30-14:30**

TITLE	AUTHOR(S)	AFFILIATION
EFFECT of PHOSPHODIESTERASE (PDE5) INHIBITORS on CANINE SPERM QUALITY and OXIDATIVE STRESS ASSESSMENT via SOD and GPx	Caner ÖZTÜRK Neşe Hayat AKSOY Erkan ÖZKAN	Aksaray University, Türkiye
THERMODYNAMIC INVESTIGATION OF METALLOTHERMIC REDUCTION SYSTEMS	Mehmet BUĞDAYCI Ozan ÇOBAN	Yalova University, Türkiye Istanbul Gedik University, Türkiye
STOICHIOMETRIC OPTIMIZATION FOR COMBUSTION SYNTHESIS AND PURIFICATION OF ZIRCONIUM-BASED BORIDES	Ozan ÇOBAN	Istanbul Gedik University, Türkiye
A THEORETICAL STUDY OF THE INTERACTION DYNAMICS OF ER2O3 DOPED BISMUTH BOROTELLURITE GLASSES WITH HIGH ENERGY PHOTONS	E. BALCI E. ILIK	Eskisehir Osmangazi University, Türkiye
ASSESSMENT OF THE IMPACTS OF TEMPERATURE-DEPENDENT EXHAUST GAS FORMATIONS ON THE DETECTION PERFORMANCE OF TERRESTRIAL LIDARS USING THE KIM MODEL	Erşah SÖNMEZ Abdurrahman GÜNDAY	Bursa Uludağ University, Türkiye
INVESTIGATION OF WEAR PROPERTIES OF ALUMINUM MATRIX COMPOSITES PRODUCED WITH NICKEL REINFORCEMENT	İsmail TOPCU	Alanya Alaaddin Keykubat University, Türkiye
INVESTIGATION OF MECHANICAL PROPERTIES OF ALUMINUM MATRIX COMPOSITES PRODUCED WITH NICKEL REINFORCEMENT	İsmail TOPCU	Alanya Alaaddin Keykubat University, Türkiye

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**Session -2 / Hall-3**

**16.05.2025**

**Moderator: Assoc. Prof. Dr. Selin SERT SÜTÇÜ**

**Meeting ID: 813 0348 3436 / Passcode: 161718**

**Tirana Local Time: 11:30-13:30**

**Ankara Local Time: 12:30-14:30**

TITLE	AUTHOR(S)	AFFILIATION
CHILDREN'S DIGITAL RIGHTS AND PROTECTING CHILDREN FROM DIGITAL RIGHTS VIOLATIONS	Selin SERT SÜTÇÜ	Akdeniz University, Türkiye
PROSPECTS FOR THE INTERSECTION OF LAW AND ARTIFICIAL INTELLIGENCE	Nuray Zaidova Mansur Ibishov	Baku State University Johannes Kepler University, Linz
ROOT CAUSES OF HUMAN RISKS IN OCCUPATIONAL HEALTH AND SAFETY PRACTICES OF LOCAL GOVERNMENTS	Mustafa ERDEM	Türkiye
TFRS 9 FİNANSAL ARAÇLAR STANDARDININ BANKACILIK SEKTÖRÜNE ETKİSİ: BİST BANKA ENDEKSİNDE YER ALAN SEÇİLMİŞ BANKALARIN TAKİP ORANLARI İLE MAKROEKONOMİK DEĞİŞKENLER ARASINDAKİ İLİŞKİ	Seda ŞAHİN, Bilge Leyli DEMİREL Prof. Dr. Feyyaz ZEREN	Yalova University, Türkiye
MOBBİNG'İN İŞ PERFORMANSINA ETKİSİNDE ÖRGÜTSEL GÜVENİN ARACI ROLÜ	İbrahim Tuna ÇINAR Hilal ERTURHAN IŞKIN	Sivas Cumhuriyet University, Türkiye
İNŞAAT SEKTÖRÜNDE PROJE MALİYETİNE ETKİ EDEN RİSK FAKTÖRLERİNİN BELİRLENMESİ	Betül Elba USTA Kerim KOÇ	Yildiz Technical University, Türkiye
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**Session -2 / Hall-4****16.05.2025****Moderator: Dr. Annalisa Ianniello****Meeting ID: 813 0348 3436 / Passcode: 161718****Tirana Local Time: 11:30-13:30****Ankara Local Time: 12:30-14:30**

TITLE	AUTHOR(S)	AFFILIATION
THE ERASMUS PROGRAM AS A TOOL OF PUBLIC DIPLOMACY: ITS IMPACT ON ENHANCING THE EU'S IMAGE IN ALBANIA	Rexhina MYRTA	European University of Tirana, Albania
ANALYZING THE VALUES OF TEACHERS IN SECONDARY EDUCATION FOR AN INCLUSIVE EDUCATIONAL APPROACH	Dr. Annalisa Ianniello	University of Salerno, Italy
CAPITALISM AND CREATIVE DESTRUCTION THROUGH A SOCIOLOGICAL APPROACH	Ilaria Iannuzzi	University of Studies of Rome "UnitelmaSapienza"
NURTURING MANAGEMENT SKILLS IN HIGH SCHOOL STUDENTS THROUGH CURRICULUM INTEGRATION	Rita Flouty	Saint-Joseph University, Faculty of Education, FSEDU, Beirut-Lebanon
SOUNDING THE SELF: VISUAL ART'S RESPONSE TO MUSIC IN THE REPRESENTATION OF CONTEMPORARY IDENTITY	Dr. Aysegul Terkan Gurcan	Segi University, PISA, Malaysia
SMART TECHNOLOGIES FOR SMART LEARNING: A SURVEY ON TRENDS IN EDUCATIONAL TECHNOLOGY FOR SCHOOL DEVELOPMENT	Moses Adeolu AGOI Oluwakemi Racheal OSHINOWO Amos Shola AJIBOYE Samuel Olayiwola AJAGA Oluwanifemi Opeyemi AGOI	Lagos State University of Education, Lagos Nigeria.
INVESTIGATION THE EFFECTS OF CRIME AND DEVIATION DETECTIVE OF SOCIALIZATION ON THE BEHAVIOR OF YOUNG OFFENDERS? IN UNIVERSITY OF ANNABA, ALGERIA	Dr. Amara Sahraoui	The University of Baji Mukhtar Annaba, Algeria
FEMINIST VOICE, RESISTANCE, AND EDUCATION IN MALALA YOUSAFZAI'S I AM MALALA	Ms. Ammara Salman Dr. Raf Raf Shakil Ansari	Sharda University
COST OF RELATED PARTY TRANSACTION AND VALUE OF LISTED CONSUMER GOODS COMPANIES IN NIGERIA	Zakariyau Gurama, Ibrahim Isa Onuku, Kabiru Shuaibu, Sirajo Murtala	Gombe State University Gombe, Nigeria.
FORMATION OF NATIONAL NUCLEAR TERMINOLOGY SYSTEMS	Nigar Sadigova	Azerbaijan University of Architecture and Construction, Azerbaijan Institute of Linguistics named after Nasimi, Baku, Azerbaijan

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**Session -2 / Hall-5**  
**16.05.2025**  
**Moderator: Dr.C.Vijai**  
**Meeting ID: 813 0348 3436 / Passcode: 161718**  
**Tirana Local Time: 11:30-13:30**  
**Ankara Local Time: 12:30-14:30**

TITLE	AUTHOR(S)	AFFILIATION
RETINAL VESSEL SEGMENTATION: REVIEW	Fatima OUZAHIM, Ayoub ELLAHYANI	Ibn Zohr University
SCALING DATA FOR STRENGTH: EVALUATING CNN-BASED INVISIBLE WATERMARKING ACROSS VARYING MS-COCO DATASET SIZES	Abdurahman Vagifli	Azerbaijan Technical University
ARTIFICIAL INTELLIGENCE IN FINTECH: RISK ASSESSMENT AND CREDIT SCORING	Dr.C.Vijai Dr. Shailashri V. T.	Srinivas University, India
FINTECH AND GREEN FINANCE: SYNERGIES IN PROMOTING SUSTAINABLE INVESTMENTS	Dr.C.Vijai Dr. Shailashri V. T.	Srinivas University, India
ARDUINO UNO-BASED STUNTING DETECTION APPLICATION INNOVATION IN TODDLERS AS A STRATEGY FOR ACHIEVING UNIVERSAL HEALTH COVERAGE IN THE SDGS	Sri Restu Ningsih, M.Amrin Lubis, Cyntia Lasmi Andesti, Reyhan Dwi S.	Metamedia University, Padang, Indonesia
ML-BASED ANOMALY DETECTION FRAMEWORK FOR CYBERSECURITY ACROSS WIRELESS AND IOT NETWORKS	Jogendra Kumar	GBPIET Pauri Garhwal Uttarakhand, India
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**Session -2 / Hall-6****16.05.2025****Moderator: Dr. ODU Adejare Samuel****Meeting ID: 813 0348 3436 / Passcode: 161718****Tirana Local Time: 11:30-13:30****Ankara Local Time: 12:30-14:30**

TITLE	AUTHOR(S)	AFFILIATION
TOWARDS A SEAMLESS FUTURE IN BANKING: EXPLORING HOW OMNICHANNEL INNOVATION IS TRANSFORMING THE MOROCCAN CLIENT EXPERIENCE	HOUMAMI Chayma, LAFRAXO Younes	Cadi Ayyad University of Marrakech, Morocco
THE IMPACT OF GREEN CONSUMPTION TRENDS, GOVERNMENT SUPPORT POLICIES, AND RISKS ON ENCOURAGING COLLABORATION IN THE UNBURNT BRICK SUPPLY CHAIN: THE MEDIATING ROLE OF TRUST	Minh Chau HO Dr. Ngoc Duy NGUYEN Dr. Van Ngoc NGUYEN Thi Thanh Kieu NGUYEN	CEO of Asia 96 New Materials Joint Stock Company, Vietnam Nha Trang University, Vietnam
TRADE BALANCE AND VALIDITY OF THE MARSHALL-LERNER CONDITION: A CRITICAL LITERATURE REVIEW	Anchal Singh Prof. Archana Singh	University of Lucknow, Department of Applied Economics, India
ECONOMIC GROWTH, ENERGY CONSUMPTION AND THE CARBON NEUTRALITY TARGET: EVIDENCE FROM INDIA	Dr. R.Gopinathan Aabidah Rashid	Shri Mata Vaishno Devi University, Katra (Jammu and Kashmir)-182320, India
ECONOMIC ANALYSIS OF THE EFFECT OF INTEGRATED FARMING SYSTEMS ON THE LIVELIHOOD STRATEGIES OF FARMERS IN NORTH-WEST NIGERIA	Muhammad Sulaiman, Abdullahi Man, Abdullahi Alhaji, Bello Rilwan	Federal University of Education Zaria, Nigeria. Kaduna State University, Kaduna, Nigeria
MIGRATORY MOVEMENTS IN TIRANA DURING THE YEAR 2020	Dr. Erjona Fusha, Dr. Enri Herri	“Qiriazhi” University College/ Bank of Albania
APPLICATION OF TOTAL QUALITY MANAGEMENT THEORY TO INDIGENOUS LANGUAGE BROADCASTING: A STUDY OF ORISUN 89.5 FM ILE-IFE, OSUN STATE NIGERIA	ODU Adejare Samuel Folaranmi Oluwole	The Federal Polytechnic Ilaro, Nigeria Ajayi Crowther University Oyo, Nigeria
DEVELOPMENT OF INDIGENOUS LANGUAGE MEDIA IN NIGERIA: AN EVALUATION OF PRINT AND BROADCAST MEDIA IN LANGUAGE DECOLONISATION AND REVITALISATION	Dr. ODU Adejare Samuel	The Federal Polytechnic Ilaro, Nigeria
SACRED CONFLUENCE AND MODERN GOVERNANCE: A CASE STUDY OF THE MAHA KUMBH MELA 2025	Sanjaya Kumar Sahoo, Sukanta Chandra Swain	SKCG Auto. College, Paralakhemundi KIIT Deemed to be University, Bhubaneswar

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**Session -3 / Hall-1****16.05.2025****Moderator: Assist. Prof. Dr. Serkan BAŞLAYICI****Meeting ID: 813 0348 3436 / Passcode: 161718****Tirana Local Time: 14:00-16:00****Ankara Local Time: 15:00-17:00**

TITLE	AUTHOR(S)	AFFILIATION
APPLICATIONS AND POTENTIAL OF POWER LINE COMMUNICATION (PLC) BASED TECHNOLOGIES IN THE AUTOMOTIVE INDUSTRY: A REVIEW	Fırat TEMEL Sevil DURSUN M.Tarık SAVRANLI	Oyak Renault Otomobil Fabrikaları, Bursa
A COMPARATIVE STUDY ON THE PRODUCTION OF CARBIDE CERAMICS VIA BALL MILLING AND SELF-PROPAGATING HIGH-TEMPERATURE SYNTHESIS TECHNIQUES	Mehmet BUĞDAYCI Serkan BAŞLAYICI	Yalova University, Türkiye İstanbul Medipol University, Türkiye
EFFECT OF MILL SCALE USAGE IN THE PRODUCTION OF IRON-BASED ALLOYS	Serkan BAŞLAYICI	İstanbul Medipol University, Türkiye
OPTIMISATION OF ENERGY-EFFICIENT BUILDING DESIGN WITH FIBRE-PRODUCED INSULATION MATERIALS	İlknur ARI Figen BALO	Fırat University, Türkiye
INVESTIGATION OF BMS OPTIONS WITH BOARD INSULATION MATERIALS IN TERMS OF ENERGY EFFICIENCY	İlknur ARI Figen BALO	Fırat University, Türkiye
DYNAMIC BEHAVIOR OF ROTOR SYSTEMS WITH SUPPORT NONLINEARITIES	Murat KUTLU Saeed LOTFAN	Gebze Technical University, Türkiye
GÖRÜNTÜ SAHTEKÂRLIĞININ GÖLGE DURUMU AÇISINDAN İNCELEMESİ	Nursel YALCIN Müslüm ALBAYRAK	Gazi University, Türkiye
WILLOW QUANTUM CHIP AND POST-QUANTUM SECURITY: HYBRID APPROACHES, FUTURE THREAT ANALYSIS, AND SECURITY GUIDE	Gökhan TUNCAY Mehmet ALTINKILIÇ	Trakya University, Türkiye
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**Session -3 / Hall-2****16.05.2025****Moderator: Res. Asst. Hakan Sertel****Meeting ID: 813 0348 3436 / Passcode: 161718****Tirana Local Time: 14:00-16:00****Ankara Local Time: 15:00-17:00**

TITLE	AUTHOR(S)	AFFILIATION
DESIGN OF MICROCONTROLLER-BASED RESONANCE MONITORING SYSTEM FOR LLC TYPE MEDIUM FREQUENCY INVERTER	Melih BULUT Mehmet Uğur SOYDEMİR Yıldıray BAŞKURT Savaş ŞAHİN	İzmir Kâtip Çelebi University, Türkiye JATEK Endüstri A.Ş.
DESIGN OF WEB-BASED CONTROL INTERFACE USING HTTPD PROTOCOL FOR ARM MICROPROCESSOR-BASED ETHERNET SWITCHING	Furkan Türker AKŞİT Mehmet Uğur SOYDEMİR Gürkan TOPKARA Savaş ŞAHİN	İzmir Kâtip Çelebi University, Türkiye Tic. A.Ş., R&D Center/Hardware Development
HARNESSING BIOREACTOR TECHNOLOGY FOR ECO-FRIENDLY WASTEWATER MANAGEMENT	Kamala Mammadzada	Azerbaijan State of Oil and Industry University
A STUDY ON CONTEMPORARY FACADES OF TALL BUILDINGS - THE CASE OF TIRANA, ALBANIA	Ayşegül HAZER Ezgi KORKMAZ	İstanbul Medipol University Yildiz Technical University
FLOW OVER TWO FINITE-HEIGHT CYLINDERS HAVING DIFFERENT DIAMETERS	Hakan SERTEL Zekeriya ALTAÇ	Eskişehir Osmangazi University, Türkiye
DEFORMATION MEASUREMENTS IN EARTH-FILLED DAMS (EXAMPLE: DARLIK DAM)	Fatma AYDIN Taylan ÖCALAN	Yildiz Technical University, Türkiye
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**Session -3 / Hall-3**

**16.05.2025**

**Moderator: Dr. Muhittin USLU**

**Meeting ID: 813 0348 3436 / Passcode: 161718**

**Tirana Local Time: 14:00-16:00**

**Ankara Local Time: 15:00-17:00**

TITLE	AUTHOR(S)	AFFILIATION
COMPARISON OF TEMPO TC, ISO 4832, AND CHROMOGENIC PLATE METHODS FOR THE ENUMERATION OF TOTAL COLIFORMS IN MILK AND CHICKEN SAMPLES	Hatice Kübra ÖZER	Dicle University, Türkiye
PATHOGENICITY TEST METHODS OF PHYTOPATHOGENIC FUSARIUM SPP. IN THE ALLIUM SPECIES	Aysun CAVUSOGLU Filiz ÜNAL Gülsüm Ebru ÖZER UYAR	Kocaeli University, Türkiye Eskişehir Osmangazi University, Türkiye
SOME BACTERIAL AGENTS ISOLATED FROM GEESE AND ANTIBIOTIC USE	Muhittin USLU Enver YAZAR	Yozgat Bozok University, Türkiye Selçuk University, Türkiye
SOME BACTERIAL AGENTS ISOLATED FROM RAINBOW TROUT AND THE USE OF ANTIBIOTICS	Muhittin USLU Enver YAZAR	Yozgat Bozok University, Türkiye Selçuk University, Türkiye
ÇANKIRI TUZ MAĞARASININ FUNGAL MİKROBİYOTASININ TESPİT EDİLMESİ	Alihan EĞMEN Deniz ÇAKAR Seçil AKILLI ŞİMŞEK	Çankırı Karatekin University, Türkiye
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**Session -3 / Hall-4**  
**16.05.2025**  
**Moderator: Dr. Iram Liaqat**  
**Meeting ID: 813 0348 3436 / Passcode: 161718**  
**Tirana Local Time: 14:00-16:00**  
**Ankara Local Time: 15:00-17:00**

TITLE	AUTHOR(S)	AFFILIATION
IMPORTANCE OF INTERDIGITAL HYPERPLASIA IN CATTLE	MSc Ivanka Hadzic Academician prof. Dr Ivan Pavlovic	Association of Trimmers, Care and Therapy of Cattle Foot of Serbia Scientific Institute of Veterinary Medicine of Serbia, Belgrade, Serbia
HONEY INHIBITORY POTENTIAL AGAINST MULTISPECIES BACTERIAL BIOFILM	Dr. Iram Liaqat	Government College University, Lahore
MICROBIAL BIOFILMS POTENTIAL FOR PESTICIDES AND DYE BIOREMEDIATION	Dr. Iram Liaqat	Government College University, Lahore
AMELIORATIVE EFFECTS OF SOLANUM NIGRUM METHANOLIC LEAF EXTRACT ON SUB-LETHAL TOXICITY OF CARBON NANOTUBES IN THE BRAIN, GILLS, AND HEART OF CIRRHINUS MRIGALA	Muhammad Asad, Shanza Khanum	University of Education Lahore, Pakistan
FROM WASTE TO FEED: THE IMPACT OF PROCESSED BIOWASTE ON FISH HEALTH PERFORMANCE	Muhammad Amjad, Syed Makhdoom Hussain, Muhammad Mudassar Shahzad, Nisar Ahmad, Muhammad Mahmood, Adan Naeem	Government College University, Faisalabad, 38000, Pakistan
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**Session -3 / Hall-5****16.05.2025****Moderator: POOJITHA N****Meeting ID: 813 0348 3436 / Passcode: 161718****Tirana Local Time: 14:00-16:00****Ankara Local Time: 15:00-17:00**

TITLE	AUTHOR(S)	AFFILIATION
EFFECT OF SITE B' SUBSTITUTION ON THE EXCHANGE CONSTANTS IN QUADRUPE PEROVSKITES CaCu <sub>3</sub> Fe <sub>2</sub> B' <sub>2</sub> O <sub>12</sub> (B'=Re, Os): A MONTE CARLO SIMULATION STUDY	Hajar El Ganich, Omar Ben Lenda, Omar El Rhazouani, Elmadani Saad	Hassan First University of Settat, High Institute of Health Sciences, Laboratory of Sciences and Health Technologies, Settat, Morocco. The National Higher School of Mining of Rabat (ENSMR), Rabat, Morocco
MEDIFIT: A HOLISTIC AND REWARDING PLATFORM FOR PERSONALIZED HEALTH AND FITNESS	POOJITHA N	R.M.K. Engineering College
FINE-GRAINED ATTENTION-GUIDED MULTIMODAL SENTIMENT FUSION WITH FUZZY LOGIC MENTAL HEALTH DETECTION	Souvik Halder Samiran Chattapadhyay Kartick Chandra Mondal	Jadavpur University, India Vice Chancellor, Techno India University, India
PHYSICAL ACTIVITY AND CANCER SURVIVAL: INSIGHTS FROM A COMPREHENSIVE META-ANALYSIS ACROSS FIVE MAJOR CANCER TYPES	Andrea Lehoczki, Mónika Fekete, Zoltán Ungvári	Semmelweis University, Hungary
ETHNOBOTANICAL SURVEY ON HERBAL REMEDIES FOR THE MANAGEMENT OF TYPE 2 DIABETES IN THE CASABLANCA-SETTAT REGION, MOROCCO	Maryem Arraji, Nadia Al Wachami, Karima Boumendil, Milouda Chebabe, Latifa Mochhoury, Fatima Zahra Laamiri, Mohamed Barkaoui, Mohamed Chahboune	Hassan First University of Settat, Morocco
ALBENDAZOLE IS USED TO TREAT NEUROCYSTICERCOSIS - NERVOUS SYSTEM	J.Jayadurka ,Yuvaraj.AR, Mrs.E.Elavarasi,Dr.R.Srinivasan	Bharath Institute Of Higher Education And Research, Chennai,India
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**Session -3 / Hall-6****16.05.2025****Moderator: Mr. Satish Kumar Singh****Meeting ID: 813 0348 3436 / Passcode: 161718****Tirana Local Time: 14:00-16:00****Ankara Local Time: 15:00-17:00**

TITLE	AUTHOR(S)	AFFILIATION
AN IN-DEPTH STUDY ABOUT NUREMBERG TRIAL AND ITS SIGNIFICANCE FOR ACHIEVING PEACE AND SECURITIES IN RESPECT TO INTERNATIONAL CRIMINAL JUSTICE REFORM	Mrs Srija Mondal, Dr Mainan Ray	Research scholar of Amity Law School, Amity University Kolkata. Associate Prof of law, Amity University Kolkata.
ENFORCING ENVIRONMENTAL RESPONSIBILITY: A COMPARATIVE ANALYSIS OF JUDICIAL RESPONSES TO SINGLE-USE PLASTICS IN INDIA AND OTHER NATIONS	Pritheeraj Sen Dr. Mainan Ray	Amity University Kolkata, Department of Law
THE INTERSECTION OF WAR CRIMES AND REFUGEE RIGHTS: LEGAL CHALLENGES AND PROTECTIONS UNDER INTERNATIONAL LAW	Mr. Satish Kumar Singh	Central University of Punjab, India
LEGAL ACCOUNTABILITY FOR ECOCIDE: IMPLICATIONS FOR ENHANCING THE RESILIENCE OF GLOBAL FOOD SYSTEMS	Mr. Satish Kumar Singh	Central University of Punjab, India
A COMPARATIVE DOCTRINAL ASSESSMENT OF LEGAL STRATEGIES FOR PREVENTION AND PROSECUTION OF GIRL CHILD TRAFFICKING: INDIA, THE UNITED KINGDOM, AND THE PALERMO PROTOCOL	Ms. Tuhina Sinha	National University of Study & Research In law (NUSRL)
DEVELOPMENT OF NOVEL SUSTAIANBLE FIBRE AND MELANGE YARN MANUFACTURING	Akhtarul Islam Amjad, Mohd. Vaseem, Amandeep Singh Grover	National Institute of Fashion Technology, Panchkula, Haryana
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**Session -1 / Hall-1****17.05.2025****Moderator: Assoc. Prof. Dr. Yasemin Coskun Yavuz****Meeting ID: 813 0348 3436 / Passcode: 161718****Tirana Local Time: 09:00-11:00****Ankara Local Time: 10:00-12:00**

TITLE	AUTHOR(S)	AFFILIATION
EMBRIOLOGY IN PLASTIC SURGERY	Arda ÖZDEMİR	TC Siirt Research and Education Hospital, Türkiye
FEBRUARY SIX EARTHQUAKE: CRUSH SYNDROME, SINGLE CENTER EXPERIENCE	Yasemin COSKUN YAVUZ	Selçuk University, Türkiye
RELATIONSHIP BETWEEN CKD-AP AND MORTALITY IN HEMODIALYSIS PATIENTS: A SINGLE CENTER, THREE-YEAR EXPERIENCE	Yasemin COSKUN YAVUZ	Selçuk University, Türkiye
GLOBAL PERSPECTIVE ON PUBLICATIONS ON PEDIATRIC TRACHEOTOMY: BIBLIOMETRIC ANALYSIS	Bülent ULUSOY	Selçuk University, Türkiye
GLOBAL TRENDS IN COCHLEAR IMPLANTATION FOR SINGLE-SIDED DEAFNESS: A BIBLIOMETRIC ANALYSIS (1982-2025)	Bülent ULUSOY	Selçuk University, Türkiye
PERIPHERAL AMELOBLASTOMA (PA)	Ahmet Can HASKAN Sittiye BAYAR	Hatay Mustafa Kemal University, Türkiye
THE IMPORTANCE OF THE TGF- $\beta$ SIGNALING PATHWAY IN COLORECTAL CANCER PROGRESSION	Recep ESKİN Turkan GURER Filiz OZBAS GERCEKER Alper AYTEKİN	Gaziantep University, Türkiye
THE EFFECT OF TAMARIND (TAMARINDUS INDICA) TREATMENT ON TISSUE IRISIN LEVELS IN A HEART ISCHEMIA-REPERFUSION INJURY MODEL: A BIOCHEMICAL STUDY	Ünal ÖZTÜRK Ergül Belge KURUTAŞ	Sütçü İmam University, Türkiye

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**Session -1 / Hall-2****17.05.2025****Moderator: Assist. Prof. Dr. Enes DALMANOĞLU****Meeting ID: 813 0348 3436 / Passcode: 161718****Tirana Local Time: 09:00-11:00****Ankara Local Time: 10:00-12:00**

TITLE	AUTHOR(S)	AFFILIATION
PARENTAL ATTITUDES AND EXTERNAL SHAME AS PREDICTORS OF SUBMISSIVE BEHAVIOR	Şeyma AKKUŞ Pınar ÖZDEMİR YILMAZ	Düzce University, Türkiye
CLINICAL APPROACH TO HYPERCEMENTOSIS REQUIRING SURGICAL EXTRACTION: A CASE REPORT	Alperen YILMAZ Fariz SELİMLİ	Hatay Mustafa Kemal University, Türkiye
STEREOLİTOGRAFI YÖNTEMİ İLE ÜRETİLMİŞ NUMUNELERDE KÜRLEME SÜRESİNİN MALZEME ELASTİKİYET MODÜLÜNE ETKİSİNİN İNCELENMESİ	Gültekin UZUN Alperen YILMAZ	Gazi University, Türkiye
MANDİBULAR SİNİRLE KOMŞU DENTİGERÖZ KİST VAKASINDA MARSUPYALİZASYONU TAKİP EDEN KORONEKTOMİ YAKLAŞIMI: SİNİR KORUYUCU STRATEJİ	Meryem TAŞ REYHANOĞLU Aliye DOĞRU	Hatay Mustafa Kemal University, Türkiye
VAKA RAPORU: MAKSİLLA ANTEİOR BÖLGEDE RADİKÜLER KİST VE ENÜKLEASYON İLE TEDAVİSİ	Muhammed Said ALTUN Ömer DEMİRCİ	Türkiye
IMPACT OF SINGLE-SESSION POSITIVE ATTENTIONAL BIAS MODIFICATION ON NEGATIVE AFFECT	Gözde EMİK AKSOY Baki Onur IŞIK Halil Mertcan BOZKIR Derya Durusu EMEK SAVAŞ	Dokuz Eylül University, Türkiye
ÇOCUKLARDA PSİKOLOJİK SERMAYE KONULU YAPILAN LİSANSÜSTÜ TEZLERİN İNCELENMESİ	Sena ÖZ TATACAK Şeymanur EFENDİOĞLU Figen GÜR SOY	Ankara University, Türkiye
A CASE OF RICKETTSIOSIS PRESENTING WITH RASH	Enes DALMANOĞLU	Balıkesir University, Türkiye

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**Session -1 / Hall-3**

**17.05.2025**

**Moderator: Assist. Prof. Dr. Mustafa YAVUZEKİNCİ**

**Meeting ID: 813 0348 3436 / Passcode: 161718**

**Tirana Local Time: 09:00-11:00**

**Ankara Local Time: 10:00-12:00**

TITLE	AUTHOR(S)	AFFILIATION
MICROPLASTIC-FREE, COMPOSTABLE, ENVIRONMENTALLY FRIENDLY BANANA FIBER TEA BAG PACKAGING	Aydın SELLİOĞ Zehra ŞEKERCİ Zişan Sare ŞEKERCİ	Ministry of Education, Türkiye
THE EFFECT OF SOCIAL MEDIA USAGE ON MATHEMATICS ACHIEVEMENT OF 5th AND 6th GRADE STUDENTS	Elif KORKMAZ Seçil YALAZ	Dicle University, Türkiye
5th GRADE MATHEMATICS CURRICULUM CHANGE IN TURKEY: A SCHOOL-BASED STUDY	Mehmet ERTAŞ Seçil YALAZ	Dicle University, Türkiye
EĞİTİM ALANINDA WEB 2.0 KONUSUYLA İLGİLİ TÜRKİYE MERKEZLİ DERGİLERDE YAYINLANAN NİTEL MAKALELERİN İNCELENMESİ	Mustafa YAVUZEKİNCİ	Kilis 7 Aralık University, Türkiye
TÜRKİYE'DE AKRAN ZORBALIĞI İLE İLGİLİ EĞİTİM ALANINDA YAPILAN LİSANSÜSTÜ TEZLERİN İNCELENMESİ	Mustafa YAVUZEKİNCİ Figen GÜRSOY	Kilis 7 Aralık University, Türkiye Ankara University, Türkiye
AÇIK VE UZAKTAN EĞİTİM PROGRAMLARINDA DİN EĞİTİMİ: ÖĞRENCİ DENEYİMLERİNİN NİTEL ANALİZİ	Hanife Büşra KARACA İshak TEKİN	Osmangazi University, Türkiye
THE EFFECTS OF ARTIFICIAL INTELLIGENCE-SUPPORTED PUBLIC RELATIONS ON EMOTIONAL INTELLIGENCE AND PERCEPTION MANAGEMENT	Çağla KONAT Şükrü Mustafa KAYA	Istanbul Aydın University, Türkiye

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**Session -1 / Hall-4****17.05.2025****Moderator: Assoc. Prof. Dr. Nadide YILMAZ****Meeting ID: 813 0348 3436 / Passcode: 161718****Tirana Local Time: 09:00-11:00****Ankara Local Time: 10:00-12:00**

TITLE	AUTHOR(S)	AFFILIATION
AN INVESTIGATION OF PRE-SERVICE MATHEMATICS TEACHERS' MATHEMATICAL CONNECTION SKILLS THROUGH THE SCENARIOS THEY PREPARED	Nadide YILMAZ	Karamanoğlu Mehmetbey University, Türkiye
HOW DO MIDDLE SCHOOL PRE-SERVICE MATHEMATICS TEACHERS REASON WHEN COMPARING DATA SETS WITH EQUAL AND UNEQUAL NUMBERS	Nadide YILMAZ	Karamanoğlu Mehmetbey University, Türkiye
INVESTIGATION OF SELF-DIRECTED LEARNING SKILL LEVELS OF MIDDLE SCHOOL STUDENTS	Dilek Naile RUHCAN Uğur BÜYÜK	Erciyes University, Türkiye
FORGOTTEN LESSONS, REMEMBERED EXPERIMENTS: AN INVESTIGATION INTO SCIENCE TEACHERS' SCIENCE LEARNING EXPERIENCES DURING THEIR STUDENT YEARS	Nuryeter ŞAHAN Uğur BÜYÜK	Erciyes University, Türkiye
A QUALITATIVE STUDY ON TEACHER EXPERIENCES AND PERSPECTIVES REGARDING SCIENCE CURRICULUM CHANGES	Gülşah GÜLER Uğur BÜYÜK	Ministry of Education, Türkiye Erciyes University, Türkiye
OPEN-ENDED QUESTIONS WITHIN SCIENCE EDUCATION: A PHENOMENOLOGICAL STUDY OF SCIENCE TEACHERS' AWARENESS	Şükriye SAĞLAM Uğur BÜYÜK	Ministry of Education, Türkiye Erciyes University, Türkiye
EVALUATION OF THE ENDERUN SCHOOL IN TERMS OF VOCATIONAL EDUCATION	Emel KARACA TURAN Mustafa GÜÇLÜ	Ministry of National Education, Türkiye Erciyes University, Türkiye
AN EXAMINATION OF OTTOMAN SIBYAN SCHOOLS IN TERMS OF ESTABLISHMENT, PROGRAM, STUDENT SELECTION AND DISCIPLINE	Mustafa GÜÇLÜ	Erciyes University, Türkiye

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**Session -1 / Hall-5****17.05.2025****Moderator: Dr. Muhammad Munib Khalid****Meeting ID: 813 0348 3436 / Passcode: 161718****Tirana Local Time: 09:00-11:00****Ankara Local Time: 10:00-12:00**

TITLE	AUTHOR(S)	AFFILIATION
SYRIA AND IRAN: STRATEGIC ALLIANCES IN THE FACE OF SHIFTING MIDDLE EASTERN POLITICS	Dr. Muhammad Munib Khalid Husnain Naseer	Minhaj University Lahore, Lahore, Pakistan
TURKISH-HUNGARIAN RELATIONS IN THE FOCUS OF GEOSTRATEGIC INTERESTS USING HISTORICAL-CULTURAL NARRATIVES	Şahin Göksu	Andrássy University Budapest
THE THREAT OF ARTIFICIAL INTELLIGENCE TO STATE SOVEREIGNTY	Professor Dr. Abdul Hamid Al-Moussawi Researcher Ali Abdul Razzaq Saeed	Imam Al-Kadhim College/Department of Political Science.
THE ROLE OF MAGICAL REALISM IN ADDRESSING POLITICAL ISSUES IN AFRICAN DIGITAL SCREENWRITING	ABRU John Obri	Edwin Clark University, Kiagbodo, Delta State, Nigeria
THE AFRICAN UNION ON SOCIOPOLITICAL STABILITY IN AFRICA: ACHIEVEMENTS AND CHALLENGES, 2002-2022	AGABA Halidu OLADIMEJI Olusegun Michael	University of Abuja, Nigeria
THREE PATHS OF REFORM: A COMPARISON OF THE REFORMIST THOUGHTS OF NGUYEN TRUONG TO, PHAM PHU THU, AND NGUYEN LO TRACH	Tran Ngoc Phuong Linh, Bui Hoang Tan	Can Tho University, Viet Nam
SOCIAL CONTROL AND MEDIA AS THE FOURTH ESTATE	FATUNMBI, Joel Oluwafemi ADEBAJO, Ayomide Adebimpe MUSTAPHA, Majeedah Oluwaseyi OMODAYO, Abiola Najeemdeen	University of Ibadan, Ibadan, Nigeria
INK AND IDENTITY ACROSS BORDERS: THE JOURNEY OF YEMENI POET SALEM AL-AMIRI	MR. Salem Abdulqawi Saleh Al-Amiri Dr. Farhana Khan	Aden University, Yemen, Dr. Babasaheb Ambedkar Marathwada University, India
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**Session -1 / Hall-6****17.05.2025****Moderator: Dr. Sunil Kumar****Meeting ID: 813 0348 3436 / Passcode: 161718****Tirana Local Time: 09:00-11:00****Ankara Local Time: 10:00-12:00**

TITLE	AUTHOR(S)	AFFILIATION
EFFECT OF BIO-SYNTHEZIZED METAL NANOPARTICLES LACED ANODE ON THE POWER GENERATION ABILITY OF COMPOST BASED MICROBIAL FUEL CELL	Dr. Sunil Kumar, Prof. Vijay Kumar	Indira Gandhi University-Meerpur-122502, Rewari, Haryana, India
TIME DELAY THEOREM FOR ANALOG SIGNAL USING DIRAC'S DISTRIBUTION	Benabdellah Yagoubi	Mostaganem University, Algeria.
ANBI – AI TECHNOLOGY FOR PERSONALITY AND HEALTH ANALYSIS	Trần Ngọc Thiện, Nguyễn Thị Kim Thoa, Trần Kim Anh	Vietnam Association of Intellectual Women
MOLECULAR MODELING FOR THE DESIGN OF NEW ANTI-INFLAMMATORY DRUGS USING 3D-QSAR, MOLECULAR DOCKING, AND ADMET PREDICTION	Laourdani Kamal, Toughzaoui Abdelilah, Oussama Chedadi, Hajar El Ouarti, Abderrafie Drajou, Abdeslam Dakhama, Moradi kamal, Ouammou Abdelkrim	Sidi Mohamed Ben Abdellah University, Fez, Morocco
INVESTIGATION OF RAW AND CALCINED MAGNESITE-BASED PHASE CHANGE MATERIALS FOR THERMAL ENERGY STORAGE APPLICATIONS	Kaoutar Moulakhnif, Abdelkoddouss El Majd, Hanane Ait Ousaleh, Abdessamad Faik, Said Sair, Abdeslam El Bouari	Hassan II University of Casablanca, Morocco. Mohammed VI Polytechnic University (UM6P), Morocco
SYNTHESIS OF CuO Nps FOR PHOTOCATALYTIC APPLICATIONS	Sabrina Roguai	University of khenchela, Algeria, Science of matter, Algeria
TIN OXIDE THIN FILMS DEPOSITED VIA ULTRASONIC SPRAY PYROLYSIS FOR PHOTOVOLTAIC APPLICATIONS	Sabrina Roguai	University of khenchela, Algeria, Science of matter, Algeria
THEORETICAL ANALYSIS OF HYDRIDE PEROVSKITES FOR HYDROGEN STORAGE APPLICATIONS	Hamza BENAALI, Hmad FATIHI, Abdellah TAHIRI, Mohamed NAJI	Sidi Mohamed Ben Abdellah University, Morocco Sultan Moulay Slimane University, Morocco
PRODUCTION OF BIOGAS USING CO-DIGESTION OF ORGANIC WASTE	Subhashish Dey	Gudlavalleru Engineering College, Andhra Pradesh, India

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**Session -1 / Hall-7****17.05.2025****Moderator: Joseph Chisom Okoye****Meeting ID: 813 0348 3436 / Passcode: 161718****Tirana Local Time: 09:00-11:00****Ankara Local Time: 10:00-12:00**

TITLE	AUTHOR(S)	AFFILIATION
ASSESSING THE TOXICITY AND OPTIMAL DOSAGE OF <i>Jatropha tanjorensis</i> IN POULTRY PRODUCTION.A REVIEW	Joseph Chisom Okoye	Nigerian Young Research Academy
STUDY OF IN VITRO PROPAGATION AND SELECTION FOR SALT TOLERANCE OF LOCAL <i>OPUNTIA</i> CACTUS	Dr. Chokri BAYOUDH Mrs Malek BEN ALI Mrs Afifa MAJDOUB Pr. Taoufik BETTAIEB	University of Monastir, Tunisia Regional Research Centre on Horticulture and Organic Agriculture (CRRHAB), Tunisia University of Carthage, Tunisia
ASSESSMENT OF PHYSIOLOGICAL BEHAVIOR AND VINE PERFORMANCE IN TWENTY GRAPEVINE VARIETIES ( <i>VITIS VINIFERA</i> L.)	Laila Ouardi, Abdelmajid Haddioui, Abdelghani Bouchyoua, Hassane Boudad, Hasna Zinelabidine, Jamal Charafi	National Institute of Agricultural Research, Morocco Sultan Moulay Slimane University, Morocco
ASSESSMENT OF THE RELIABILITY OF THE THIOBARBITURIC ACID METHOD FOR THE QUANTIFICATION OF MALONDIALDEHYDE IN <i>THYMUS SATUREJOIDES</i>	Mohamed El Hassan BOUCHARI, Abdelilah MEDDICH, Abdelmajid HADDIOUI	Sultan Moulay Slimane University, Morocco Cadi Ayyad University, Morocco
MOLECULAR ANALYSIS OF CYST NEMATODE SPECIES IN THE MAIN POTATO PRODUCTION AREAS OF BLIDA PROVINCE, NORTHERN ALGERIA	A. Mezerket, M.Hammache, C.Cantalapiedra-Navarrete, P. Castillo, J.E. Palomares-Rius	LESN, Ecole Normale Supérieure (ENS) Kouba, Algiers, Algeria. National Higher School of Agronomy (ENSA), El Harrach, Algiers, Algeria. Consejo Superior de Investigaciones Científicas (CSIC), Menéndez Pidal s/n, 14004 Córdoba, Spain.
INVISIBLE FARMERS: CHALLENGING MALE DOMINANCE IN AGRICULTURE	Bashir M.B, Abdullahi M.M, Garba M.S, Lukman A	Ahmadu Bello University, Zaria, Nigeria Taraba State University, Jalingo
BIOSTIMULATORY EFFECTS OF SEAWEED LIQUID EXTRACTS ON GROWTH AND PHYTOCHEMICAL ACCUMULATION IN <i>NILGIRIANTHUS CILIATES</i>	Jeevan Ram P. S., Ramesh M	Alagappa University

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**Session -1 / Hall-8****17.05.2025****Moderator: Dr. Zainab Hassan Ali Al-Qaseer****Meeting ID: 813 0348 3436 / Passcode: 161718****Tirana Local Time: 09:00-11:00****Ankara Local Time: 10:00-12:00**

TITLE	AUTHOR(S)	AFFILIATION
SUSTAINABLE ARTIFICIAL INTELLIGENCE: BUILDING ECO-FRIENDLY AND ETHICAL AI SYSTEMS	Ayesha Batool, Arif Gull, Dr. Farkhanda Anjum, Hafsa Naeem, Zainab Fatima, Muneeb-ur-Rehman	LLB, Islamia University, Bahawalpur University of Agriculture, Faisalabad. University of Salford, England
BIO-MONITORING POTENTIAL OF ROADSIDE PLANTS FOR HEAVY METALS POLLUTION USING PLANTS FUNCTIONAL GROUPS	Pooja Gangwar, Dheeraj Rathore	Central University of Gujarat, India
SUSTAINABLE SOURCES OF NATURAL DYES AND THEIR APPLICATIONS	Mahwish Salman, Muhammad Usama, Shahid Adeel, Umaira Bilal, Sabeen Rehman, Esha Zia	Government College University Faisalabad, Pakistan
AQUATIC MACROINVERTEBRATE BIODIVERSITY OF LAKE SIDI BOUDAROUA OUZZANE, MOROCCO	Khalid Doumi, Miloud Chakit, Driss Belghyti	Ibn Tofail University, Kenitra, Morocco
ASSESSMENT OF PHYSICOCHEMICAL QUALITY OF SIDI BOUDAROUA LAKE WATER, OUEZZANE, MOROCCO	Khalid Doumi, Miloud Chakit, Driss Belghyti	
GEOMORPHOLOGICAL DIVERSITY IN ABU GHARB DISTRICT – AN ANALYTICAL FIELD GEOGRAPHICAL STUDY	Dr. Zainab Hassan Ali Al-Qaseer	University of Kufa / Central Library
DATABASE AS THE FOUNDATION OF ANALYTICAL MODELLING	Nataliia DIDENKO	Institute of Water Problems and Land Reclamation of the National Academy of Agrarian Sciences of Ukraine, Kyiv
GAUGING THE SUSTAINABILITY OF SOLID WASTE MANAGEMENT IN SMART CITY INNOVATIONS: ANALYZING THROUGH THE LENS OF INTERNATIONAL ENVIRO-LEGAL PARADIGM	Priya Chaudhari Dr. Mainan Ray	Amity University Kolkata, India
EXTENSION DEMONSTRATION OF IMPROVED WHEAT TECHNOLOGIES IN TWO LOCATIONS OF ZARIA AND PLATEAU STATE	Usman ABDULLAHI Abba GAMBO Amina Danjuma MOHAMMED	Lake Chad Research Institute Maiduguri Borno State Nigeria
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# 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES



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### **TORULASPORA DELBRUECKII - AN INTERESTING YEAST SPECIES ISOLATED FROM WHITE BRINED CHEESE**

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#### **ABSTRACT**

Farmhouse or artisanal cheeses are produced locally, often following traditional regional recipes and methods, and typically in small quantities. A literature review was conducted using the PubMed database, focusing on contemporary scientific studies describing the microbial load and yeast species composition in farmhouse white brined cheeses, with particular emphasis on *Torulaspora delbrueckii*. Yeast identification in milk and dairy products has traditionally relied on differences in microbial colony morphology, microscopy, and phenotypic characteristics such as growth requirements and carbohydrate metabolism. Over the past two decades, yeast identification has advanced significantly with the application of molecular genetic methods, as well as denaturing high-performance liquid chromatography (DHPLC), which is also applicable for yeast identification in cheese. Recently, advanced techniques such as Matrix-Assisted Laser Desorption Ionization-Time of Flight Mass Spectrometry (MALDI-TOF MS) and Fourier Transform Infrared (FTIR) Spectroscopy have also been employed for the identification of dairy-associated yeasts. *Torulaspora delbrueckii* is well studied in controlled wine fermentation processes due to its ability to produce desirable fruity aromas. It is a common component of the microflora in dairy products, either as a beneficial ferment for traditional cheeses and fermented milk or as a yeast culture. In addition to its applications in food production, *T. delbrueckii* has been proposed as a biocontrol agent against pathogens, enhancing product quality and reducing the use of chemical preservatives to prevent food spoilage. Furthermore, *T. delbrueckii* exhibits strong inhibitory effects against plant pathogens such as *Fusarium oxysporum*, *Sclerotinia sclerotiorum*, and *Macrophomina phaseolina*, significantly suppressing mycelial growth in a substantial portion of tested samples. In conclusion, besides lactic acid bacteria starter cultures, yeasts also constitute a significant part of the microflora in dairy products. They play a crucial role in shaping the physicochemical and organoleptic characteristics of cheese and contribute to the production of nutritious food products. Among them, *Torulaspora delbrueckii* stands out as a yeast species with broad applications in the food industry and biotechnology, while its probiotic potential is gaining increasing interest.

**Keywords:** artisanal cheese, yeast microbiota, *Torulaspora delbrueckii*, dairy probiotic potential, lactic acid bacteria,



### BACA TASARIM PARAMETRELERİNİN PERFORMANSA VE ÇEVRESEL ETKİLERE KATKISI

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#### ÖZET

Bacalar bir binada enerji kayıplarının kontrol altına alınmasında müdhahale edilebilir mekanizmalardır. Doğru baca tasarımı uygun malzeme seçimi ve dirsek açısı kullanımı, enerji verimliliğini artırarak ısı kayıplarını en aza indirebilir. Ayrıca, doğru malzemelerle yapılan yalıtım uygulamaları, baca performansını optimize ederek çevresel etkileri azalabilir.

Bu araştırma, Samsun ilindeki bir sigara fabrikasında bulunan ve 120.000 kcal/h kapasiteye sahip kömürlü ısıtma cihazına yönelik bir baca sisteminin tasarımını ve performansını incelemektedir. Tasarımda, baca mekanizması için farklı dirsek açılarının ve çeşitli baca malzemelerinin etkileri analiz edilmiştir. Araştırmada dört farklı dirsek açısı (30°, 45°, 60° ve 90°) ve dört tür alüminyum malzeme (düz alüminyum, kıvrılmış alüminyum, alüminyum flex boru ve gofrajlı alüminyum) kullanılmıştır.

Baca tasarımı, çift cidarlı, dairesel kesitli bir formda yapılmış olup, 35 mm kalınlığında taş yünü yalıtım malzemesi ile kaplanmıştır. Bu yapı, enerji verimliliğini artırmayı ve dış ortam şartlarının baca performansına olumsuz etkilerini minimize etmeyi amaçlamaktadır. Çalışmada, her bir dirsek açısı ve baca malzemesi kombinasyonu, baca gazı akış karakteristikleri, ısı transferi performansı, çevresel etkilerdeki parametreler ve sistemin genel enerji verimliliği açısından değerlendirilmiştir.

Bu çalışma, farklı tasarım parametrelerinin ve malzeme seçiminin endüstriyel bacalar üzerindeki etkisini değerlendiren kapsamlı bir simülasyon analizi sunmaktadır. Sonuçlar, benzer sistemlerin tasarımı ve optimize edilmesi için bir referans sağlamaktadır.

**Anahtar kelimeler:** Samsun ili, KesaAladin simülasyon programı, Baca tasarımı, Binalarda enerji verimliliği, Çevre kirliliği



### ALTERNATİF BACA SİSTEMLERİNİN ENERJİ VERİMLİLİĞİ ÜZERİNE SİMÜLASYON TABANLI BİR PERFORMANS ANALİZİ

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#### ÖZET

Bacalar, enerji verimliliği üzerinde önemli bir etkiye sahiptir çünkü doğru tasarım ve yalıtım, enerji kayıplarını azaltarak ısıtma sistemlerinin verimliliğini artırır. Verimli baca sistemleri, hem enerji tüketimini optimize eder hem de çevresel etkileri minimize ederek sürdürülebilir enerji çözümleri sunar.

Bu çalışmada, Amasya ilinin iklim koşullarına uygun olarak 320 m<sup>2</sup> alana yerleştirilmiş bir köy evi için enerji verimliliğini artıracak bir baca sistemi tasarımı gerçekleştirilmiştir. 40.000 kcal/h kapasiteye sahip doğal gazlı kazana entegre edilecek baca mekanizması, farklı yalıtım kalınlıkları (35 mm, 40 mm, 45 mm) ve malzemeleri (çelik katmanlı, paslanmaz çelik, flex çelik) kullanılarak modellenmiştir. Tasarım sürecinde, baca formu tek cidarlı ve çift cidarlı olmak üzere ikiye ayrılmış, ayrıca dairesel ve oval kesitli geometrik yapılar değerlendirilmiştir.

Baca sisteminin performans analizleri, enerji verimliliğini optimize etmek ve çevresel etkileri en aza indirmek amacıyla KesaAladin simülasyon yazılımı kullanılarak gerçekleştirilmiştir. Analizlerde farklı yalıtım malzemesi kalınlıkları ve baca malzemelerinin termal performans, enerji kayıpları ve sistem güvenilirliği üzerindeki etkileri detaylı şekilde incelenmiştir. Alternatif senaryolar oluşturularak baca sisteminin hem enerji verimliliği hem de ekonomik uygulanabilirliği değerlendirilmiştir.

Çalışma sonuçları, çift cidarlı baca sistemlerinin enerji kayıplarını minimize edebildiğini ve seçilen yalıtım malzemesi ile baca malzemesinin kritik öneme sahip olduğunu göstermiştir. Elde edilen veriler, tasarlanan baca sisteminin Amasya ikliminde enerji verimliliğine katkıda bulunma konusunda potansiyele sahip olduğunu ve doğru bileşenlerle yapılan baca tasarımının çevresel etkileri azaltılabileceğini ortaya koymuştur. Bu çalışma, gelecekte benzer iklim koşullarında kullanılacak baca sistemlerinin tasarımı için örnek bir çalışma olarak sunulmuştur.

**Anahtar kelimeler:** KesaAladin simülasyon programı, Çevre kirliliği, Binalarda enerji verimliliği, Baca tasarımı, Amasya ili

## 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES



### THE ERASMUS PROGRAM AS A TOOL OF PUBLIC DIPLOMACY: ITS IMPACT ON ENHANCING THE EU'S IMAGE IN ALBANIA

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#### ABSTRACT

This paper explores the impact of the Erasmus program as a tool of public diplomacy, focusing on its role in shaping and enhancing the European Union's image in Albania. Recognized as a significant instrument of soft power, Erasmus fosters interpersonal connections, particularly in countries aspiring to join the EU. The key assumption is that Erasmus participants often become informal EU ambassadors, contributing to shifts in cultural and social perceptions through their experiences. A central question addressed in this study is the position of Erasmus within the broader strategy for strengthening the EU's image. With the growing number of mobility opportunities between EU member states and candidate countries, Erasmus has the potential to play a pivotal role in this framework. Furthermore, as EU institutions seek innovative approaches to public diplomacy, the external dimension of Erasmus could emerge as a key element. This topic is of particular importance due to its close link to discussions on the methods and objectives of the EU's foreign policy. To support this research, 100 students who participated in the Erasmus program across different countries were surveyed. The analysis aims to uncover the specific conditions under which Erasmus can be considered an effective mechanism for enhancing the EU's reputation in Albania. Identifying these conditions not only contributes to the value of this study but also paves the way for future research in this area.

**Keywords:** Erasmus program, public diplomacy, European Union, soft power, EU image, Albania, cultural perception, mobility programs, foreign policy, informal ambassadors.



### SYRIA AND IRAN: STRATEGIC ALLIANCES IN THE FACE OF SHIFTING MIDDLE EASTERN POLITICS

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#### ABSTRACT

The strategic partnership between Syria and Iran has historically shaped regional power dynamics in the Middle East predicated on mutually reinforcing ideological, political, and security interests. This alliance, which saw a resurgence of importance in light of the Syrian civil war, has defined the trajectory of regional power relationships in the context of changing alliances, external pressures, and evolving security challenges. Within the nature, challenges and impact of the delaying of Syria from the Arab world, and since the nature of Iran has been founded on it, came with the pillars of the Shiite crescent and thus represented a martyr Sunni versus Shiite, here is this study, which will always take hold of issues, as the common enemy provided him with the situation of the U.S. and more importantly, the U.S. and GCC containment strategies, and thus represents a new role in changing the power equations in the Levant. This study, using qualitative methodology including content analysis, case studies, and secondary literature review, shows how military cooperation, economic dependence, and political solidarity contribute to the strengthening of such a partnership despite the Syrian crisis and international economic sanctions. The results demonstrate that the alliance remains crucial to Iran's regional sway, especially in working to combat the policies of the West and bolster proxy networks, while Syria reaps military and financial aid from Iran in its own efforts to stabilize its regime. But the relationship is also generating fresh tension, as Syria seeks to return into the fold of the Arab League while balancing its relations with other regional players — like Russia and Turkey. According to the study, the ongoing relationship between Syria and Iran is a key element of the region's changing geopolitical order, bringing important insight to the intricacies of Middle Eastern politics. These recommendations underscore the critical need for diplomatic engagement to address security challenges arising from this coalition and dialogue by relevant actors to ameliorate its destabilizing impact. More studies are urged regarding the use and influence of the alliance into the confrontation, and potential for conflict resolution mechanisms involving the relevant, state and non-state actors that fall under this axis. Ultimately, pursuing an understanding of the strategic calculus underpinning Syria-Iran relations is necessary for policymakers seeking to create enduring strategies for peace and stability in the Middle East.

**Keywords:** Syria-Iran Alliance, Middle Eastern Geopolitics, Regional Stability, Proxy Networks, Diplomatic Engagement.



### SABİT KANATLI BİR İNSANSIZ HAVA ARACININ FARKLI OK AÇISI VARYASYONLARI SONUCUNDA KARARLILIK PARAMETRELERİNİN DEĞİŞİMİ CHANGE OF STABILITY PARAMETERS AS A RESULT OF DIFFERENT SWEPT ANGLE VARIATIONS FOR A FIXED WING UNMANNED AERIAL VEHICLE

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#### ÖZET

Bu çalışmada kanat geometrik özelliği olan ok açısının (*swept angle*, “ $A$ ”) hava aracının uzunlamasına ve yanlamasına kararlılığının etkisi sayısal yöntemlerle incelenmiştir. Kanat geometrisi üzerinde iki farklı nokta ok açısına sahip olan hava aracının uzunlamasına ve yanlamasına kararlılık parametreleri sabit dümen koşullarında incelenmiştir. Ok açısının kararlılık üzerinde etkisinin inceleyebilmek için hava aracının kanadı üzerinde iki farklı noktada ok açısı verilmiştir. İlk ok açısının verildiği konum kanat ve gövdenin ilk birleşim noktasındadır. Bu noktada verilen ok açısı değerleri  $A_1 = [5^\circ, 10^\circ, 15^\circ]$  ve ikinci ok açısı konumu kanat ortasında  $A_2 = [15^\circ, 20^\circ, 25^\circ]$  açılarında olacak şekilde tasarlanmıştır. XFLR5 analiz programı ile bu iki ok açısı değerleri ile oluşturulan 9 farklı model üzerinde analiz yapılmıştır ve bu analizler sonucunda elde edilen kararlılık parametreleri sonuçları alınmıştır. Bu parametreler sonucunda hava aracının sönümleme oranı (*damping ratio*, “ $\zeta$ ”) ve sönümlememiş doğal frekansları (*undamped natural frequency* “ $\omega_n$ ”) karşılaştırılmıştır. Bu bildiri çalışması Erciyes Üniversitesi Bilimsel Araştırma Projeleri Koordinasyon birimi tarafından FBA-2024-14147 no’lu proje kodu ile desteklenmiştir.

**Anahtar Kelimeler:** İnsansız Hava Aracı, Kararlılık, Ok Açısı, Şekil Değiştirme.

#### ABSTRACT

In this study effect of one of the wing geometric specialty called as swept angle, “ $A$ ”, on longitudinal and lateral stability is examined computationally. At fixed throttle longitudinal and lateral stability parameters examined for double swept angle having wing. In order to examine effect of swept on stability wing is built with two swept angles. The first swept angles starts in the intersection position of wing and body. In this position the used swept angles are  $A_1 = [5^\circ, 10^\circ, 15^\circ]$  and for the second position where it is mid position of the wing the used swept angles are  $A_2 = [15^\circ, 20^\circ, 25^\circ]$ . By using XFLR5 analysis program 9 different combination of with two different swept angle positions are analyzed ve as





a result of these analyses resulting stability parameters are obtained. By using these parameters damping ratio “ $\zeta$ ” and undamped natural frequency “ $\omega_n$ ” are compared. This work has been supported by Erciyes University Scientific Research Projects Coordination Unity under grant number FBA-2024-14147.

**Keywords:** Unmanned Aerial Vehicle, Stability, Swept Angle, Morphing.



### PİSTON-PERVANE TAHRIKLİ TİHA'LARDA DÜŞEY KUYRUK HEM ALT HEM DE ÜST VETER UZUNLUĞUNUN OTONOM UÇUŞ KONTROL SİSTEMİNİN KONTROL MALİYETİNE ETKİLERİ

### FOR PISTON-PROP POWERED TUA VS EFFECT OF BOTH LOWER AND UPPER CHORD LENGTHS VARIATION ON AUTONOMOUS FLIGHT CONTROL SYSTEM'S CONTROLLER COST

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#### ÖZET

Bu bildiri kapsamında piston-pervane powerplant sistemine sahip bir taktik insansız hava aracının (TİHA'nın) düşey kuyruk takımının hem alt veter uzunluğu hem de üst veter uzunluğu ile birlikte ilgili TİHA'nın otonom uçuş kontrolünü sağlayan hiyerarşik otonom yörünge takip sisteminin PID kontrolcü kazançları simültane bir şekilde, rassal bir optimizasyon yöntem şekli olan kısıtlamalı eş zamanlı pertürbasyon rassal yaklaşımdır (İngilizce bilinen kısaltması c-SPSA) ile beraber yeniden belirlenip bu İHA dinamik sistemin kontrol maliyeti minimize edilmeye çalışılmıştır. Temel tasarım parametreleri bu bildiri kapsamında TİHA'nın düşey kuyruğunun alt ve üst veter uzunlukları olmuştur. Bunun sonucunda düşey kuyruğun diğer parametreleri sabit kalır iken yüzey alanı değiştirilebilme imkânı kazanmıştır. İlâveten hiyerarşik otonom kontrol sisteminin boylamasına ve yanlamasına otonom uçuşlarını sağlayan PID kontrolcülerinin 6 adet P, I ve D gain leride da diğer rassal optimization tasarım parametreleridir. Bu bildiri kapsamında bu 8 takım optimizasyon parametresi dahilinde alt ve üst kısıtlamalar birlikte mevcuttur. İlgili simültane ve rassal tasarım optimizasyon metodolojisi sayesinde ilk durumuna göre kontrol maliyetinde önemli ölçüde tasarruf sağlanmıştır. Bu bildiri çalışması Erciyes Üniversitesi Bilimsel Araştırma Projeleri Koordinasyon birimi tarafından FBA-2024-14147 no'lu proje kodu ile desteklenmiştir.

**Anahtar Kelimeler:** TİHA, Düşey Kuyruk Takımı, Alt ve Üst Veter Uzunluğu, Uçuş Kontrol Sistemi, Simültane Tasarım, Rassal Optimizasyon.

#### ABSTRACT

In this study for a tactical unmanned aerial vehicle (i.e., TUAV) which has piston-prop powerplant system, both lower and upper chord lengths of its vertical tail plane and PID controller gains of its hierarchical autonomous trajectory tracking system are simultaneously and stochastically redesigned by using a constrained and stochastic optimization approach called as c-SPSA in order to minimize cost of this UAV dynamical system. The principal design parameters are lower and upper chord lengths of this TUAV's vertical tail plane in this study. As a result of this while other parameters of the vertical tail are fixed, the surface area of the vertical tail can be varied. In addition, controller gains of the 6 PID controllers for hierarchical autonomous control system are other stochastic optimization design parameters. In this study there are both lower and upper constraints on these 8 optimization parameters. As a result of mentioned simultaneous and stochastic design and optimization methodology



considerable controller cost save is obtained with respect to the initial situation. This work has been supported by Erciyes University Scientific Research Projects Coordination Unity under grant number FBA-2024-14147.

**Keywords:** TUAV, Vertical Tail Plane, Lower and Upper Chord Length, Flight Control System, Simultaneous Design, Stochastic Optimization.



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#### ABSTRACT

**Objective:** To evaluate the results of the single center experience and 3-month follow-up of our earthquake victims with crush syndrome.

**Method:** Demographic findings, laboratory parameters, crush and fracture status, renal replacement therapy needs, and treatments received were evaluated in 11 earthquake victims with crush syndrome. Clinical and laboratory parameters at 3-month follow-up were also evaluated.

**Results:** A significant and positive correlation was found between the duration of hospital stay and pulse rate (Spearman  $\rho=0.616$ ,  $p=.044$ ) and saturation (Spearman  $\rho=0.808$ ,  $p=.003$ ), and negative correlation was found with albumin (Spearman  $\rho=-0.834$ ,  $p=.001$ ) level. Positive correlation was found between the duration of hospital stay and saturation (Spearman  $\rho=0.742$ ,  $p=.022$ ), and negative correlation was found with albumin (Spearman  $\rho=-0.730$ ,  $p=.026$ ) level. The duration of being under the collapse was associated with increased uric acid (Spearman  $\rho=0.673$ ,  $p=.023$ ) and pH (Spearman  $\rho=0.819$ ,  $p=.002$ ) levels. The duration of being under the collapse was longer in those with gluteal contusion (48 [38-48] vs. 6.5 [3-36],  $p=.012$ ). 9 patients (81.8%) developed acute kidney injury (AKI). 6 of these 9 patients (54.5%) required hemodialysis. The most common indication for hemodialysis was hyperkalemia (83.3%). At the end of the 3rd month, all patients were alive and no patient required renal replacement therapy.

**Conclusion:** Despite the many major earthquakes experienced, earthquakes in our country are still associated with serious morbidity and mortality. However, we believe that our bitter experiences have prepared us as Nephrologists for the next earthquakes.



### RELATIONSHIP BETWEEN CKD-AP AND MORTALITY IN HEMODIALYSIS PATIENTS: A SINGLE CENTER, THREE-YEAR EXPERIENCE

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#### ABSTRACT

**Background:** This study was conducted to determine the relationship between laboratory parameters, medications taken and mortality of CKD-associated pruritus (CKD-ap), which is frequently seen in hemodialysis patients and whose effects on quality of life, morbidity and mortality have been shown in some studies.

**Method:** Forty patients who had been on routine dialysis for at least 6 months were included in the study. The drugs they took and laboratory parameters were recorded. All patients were asked to fill out the 5-D pruritus scale. At the end of 44 months of follow-up, patients with and without CKD-ap were compared in terms of mortality and other factors.

**Results:** The mean age of our patients was  $54 \pm 16.2$  years. 22 out of 40 patients (55%) were male. 12 patients (30%) were diabetic. The mean 5-D score was  $7.35 \pm 3.5$ . 5-D scale was high in 16 patients (40%). 17 patients (42.5%) died in 44 months of follow-up. We could not find a significant correlation between pruritus score and serum calcium, phosphorus, CaxP, PTH, uric acid levels. We also could not find a relationship between CKD-ap and medications used, presence of DM, gender, and mortality.

**Conclusion:** Further large and long-term studies are needed on CKD-ap, which is a common and disturbing complaint in hemodialysis patients.



### FOOD CHOICE MOTIVATIONS ON A SAMPLE OF PORTUGUESE CITIZENS

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#### ABSTRACT

Eating is a basic necessity of the human body to be able to maintain life. The ingestions of macro and micro nutrients ensures the provision of energy and compounds essential for the functioning of the organs and cells in the human body. However, what we choose to eat is not only determined by physiological or nutritional needs, and is influenced by a high number of factors of different nature. Some of these factors include socioeconomic status, demographics, taste, lifestyle characteristics, convenience, food cost, security, access to food, nutrition knowledge, cultural influences, religious beliefs, social groups, among others.

Considering that the social and cultural environments contribute to shape one's eating patterns and food choices, as well as lifestyle variables associated with the ingestion of foods, it is important to study their influence and in what way they are more or less relevant for the definition of people's eating habits. This research intended to investigate the effect of social and cultural aspects on the eating motivations of a sample of Portuguese citizens.

The questionnaire survey was approved by the Ethical Committee of Health School of Polytechnic University of Viseu, with reference nº 04/2017. The questionnaire contained a number of statements to assess people' level of agreement with each of them on a 5-point Likert scale from 1 (totally disagree) to 4 (totally agree). The data were collected online through Google Forms and the survey was conducted through email invitation and social networks. A convenience samples was used, recruited by snowball methodology. A total of 1314 validated questionnaires were obtained.

The results of the present study revealed that practically all participants consider that meals are an opportunity for fellowship and pleasure, the great majority said they do not like to eat alone and about half of the participants admitted that when they eat with company they tend to eat more than usual. Regarding familiarity with foods, a great majority do not feel they need to consume foods similar to those they used to consume as a child, and contrarily, like to try new foods and enjoy innovative food experiences. Regarding the influence of other in shaping what the participants consume, more than half admit that they eat what they are expected to eat, and they do not follow food trends. Finally, two thirds of the participants base their food choice in food items from the season.

**Keywords:** Eating motivation, Food choice, motivational factors





### Acknowledgments

This work was prepared in the ambit of the multinational project EATMOT from CI&DETS Research Centre (Polytechnic University of Viseu, Portugal) with reference PROJ/CI&DETS/CGD/0012. This work was supported by the FCT—Foundation for Science and Technology, I.P. Furthermore, we would like to thank the Research Centre CERNAS (ref. UIDB/00681/2020; doi: 10.54499/UIDB/00681/2020), and the Polytechnic University of Viseu for their support.



### ANALYSIS OF GOVERNANCE MODELS FOR SUSTAINABLE AND HEALTHY FOOD SYSTEMS

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#### ABSTRACT

Sustainable food systems are systems that safeguard economic, social and environmental sustainability by fomenting social progress, promoting efficient management of natural resources, providing nutritious food and ensuring profitability for all actors in the food chain. In recent years, several initiatives worldwide have been created to ensure the sustainability of food systems. These initiatives aim to enable people to have access to quality, nutritious and sustainable foods, combat social and economic inequalities and promote synergies between consumers and producers. To promote these initiatives is crucial to contribute to improved food consumption and production patterns towards more nutritive and sustainable foods.

The objective of this research was to identify and characterize initiatives related with the food system in order to understand their structure, model of governance, motivations, typology of actors involved and future prospects.

This investigation was based on an interview guide that was applied to the managers or those responsible for the initiatives related with the food system. Seven initiatives were included, and the semi-structured interviews were carried out online during the summer of 2024. The recorded interviews were transcribed, and content analysis was realized.

The results obtained by the interviews showed that the principal motivators are related to food, sustainability, as well as economic and social dimensions. It was further identified that the most important cause of success was the availability and commitment of the people involved in the initiative. The seven initiatives analysed were implemented to meet local needs, both of producers and consumers, while promoting sustainability. Furthermore, they aimed at encouraging economic circularity, transference and sharing of knowledge, valorisation of local and rural resources, and management of



food waste. These aspects contribute to more efficient and eco-friendly local food supply chains, providing the consumers with fresher and healthier food products.

The existence of local or nationwide initiatives related with the food system contribute to a more efficient use of natural resources to obtain healthy, sustainable and fair food products, that the modern consumers tend to value in search for a friendly co-existence between the necessity to produce food and the recognized need to preserve the natural ecosystems.

**Keywords:** sustainability; food system; initiatives; governance; characterization

### Acknowledgments

This work was prepared in the ambit of the multinational project EATMOT from CI&DETS Research Centre (Polytechnic University of Viseu, Portugal) with reference PROJ/CI&DETS/CGD/0012. This work was supported by the FCT—Foundation for Science and Technology, I.P. Furthermore, we would like to thank the Research Centre CERNAS (ref. UIDB/00681/2020; doi: 10.54499/UIDB/00681/2020), and the Polytechnic University of Viseu for their support.

## 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES



### ASSESSING THE PRESENCE OF HEAVY METALS IN THE AREA OF GLLOOGOC (KOSOVO) BY USING MOSSES AS A BIOINDICATOR FOR HEAVY METALS

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#### ABSTRACT

This study aimed at determining the level of pollution from heavy metals that are deposited from air in the area of Gllogoc. The main goal was to identify the emission sources of pollution by using mosses as bio indicators. In this study area, the mining of Fe-Ni (Industrial Ferronickel Complex) is believed to strongly influence the level of heavy metals. The mining and production activity of Fe-Ni affects the soil, water and air. As the air pollution (from liberated aerosols of Industrial Ferronickel Complex) and the deposition products of this pollution are harmful not only locally but also can pollute the environmental at extended distances, the use of mosses allows analyzing the content and origin of the pollution from heavy metals. ICP was used for the determination of heavy metals in moss samples. The use of Principal Component Analysis (PCA), dendograms and other statistical procedures, permitted to understand the source of the air pollution from heavy metals.

**Keywords:** heavy metals; Pb and Zn concentrates; mosses as bio indicators; soil; water; sterile; sludge; landfill; "Ferronickel" complex

## 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES



### THE IMPACT OF GREEN CONSUMPTION TRENDS, GOVERNMENT SUPPORT POLICIES, AND RISKS ON ENCOURAGING COLLABORATION IN THE UNBURNT BRICK SUPPLY CHAIN: THE MEDIATING ROLE OF TRUST

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#### ABSTRACT

The article studies the impact of factors such as green consumer trends, government support policies, and risks on incentive alignment in the unburnt brick supply chain, through the mediating role of trust. The research collected 342 samples including leaders of enterprises, production facilities, and state management agencies directly or indirectly related to the activities of the unburnt brick supply chain in Khanh Hoa province. The results analyzed through a linear structural model clarified the impact of these factors on trust. Both government support policies and green consumer trends have a positive influence on trust. The analysis also clarified the mediating mechanism of trust, through which these factors affect the encouragement of linkage, an important component in supply chain cooperation. The article proposes some implications for promoting enterprises in the unburnt brick industry towards harmonizing green consumer trends, government support policies, and risks to incentive alignment in the supply chain, creating shared value for society.

**Keyword:** Green consumption, Support policies, Risks, Trust, Incentive Aligment, Supply chain.



### KOLEKTİF ÜRETİM MODELLERİ: İLLÜSTRATÖRLER İÇİN İŞ BİRLİKLERİNİN GÜCÜ MODELS OF COLLECTIVE PRODUCTION: THE POWER OF COLLABORATIONS FOR ILLUSTRATORS

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#### ÖZET

Bu araştırma, illüstratörlerin bireysel çalışma modellerinin ötesine geçerek kolektif üretim modelleriyle nasıl daha etkili ve sürdürülebilir bir kariyer inşa edebileceklerini incelemektedir. Kolektif üretim, sanatçıların bir araya gelerek bilgi, beceri ve kaynaklarını paylaştığı, ortak projeler ürettiği ve birbirlerini desteklediği bir iş birliği modelidir. Makale, bu modelin illüstratörler için hem yaratıcı hem de ekonomik açıdan nasıl avantajlar sağladığını detaylandırmaktadır.

Çalışmada öncelikle, kolektif üretim modellerinin temel prensipleri ve bu modellerin nasıl işlediği açıklanmaktadır. Sanatçı kolektiflerinin oluşum süreçleri, üyeler arasındaki rol dağılımı ve proje yönetimi stratejileri üzerinde durulmaktadır. Ayrıca, kolektiflerin illüstratörlere sağladığı avantajlar arasında; daha büyük ölçekli projelere erişim, maliyetlerin paylaşılması, farklı disiplinlerden beslenme ve kolektif marka bilinci oluşturma gibi unsurlar vurgulanmaktadır. Makalede, başarılı kolektif üretim örnekleri incelenerek bu modellerin nasıl uygulandığına dair somut örnekler sunulmaktadır. Aynı zamanda, kolektif çalışmanın potansiyel zorlukları (örneğin, iletişim sorunları, fikir ayrılıkları ve gelir paylaşımı) ve bu zorlukların nasıl aşılabileceği üzerine stratejiler önerilmektedir.

Sonuç olarak bu araştırma, illüstratörlerin kolektif üretim modelleri aracılığıyla yaratıcı potansiyellerini nasıl maksimize edebileceklerini ve ekonomik sürdürülebilirliği nasıl sağlayabileceklerini anlatmaktadır. Kolektif çalışmanın, bireysel sınırları aşarak sanatçılar için yeni fırsatlar yarattığı vurgulanmakta ve bu modelin gelecekteki yaratıcı endüstrilerdeki rolüne dair öngörüler sunulmaktadır.

**Anahtar Kelimeler:** Yaratıcı Endüstri, Kolektif Üretim, İş Birliği, İllüstratör, İllüstrasyon

#### ABSTRACT

This research examines how illustrators can move beyond individual working models and build a more effective and sustainable career through collective production models. Collective production is a model of collaboration where artists come together to share their knowledge, skills and resources, produce joint projects and support each other. The article details how this model offers both creative and economic advantages for illustrators.

The paper first explains the basic principles of collective production models and how these models work. It focuses on the formation processes of artist collectives, the distribution of roles among members and project management strategies. It also emphasizes the advantages of collectives for illustrators, such as access to larger-scale projects, sharing costs, feeding from different disciplines and creating collective brand awareness. The article examines successful examples of collective production and provides





concrete examples of how these models have been implemented. At the same time, potential challenges of collective work (e.g. communication problems, disagreements and revenue sharing) and strategies on how to overcome these challenges are suggested.

In conclusion, this research describes how illustrators can maximize their creative potential and ensure economic sustainability through collective production models. It emphasizes that collective work creates new opportunities for artists by transcending individual boundaries and offers insights into the role of this model in future creative industries.

**Keywords:** Creative Industry, Collective Production, Collaboration, Illustrator, Illustration



### THE ROLE OF GALECTIN-9/TIM-3 SIGNALING IN THE IMMUNE ESCAPE OF CHRONIC LYMPHOCYTIC LEUKEMIA CELLS

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#### ABSTRACT

Chronic Lymphocytic Leukemia (CLL) is a common form of bone marrow and blood cancer in adults, which progresses more slowly than other forms of leukemia. It is characterized by increased production of abnormal CD19<sup>+</sup>CD5<sup>+</sup>CD23<sup>+</sup> B cells in the bone marrow, blood, and lymphoid organs. There is evidence that galectin-9 (Gal-9) expression and secretion is increased in these cells, which is even more pronounced in CLL patients with advanced clinical stages. In addition, high serum Gal-9 levels in CLL patients are associated with poor prognosis and treatment failure, making it a potential prognostic biomarker. Gal-9 acts as a ligand on the Tim-3 receptor in T cells, which is also increased in CLL patients and further enhanced with disease progression. Binding of Gal-9 to Tim-3 transmits inhibitory signals to CD8<sup>+</sup> T cells and Th1 cells, causing them to become dysfunctional causing less IFN- $\gamma$  to be secreted, which also accelerates disease progression. Furthermore, the percentage of Treg cells is increased in CLL patients, which associates with disease progression. Serum levels of IL-10 (Treg cytokine) are significantly increased in CLL patients, especially in advanced clinical stages. Importantly, the percentage of Treg cells and serum IL-10 levels in CLL patients show a positive correlation with serum Gal-9 levels, which implicates that high Gal-9 levels in CLL patients can stimulate Treg cell differentiation and proliferation. Blockade of the Tim-3/Gal-9 pathway using anti-Tim-3 monoclonal antibody reduced IL-10 but increased IFN- $\gamma$  levels in the culture supernatant of CD4<sup>+</sup> T cells from CLL patients *in vitro* in the presence of recombinant Gal-9 protein. Interestingly, apoptosis of CLL cells increased after Tim-3 blockade of Treg cells *in vitro*, indicating that activation of the Tim-3/Gal-9 pathway on Treg cells plays a crucial role in the survival of CLL cells. Taken together, enhanced Gal-9/Tim-3 signaling inhibits the antitumor immune response and may represent a novel target in CLL patients, especially in advanced clinical stages.

**Keywords:** Galectin-9, Tim-3, T cells, CLL



### HUMAN-CENTERED MARITIME SAFETY: INNOVATIVE APPROACHES WITH TRIZ

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#### ABSTRACT

Human reliability is an important element in maritime transportation, which can notably impact operational safety and efficient. In spite of technological advancements, human error has been a dominant factor in maritime accidents, with approximately 60–80% of incidents attributed to human fluctuation. This paper focuses on the TRIZ methodology to overcome the human reliability difficulties in key shipboard operations. The systematizing approach and method will help to solve the contradictions connected with human factors in the maritime based on the adaptation of TRIZ methodology. The study introduces tailored parameters, including workload management, error reduction, situational awareness, and safety culture, while modifying inventive principles such as task segmentation, feedback mechanisms, and adaptive adjustments to suit maritime-specific needs. These modifications are designed to alleviate cognitive and physical strain on crew members, enhance decision-making processes, and boost overall operational reliability. The framework proposed could represent a big step in the improvement of the human reliability in maritime transportation by offering a systematic and proactive strategies. Adoption of this framework could potentially result in a significant decrease in human errors, enhanced crew performance and a strengthened safety culture industry wide. These findings not only fill existing gaps in maritime human reliability research, but they also offer new solutions that support the safety objectives of the International Maritime Organization (IMO).

**Keywords:** Theory of Inventive Problem Solving (TRIZ), Human Factor, Human Reliability, Human-Centered, Maritime, Safety, Transportation, Inventive Principles, Problem Solving.



### RETINAL VESSEL SEGMENTATION: REVIEW

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#### ABSTRACT

This review paper provides a comprehensive overview of recent advancements in the segmentation of retinal vessels using deep learning techniques. Retinal vessel segmentation is an important task in the early diagnosis and treatment of various ophthalmic and systemic diseases. This paper examines the latest methods based on Convolutional Neural Networks (CNNs), UNet architectures, Transformers, and attention mechanisms.

CNNs, particularly the UNet architecture, have been widely adopted for their powerful feature extraction capabilities and their ability to handle the spatial hierarchies in retinal images. Variants such as the Spatial Attention UNet (SA-UNet) introduce spatial attention modules to enhance feature refinement and improve segmentation accuracy, especially in complex regions with small and fragile vessels.

Transformers, initially developed for natural language processing, have demonstrated significant potential for medical image segmentation due to their capability to capture long-range dependencies and global context. Models like TransUNet combine the strengths of UNet and Transformers to further improve performance while maintaining computational efficiency. Attention mechanisms integrated into these models allow for better focus on relevant features, significantly enhancing the segmentation results.

This review also highlights the experimental results from various studies, demonstrating the effectiveness of these methods on standard datasets such as DRIVE and CHASE\_DB1. By summarizing the latest work in this domain, this paper seeks to offer insights into the strengths and weaknesses of each approach, paving the way for future research and clinical applications in retinal vessel segmentation.

**Keywords:** Retinal vessel segmentation, Convolutional neural network, Transformer, UNet, SA-UNet, Attention.



### ALANYA MÜZESİ'NDEKİ SYEDRA OSTOTHEKLERİNİN STİLİSTİK GELİŞİMİ STYLISTIC DEVELOPMENT OF SYEDRA OSTOTHEKS IN ALANYA MUSEUM\*

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#### ÖZET

Bu çalışmada, Antalya ili, Alanya ilçesi sınırlarında yer alan Syedra'dan ele geçen 16 adet ostothekin stilistik değerlendirmesi gerçekleştirilmiştir. Alanya Müzesi'nde korunan ve 1967 yılından, 2015 yılına kadar satın alma, bağış ve müsadere yoluyla müzeye kazandırılan ostotheklerden, 15 adedi kapaksız günümüze ulaşmışken, 1'i de kapaklı olarak ele geçmiştir. Ostotheklerin neredeyse tamamına yakını bölgenin yerel malzemesi kireç taşından yontulmuştur. Ön ve arka uzun yüzlerinde ise tek ya da çift kavisli girlandlı çelenk süslemeleri bulunmaktadır. Bu kavisli girland süslemeleri de lotus, defne ya da akanthus yapraklarıyla tasarlanmışlardır. Tek ya da çift kavisli bu girland çelenklerinin merkezinde de kadın, erkek ya da her ikisinin de portreleri görülmektedir. Bazı örneklerde ise girland çelenklerinin ana eksenine stilize palmet motifleri de yerleştirilmiştir. Kısa kenarların bir yüzünde de kapı betimlemesi yer alırken diğer kısa kenarda ise tek kavisli girlandlı çelenk süslemesi görülür. Dorik düzenli bu kapı betimlemelerinin erken dönem örneklerinde ise kapıların ayna bölmelerinde kapı tokmağı ve anahtar deliği gibi kapı öğelerine yer verilirken geç dönem kapı betimlemeleri ise oldukça sade görünümde olup, dört ayna bölmeli ve bölmeleri bezemesiz ya da ayna bölmesiz olarak işlenmişlerdir. Ostothekleri süsleyen girland çelenkleri de köşelerdeki taşıyıcılara asılı taeniaeler yardımıyla bağlanmışlardır. Bu taşıyıcılar da bazı örneklerde bukephalion, bazılarında ise stilize açık palmet motiflerine applike edilen boynuzlar, diğer örneklerde de ½'si bukephalion, diğer ½'si de stilize açık palmet motifleriyle tasarlanan taşıyıcılar şeklindedir. Dört tarafı da süslenen ostotheklerin yorumlanmasında da uzun yüzlerdeki girland biçimleriyle birlikte erkek portrelerindeki saç stili ve kısa yüzlerdeki kapı betimlemelerinden yararlanılmıştır. Örneğin erken dönem ostotheklerindeki tek ya da çift kavisli akanthus yapraklı girlandlı çelenk süslemelerindeki akanthus yaprakları doğal görünümde iken geç dönem örneklerinde ise doğal görünümünden uzaklaşarak yaprak dalı izlenimi kazanmışlardır. Erkek portrelerinde ise erken dönem örneklerinde göz bebeği ve iris işlenmemiş olup, alnına doğru taranan ve alın merkezinde çatal motifi oluşturan uzun saç perçemleriyle şekillendirilen saç stili söz konusudur. Geç dönem örneklerinde ise göz bebeği ve iris derin matkap darbesiyle işlenmiştir ve saç stili de başa yapışık, alnına doğru taranan ve alın merkezinde çatal motifinin oluşturan saç perçemleriyle şekillendirilmiştir. Böylelikle erkek portrelerindeki saç stili, kapı betimlemeleri ve dikdörtgen formdaki sanduka gövdelerini süsleyen girland biçimleriyle bir bütün olarak irdelenen ostothekler, Traianus (MS 98-117) döneminden, MS 3. yüzyılın ortalarına kadar tarihlendirilmişlerdir.

**Anahtar Kelimeler:** Syedra, Alanya Müzesi, Ostothek, Girland.

#### ABSTRACT

In this study, the stylistic evaluation of 16 ostotheks recovered from Syedra, located in the borders of Alanya district of Antalya province, was carried out. Among the ostotheks preserved in Alanya Museum

\* Bu bildiri, 2-4 Kasım 2022 tarihinde Manavgat'ta düzenlenen "I. Pamphylia Araştırmaları Toplantısında" sunulmuştur. Ancak çalışmanın özet ya da tam metni yayımlanmamıştır.



and brought to the museum from 1967 to 2015 through purchases, donations and confiscations, 15 of them have reached to the present without a lid and 1 with a lid. Almost all of the ostotheks are carved from limestone, the local material of the region. On the front and back long faces, there are garland wreath decorations with single or double curves. These curved garlands are also designed with lotus, laurel or acanthus leaves. Portraits of women, men or both can be seen in the center of these garlands wreaths with single or double curves. In some examples, stylized palmette motifs are placed on the main axis of the garland wreaths. While there is a door description on one face of the short sides, a single curved garland wreath decoration is seen on the other short side. While door elements such as doorknobs and keyholes are included in the mirror sections of the doors in the early examples of these door descriptions in Doric order, the late door descriptions have a very simple appearance, with four mirror sections and their sections are with or without decorations. Garland wreaths adorning the ostotheks were also attached with the help of taeniae hanged to the carriers in the corners. These carriers are in the form of bukephalion in some examples, horns applied on stylized open palmette motifs in others, ½ bukephalion in other examples and ½ in the form of carriers designed with stylized open palmette motifs. In the interpretation of the ostotheks decorated on all four sides, the garland forms on the long faces, the hairstyles in the men portraits and the door descriptions on the short faces were used. For example, while the acanthus leaves in garland wreath decorations with single or double curved acanthus leaves in the early period ostotheks have a natural appearance, in the late examples they have moved away from their natural appearance and gained the impression of a leaf branch. In men portraits, on the other hand, the pupil and iris are not sculpted in the early examples, and there is a hairstyle shaped with long forelocks that are combed towards the forehead and form a bifurcation motif in the center of the forehead. In the late examples, the pupil and iris were carved with a deep drill stroke and the hair style was shaped with forelocks attached to the head, combed towards the forehead and forming a bifurcation motif in the center of the forehead. Thus, the ostotheks, which are examined as a whole with the hairstyle in men portraits, door descriptions and garland forms adorning the rectangular cist bodies, have been dated from the period of Traianus (98-117 AD) to the middle of the 3<sup>rd</sup> century AD.

**Keywords:** Syedra, Alanya Museum, Ostothek, Garland.





### EFFECT OF PHOSPHODIESTERASE (PDE5) INHIBITORS ON CANINE SPERM QUALITY AND OXIDATIVE STRESS ASSESSMENT VIA SOD AND GPX

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#### ABSTRACT

In canine medicine, there are fewer data than in other species on specific findings regarding semen evaluation and their effect on fertility. In animal studies, sildenafil has been found to ease penile erection in the dog penis. The action of GPx and SOD is important both for the maintenance of the spermatogenic process and for the protection of cells against  $O_2^-$  produced in the external environment.

In dogs, semen is often collected manually. Semen can be used immediately after collection in its fresh and undiluted form, storage at 5 C° for short-term preservation, or frozen and later thawed for extended storage. Sildenafil, a PDE5 inhibitor, has been found to be useful in dogs that have problems with erection and response to semen collection, and sildenafil administration has been found to increase the volume of the first, second and third fractions in dogs.

Among the enzymatic antioxidants, SOD and GPx are another group of antioxidants found in the gonads and seminal fluids and known to eliminate ROS. Glutathione peroxidase is a selenium-containing antioxidant enzyme found in the mitochondria and cytoplasm of the cell. This enzyme exists in two different forms, selenium-dependent and independent. Superoxide dismutase, located in the prostate gland and seminal vesicles, forms the first line of defense in combating oxidative stress in reproductive cells and plays a role in the regulation of ROS production. In addition, the scavenging property of SOD allows it to work effectively together with GPx.

The main objective of this study was to investigate the effects of PDE5 inhibitor on the evaluation of semen quality in dogs and to reveal the role of important antioxidant systems such as superoxide dismutase (SOD) and glutathione peroxidase (GPx) in this process.

**Keywords:** Canine, Oxidative stress, PDE5 inhibitor, Sperm



### ÇOCUKLARIN DİJİTAL HAKLARI VE ÇOCUKLARIN DİJİTAL HAK İHLALLERİNDEN KORUNMASI

#### CHILDREN'S DIGITAL RIGHTS AND PROTECTING CHILDREN FROM DIGITAL RIGHTS VIOLATIONS

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#### ÖZET

Çocuk hakları, internetin hayatımıza girmesiyle birlikte dijital dünyada da karşımıza çıkmaya başlamış ve çocukların dijital hakları kavramı da gündeme gelmeye başlamıştır. Dijital dünyada çocukların haklarının var olduğunun kabulü, bu hakların çocuklar tarafından kullanılması sırasında özel bir korunmanın olup olmayacağı, çocukların dijital haklarının neler olduğu gibi soruları da akla getirmiştir. Çocukların dijital dünyadaki haklarını ve bu hakların sınırlarını bilmesi, bu hakların korunması, internet kullanım yaşının düşmesiyle birlikte çok önemli hale gelmiştir. İnternet kullanım yaşının düşüşü çocukların dijital dünyada daha fazla korunması düşüncesini de beraberinde getirmiştir. Aileler çocukların dijital ortamı kullanırken zararlı içeriklerden korunması amacıyla çeşitli filtrelemeler ya da uygulama yasakları getirmekle birlikte bazı uygulamalar da ülkeler genelinde dijital uygulamaların kullanılması yaş sınırlamalarına tabi tutulmuştur. Çocukların dijital haklarının korunmasının en güvenilir yolu, bu konuda ayrıca ve özel yasal düzenlemeler yapılmasıdır. Çalışmamızda çocukların dijital hakları kavramı ve dijital ortamdaki zararlı içeriklerden çocukların korunması için alınabilecek önlemler, korunma yolları ve çözüm önerileri sunulacaktır.

**Anahtar Kelimeler:** Çocuk hakları, dijital haklar, çocuğun korunması, çocuğun üstün yararı, çözüm önerileri.

#### ABSTRACT

Children's rights have also started to appear in the digital world with the introduction of the internet into our lives, and the concept of children's digital rights has also begun to come to the fore. The acceptance that children have rights in the digital world has also brought to mind questions such as whether there will be special protection during the use of these rights by children, and what children's digital rights are. Children's knowledge of their rights in the digital world and the limits of these rights, and the protection of these rights have become very important with the decrease in the age of internet use. The decrease in the age of internet use has also brought with it the idea of protecting children more in the digital world. While families impose various filters or application bans in order to protect children from harmful content while using the digital environment, some applications have also been subject to age restrictions for the use of digital applications across countries. The most reliable way to protect children's digital rights is to make separate and special legal regulations on this issue. In our study, the concept of children's digital rights and the measures that can be taken to protect children from harmful content in the digital environment, protection methods and solution suggestions will be presented.

**Keywords:** Children's rights, digital rights, protection of the child, best interests of the child, solution suggestions.

## 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES



### ENDERUN MEKTEBİNİN MESLEK EĞİTİMİ AÇISINDAN DEĞERLENDİRİLMESİ EVALUATION OF THE ENDERUN SCHOOL IN TERMS OF VOCATIONAL EDUCATION

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#### ÖZET

Osmanlı İmparatorluğu'nda dönemin ihtiyaçlarına göre farklı eğitim kurumları açılmış ve önemli işlevler görmüştür. Sıbyan mektebi, medreseler bu eğitim kurumlarından. Bunun yanında Osmanlı İmparatorluğu'nda üst kademe yöneticilerinin ve sarayda görev alacak kişilerin yetiştirilmesi amacıyla Enderun Mektebinin açıldığı görülmektedir. Bu okul çok sayıda vezir, kaptan-ı derya gibi üst düzey yönetici yetiştirmiş, sarayın personel ihtiyacının karşılanmasında önemli hizmetlerde bulunmuştur. Bu okul yaklaşık dört yüz yıl boyunca ülkenin ihtiyaç duyduğu personeli yetiştirme görevi üstlenmiştir. Enderun Mektebi özgün bir eğitim kurumu olup, okulun eğitim sistemi incelendiğinde üstün yetenekli öğrencilerin eğitime yönelik olarak çok sayıda önemli prensipleri bünyesinde topladığı görülmektedir. Enderun mektebi gerek öğrenci seçimi ve de gerekse seçilen öğrencilerin eğitiminde kullanılan yöntemler günümüzde de özellikle üstün yetenekli öğrencilerin yetiştirilmesine ışık tutacak düzeydedir. Öğrencilerin potansiyellerine uygun programlar uygulanmış, her bir öğrencinin zekâ ve yeteneklerine uygun eğitim almaları sağlanmıştır. Enderun mektebinin eğitim uygulamalarında dikkat çeken konulardan birisi de mesleki eğitimle ilgilidir. Bu araştırmada Enderun Mektebinin meslek eğitimi açısından incelenmesi amaçlanmıştır. Bu amaç çerçevesinde doküman incelemesi yöntemi kullanılmış; internet ve kütüphane ortamında literatür taraması yapılmış amaca uygun bulunan makale, tez ve kitaplar betimsel analiz ile değerlendirilmiştir. Araştırma sonunda; Enderun Mektebinin kuruluş amacının dini olmakla birlikte sanattan ve edebiyattan anlayan ve üst düzey devlet kademelerinde görev yapabilecek bireyler yetiştirmek olduğu görülmüş, bireylere farklı odalara doğru aşamalı bir şekilde yeteneklerine uygun alanlarda mesleki yeterlikler kazandırıldığı sonucuna varılmıştır.

**Anahtar Kelime:** Osmanlı, mesleki eğitim, Enderun Mektebi

#### ABSTRACT

In the Ottoman Empire, different educational institutions were opened and served important functions according to the needs of the period. Sıbyan schools and madrasas are among these educational institutions. In addition, it is seen that the Enderun School was opened in the Ottoman Empire in order to train top-level administrators and people who would work in the palace. This school trained many high-level administrators such as viziers and captains, and provided important services in meeting the personnel needs of the palace. This school undertook the task of training the personnel needed by the country for about four hundred years. The Enderun School is a unique educational institution and when the education system of the school is analyzed, it is seen that it incorporates many important principles for the education of gifted students. Both the selection of students and the methods used in the education of the selected students at Enderun Mektebi are at a level that will shed light on the education of gifted students today. Programs appropriate to the potential of the students were implemented, and each student was provided with education in accordance with their intelligence and abilities. One of the noteworthy issues in the educational practices of the Enderun School is related to vocational education. In this study,



it is aimed to analyze the Enderun School in terms of vocational education. Within the framework of this purpose, the document review method was used; literature was searched on the internet and in the library environment, and the articles, theses and books found suitable for the purpose were evaluated by descriptive analysis. At the end of the research; it was seen that the purpose of the establishment of the Enderun School was to raise individuals who understood art and literature and who could serve in high-level state levels, and it was concluded that individuals were gradually given professional competencies in areas suitable for their abilities towards different rooms.

**Keywords:** Ottoman, vocational education, Enderun School



### OSMANLI SIBYAN MEKTEPLERİNİN KURULUŞ, PROGRAM, ÖĞRENCİ SEÇİMİ VE DİSİPLİN AÇISINDAN İNCELENMESİ

#### AN EXAMINATION OF OTTOMAN SIBYAN SCHOOLS IN TERMS OF ESTABLISHMENT, PROGRAM, STUDENT SELECTION AND DISCIPLINE

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#### ÖZET

Osmanlı İmparatorluğunda eğitim, kamu hizmeti niteliğinde bir devlet görevi olarak görülmemiştir. Eğitim kurumlarının giderleri daha çok vakıflar tarafından sağlanmaya çalışılmıştır. Sıbyan mektepleri Osmanlı İmparatorluğunun örgün eğitim kurumlarından birisi olup ilkökul seviyesinde eğitim görevi görmüştür. Medreseler ve Enderun mektebi ise Osmanlı İmparatorluğu'nda diğer örgün eğitim kurumlarını temsil etmektedir. Medreseler ise daha çok orta ve yüksek seviyede eğitim görevi görürken Enderun mektebi de sarayda görev alacak personel yanında üst düzeyde devlet görevlilerin yetiştirilmesinde önemli görevler üstlenmiştir. Osmanlı geleneksel eğitim kurumlarının belirli bir merkezi idaresinin olmaması uygulanmakta olan programlar açısından okullar arasında tam bir birliğin sağlanamamasına neden olmuştur. Osmanlıda daha çok ilkökul hizmet gören Sıbyan mektepleri genellikle beş ya da altı yaşında kız ve erkek çocukların eğitim gördüğü kurumlar olup bu kurumlara Karahanlılar ve Selçuklularda da rastlanılmaktadır. Bu araştırmada Osmanlı örgün eğitim kurumlarından olan Sıbyan mekteplerinin kuruluş, program, öğrenci seçimi ve disiplin gibi konular açısından incelenmesi amaçlanmıştır. Araştırma sonunda sıbyan mekteplerinin kuruluş süreci hakkında bilgiler verilmiş, tarihi gelişimine değinilmiş, öğrencilerin 19. Yüzyıla kadar ve sonrası için nasıl belirlendiği, öğrencilerin ne kadar öğrenim gördükleri gibi konulara değinilmiştir. Araştırma sonunda ayrıca sıbyan mekteplerinin uzun yıllar çözüm beklediği, bu konudaki ilk çalışmaların II. Mahmut zamanında başladığı, bu dönemde yayınlanan fermanla çocuklara ilköğretim zorunluluğu getirildiği, ilkökula gitmeden, okuma yazma öğrenmeden herhangi bir ustanın yanında çırak olarak görev almaları yasaklanmıştır. Bunun yanında muallim okullarda disiplin sağlanmasında tek otorite olarak görüldüğü sonucuna varılmıştır.

**Anahtar Kelimeler:** Osmanlı, geleneksel eğitim kurumları, sıbyan mektebi, öğrenci, disiplin

#### ABSTRACT

In the Ottoman Empire, education was not seen as a state duty in the nature of public service. The expenses of educational institutions were mostly provided by foundations. Sıbyan schools were one of the formal educational institutions of the Ottoman Empire and served as primary school level education. Madrasahs and Enderun schools represent the other formal education institutions in the Ottoman Empire. While the madrasahs were mostly used for middle and high level education, the Enderun school played an important role in the training of high-level state officials as well as the personnel to be employed in the palace. The lack of a central administration in Ottoman traditional educational institutions led to a lack of unity among the schools in terms of the programs being implemented. Sıbyan schools, which were mostly primary schools in the Ottoman Empire, were institutions where five or six year old boys and girls were educated, and these institutions were also found in the Qarakhanids and Seljuks. In this research, it is aimed to examine the Sıbyan schools, which are one of the Ottoman formal education institutions, in terms of issues such as establishment, program, student selection and



discipline. At the end of the research, information was given about the establishment process of the Sıbyan schools, their historical development was mentioned, how the students were determined until the 19th century and after, and how much education the students received. At the end of the research, it is also mentioned that the sıbyan schools had been waiting for a solution for many years, the first studies on this subject started during the reign of Mahmut II, and with the edict issued in this period, primary education was made compulsory for children, and they were forbidden to serve as apprentices to any master without attending primary school and learning to read and write. In addition, it was concluded that the teacher was seen as the sole authority in ensuring discipline in schools.

**Keywords:** Ottoman, traditional educational institutions, sıbyan mektebi, student, discipline





### APPLICATIONS AND POTENTIAL OF POWER LINE COMMUNICATION (PLC) BASED TECHNOLOGIES IN THE AUTOMOTIVE INDUSTRY: A REVIEW

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#### ABSTRACT

In this study, automotive applications and potential application areas based on Power Line Communication (PLC) technology are included. PLC technology offers an alternative solution by using existing power lines for data transmission. The study details the definition, basic principles and various application areas of PLC, especially its potential in the automotive industry. PLC technology is used in the automotive industry for signaling, charging station communication and control of battery cells. Parking sensors, alarm and lighting applications were mentioned as potential application areas. Parking sensors, alarm and lighting applications face challenges such as installation complexity and high cost. The integration of PLC technology with the application areas mentioned above stands out and it is emphasized that this approach provides significant advantages such as reducing the load on in-vehicle communication networks, reducing system costs and simplifying the assembly process. This study demonstrates the potential of PLC in automotive applications and represents an important step towards wider acceptance of this technology.

**Keywords:** Power Line Communication, Parking Sensor, PLC in Automotive, Alarm, Signalisation



### SİBER GÜVENLİK OLAY MÜDAHALESİNDE ADLİ VAKA SINIFLANDIRMASI İÇİN MAKİNE ÖĞRENMESİ TABANLI YENİ BİR BLOK ZİNCİR MODELİ

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#### ÖZET

Siber güvenlik olay müdahale sistemleri, siber tehditlere hızlı ve etkili bir şekilde yanıt vermek için kritik bir öneme sahiptir. Siber olaylara müdahale eden güvenlik analistleri sistemlerden gelen olay günlüklerini analiz ederek saldırının niteliği hakkında karar verirler. Müdahalenin etkinliği kadar, potansiyel bir adli veya idari soruşturma sürecinde delil niteliği taşıyan olay günlüklerinin güvenli bir şekilde saklanması ve delil koruma zincirinin korunması da büyük önem taşımaktadır.

Adli bilişim sistemlerinde delil zincirinin korunmasına yönelik blok zincir tabanlı sistemler üzerine çeşitli çalışmalar yapılmıştır (Lone ve Mir, 2019). Meral ve Sayan (2024), ise siber güvenlik olay müdahalesi ve adli bilişim süreçlerinde (digital forensic and incident response - DFIR) vaka yönetimini blok zincir üzerinde gerçekleştiren bir model önermiştir. Ancak, olay müdahale süreçlerinde otomasyon eksikliği, adli bilişim vaka sınıflandırmalarının manuel olarak yürütülmesi ve soruşturma süreçlerinin yavaş ve verimsiz ilerlemesine neden olmaktadır.

Bu çalışmada, Meral ve Sayan'ın çalışmalarında önerdiği modelin gelişmiş bir versiyonu olan DFIRChain-ML modeline ilişkin kavramsal konsept sunulmaktadır. DFIRChain-ML modelinde, bir önceki modelin blok zincir alt yapısı korunmuş, ancak adli vakaların tespitinde ve sınıflandırılmasında makine öğrenmesi yöntemleri uygulanmıştır. DFIRChain-ML modelinde adli inceleme gerektirecek siber saldırıların tespiti için makine öğrenmesi yöntemlerinin örnek bir uygulaması yapılarak sonuçları sunulmuştur. Modelin eğitimi için farklı saldırı türlerini içeren Sharmila ve Nagapadma (2023) tarafından sunulan açık kaynak veri seti kullanılmıştır. Makine öğrenmesi yöntemi sistem olay günlüklerini saldırı türlerine göre sınıflandırarak, adli inceleme süreçlerinin otomatik olarak başlatılmasını ve tehdit seviyesine göre önceliklendirilmesini sağlamaktadır. Modelin devamında akıllı sözleşmeler, olay müdahale ve adli bilişim süreçlerinin değişmez kayıtlarını blok zincir üzerinde saklamakta, böylece delil zincirinin bütünlüğünü garanti altına almaktadır.

**Anahtar Kelimeler:** Blok Zincir, Adli Bilişim, Olay Müdahale, Adli Vaka Sınıflandırması, Yapay Sinir Ağları, Delil Zinciri, Hyperledger Fabric

#### ABSTRACT

Cyber security incident response systems are critical to respond quickly and effectively to cyber threats. Security analysts responding to cyber incidents analyze event logs from systems and make decisions about the attack. As well as the effectiveness of the response, it is of great importance to securely store



the event logs, which are evidence in a potential judicial or administrative investigation process, and to protect the chain of evidence protection.

Various studies have been conducted on blockchain-based systems to protect the chain of evidence in forensic systems (Lone and Mir, 2019). Meral and Sayan (2024) proposed a model that realizes case management in cybersecurity incident response and forensics processes (digital forensic and incident response - DFIR) on the blockchain. However, the lack of automation in incident response processes causes forensics case classifications to be carried out manually and investigation processes to proceed slowly and inefficiently.

This paper presents the conceptual concept of the DFIRChain-ML model, which is an advanced version of the model proposed by Meral and Sayan in their study. In the DFIRChain-ML model, the blockchain infrastructure of the previous model is preserved, but machine learning methods are applied to detect and classify forensic cases. An example application of machine learning methods for the detection of cyber-attacks that require forensic investigation in the DFIRChain-ML model is presented. The open-source dataset presented by Sharmila and Nagapadma (2023), which includes different types of attacks, was used for training the model. The machine learning method classifies the system event logs according to the attack types, enabling forensic investigation processes to be automatically initiated and prioritized according to the threat level. In the rest of the model, smart contracts store immutable records of incident response and forensics processes on the blockchain, thus guaranteeing the integrity of the chain of evidence.

**Keywords:** Blockchain, Forensics, Incident Response, Forensic Case Classification, Artificial Neural Networks, Chain of Evidence, Hyperledger Fabric

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### A COMPARATIVE STUDY ON THE PRODUCTION OF CARBIDE CERAMICS VIA BALL MILLING AND SELF-PROPAGATING HIGH-TEMPERATURE SYNTHESIS TECHNIQUES

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#### ABSTRACT

Carbide ceramics are a class of advanced materials that exhibit remarkable properties such as high hardness, thermal stability, corrosion resistance, and wear resistance, making them indispensable for applications in industries such as aerospace, automotive, and manufacturing. As the demand for these high-performance materials continues to rise, optimizing the production processes has become crucial for enhancing their mechanical and structural properties. This study provides a comprehensive comparison of two widely adopted techniques for producing carbide ceramics: Ball Milling (BM) and Self-Propagating High-Temperature Synthesis (SHS). The Ball Milling process involves mechanical alloying through high-energy impacts, resulting in fine powders with controlled particle size and uniform distribution. In contrast, SHS utilizes exothermic reactions to rapidly synthesize carbide phases, offering energy efficiency and high product purity. The research investigates the microstructural evolution, phase composition, and mechanical properties of the resulting ceramics using X-ray diffraction (XRD), scanning electron microscopy (SEM), and Vickers hardness testing. Results indicate that BM offers superior control over grain size and microstructure, leading to enhanced fracture toughness, while SHS produces ceramics with greater densification and hardness due to its rapid reaction kinetics. By elucidating the distinct advantages and challenges of each method, this comparative study provides valuable insights into selecting the optimal synthesis route for specific industrial applications. The findings contribute to the ongoing development of advanced manufacturing processes for producing high-performance carbide ceramics, paving the way for tailored material properties in specialized engineering applications.

**Keywords:** Carbide, Ball Mill, SHS, Ceramic, Composites.



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#### ABSTRACT

This study explored the use of the Self-Propagating High-Temperature Synthesis (SHS) method to produce Fe-based alloys from a blend of mill scale, MnO, and Al powders. The SHS technique offers several benefits, such as shorter synthesis times, high production quality, lower processing temperatures, ease of operation, and the formation of fine microstructures, making it suitable for producing a diverse range of materials, including intermetallic compounds, alloys, advanced ceramics, and their composites. Additionally, compared to traditional furnace applications, the SHS process is more energy-efficient, cost-effective, and simpler to operate. In the SHS process, ignition triggers a combustion reaction that propagates through the reactant mixture, yielding the desired product. However, the process has some drawbacks, such as the formation of inhomogeneous or unreacted products due to undesirable reaction rates. These issues can be addressed by adjusting parameters like ignition temperature, particle size, additives, and atmospheric conditions. Mill scale is a layer of iron oxide that forms on the surface of ferrous materials as they cool after being processed in hot rolling or continuous casting plants. It primarily consists of iron (II) and iron (III) oxides, contributing to an overall iron content of about 70% in oxide form. Failing to reutilize this by product prevents the full utilization of raw materials entering the production plant. With its adaptability to various industrial settings and its ability to produce high-quality final products, SHS reduction technology emerges as a promising method for recycling mill scale. The primary objective of this study was to develop Fe-based alloys through SHS metallurgy, leveraging its rapid and cost-effective production capabilities to reduce continuous casting mill scale with high metallic iron content into cast alloys.

**Keywords:** Mill Scale, Factsage, SHS, Alloy, Sustainability.



### RNNOISE: EFFICIENT REAL-TIME NOISE SUPPRESSION USING RECURRENT NEURAL NETWORKS

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#### ABSTRACT

RNNoise is a noise suppression library that employs Gated Recurrent Units (GRUs) within a recurrent neural network (RNN) framework to reduce background noise in real-time audio processing. It utilizes a hybrid approach that combines traditional signal processing techniques with deep learning, enabling efficient performance on resource-constrained devices without requiring powerful GPUs. The library processes audio across 22 frequency bands based on the Bark scale and computes per-band gains to suppress noise while preserving the desired signal quality. The core implementation is written in C, while Python is used for training the model. RNNoise is designed to meet the demands of real-time applications such as WebRTC, VoIP, and video conferencing. Key features include the use of cepstral coefficients, a deep architecture with GRU layers, and a compact model size of only 85kB. It is optimized for seamless integration into web browsers and environments requiring real-time audio processing. RNNoise has been adopted in the Habanos project, where it provides noise suppression for customer service agents using JavaScript and the Web Audio API. The project actively encourages community involvement through open-source contributions and donations of noise samples. A real-time demo is available to test its noise suppression capabilities, and the pre-trained dataset is publicly accessible for download.

The system's front-end is primarily based on digital signal processing techniques that were carefully designed to decompose the raw audio input. Initially, the raw audio signal, which is naturally represented in the time domain, is carefully segmented into a series of overlapping frames, each having a duration of 20 milliseconds. These frames are designed to overlap each other by 50% of their length. This is used to provide a smooth transition between audio frames and minimize the introduction of any possible artifacts in the next processing steps.

The results of the paper can be given as follows:

**Signal Amplitude Reduction:** We have calculated the average percentage reduction in signal amplitude across the entire duration of each test case (Figure 1).



Test Case	Amplitude Reduction (%)
Case 1 - Car Noise	14.12
Case 2 - Crowd Noise	47.28
Case 3 - Drill Noise	24.92

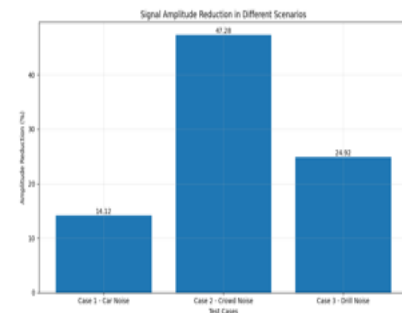


Figure 1

**Noise Reduction:** The computed noise reduction values in decibels are shown in Figure 2.

Test Case	Amplitude Reduction (%)
Case 1 - Car Noise	1.32
Case 2 - Crowd Noise	5.56
Case 3 - Drill Noise	2.49

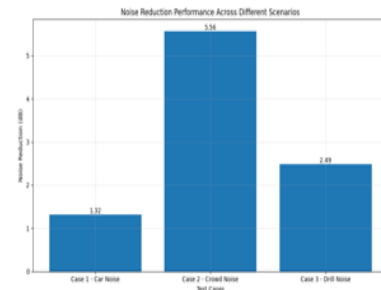


Figure 2

**Spectrogram Analysis:** We have performed spectral analysis to visualize the impact of the noise reduction on the input audio signal. The spectrogram of the original signal, as well as those resulting from the implementation, can be seen in Figure 3-5.

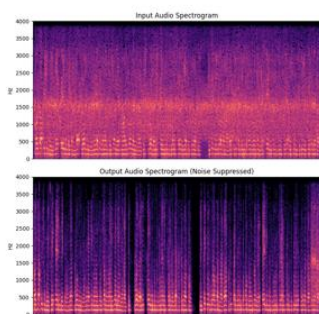


Figure 3

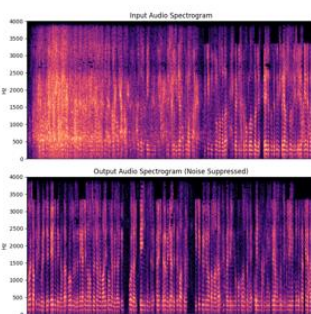


Figure 4

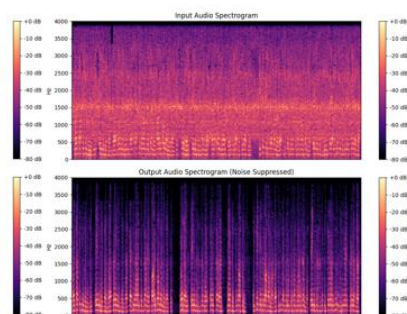


Figure 5



The primary advantage of the RNNoise system is its ability to provide robust noise suppression under a wide array of real-world conditions. Our simulations show that the system is able to maintain good performance even with very different types of noises. We have carefully shown how our practical implementation can be used to address many of the practical challenges encountered when deploying this type of system on resource-constrained devices, highlighting the steps that were necessary to maintain performance in a browser based real-time environment.



### INVESTIGATING HONEY VARIABILITY ACROSS MUNICIPALITIES WITHIN PDO AUTHENTICITIES: SPECTROSCOPIC AND PHYSICOCHEMICAL INSIGHTS

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#### ABSTRACT

Honey is a natural product with significant nutritional, pharmaceutical, and sensory properties, widely used in food, cosmetics and medicine. Its composition is influenced by environmental conditions and its geographical origin, which can be protected through the PDO (Protected Designation of Origin) certification. This certification guarantees honey authenticity and quality, linking it to a specific region, while promoting local traditions and increasing market competitiveness.

This study integrates vibrational spectroscopy techniques and classical physico-chemical analysis to distinguish honey from different PDO regions and to assess the variability within each PDO region. Samples from several municipalities within the Terra Quente D.O. and other Ribatejo Norte D.O. regions were analysed to assess their authenticity and variability.



Vibrational spectroscopy techniques, including Fourier transform Raman spectroscopy (FT-Raman), Fourier transform infrared attenuated total reflectance spectroscopy (FTIR-ATR) and Fourier transform near infrared spectroscopy (FT-NIR), were used to differentiate honey samples by their chemical composition. In addition, physico-chemical parameters were analysed according to International Honey Commission (IHC) standard methods, such as acidity, pH, water activity, electrical conductivity, CIELAB colour coordinates ( $L^*$ ,  $a^*$ ,  $b^*$ ), Pfund colour, viscosity, total polyphenol content, total flavonoid content, fructose and glucose content and their ratio (F/G) were measured. The results confirmed that acidity, CIELAB coordinates, Pfund colour and viscosity are key indicators of honey authenticity. Variations in these parameters were associated with differences in floral resources between municipalities, which influenced the physico-chemical profile of the honey.

Principal component analysis (PCA) revealed that descriptors with high variability may not be reliable identifiers for PDO classification. These results highlight the combined utility of vibrational spectroscopy and physicochemical analysis in monitoring PDO honey characteristics, ensuring consistency despite environmental variations, and identifying the most appropriate spectroscopic technique accordingly to the classification purpose. Further research with larger datasets will be undertaken to refine the classification methods and increase the reliability of the certification.

**Keywords:** Honey, PDO, vibrational spectroscopy

### Acknowledgments

NextGenerationEU recovery funds, through the Project BeeLand PRR-C05-i03-I-000081 and to Fundação “La Caixa” in collaboration with BPI and FCT, Portugal (project BeeSustain, PD23-00019).

This work was also supported by Foundation for Science and Technology (FCT, Portugal) for their financial support through national funds FCT/MCTES (PIDDAC) to CERNAS-IPCB, UIDB/00681/2020 (DOI: 10.54499/UIDP/00681/2020); to CIMO (UIDB/00690/2020 and UIDP/00690/2020), SusTEC (LA/P/0007/2021) and projects: UIDB/50006/2020, UIDB/04033/2020 and UIDP/50006/2020. Thanks to the FCT, Portugal through the institutional scientific employment program contract with Soraia I. Falcão.



### FLOW OVER TWO FINITE-HEIGHT CYLINDERS HAVING DIFFERENT DIAMETERS

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#### ABSTRACT

In the present study, the flow and heat transfer mechanisms around two finite-height cylinders with different diameters configured in a tandem arrangement are numerically investigated. The study is fulfilled for the non-dimensional gap between the cylinders of  $L/D=1.5-5$  and diameters ratio of  $d/D=0.75$ . The aspect ratios of the upstream and downstream cylinders are determined as 5.33 and 4. The numerical analyses are carried out for laminar regime with Reynolds number of 300. The flow behaviour in the gap of the cylinders and behind the downstream cylinder represents the complexity of the flow over such bluff bodies. Disorganized vortical structures behind the downstream cylinders are discovered in the cases of  $L/D=1.5, 2$ , and  $5$ , while more straight structures are observed in the case of  $L/D=3$ . As  $L/D$  is augmented, the thermal boundary layer behind the upstream cylinder is observed to become thinner. Also, the vortex shedding behind the downstream cylinder at lower heights improves heat transfer at the backside of the downstream cylinder. The weaker shielding effect of the upstream cylinder due to its smaller diameter augments both  $C_D$  and  $\overline{Nu}_{D,side}$ . In the case of  $L/D=5$ , the mean drag coefficient values are obtained as 0.869 and 0.475 for the upstream and the downstream cylinders, while the mean Nusselt number values are attained as 7.311 and 6.691.

**Keywords:** Finite-height cylinder, vortex shedding, Nusselt number, drag.

#### ÖZET

Bu çalışmada, arka arkaya sıralanmış çapları farklı iki silindir etrafındaki akış ve ısı transfer mekanizmaları sayısal olarak incelenmiştir. Çalışma, silindirler arası boyutsuz mesafenin,  $L/D=1.5-5$  ve çap oranının  $d/D=0.75$  olduğu durum için gerçekleştirilmiştir. Öndeki ve arkadaki silindirlerin boy-çap oranları 5.33 ve 4 olarak belirlenmiştir. Sayısal analizler Reynolds sayısının 300 olduğu laminar rejim için gerçekleştirilmiştir. Silindirler arasındaki ve ikinci silindirin arkasındaki akış davranışı bu şekilde kaba cisimler üzerinden akışın karmaşıklığını yansıtmaktadır.  $L/D=1.5, 2$  ve  $5$  durumlarında, arkadaki silindirin arkasında düzensiz girdap yapıları gözlenirken  $L/D=3$  durumunda daha düzgün yapılar gözlenmektedir.  $L/D$  arttırıldıkça, öndeki silindirin arka kısmındaki ısı sınır tabakanın incelmesi gözlenir. Ayrıca, daha düşük yüksekliklerde, arkadaki silindirin arkasındaki girdap salınımı arkadaki silindirin arka kısmındaki ısı transferini iyileştirmektedir. Daha küçük çapa sahip olmasından dolayı



öndeki silindirin daha zayıf perdeleme etkisi,  $C_D$  ve  $\overline{Nu}_{D,side}$  değerlerini arttırmaktadır.  $L/D=5$  durumunda, ortalama sürüklenme katsayıları öndeki ve arkadaki silindirler için 0.869 ve 0.475 iken ortalama Nusselt sayıları 7.311 ve 6.691 olarak elde edilmiştir.

**Anahtar Kelimeler:** Sonlu uzunluktaki silindir, girdap salınımı, Nusselt sayısı, sürüklenme.



## 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES



### TOWARDS A SEAMLESS FUTURE IN BANKING: EXPLORING HOW OMNICHANNEL INNOVATION IS TRANSFORMING THE MOROCCAN CLIENT EXPERIENCE

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#### ABSTRACT

The banking industry is undergoing a significant transformation driven by technological advancements, with Morocco actively embracing digital solutions such as "Self-Service Banking (SSB)" despite facing various integration challenges. This study employs the "Unified Theory of Acceptance and Use of Technology 2" (UTAUT 2) framework to identify and analyze the key factors influencing the adoption of this omnichannel banking technology among Moroccan customers. By examining data from a diverse sample of Moroccan clients, including those who are traditionally unbanked, the study aims to test and validate an enhanced UTAUT 2 model.

The findings reveal that several factors play a crucial role in predicting the propensity to adopt SSB. These factors include performance expectancy, which refers to the perceived benefits and efficiency of using SSB; effort expectancy, which concerns the ease of use; habit, highlighting the influence of routine behavior; and security, emphasizing the importance of safeguarding user data. Additionally, the study identifies quality and trust as significant determinants, underscoring the need for reliable and trustworthy SSB services.

Overall, this research provides valuable insights into the drivers of digital banking adoption in Morocco, offering a comprehensive understanding of the factors that encourage or hinder the use of self-service banking technologies. The outcomes can help banks and policymakers develop strategies to enhance the adoption rates and effectively integrate SSB into the Moroccan banking ecosystem.

**Keywords:** Self-Service Banking, Omnichannel banking technology, Adoption, UTAUT 2, Morocco.

## 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES



### AN ASSESSMENT OF OPEN SPACE AND ACTIVITIES DISTRIBUTION IN CONTEMPORARY RESIDENTIAL COMPLEX: A CASE STUDY FROM TIRANA, ALBANIA

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#### ABSTRACT

Over the past thirty years, Tirana has undergone significant growth in new residential construction. The city has become denser as large residential blocks and housing complexes have replaced traditional low-rise buildings. Public open space has also decreased, and new developments are rarely designed to effectively use building volume and open space that meets community needs. This study focuses on the physical environment, activity, interaction, and quantitative and qualitative spatial data gathered during field visits and investigations of a contemporary residential complex in Tirana, Albania. A case study analysis is conducted to collect and summarize the positive and negative aspects of the complex, including existing conditions, spatial organization, landscape choices, indoor and outdoor activities, and user engagement. Space Syntax analysis is employed to assess the visibility and connectivity features of the neighborhood and evaluate the integration of open public spaces and route accessibility. Finally, this study offers proposals for spatial improvements through small interventions, such as minor landscape modifications, the installation of urban furniture and street signage, and the organization of new activity spaces and playgrounds for different social groups, all aimed at enhancing the spatial experience of residents, increasing living comfort, and positively impacting the overall livability of the neighborhood.

**Keywords:** spatial analysis, Space Syntax, physical properties, activity, livable neighborhood.



### CAPITALISM AND CREATIVE DESTRUCTION THROUGH A SOCIOLOGICAL APPROACH

*Ilaria Iannuzzi*

#### ABSTRACT

This research aims at investigating what role capitalism, in its ideal-typical logic, plays in times of pandemic crisis. The research hypothesis consists in abandoning a one-sided idea of capitalism, which is the dominant one in the neoliberal version, to recover, instead, that of “creative destruction”, as the most constitutive logic of the phenomenon from its origins and also the most promising for scientifically explaining the relationship between capitalism and pandemics. Attempts will be made to demonstrate the scientific inconsistency of a reading that rigidly and dogmatically sets antithetical interpretations of capitalism against each other, and to construct, instead, one that combines the possibility of divergences. Finally, the question will arise as to what implications can be drawn from this incidence of the logic of creative destruction in capitalism and whether this is such as to impose deterministic results, as well as supposedly at the level of common sense or generalization, or whether there is still room for manoeuvre and guidance by science and politics in particular.

**Keywords:** capitalism; pandemic; creative destruction; damage-remedy logic; innovation.

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### İNŞAAT SEKTÖRÜNDE PROJE MALİYETİNE ETKİ EDEN RİSK FAKTÖRLERİNİN BELİRLENMESİ

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#### ÖZET

Maliyeti etkileyen riskler inşaat sektöründe proje başarısında büyük bir etken taşımaktadır. Bu çalışma; maliyet aşımına neden olabilecek risklerin henüz proje başlamadan öngörebilmeyi amaçlamaktadır. Bu doğrultuda maliyete etki eden riskleri belirlemek için literatür taraması gerçekleştirilmiştir. Risklerin proje akışını kesintiye uğratarak maliyete etkisinin olduğu belirlenmiştir. (Sadeh, Mirarchi, and Pavan 2021) İç riskler arasında eksik tasarım en büyük ve en yaygın sorundur ancak literatürde daha çok şantiyeyle ilgili riskler ele alınmaktadır. Literatür taramalarında, inşaat projelerinin tamamlanma gecikmeleri ve maliyet aşımları nedeniyle düşük başarı yaşadığını ve bunun sonucunda mali kayıp da dahil olmak üzere tüm ilgili tarafların yaşadığı olumsuz etkileri ortaya çıkarmıştır. (Alshihri, Al-gahtani, and Almohsen 2022) Riskleri etkili bir şekilde yürütmek bu olumsuz etkilerin ve proje bütçesindeki aşımaların önüne geçebilmektedir. Bu yapılan çalışmada, inşaat projelerinde risk yönetimi stratejilerinin geliştirilmesine katkı sağlanmak istenmiştir.

**Anahtar Kelimeler:** İnşaat , Maliyet, Risk, Proje Yönetimi

#### ABSTRACT

Cost-related risks play a significant role in the success of construction projects. This study aims to anticipate risks that may lead to cost overruns before the project begins. In this context, a comprehensive literature review was conducted to identify the risk factors that impact project costs. It has been determined that risks disrupt the project flow and have a direct effect on cost (Sadeh, Mirarchi, and Pavan 2021). Among internal risks, incomplete design is the most common and significant issue; however, the literature tends to focus more on site-related risks. Literature reviews reveal that construction projects often experience low success rates due to delays in completion and cost overruns, resulting in negative impacts on all stakeholders, including financial losses (Alshihri, Al-Gahtani, and Almohsen 2022). Effectively managing risks can prevent these negative consequences and budget overruns. This study aims to contribute to the development of effective risk management strategies in construction projects.

**Keywords:** Construction, Cost, Risk, Project Management

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### ORTOPEDİK CERRAHİ HASTALARINDA BASI YARASI GELİŞİMİ HEMŞİRELİK BAKIMI VE SON TEKNOLOJİK GELİŞMELER DEVELOPMENT OF PRESSURE SORES IN ORTHOPEDIC SURGERY PATIENTS, NURSING CARE AND LATEST TECHNOLOGICAL DEVELOPMENTS

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#### ÖZET

Ortopedik cerrahi hastalarında bası yaraları, uzun ameliyat süreleri ve hareketsizlik nedeniyle önemli bir risk faktörüdür. Bası yaralarının önlenmesi ve yönetimi, hemşirelik bakımının kritik bir parçasıdır ve bu alandaki teknolojik gelişmeler, hasta bakımını iyileştirmede önemli rol oynamaktadır.

Hemşirelerin bası yaralarını önlemeye yönelik bilgi ve tutumları, hasta güvenliği açısından büyük önem taşır. Yapılan araştırmalar, cerrahi hemşirelerinin bası yaralarını önlemeye yönelik olumlu tutumlara sahip olduğunu, ancak bilgi düzeylerinin yetersiz kaldığını göstermektedir. Bu durum, hemşirelerin eğitimine daha fazla önem verilmesi gerektiğini ortaya koymaktadır.

Bası yaralarının önlenmesinde etkili stratejiler arasında hava yastıkları ve özel pozisyonlama tekniklerinin kullanımı bulunmaktadır. Bakım paketlerinin uygulanması, bası yaralarının %90 oranında önlenmesine katkı sağlamış ve tıbbi cihazlara bağlı bası yaralarının %5,01'e düşmesine yardımcı olmuştur.

Teknolojik gelişmeler de bası yaralarının önlenmesinde önemli bir rol oynamaktadır. Yapay zeka destekli platformlar, elektronik tıbbi kayıtları analiz ederek bası yarası riski taşıyan hastaları belirlemekte ve sağlık profesyonellerinin proaktif önlemler almasına olanak tanımaktadır. Bu tür yenilikler, hasta sonuçlarını iyileştirmede ve bası yarası insidansını azaltmada umut vaat etmektedir.

Sonuç olarak, ortopedik cerrahi hastalarında bası yaralarının önlenmesi için hemşirelerin bilgi ve tutumlarının güçlendirilmesi, kanıta dayalı bakım stratejilerinin uygulanması ve yeni teknolojilerin entegrasyonu büyük önem taşımaktadır. Bu yaklaşımlar, hasta bakım kalitesini artırarak bası yaralarının oluşumunu minimize edecektir. Hemşirelerin bütüncül bakımda aldığı rolün, bilgi ve beceriyle birlikte hasta üzerindeki etkisinin önemi vurgulanmıştır.

**Anahtar Kelimeler:** ortopedi, cerrahi hasta, bası yarası, hemşirelik bakımı

#### ABSTRACT

Pressure ulcers are a significant risk factor in orthopedic surgery patients due to long surgery times and immobility. Prevention and management of pressure ulcers are a critical part of nursing care, and technological advances in this area play an important role in improving patient care.



The knowledge and attitudes of nurses towards preventing pressure sores are of great importance for patient safety. Studies show that surgical nurses have positive attitudes towards preventing pressure sores, but their knowledge levels are inadequate. This situation reveals that more importance should be given to the education of nurses.

Effective strategies for preventing pressure sores include the use of air cushions and special positioning techniques. Implementation of care packages contributed to the prevention of pressure ulcers by 90% and helped reduce pressure ulcers due to medical devices to 5.01%.

Technological advances also play an important role in preventing pressure sores. AI-powered platforms analyze electronic medical records to identify patients at risk of pressure ulcers, allowing healthcare professionals to take proactive measures. Such innovations hold promise in improving patient outcomes and reducing the incidence of pressure ulcers.

In conclusion, strengthening the knowledge and attitudes of nurses, implementing evidence-based care strategies, and integrating new technologies are of great importance for the prevention of pressure ulcers in orthopedic surgery patients. These approaches will minimize the formation of pressure sores by improving the quality of patient care. The importance of the role of nurses in holistic care and their impact on patients, along with their knowledge and skills, was emphasized.

**Keywords:** orthopedics, surgical patient, pressure sore, nursing care





### MUŞ İLİNDE KÜTLE HAREKETLERİNİN MEKÂNSAL DAĞILIMI<sup>1</sup> SPATIAL DISTRIBUTION OF MASS MOVEMENTS IN MUŞ PROVINCE

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#### ÖZET

Bu çalışma, Muş ili sınırları içerisinde gerçekleşen farklı tipte kütle hareketlerini (heyelan, kaya düşmesi, akma vb.) belirleyerek, bu hareketlerin dağılımlarını ve yerleşim alanları üzerindeki olası risklerini kapsamlı biçimde değerlendirmektedir. Kütle hareketleri, dünyada her yıl yaklaşık 4,5 milyar dolarlık ekonomik kayba ve ortalama 1062 insanın yaşamını yitirmesine neden olmaktadır. Muş özelinde ele alındığında ise, il sınırları içinde farklı dönemlerde meydana gelen ve can ile mal kaybı yaratan pek çok kütle hareketi kayıtlara geçmiştir. Bu kapsamda, uzaktan algılama ve Coğrafi Bilgi Sistemleri (CBS) destekli analizlerle yaklaşık 2000'den fazla heyelan ve farklı kütle hareketi haritalanmıştır.

Çalışmada, 1/25000 ölçekli topografik haritalar, 2018-2020 yıllarına ait ortofotolar ve 5x5 m çözünürlükte Sayısal Yükseklik Modelleri (DEM) temel veri kaynaklarını oluşturmuştur. Bunun yanında, arazi gözlemleri ve saha çalışmalarıyla veriler güncellenmiş; aktif, paleo (eski) ve yeniden etkinleşen heyelanların tipleri, alanları ve etkiledikleri yapı sayıları belirlenmiştir. Analiz sonuçlarına göre, 5000'den fazla yapının aktif ya da paleo heyelan sahası içerisinde yer aldığı, ayrıca 1100'den fazla yapının “yüksek” veya “çok yüksek” heyelan duyarlılığına sahip alanlarda konumlandığı tespit edilmiştir. Bu durum, yağışlı dönemler veya kar erimeleri sonrası pek çok heyelanın yeniden etkinleştiğini gösteren saha bulgularıyla da örtüşmektedir. Özellikle Korkut ilçesinin kuzeyinde yer alan ve aktif bir bindirme fayı olarak tanımlanan Muş Fay Zonu (MFZ) boyunca, derin karakterli kayma türündeki heyelanların yoğunlaştığı görülmüştür. Varto ilçesi ile Konukbekler Köyü'nün kuzey kesimlerinde de büyüklüğü itibarıyla dikkat çeken paleo heyelan kütleleri saptanmıştır.

Heyelan riskinin mekânsal düzeyde tanımlanması amacıyla Frekans Oran yöntemiyle bir duyarlılık haritası üretilmiş; bu haritanın analizinde yerleşim alanları detaylı biçimde incelenmiştir. Çalışmanın sonuçları, jeolojik faktörlerin (litoloji, fay hatları), morfolojik faktörlerin (eğim, rölyef, yamaç eğriselliği) ve iklimsel etmenlerin (şiddetli yağış, ani kar erimesi) kütle hareketlerinin tetiklenmesinde büyük öneme sahip olduğunu göstermektedir. Ayrıca bölgede sıkça gözlenen az pekişmiş kırıntılı birimler ve karbonatlı kayaçların, diğer litolojik türlere kıyasla daha duyarlı olduğu ortaya konmuştur.

Elde edilen bulgular, yerleşim alanlarında gerek yeni yapılaşma gerekse afet yönetimi açısından ayrıntılı bir planlamanın özellikle 6 Şubat Kahramanmaraş merkezli depremlerden sonra zorunlu olduğunu bir kez daha ortaya koymuştur. Bu kapsamda, yerel yönetimlerin yüksek riskli alanlarda imar ve yapılaşma kararlarını gözden geçirmesi, toplumsal farkındalığı artıracak bilgilendirme faaliyetlerine ağırlık vermesi önerilmektedir. Bu çalışmada üretilen verilerin, Muş ilinde kütle hareketleri kaynaklı riskleri azaltmak ve sürdürülebilir bir arazi kullanım politikası geliştirmek açısından temel bir veri seti sunmaktadır.

**Anahtar Kelimeler:** Kütle Hareketleri, Heyelan, Risk, Heyelan Duyarlılık, Muş.

<sup>1</sup> Bu çalışmada kullanılan verilerin biri bölümü Muş Alparslan Üniversitesi Bap birimi tarafından BAP-21-EMF-4901-01'nolu **Muş İlinde Heyelan Risk Değerlendirmesi** adlı proje verilerinden oluşmaktadır.



### ABSTRACT

This study determines different types of mass movements (landslides, rockfalls, flows, etc.) occurring within the borders of Muş province, and comprehensively evaluates the distribution of these movements and their potential risks on residential areas. Mass movements cause an economic loss of approximately 4.5 billion dollars and the death of an average of 1062 people every year in the world. When Muş is considered specifically, many mass movements that occurred in different periods within the borders of the province and caused loss of life and property have been recorded. In this context, more than 2000 landslides and different mass movements have been mapped with remote sensing and Geographic Information Systems (GIS) supported analyses. In the study, 1/25000 scale topographic maps, orthophotos from 2018-2020 and 5x5 m resolution Digital Elevation Models (DEM) constituted the basic data sources. In addition, the data were updated with field observations and field studies; The types, areas and the number of structures affected by active, paleo (old) and reactivated landslides were determined. According to the analysis results, it was determined that more than 5000 structures were located within the active or paleo landslide area, and more than 1100 structures were located in areas with “high” or “very high” landslide susceptibility. This situation is also consistent with the field findings showing that many landslides were reactivated after rainy periods or snowmelt. It was observed that deep-characterized landslides were concentrated especially along the Muş Fault Zone (MFZ), which is defined as an active thrust fault located in the north of Korkut district. Paleo landslide masses that are striking in terms of their size were also detected in the northern parts of Varto district and Konukbekler Village. In order to define the landslide risk at the spatial level, a susceptibility map was produced using the Frequency Ratio method; residential areas were examined in detail in the analysis of this map. The results of the study show that geological factors (lithology, fault lines), morphological factors (slope, relief, curvature of the slope) and climatic factors (heavy rainfall, sudden snowmelt) are of great importance in triggering mass movements. It has also been revealed that poorly consolidated clastic units and carbonate rocks frequently observed in the region are more sensitive than other lithological types.

**Keywords:** Mass Movements, Landslide, Risk, Landslide Susceptibility, Muş

### MİKROPLASTİK İÇERMEYEN KOMPOSTLAŞTIRILABİLEN, ÇEVRE DOSTU MUZ LİFİ İÇERİKLİ POŞET ÇAY AMBALAJI MICROPLASTIC-FREE, COMPOSTABLE, ENVIRONMENTALLY FRIENDLY BANANA FIBER TEA BAG PACKAGING

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#### ÖZET

Ambalajlı formda sunulan poşet çaylar, taşıma ve kullanım kolaylığı gibi avantajlar nedeniyle tüketiciler tarafından yaygın şekilde tercih edilmektedir. Ancak bu ürünlerin olumsuz bir yönü, çay poşetlerinin şeklinin sıcak sıvı içerisinde korunabilmesi ve sızmaların engellenmesi amacıyla üretiminde polipropilen gibi plastik türevlerinin kullanılmasıdır. Kullanılan plastik miktarı üretici firmalara göre değişiklik göstermekle birlikte, bazı markalarda çay poşetinin tamamı plastikten üretilmektedir. Bu tür poşetler sıcak suyla temas ettiğinde mikroplastiklerin açığa çıkmasına neden olmakta, bu da insan sağlığı açısından ciddi riskler oluşturmaktadır. Gıda yoluyla vücuda alınan mikroplastiklerin organ iltihabına, hücre hasarına ve bazı kanser türlerine yol açabileceği bilimsel çalışmalarla ortaya konmuştur. Ayrıca bu plastiklerin toprakla etkileşimi, çevresel kirliliğe de sebebiyet vermektedir. Bu çalışmanın temel amacı, plastik içermeyen, insan sağlığı açısından herhangi bir risk barındırmayan, daha düşük karbon ayak izine sahip, su ve toprağı minimum düzeyde kirlüten, hızlı bir şekilde doğada ayrışabilen ve atık hâline geldikten sonra çevreye zarar vermeyen doğal bir poşet çay alternatifi geliştirmektir. Çalışma sonucunda, Türkiye’de yaygın olarak yetiştirilen muz bitkisinin gövdesinden elde edilen muz lifleri kullanılarak; ekonomik, kolay erişilebilir, mikroplastik içermeyen, sağlığa zararsız, kompostlanabilir ve çevre dostu bir poşet çay prototipi geliştirilmiştir. Poşet çayın dış ambalajı yöresel muz bitkilerinden elde edilen malzemelerden, içeriğı ise ülkemizde yetiştirilen çay yapraklarından oluşmaktadır. Bu yönüyle geliştirilen ürün hem yerli hem de milli nitelik taşımaktadır.

**Anahtar kelimeler:** Mikroplastik, Kompost, Çevre Dostu, Muz Lifi, Poşet Çay, Ambalaj.

#### ABSTRACT

Tea bags offered in packaged form are widely preferred by consumers due to their advantages such as ease of transportation and ease of use. However, a negative aspect of these products is the use of plastic derivatives such as polypropylene in their production in order to maintain the shape of the tea bags in hot liquid and to prevent leakage. Although the amount of plastic used varies according to the manufacturer, some brands can produce the entire tea bag from plastic. When such bags come into contact with hot water, microplastics are released, which poses serious risks to human health. Scientific studies have shown that microplastics taken into the body through food can cause organ inflammation,



cell damage and some types of cancer. In addition, the interaction of these plastics with soil causes environmental pollution. The main purpose of this study is to develop a natural tea bag alternative that does not contain plastic, does not pose any risk to human health, has a lower carbon footprint, minimizes water and soil pollution, can decompose quickly in nature and does not harm the environment after becoming waste. As a result of the study, an economical, easily accessible, microplastic-free, harmless to health, compostable and environmentally friendly tea bag prototype was developed using banana fibers obtained from the stem of the banana plant, which is widely grown in Turkey. The outer packaging of the tea bag consists of materials obtained from local banana plants and the content consists of tea leaves grown in our country. In this respect, the product developed is both domestic and national.

**Keywords:** Microplastic, Compost, Environmentally Friendly, Banana Fiber, Tea Bag, Packaging.



### A CASE OF RICKETTSIOSIS PRESENTING WITH RASH

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#### ABSTRACT

*Rickettsia conorii* is an obligate intracellular Gram-negative bacterium transmitted to humans primarily through tick bites. The clinical syndrome caused by this pathogen is referred to as Mediterranean Spotted Fever (MSF). MSF is typically characterized by acute onset of high fever, widespread maculopapular rash, headache, myalgia, and a necrotic lesion at the site of tick attachment, known as tache noire. Although the diagnosis is usually based on clinical findings and epidemiological history, it can be supported by serological and molecular methods. While MSF is more commonly reported in endemic regions, sporadic cases may occur in non-endemic areas and may clinically mimic other tick-borne diseases such as Crimean-Congo Hemorrhagic Fever (CCHF). Herein, we present a case of rickettsiosis with a history of tick bite over the eyebrow, confirmed by serology and PCR from skin biopsy.

A 79-year-old female patient presented to an external emergency department in June with swelling and redness around the left eye. A tick was identified on her left eyebrow during examination and was removed. Approximately one week after the tick removal, she developed high-grade fever, fatigue, anorexia, generalized body aches, arthralgia, and a rash, prompting referral to our infectious diseases clinic. The patient had no known chronic medical conditions or history of regular medication use. On admission, her general condition was moderate, and she was alert, cooperative, and oriented. Body temperature was measured at 40.0°C, and other vital signs were within normal limits. Dermatologic examination revealed a widespread, non-pruritic, blanchable maculopapular rash involving the trunk, back, extremities, palms, and soles. At the site of the tick bite on the left eyebrow, a hyperemic lesion with a central black necrotic eschar, consistent with tache noire, was observed. No active bleeding or petechiae were noted. Initial laboratory tests revealed a white blood cell count of 5,300/mm<sup>3</sup> with 84% neutrophils, hemoglobin level of 12.7 g/dL, and platelet count of 165,000/mm<sup>3</sup>. C-reactive protein (CRP) was significantly elevated at 62 mg/L. Liver enzymes were mildly elevated, with AST at 142 U/L and ALT at 118 U/L. Creatine kinase (CK) level was markedly elevated at 2,780 U/L. Procalcitonin was within normal range at 0.07 ng/mL. Blood cultures were sterile. CCHF was considered in the differential diagnosis; however, both CCHF PCR and IgM results were negative. Based on the clinical presentation, characteristic rash distribution, history of tick exposure, and presence of tache noire, empiric oral doxycycline therapy (100 mg twice daily) was initiated with a preliminary diagnosis of rickettsiosis. To support the diagnosis, a skin biopsy was obtained from the necrotic lesion, and PCR testing for *Rickettsia spp.* returned positive, confirming the infection. The patient's fever began to subside within 48 hours of treatment initiation, and her general condition improved markedly. By day five, significant regression in the rash was observed. Serologic testing demonstrated *Rickettsia conorii* IgM at a titer of 1:512 and IgG at 1:1024. The diagnosis of rickettsiosis was confirmed by clinical, laboratory, and molecular findings. The doxycycline regimen was completed over 10 days, and the patient was discharged without complications.

This case illustrates that rickettsiosis may occur even in non-endemic regions and can mimic other tick-borne illnesses such as CCHF. In patients presenting with fever, rash, and a history of tick exposure, rickettsial infections should be considered in the differential diagnosis. Prompt initiation of doxycycline therapy is crucial to prevent complications. When available, serological and molecular tests can support

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early and accurate diagnosis, and skin biopsy may serve as a valuable adjunct in diagnostically challenging cases.

**Keywords:** *Rickettsia conorii*, Mediterranean spotted fever, rash, tache noire





### ANALYZING THE VALUES OF TEACHERS IN SECONDARY EDUCATION FOR AN INCLUSIVE EDUCATIONAL APPROACH

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#### ABSTRACT

The personal values of teachers play a fundamental role in determining their educational approach, shaping their interactions with students, and influencing the overall classroom environment. These values act as a compass that guides teaching strategies, decisions, and interpersonal relationships within the educational context. This study aims to explore how the personal values of teachers, particularly those described in Shalom Schwartz's theory of human values, influence their professional practice and student behavior (Cawthon & Cole, 2009). Teachers' personal values not only shape their identity as educators but also have a significant impact on their ability to foster inclusivity, create a supportive learning environment, and promote student engagement and well-being. The methodological approach used is both qualitative and quantitative, involving semi-structured interviews with a sample of secondary school teachers. Additionally, the PVQ-RR was administered to identify the predominant values among teachers, based on Schwartz's model (1992; 2010). The conclusions suggest that integrating personal values into educational practice, particularly those defined by Schwartz's model, can significantly impact the quality of teaching and the well-being of students (Korthagen, 2004). Therefore, it is recommended to include reflection on personal values in professional development programs for teachers to enhance teaching dynamics, foster an inclusive environment, and improve overall educational success (Aiello, 2017).

**Keywords:** Personal Values; Teacher Training; Inclusion; Special Pedagogy.

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### GERİ DÖNÜŞTÜRÜLMÜŞ PET İÇERİĞİ İLE SÜRDÜRÜLEBİLİR PBT/PET/ASA KARIŞIMININ GELİŞTİRİLMESİ DEVELOPMENT OF A SUSTAINABLE PBT/PET/ASA MIXTURE WITH RECYCLED PET CONTENT

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#### ÖZET

Otomotiv sektöründe sürdürülebilirlik ve karbon ayak izinin azaltılması, giderek daha önemli bir hale gelmektedir. Bu bağlamda, geri dönüşüm ürünlerinin kullanımı, çevresel etkilerin azaltılması ve üretim maliyetlerinin düşürülmesi açısından kritik bir rol oynamaktadır. Polimer karışımları mekanik dayanım ve kimyasal dirençleri nedeniyle otomotiv, beyaz eşya ve elektronik gibi yüksek performans gerektiren sektörlerde yaygın olarak kullanılmaktadır. Ancak geri dönüştürülmüş malzemelerle benzer performansın sağlanması, hammadde kaynağına bağlı değişkenlikler ve proses koşulları nedeniyle zorlu bir süreçtir. Geri dönüştürülecek malzemelerin, toz, kir veya diğer kimyasal malzemelerden temizlenmesi gerekmektedir. PET polimerinin genellikle su şişelerinde, tekstil ve ambalaj sektörlerinde kullanılması, kaynağının bulunabilirliği ve geri dönüşüm süreçlerinin kontrollü olması nedeniyle geri dönüştürülerek kullanımı artmaktadır. Bu çalışmada, PBT, geri dönüştürülmüş PET (RPET) ve ASA polimerleri kullanılarak sürdürülebilir ve yüksek performanslı bir malzeme karışımının geliştirilmesi amaçlanmıştır. İstenilen geri dönüşüm özelliği sağlayan RPET aynı zamanda karışımın boyutsal kararlılığını artırması, ASA'nın uv ve darbe dayanımını iyileştirmesi ve PBT'nin termal kararlılık kazandırması beklenmiştir. Polimer karışımında, geri dönüştürülmüş PET oranı %25, %30 ve %35 olacak şekilde farklı formülasyonlarda karışım üretilmiştir. Karışımların üretiminde çift vidalı ekstrüder ve testlerin gerçekleştirilebilmesi için gerekli olan baskılarda ise enjeksiyon makinesi kullanılmıştır. ISO standartlarına uygun çekme esneklik modülü, kopma mukavemeti, kopma uzaması, charpy darbe dayanımı gibi testler ile mekanik özellikler, ısı sapma sıcaklığı (HDT) testleri ile ısıl özellikler incelenmiştir. Çalışma sonunda, çekme esneklik modülü 4000 MPa, kopma mukavemeti 64 MPa, çentiksiz charpy darbe dayanımı 90 kJ/m<sup>2</sup> ve HDT'si 109°C olan bir polimer karışımı geliştirilmiştir. Geliştirilen malzeme, geri dönüşüm kaynaklı plastiklerin yüksek performanslı uygulamalara entegrasyonu açısından önemli özellikler sunmaktadır.

**Anahtar Kelimeler:** Sürdürülebilirlik, Geri Dönüştürülmüş PET, UV, ASA, Yüksek Performans.

#### ABSTRACT

Sustainability and the reduction of carbon footprints are becoming increasingly important in the automotive sector. In this context, the use of recycled products plays a critical role in reducing environmental impacts and lowering production costs. Polymer blends are widely used in high-performance sectors such as automotive, white goods, and electronics due to their mechanical strength and chemical resistance. However, achieving similar performance with recycled materials is a challenging process due to variations in raw material sources and processing conditions. Recycled materials need to be cleaned of dust, dirt, or other chemicals. The use of recycled PET is increasing due to the availability of its source, which is mostly found in water bottles, textiles, and packaging sectors, and the controlled recycling processes. In this study, the aim was to develop a sustainable and high-



performance material blend using PBT, recycled PET (RPET), and ASA polymers. The RPET, which provides the desired recycling feature, is expected to enhance the dimensional stability of the blend, while ASA improves UV and impact resistance, and PBT provides thermal stability. Different formulations of the blend were produced with recycled PET content of 25%, 30%, and 35%. A twin-screw extruder was used to produce the blends, and an injection molding machine was used for the required test specimens. Mechanical properties such as tensile modulus, tensile strength, elongation at break, and Charpy impact strength were evaluated with tests conducted according to ISO standards, as well as thermal properties through Heat Deflection Temperature (HDT) tests. As a result, a polymer blend with a tensile modulus of 4000 MPa, tensile strength of 64 MPa, notched Charpy impact strength of 90 kJ/m<sup>2</sup>, and HDT of 109°C was developed. The developed material offers important properties for the integration of recycled plastics into high-performance applications.

**Keywords:** Sustainability, Recycle PET, UV, ASA, High-Performance.



### HARNESSING BIOREACTOR TECHNOLOGY FOR ECO-FRIENDLY WASTEWATER MANAGEMENT

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#### ABSTRACT

In response to increasing environmental pressures and the urgent need for sustainable natural resource protection, the development of advanced wastewater management strategies has become imperative. A comparative analysis with traditional treatment methods will highlight the environmental benefits of bioreactors, such as reduced greenhouse gas emissions and the potential for resource recovery in the form of biogas and biosolids. Among these, bioreactor technology represents a highly promising and environmentally sustainable solution, offering efficient treatment capabilities while minimizing ecological impact. This study explores the implementation of membrane bioreactor (MBR) technology for wastewater treatment, emphasizing its capability to achieve high-efficiency pollutant removal with reduced environmental footprint. The findings highlight the MBR's potential as a sustainable and advanced solution for addressing modern water quality challenges. Membrane bioreactors (MBRs) are advanced wastewater treatment systems that combine biological degradation with membrane filtration to achieve high-efficiency removal of organic and inorganic contaminants. Due to their space-efficient design, reduced sludge generation, and capacity to deliver high-quality treated water, membrane bioreactors are considered a promising option for sustainable wastewater treatment. Membrane bioreactors (MBRs) has several advantages over conventional wastewater treatment methods, making them an increasingly perfect choice in modern water management. One of the crucial benefits is the production of high-quality effluent, which often meets or exceeds regulatory standards, allowing for safe discharge or reuse in non-potable applications. The compact design of membrane bioreactors significantly reduces the spatial footprint of treatment facilities, which is a critical advantage in urban and space-constrained environments. Moreover, membrane bioreactors generate comparatively lower amounts of excess sludge, which helps minimize disposal expenses and lessen environmental burden. Their high efficiency in removing pathogens, nutrients, and trace contaminants significantly improves public health safeguards and supports ecosystem integrity. In addition, MBR systems can be seamlessly integrated with automated controls and real-time monitoring technologies, facilitating precise process management and energy-efficient operation. Together, these advantages enhance overall operational performance, promote long-term economic benefits, and support a more sustainable model for wastewater treatment.

**Keywords:** membrane bioreactor, wastewater treatment, sustainable technology.



### ANTROPOJENİK ETKİLERE BAĞLI OLARAK MURAT NEHRİNİN YATAĞINDA MEYDANA GELEN DEĞİŞİMLER<sup>2</sup> CHANGES IN THE BED OF THE MURAT RIVER DUE TO ANTHROPOGENEIC EFFECTS

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#### ÖZET

Bu çalışma, Muş Ovası'ndaki Murat Nehri'nin yatak dinamiklerini, özellikle insan müdahalelerinin, özellikle de Alparslan I-II barajlarının inşası sonrası, mendereslenme süreçleri üzerinden incelemektedir. Murat Nehri, Muş ovasındaki hidrolojik süreçleri ve morfolojik yapıları şekillendiren önemli bir akarsudur ve menderesli yapısı, yatak değişimlerinin anlaşılmasında önemli bir rol oynamaktadır.

Çalışmada kullanılan veriler Harita Genel Müdürlüğü tarafından sağlanan 1953, 1972, 1988 haritaları, 2001 yılına ait ortofotolar ve 2022 yılı hava fotogrametrisi görüntülerinden elde edilmiştir. Bu veriler WGS 84 projeksiyon sistemine dönüştürülerek sayısal ortamda analiz edilmiştir.

Muş Ovası'nda Murat Nehri'nin menderes dinamikleri üzerine yapılan bu çalışma Murat Nehrinin yatağının kıvrımlılık değerlerinin azalmaya başladığını, yatağın daha düz bir şekil aldığını ve bu durumun gözlenebilir ve ölçülebilir bir süreç olduğunu ortaya koymaktadır. Barajlar gibi antropojenik müdahalelerin nehir yataklarının doğal değişim süreçlerini, özellikle mendereslenme yoluyla gerçekleşen yatak göçünü önemli ölçüde etkilediğini, nehir yatağındaki bu değişimlerin daha kapsamlı olarak değerlendirilmesi, bölgede sürdürülebilir su kaynakları yönetimi, sel ve taşkın risklerinin azaltılması, nehir ekosistemlerinin korunması ve nehir yatağı üzerinde inşa edilecek mühendislik yapıları için büyük önem taşımaktadır.

**Anahtar Kelimeler:** Muş Ovası, Menderes, Murat Nehri, Antropojen

#### ABSTRACT

This study examines the channel dynamics of the Murat River in the Muş Plain, especially after human interventions, especially after the construction of the Alparslan I-II dams, through meandering processes. The Murat River is an important river that shapes the hydrological processes and morphological structures in the Muş Plain, and its meandering structure plays an important role in understanding the channel changes.

The data used in the study were obtained from the 1953, 1972, 1988 maps provided by the General Directorate of Mapping, orthophotos from 2001, and aerial photogrammetry images from 2022. These data were converted to the WGS 84 projection system and analyzed in a digital environment.

This study on the meandering dynamics of the Murat River in the Muş Plain reveals that the sinuosity values of the Murat River bed began to decrease, the bed took a flatter shape, and that this situation is an observable and measurable process. Anthropogenic interventions such as dams significantly affect the natural change processes of river beds, especially the bed migration that occurs through meandering,

<sup>2</sup> Bu çalışma BAP-17.EMF-4904-01 koduyla Muş Alparslan Üniversitesi BAP birimi tarafından desteklenen Muş Ovasında Yer alan Alüvyal Şekillerin Morfometrik Yöntemlerle İncelenmesi adlı projeye ait verilerin bir bölümünden oluşmaktadır.



and a more comprehensive evaluation of these changes in the river bed is of great importance for sustainable water resources management in the region, reduction of flood and inundation risks, protection of river ecosystems and engineering structures to be constructed on the river bed.

**Keywords:** Muş Plain, Menderes, Murat River, Anthropogenic





### AYVALIK DESTİNASYONUNA YÖNELİK INSTAGRAM PAYLAŞIMLARININ DESTİNASYON ALGISINA ETKİSİNİN İNCELENMESİ

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#### ÖZET

Sosyal medya, turistlerin seyahate çıkmadan önce seyahat tercihlerini şekillendirmesi, çeşitli platformlarda deneyimlerini paylaşımlarına, önerilerde veya şikayetlerde bulunmalarına olanak tanınması ve sosyalleşmeleri açısından önemli bir yere sahiptir. Günümüzde turistler, seyahat tercihlerini çoğunlukla sosyal medyada yer alan çeşitli platformlardan eriştikleri (olumlu-olumsuz deneyimler, öneriler gibi) bilgiler doğrultusunda şekillendirmektedir. Sosyal medya araçlarından biri olan Instagram; fotoğraf, video, reels, hikayeler ile kullanıcıların sosyal yaşantılarını ve deneyimlerini anı, hatıra, sosyallik gibi çeşitli amaçlarla paylaşımlarını sağlayan bir platform özelliğindedir. Instagram platformu, 2024 nisan verilerine göre dünya çapında en popüler sosyal araçlar arasında üçüncü sırada yer alırken ülkemizde en yaygın kullanılan sosyal medya aracıdır. Bu bağlamda Ayvalık'ı ziyaret eden turistlerin Ayvalık hashtag'i ile Instagram platformunda paylaştıkları fotoğraflar, bu fotoğraflarda Ayvalık hashtag'i ile beraber en sık kullanılan hashtag'lerin analiz edilerek destinasyonla ilgili hangi unsur veya unsurların ön plana çıktığının tespiti bu çalışmanın temel amacını oluşturmaktadır. Araştırma kapsamında 116 gönderi incelemeye tabii tutulmuştur. Erişilen fotoğrafların değerlendirilmesi için içerik analizi yönteminden yararlanılmıştır. Ayvalık hashtag'i ile paylaşılan fotoğrafların görsel ve metinsel analizi araştırmacılar tarafından manuel ve MAXQDA yazılımından yararlanılarak gerçekleştirilmiştir. Yaygın olarak paylaşılan turistik çekiciliklere ilişkin 4 ana tema ve 18 alt tema oluşturulmuştur. Bu doğrultuda görsellerde doğal çekicilikler ve manzara teması ile kültürel, mimari ve tarihi yapılar/çekicilikler teması en çok öne çıkan temalardır. Yapılan incelemeler neticesinde #ayvalık hashtag'i ile beraber en sık kullanılan hashtag'lerin #cunda, #cundaadası, #ayvalıksokakları, #balıkesir, #reklam, #ayvalıkcunda, #ayvalık, #summer, #cundaisland, #tatil, #turkey, #travel, #ayvalıksarımsaklı, #cundasokakları ve #sunset olduğu belirlenmiştir.

**Anahtar Kelimeler:** Ayvalık, Sosyal Medya, Instagram, Kullanıcı Tarafından Oluşturulan İçerik.

#### ABSTRACT

Social media has an important place for tourists to shape their travel preferences, share their experiences on various platforms, make suggestions or complaints and socialize before they travel. Today, tourists mostly shape their travel preferences with the help of information (such as positive and negative experiences, recommendations) they access from various platforms on social media. Instagram, one of the social media tools, is a platform that allows users to share their social lives and experiences with photos, videos, reels, stories for various purposes such as memories, souvenirs and sociability. According to April 2024 data, the Instagram platform ranks third among the most popular social tools worldwide and is the most widely used social media tool in our country. In this context, the main purpose of this study is to analyze the photos shared by tourists visiting Ayvalık on the Instagram platform with



the Ayvalık hashtag, the most frequently used hashtags with the Ayvalık hashtag in these photos, and to determine which elements or elements related to the destination come to the fore. Within the scope of the research, 116 posts were analyzed. Content analysis method was used to evaluate the accessed photographs. Visual and textual analysis of the photos shared with the hashtag “Ayvalık” was carried out manually by the researchers and by using MAXQDA software. Four main themes and 18 sub-themes were created regarding the commonly shared touristic attractions. Accordingly, the themes of natural attractions and landscapes and cultural, architectural and historical structures/attractions are the most prominent themes in the visuals. As a result of the examinations, it was determined that the most frequently used hashtags along with the hashtag #ayvalık are #cunda, #cundaadası, #ayvalıksokakları, #balıkesir, #ad, #ayvalıkcunda, #ayvalik, #summer, #cundaisland, #tatil, #turkey, #travel, #ayvalıksarımsaklı, #cundasokakları and #sunset.

**Keywords:** Ayvalık, Social Media, Instagram, User Generated Content.

## 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES



### THERMODYNAMIC INVESTIGATION OF METALLOTHERMIC REDUCTION SYSTEMS

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#### ABSTRACT

Metallurgical Reduction occurs when oxidized metallic structures react with a metal that has a higher oxygen affinity than itself. This principle is used for production of alloys and synthesis of nanoparticles of advanced ceramics (such as metal carbides, borides and their composites). It is important to know whether this will happen before performing the reactions experimentally. In this context, softwares such as Thermocalc, HSC Chemistry and FactSage can model reactions using thermodynamic data. With these softwares, enthalpy values, Gibbs free energies, adiabatic temperature, specific heat and possible phases that may occur as a result of reduction are easily simulated. This gives researchers ideas before experiments and allows the determination of optimum experimental conditions. In this study, the reduction conditions of Ferro alloys and advanced ceramic materials were modeled with the mentioned softwares and the findings were compared with real experimental studies.

**Keywords:** HSC, FactSage, SHS, Ceramics, Composites.



### STOICHIOMETRIC OPTIMIZATION FOR COMBUSTION SYNTHESIS AND PURIFICATION OF ZIRCONIUM-BASED BORIDES

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#### ABSTRACT

Zirconium diboride ( $\text{ZrB}_2$ ) is a highly promising material for high-temperature and corrosion-resistant applications due to its exceptional properties, including high hardness, a remarkable melting point, low density, excellent thermal shock resistance, and high electrical conductivity. These characteristics make  $\text{ZrB}_2$  suitable for extreme environments such as aerospace, thermal protection systems, and advanced structural components. Combustion synthesis (CS) technique with magnesiothermic reduction principle can be used for synthesis of  $\text{ZrB}_2$  nanopowders using oxide raw materials. The challenges are determination of stoichiometries of raw materials in CS and purification of CS product. This study focused on these challenges and the effect of  $\text{B}_2\text{O}_3$  stoichiometry and additives, and also effect of acid leaching process parameters such as concentration and S/L ratio were investigated. Thermochemical simulations, XRD, SEM and BET analysis were used for characterizations. The results revealed that optimization of process parameters are quite significant for the synthesis of nanopowders of zirconium-based borides which are suitable for utilization in sintering processes.

**Keywords:** FactSage, SHS, Ceramics,  $\text{ZrB}_2$ , Leaching.

## 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES



### FROM BAUHAUS TO TIRANA, A COMPLICATED BUT TRUE STORY

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#### ABSTRACT

Bauhaus, had a world-wide impact in architecture and design from 1919 and how Bauhaus impacted the Western society and Soviet Union with its direct influence from Bauhaus Masters and former students. On the other hand, it might be very interesting to analyze how Bauhaus could affect an isolated country like Albania during (1945-1991), situated outside the cosmopolitan sphere of influence.

During 1933-1942 Albanian architecture and urbanism had an indirect Bauhaus school by Italian rationalist architects such as Gerardo Bossio, Gulio Berte, who designed the major buildings in Tirana in late 30s. The influential director of the School of Architecture Rome (founded 1919 same year as Bauhaus), Marcello Piacentini (1881–1960) was also in charge of designing a major urban project in Tirana. According to Federica Dal Falco the main difference is that Bauhaus rejected historical studies and that in the School of Architecture of Rome, the knowledge of the past was important in education (Falco, 2019) Therefore Italian buildings in Albania contain historical elements such as arcades, columns, windows with verticals proportions-not elongated horizontal. Reinforced concrete, flat roofs, iron frames, pure shapes and clear geometries, typical of modernism were similar to Bauhaus, but also can be observed use of stone, travertine and marble in a-more Italian fashion. Innovative glass facades were not used in Tirana.

One of the examples of modernist architecture is the Residence of Italian officers designed and built in 1939-1942. It is a 4-stories typology of collective apartment block with flat roof, minimalistic style, functional plan, almost no decoration, vertical elongated windows in contrast with long horizontal balconies in Bauhaus style. Gio Ponti's Interior Design of the famous Hotel Dajti in Tirana remains perhaps the most advanced expression of Bauhaus Influence, especially for Avant-Guard industrial design furniture

Some young Albanian architects, who studied in Austria or Czechoslovakia demonstrated modernist tendencies in their design mostly in the level of small individual housing projects, sometimes blended with traditional architecture techniques such as pitched roofs, cornices, and decorative elements. Architects such as Skender Luarasi (1908-1976), Anton Lufi(1907-1980), would later participate in projects of postwar Albania designing fine modernist public buildings.

After the second world war, Albania became part of Socialist Block, and dictator Enver Hoxha remained in power until his death in 1985 as a faithful Stalinist, who continued his hardline, even after Khrushchev denounced "the cult of the personality" in 1957. That led to a split with Soviet Union (1961), and later with China (1978), time when Albania become an isolated society which had consequences for Art and Architecture. Therefore, in order to study this complicated story is important to start an in-depth analysis, about the possible influence of Bauhaus in Albania after the second world war.

Enver Hoxha completed in July 1947, a trade agreement with the Soviet Union (similar to the treaty of Rapallo 1922) *He wrote in his memories that Stalin told him that they will help with specialists in order to speed up the process of the development of the Albania and that Albania should send her students to*



Soviet Union, so that they would “learn and develop, and help the advancement of their homeland. (Hoxha, 1981)

These students later founded the Polytechnic University in Tirana in 1957, transferring knowledge from Eastern Block. Technical books were imported into Albania from Soviet Union, including, standards of urban design, residential, industrial, and public buildings. In those books were explained the concepts of design similar to the Bauhaus paradigm such as: “rules of composition”, representation of architecture as simple geometrical forms, proportions, building materials, and standard schemes of the spatial arrangement of residential and public buildings.

**Keywords:** Bauhaus, Rationalism, Modernist Architecture, Bauhaus Influence in Tirana, post-war development...

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### PROPERTIES OF DRY PASTA ENRICHED WITH BEE DRONE BROOD POWDER

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#### ABSTRACT

The enrichment of staple food is one of the goals of modern technologies. Pasta is one of the most appreciated foods enjoyed across diverse cultures and produced all around the world. This food makes a significant contribution to the population's energy intake, although it is generally deficient in essential nutrients. Edible insects have become an emerging trend in the search for greener and more environmentally friendly foods. They are considered a rich source of valuable nutrients and health-related compounds. Thus, the contribution of insects to sustainability, nutrition and health can emphasise the potential of pasta through the preparation of dry pasta by partially replacing wheat semolina flour with drone brood powder (DP), which is rich in protein (27-38%). DP was obtained by cold (CE) and hot (HE) extraction processes, and after was lyophilized and milled to obtain powder. After several trials, it was possible to incorporate 10% DP-CE and 20% DP-HE in pastas and decrease the durum wheat (*Triticum durum*) semolina, in the same proportion. To optimise the dough drying process, three time/temperature (t/T) binomial conditions were tested for oven drying of the doughs: 12h/ 40°C, 10h/ 30°C, and 5h/ 45°C. Also, the shape (tagliatelle and lasagne plate) was tested. Pastas were evaluated in terms of its technological characteristics (optimum cooking time (OCT), cooking losses, swelling index (SI)), physical characteristics (colour and texture), chemical characteristics (nutritional composition)



and sensory characteristics, and compared with a control pasta (0% DP). The optimum t/T for drying the pasta was 5h /45°C. The best shape of pastas was the tagliatelle because the lasagne plates were deformed after drying for all the drying conditions tested. The OCT, cooking loss, SI and hardness increased with the addition of DP. The water absorption was higher in 10% DP-CE pasta. Pasta produced with 20% DP-HE presented a dark colour and higher Total Colour Difference, comparing with control pasta. Furthermore, pasta with added DP had a higher protein, fat and ash content, meaning more nutritional quality. Sensorially, the DP pastas had an overall appreciation and a preferential purchase intention by the tasters compared to the control pasta. DP is a promising ingredient in pasta production, contributing to human health and at the same time promoting economic returns, since beekeepers can valorise a product from the hive that is usually not used. Moreover, the produced pastas presented satisfactory technological properties, and they were also appreciated by the consumers.

**Keywords:** dry pasta development, bee drone brood powder, physicochemical characterization, sensory analysis.

**Acknowledgments:** The authors thank the Portuguese Foundation for Science and Technology (FCT) for the financial support to the Research Centre for Natural Resources, Environment and Society — CERNAS (UIDB/00681; DOI: 10.54499/UIDP/00681/2020), through the internal project “F.DRONE-Production and valorisation of dwarf flour in the development of new products”. The authors would like to thanks to Polytechnic University of Viseu and Polytechnic University of Castelo Branco for their support. We would also like to thank all the beekeepers who supplied the dwarf frames for this project.

## 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES



### TURKISH-HUNGARIAN RELATIONS IN THE FOCUS OF GEOSTRATEGIC INTERESTS USING HISTORICAL-CULTURAL NARRATIVES

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#### ABSTRACT

Since the beginning of the 21st century, Turkish-Hungarian relations have been in a phase of intensified cooperation that extends to almost all areas of bilateral co-operation. Based on a qualitative case study, the historical stages of interaction between Hungary and the Ottoman Empire and the Republic of Turkey are first presented - from common enemy images and exile movements to Turanist ideologies and cooperation during the world wars and the Cold War.

The analysis focuses in particular on the current intensification of relations in the context of the foreign policy strategies of Turkey and Hungary. Both countries use historical narratives, cultural affinities and economic interests to legitimise their intensified cooperation. This strategic partnership is expressed in the expansion of diplomatic formats, military cooperation, security policy coordination and dynamic economic and cultural networking. The study shows that the current closeness between Budapest and Ankara is not based exclusively on ideological or historical foundations, but is characterised to a large extent by pragmatic interests and multipolar foreign policy orientations.

**Keywords:** Turkey, Hungary, geostrategic interests



### A THEORETICAL STUDY OF THE INTERACTION DYNAMICS OF $\text{Er}_2\text{O}_3$ DOPED BISMUTH BOROTELLURITE GLASSES WITH HIGH ENERGY PHOTONS

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#### ABSTRACT

Nowadays, nuclear technology employed in industry, health, and agriculture have both advantages and detrimental consequences. Therefore, radiation shielding studies are conducted to guarantee environmental safety and safeguard organisms and human beings from the detrimental impacts of high-energy photons. Concrete and lead are typically employed in the interaction of substances with high-energy photons; however, concrete may deteriorate in its shielding efficacy due to the formation of fractures over time, while lead is a poisonous substance detrimental to human health. Conversely, glasses are eco-friendly, lightweight, and comparatively inexpensive photon-absorbing materials that pose no health risks. While several chemical methods can produce glass, oxide glasses represent the most economically significant category. Tellurium dioxide ( $\text{TeO}_2$ ), a highly stable type of tellurium, is used as a glass-forming agent in glass manufacturing because of its low melting point. Bismuth oxide is also utilized in glass manufacture due to its low melting point, serving as a substitute for harmful heavy metals. Doping tellurite glasses with rare earth elements yields materials of increased density. This work theoretically examined the physical and high energy photon absorption properties of materials following the incorporation of erbium oxide, a rare earth element, into the  $\text{TeO}_2$ - $\text{B}_2\text{O}_3$ - $\text{Bi}_2\text{O}_3$  ternary glass system. The half value layer rose to 5 cm in base glasses, whereas it diminished to 2.77 cm with the addition of rare earth element oxide. This study also established that the mean free path decreased by 25% in  $\text{Er}_2\text{O}_3$  doped glasses at elevated energies. In light of this, it is possible to assert that this quaternary glass structure has the potential to serve as an alternative to lead-doped structures in terms of its ability to shield radiation.

**Keywords:** Lead-free glass,  $\text{Er}_2\text{O}_3$ , rare earth element, radiation shielding.

## 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES



### GLOBAL PERSPECTIVE ON PUBLICATIONS ON PEDIATRIC TRACHEOTOMY: BIBLIOMETRIC ANALYSIS

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#### ABSTRACT

This study aims to conduct a bibliometric analysis of publications on pediatric tracheotomy worldwide using the Web of Science (WoS) All Databases collection. Publications between 1982 and 2025 were included in this study. The keywords “pediatric” and “tracheotomy” were used in this analysis. WoS Databases were analyzed in detail using these keywords. The publications obtained from the search were evaluated to verify their relevance to the subject. Data on authors, organizations, journals, document types, and publication distribution by years were obtained from the WoS collection. Descriptive analyses of all data were performed.

A total of 752 publications were obtained in the initial search. Data from 361 publications whose relevance to the topic was confirmed were included in the study. The most published article on pediatric tracheotomy was by Romaine Johnson from the University of Texas, with 13 publications and 202 citations. It was found that the articles on this subject were most often published by the University of Texas Southwestern Medical Center Dallas (13 articles and 202 citations), and Children's Medical Center Dallas (10 articles and 163 citations). Most of the publications (90.3%) were published in SCI-E journals. The studies were published in 118 different journals, with the International Journal of Pediatric Otorhinolaryngology ranking first with 65 publications and 842 citations, while the Laryngoscope ranked second with 39 publications and 756 citations. Most studies (91.1%) were articles, and the number of studies on this subject has increased over the last decade. Studies were published most frequently in the USA (55%) and Turkey (6%).

Publications on pediatric tracheotomy have been increasing in recent years, and our country ranks second in this regard. It is noteworthy that the studies are predominantly articles published in SCI-E journals. We believe that studies on this subject will continue to increase in the coming years.

**Keywords:** Pediatric, Tracheotomy, Bibliometrics, Bibliometric Analysis



### GLOBAL TRENDS IN COCHLEAR IMPLANTATION FOR SINGLE-SIDED DEAFNESS: A BIBLIOMETRIC ANALYSIS (1982–2025)

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#### ABSTRACT

We aim to present a bibliometric analysis of publications on cochlear implantation in patients with single-sided deafness worldwide using the Web of Science (WoS) All Databases collection. The study included publications between 1982 and 2025 years. The keywords “single-side deafness” and “cochlear implantation” were used in this analysis. WoS Databases were analyzed in detail using these keywords. It was confirmed that the obtained publications were relevant to the subject. Data on authors, institutions, journals, document types, and distribution of publications by year were obtained from the WoS collection. Descriptive analyses of the data were performed.

In the first search, 472 publications were found and data from 213 publications whose relevance to the subject was confirmed were included in the study. Távora-Vieira Dayse from the University of Western Australia was found to have the most work on this topic with 14 publications and 296 citations. The second rank was shared by Arndt S with 13 publications and 528 citations and Aschendorff A with 13 publications and 484 citations. Most of the studies on this subject were published by the University of Antwerp (19 publications and 651 citations) and the University of Freiburg (18 publications and 570 citations). It was found that approximately 88% of these studies were published in Science Citation Index Expanded (SCI-E) journals. It was found that the publications were published in 62 different journals and Otology Neurotology ranked first with 43 publications and 778 citations. European Archives of Oto Rhino Laryngology ranked second with 14 publications and 255 citations. It was determined that publications increased significantly after 2015. It was observed that approximately 89% of the publications were articles and the review article rate reached 10%. Most frequent publications were made in USA (34%), with Germany (23%) in second place.

This study demonstrates the increasing global interest in cochlear implantation for patients with single-sided deafness, particularly over the past decade. We believe the significant increase in publications after 2015 reflects the increasing awareness and clinical advancements. Most publications are research articles and the increase in publications in journals with high-impact factors, especially Otology & Neurotology, reveals the scientific importance of this subject. The findings provide valuable information about the current status of cochlear implantation in unilateral deafness and guide future research.

**Keywords:** Cochlear Implantation, Single-Side Deafness, Bibliometric Analysis





### FORMATION OF NATIONAL NUCLEAR TERMINOLOGY SYSTEMS

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#### ABSTRACT

The development and safe application of nuclear science and technology depend on the use of precise, consistent, and standardized terminology. As countries expand their engagement with nuclear energy—whether for power generation, medical applications, research, or security—there is a growing need to establish national nuclear terminology systems that are both scientifically accurate and linguistically coherent. These systems ensure effective communication among scientists, engineers, policymakers, educators, and the general public. This article examines the processes involved in forming national nuclear terminology frameworks, including the adaptation of international standards, the role of historical and linguistic influences, and the importance of interdisciplinary collaboration. By drawing on case studies from various countries and analyzing methodological approaches such as terminography, expert consensus, and morphological integration, the paper highlights the critical role of language planning in nuclear governance. Furthermore, it identifies common challenges, such as terminological inconsistency, rapid technological evolution, and multilingual complexity, and proposes strategic solutions for future development. Ultimately, the formation of a robust national nuclear terminology system is essential not only for scientific advancement but also for national sovereignty, international alignment, and informed public discourse.



### KAZLARDAN İZOLE EDİLEN BAZI BAKTERİYEL ETKENLER VE ANTİBİYOTİK KULLANIMI

#### SOME BACTERIAL AGENTS ISOLATED FROM GEESE AND ANTIBIOTIC USE

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#### ÖZET

Evcil kümes hayvanlarından olan kazların lokal cinslerin hastalıklara direncinin yüksek olduğu ve kaliteli ete sahip oldukları bilinmektedir. Dünyada olduğu gibi Türkiye’de kaz yetiştiriciliği yapılmaktadır. Ancak ülkemizde kazlar için kullanımı ruhsatlı ilaç bulunmamaktadır. Genel olarak ördeklerde kullanılan antibiyotikler (amoksisilin, klortetrasiklin, neomisin) kazlarda da kullanılmaktadır. İlaçların genelinin ise içme suyuna katılarak uygulandığı gözlenmiştir. Bu ilaçların ise günlük taze hazırlanması gerektiği bilinmektedir. Ancak kaynak taramalarında farklı antibiyotiklerinde kullanılabildiği bilinmektedir. Bu bildiride kazlarda gözlenen bakteriyel etkenler ve antibiyotik kullanımı hakkında bilgi verilmeye çalışılmıştır.

**Anahtar kelimeler:** Kaz, antibiyotik, mikroorganizma

#### ABSTRACT

It is known that geese, which are domestic poultry, have high resistance to local diseases and have quality meat. As in the world, geese are raised in Turkey. However, there are no licensed drugs for geese in our country. Antibiotics generally used in ducks (amoxicillin, chlortetracycline, neomycin) are also used in geese. It has been observed that most of the drugs are applied by adding them to drinking water. It is known that these drugs should be prepared fresh daily. However, it is known that different antibiotics can be used in literatures. This report attempts to provide information about bacterial agents observed in geese and antibiotic use.

**Key words:** Geese, antibiotics, microorganism



### ALABALIKLARDAN İZOLE EDİLEN BAZI BAKTERİYEL ETKENLER VE ANTİBİYOTİK KULLANIMI SOME BACTERIAL AGENTS ISOLATED FROM RAINBOW TROUT AND THE USE OF ANTIBIOTICS

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#### ÖZET

Alabalık yetiştiriciliği Dünya ve Türkiye’ de hızla artan su ürünleri arasında yerini almaktadır. Birçok canlıda olduğu gibi alabalıklarda da birçok bakteriyel enfeksiyon gözlenebilmektedir. Türkiye’de bu enfeksiyonların tedavisinde kullanılmak üzere balıklarda ruhsatlı bir takım antibiyotik (florfenikol, oksitetrasiklin, sülfadiazin + trimetoprim, enrofloksasin ve amoksisilin trihidrat) bulunmaktadır. Ruhsatlı olan ilaçların tamamı yemli premiks şeklinde satışa sunulmaktadır. Alabalıklarda gözlenebilen bakteriyel hastalık etkenlerinin bazıları zoonotik karakterde olduğu ve bunların halk sağlığı açısından oldukça riskli olduğu belirtilmektedir. Bu bildiride alabalıklarda gözlenen bakteriyel etkenler ve antibiyotik kullanımı hakkında bilgi verilmeye çalışılmıştır.

**Anahtar kelimeler:** Alabalık, antibiyotik, mikroorganizma

#### ABSTRACT

Rainbow trout farming is one of the fastest-growing aquaculture sectors globally and in Turkey. Similar to numerous living organisms, several bacterial illnesses can be detected in trout. In Turkey, several antibiotics are authorized for the treatment of fish infections, including florfenicol, oxytetracycline, sulfadiazine combined with trimethoprim, enrofloxacin, and amoxicillin trihydrate. All legal pharmaceuticals are available for purchase as a feed premix. Some bacterial pathogens found in trout are zoonotic and pose significant risks to public health. This paper aims to present information regarding the bacterial agents identified in trout and the application of antibiotics.

**Key words:** Rainbow, Trout, antibiotics, microorganism



### DEMİR ÇELİK FABRİKASI ÇALIŞANLARINDA KİŞİSEL KORUYUCU DONANIM KULLANIMININ VE SAĞLIKLI YAŞAM DAVRANIŞLARININ BELİRLENMESİ DETERMINATION OF USE OF PERSONAL PROTECTIVE EQUIPMENT AND HEALTHY LIVING BEHAVIOR IN IRON AND STEEL FACTORY WORKERS

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#### ÖZET

Araştırma Demir Çelik Fabrikası çalışanlarında kişisel koruyucu donanım kullanımını ve sağlıklı yaşam davranışlarını belirlemek amacıyla planlanmıştır. Çalışma Demir Çelik Fabrikasında çalışan 2137 kişi ile gerçekleştirilmiştir. Tüm veriler Haziran 2016 – Haziran 2017 arasında toplanmıştır. Veri Toplama Formları olarak kişisel bilgiler formu, kişisel koruyucu donanım kullanım formu, kişisel koruyucu donanım kullanım sıklığı formu ve sağlıklı yaşam biçimi davranışları ölçeği II kullanılmıştır. Bulgularda bireyin %46,51'i 41-50 yaş, %31,87'sinin meslek lisesi ve %29,48'inin lise mezunu olduğu, %46,19'unun 16 yıl ve üzeri aynı kurumda çalıştığı, %93,07'si işe giriş muayenesinin yapıldığını, %35,75'inin iş kazası geçirdiğini, %5,29'u da meslek hastalığı tanısı aldığını belirlenmiştir. Bireylerin işe girişte %81,84'ünün iş sağlığı ve güvenliği kanunu, %73,05'inin kişisel koruyucu kullanımı, %72,20'sinin ilk yardım hakkında eğitimi aldığı tespit edilmiştir. Bireylerin kişisel koruyucu donanım kullanmama nedenleri incelendiğinde; %68,37'sinde hareket kabiliyetini azaltması, %37,86'sında fiziksel rahatsızlık vermesi cevabı verilmiştir. Çalışma ortamında ikaz ve uyarı lambaları her zaman var diyen bireylerin oranı %78,38'dir. Çalışanların kişisel koruyucu donanım kullanmadıkları zaman %67,81'inin ikaz aldığı, %7,58'inin ceza aldığı, %25,92'sinin kazaya maruz kaldığını belirlenmiştir. Çalışmada ölçek toplam puan ortalaması 124±18 olarak bulundu. Bireylerin işe girişte aldıkları eğitimler ile ölçek toplam puan ortalamaları yüksek derecede anlamlı çıkmıştır(p<0,05). Sonuç olarak çalışanların kişisel koruyucu donanım kullanım düzeyleri istenilen seviyede olmadığı ve sağlıklı yaşam biçimi davranışları ölçeğinin orta seviyede olduğu tespit edildi.

**Anahtar Kelimeler:** İş Sağlığı ve Güvenliği, Kişisel Koruyucu Donanım ve Sağlıklı Yaşam Davranışları.

#### ABSTRACT

The research was planned to determine the use of personal protective equipment and healthy living behaviors in the employees of Demir Çelik Fabrikası. The study was carried out with 2137 people working in the Iron and Steel Factory. All data were collected between June 2016 and June 2017. Personal information form, personal protective equipment usage form, personal protective equipment use frequency form and healthy lifestyle behaviors scale II were used as Data Collection Forms. In the findings, 46,51% of the individuals were 41-50 years old, 31,87% were vocational high school and 29,48% were high school graduates, 46,19% were working at the same institution for 16 years and above



It was determined that 35.75% of them had work accidents and 5.29% of them were diagnosed as occupational disease. 81,84% of the individuals in occupational health and safety law, 73,05% personal protective use, 72,20% of them received training on first aid. When the reasons why individuals do not use personal protective equipment are examined; 68,37% of the ability to reduce mobility, 37,86% of the physical discomfort of the response is given. The rate of individuals who say that there are warning and warning lights in the working environment is 78.38%. When employees did not use personal protective equipment, 67.81% were warned, 7.58% were punished, and 25.92% were exposed to accidents. The mean total score of the scale was found to be  $124 \pm 18$ . The mean scores of the scale were significantly higher with the trainings received by the individuals at the start of the work ( $p < 0.05$ ). As a result, it was determined that the level of use of personal protective equipment of the employees was not at the desired level and the scale of healthy lifestyle behaviors was moderate.

**Keywords:** Occupational Health and Safety, Personal Protective Equipment, Healthy Living Behaviors.



### ERGENLERİN BESLENME DAVRANIŞLARININ SAĞLIK DAVRANIŞI ETKİLEŞİM MODELİ DOĞRULTUSUNDA DEĞERLENDİRİLMESİ EVALUATION OF NUTRITIONAL BEHAVIOURS IN ADOLESCENTS IN LINE WITH THE INTERACTION MODEL OF HEALTH BEHAVIOUR

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#### ÖZET

Çalışma Sağlık Davranışı Etkileşim Modeli doğrultusunda ergenlerin beslenme davranışlarını ve BKİ değerlerini etkileyen faktörleri araştırmak amacıyla tanımlayıcı olarak gerçekleştirildi. Çalışmada, İstanbul Üsküdar İlçesinde Üsküdar Mesleki ve Teknik Anadolu Lisesi'nde öğrenim gören 1232 öğrenciden, çalışmaya katılmayı kabul eden 1093 kişiden oluşmuştur. Ergenlerin ilk aşamada boy ve kilo ölçümleri yapılmış olup, ikinci aşamada öğrenciler 16 sorudan oluşan tanıtıcı bilgiler ve Yeme Tutum Testi'nden oluşan anket sorularının cevaplanması istenmiştir. Elde edilen veriler ise bilgisayar ortamında değerlendirilerek Kruskal Wallis H Testi, Mann Whitney U Testi ve ki kare testi kullanılmıştır. Çalışmada, stres gibi olumsuz duygular ve ergenlerin kilo memnuniyetsizliği ile olumsuz yeme tutumu ve BKİ değerleri arasında istatistiksel olarak anlamlı pozitif bir ilişki bulunmuştur( $p<0,05$ ). Kız cinsiyet ve arkadaş ilişkilerinin kötü olması ile olumsuz yeme tutumu arasında istatistiksel olarak anlamlı pozitif bir ilişki bulunmuştur ( $p<0,05$ ). Ergenlerin beslenme alışkanlıklarını geliştirmeyi amaçlayan programlarda sağlık profesyonellerinin, duygusal sorunlarla baş etme becerilerini geliştiren girişimlere ağırlık vermesi gerekmektedir.

**Anahtar Sözcükler:** Ergen, Beslenme Davranışları, Sağlık Davranışı Etkileşim Modeli

#### ABSTRACT

The study was conducted as a descriptive study in order to investigate the factors affecting nutritional behaviors and BMI values of adolescents in line with Health Behavior Interaction Model. The study consisted of 1232 students attending Üsküdar Vocational and Technical Anatolian High School in Üsküdar District of Istanbul and 1093 students who agreed to participate in the study. Height and weight measurements were made in the first stage of the adolescents. In the second stage, the students were asked to answer the questionnaire consisting of 16 questions and the Eating Attitude Test. The data obtained were evaluated by computer and Kruskal Wallis H Test, Mann Whitney U Test and chi-square test were used. In this study, a statistically significant positive relationship was found between negative emotions such as stress and weight dissatisfaction of adolescents and negative eating attitude and BMI values ( $p < 0.05$ ). There was a statistically significant positive relationship between poor sex and friend relationships and negative eating attitude ( $p < 0.05$ ). In programs aiming to improve the nutritional habits of adolescents, health professionals should focus on initiatives that improve their skills in coping with emotional problems.

**Key Words:** Adolescents, Nutritional Behaviours, The Interaction Model of Health Behaviour





### ÖRGÜTSEL KIVANÇ VE İŞGÖREN PERFORMANSI ARASINDAKİ İLİŞKİYİ TESPİT ETMEYE YÖNELİK BİR ARAŞTIRMA A STUDY TO DETERMINE THE RELATIONSHIP BETWEEN ORGANIZATIONAL PRIDE AND EMPLOYEE PERFORMANCE

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#### ÖZET

Bu çalışmanın amacı, örgütsel kıvanç ile işgören performansı arasındaki ilişkiyi tespit etmektir. Bu amaç ile literatür taraması yapılarak elde edilen veriler içerik analizi yöntemi ile değerlendirilmiştir.

Aristoteles (MÖ 384-322) temel ahlaki bir erdem olarak kıvanç kavramından ilk bahseden kişidir. Bu perspektiften bakıldığında kıvanç, saygınlık ve kişi olarak değerli hissetme ile ilişkili olumlu bir yapı olarak ifade edilmektedir. Bireyin bulunduğu örgütten duyduğu kıvanç ise kendi algı ve deneyimleri sonucunda oluşmaktadır. Çalışanların kıvanç duydukları örgütlerinin toplumun anlamlı, önemli, etkili ve değerli bir parçası olduğu algısına sahiptirler. Bu algıya sahip çalışanlar örgütün amaçlarının gerçekleştirilmesi için gerekli olan her türlü faaliyete istekli olarak katılmaktadırlar. Farklı bir yaklaşımda ise örgütsel kıvanç; çalışanların işletmelerinin bir parçası olmaktan duydukları kıvanç, işletmenin ününden çalışana yansıyan haz olarak tanımlanmaktadır. Ayrıca çalışanların kuruma olumlu duygular hissetmesi ve performans ile ilişkili bir duygu olarak da belirtilmektedir. Örgütsel kıvanç aynı zamanda işverene duyulan hayranlığın bir ifadesi olarak da görülebilmektedir. Bununla birlikte örgütsel kıvanç, işgörenlerin içinde bulundukları durum itibarıyla iyi bir itibara veya iyi bir izlenime sahip olan bir örgütle özdeşleşmeleri sonucu hissedilen güçlü ve olumlu duygulardır.

Örgütsel kıvanç, çalışan motivasyonunu artırmak için kullanılabilecek psikolojik bir özellik olarak da tanımlanmaktadır. Ayrıca örgütsel kıvançın çalışanların olumlu iş davranışları için önemli bir itici güç olduğu vurgulanmaktadır. Örgütsel kıvançın çıktıları incelendiğinde kıvançın çalışanlar için içsel bir motivasyon kaynağı olduğu görülmektedir. Arnett vd. (2002) yapmış oldukları çalışmada, işlerinden tatmin olan çalışanların kendi organizasyonlarından da kıvanç duyduklarına ilişkin bulgular elde etmişlerdir. Bazı araştırmalarda, örgütsel kıvançın, işten ayrılma, iş stresi ve örgütsel sinizm gibi olumsuz örgütsel davranışların ortaya çıkmasında bir engel oluşturacağı ifade edilmektedir. Bu bağlamda, çalıştıkları işletmeler ile kıvanç duyan çalışanlar daha iyi performans göstererek yaratıcı başarılar elde etmektedir.

Örgütsel kıvançın nasıl teşvik edilebileceğine dair göstergeler sağlamayı amaçlayan araştırmalar, bunun uygun çalışma koşulları, gönüllü programlar veya kuruluşun olumlu dış itibarı gibi faktörlerle mümkün olduğunu göstermektedir. Ayrıca örgütsel kıvançın oluşması için kritik öneme sahip olan bir diğer olgu da işgörenin örgütsel kimliğinin varlığıdır. Kıvanç, bireyin başarılı bir durumla kendisini ilişkilendirmesine dayanmakla birlikte; kıvançın var olabilmesi için işgörenin bireysel kimliği ile örgütsel kimlik arasında bir benzeşme algılaması gerektiği ifade edilmektedir. Kraemer ve Gouthier (2014) ise, örgütsel kıvançın öncüllerini; özerklik, yönetici itibarı ve takım desteği olarak sıralamaktadır. İşletmeler, çalışanlarının kurum ile kıvanç duyması için yukarıda ifade edilen hususlara dikkate etmeli ve gereklilikleri yerine getirmelidir. Çalıştığı işletme ile kıvanç duyan çalışanlar, daha fazla performans göstererek işletmenin hedeflerine ulaşmasında kritik rol almaktadır. Bu açıklamalar doğrultusunda, örgütsel kıvanç ile işgören performansı arasında anlamlı ve olumlu yönde bir ilişki olduğu söylenebilir.

**Anahtar Kelimeler:** Örgütsel kıvanç, İşgören performansı, Örgütsel davranış.



### ABSTRACT

The purpose of this study is to determine the relationship between organizational pride and employee performance. For this purpose, the data obtained by reviewing the literature were evaluated by content analysis method.

Aristotle (384-322 BC) was the first to mention the concept of pride as a basic moral virtue. From this perspective, pride is expressed as a positive construct associated with feeling esteemed and valued as a person. The individual's pride in the organization is formed as a result of their perceptions and experiences. Employees have the perception that the organizations they are proud of are a meaningful, important, effective and valuable part of the society. Employees with this perception willingly participate in all kinds of activities necessary for the achievement of organizational goals. In a different approach, organizational pride is defined as the pride that employees feel from being a part of their enterprises and the pleasure felt by the employees from the reputation of the enterprise. It is also stated as an emotion related to employees' positive feelings towards the organization and performance. Organizational pride can also be seen as an expression of admiration for the employer. However, organizational pride is a strong and positive emotion felt by employees as a result of their identification with an organization that has a good reputation or a good impression due to the current situation.

Organizational pride is also defined as a psychological feature that can be used to increase employee motivation. It is also emphasised that organizational pride is an important driving force for employees' positive work behaviours. When the outcomes of organizational pride are analysed, it is seen that pride is an intrinsic source of motivation for employees. Arnett et al. (2002) found in their study that employees who are satisfied with their jobs also feel pride towards their organizations. In some studies, it is stated that organizational pride can prevent the occurrence of negative organizational behaviours such as turnover, job stress and organizational cynicism. In this context, employees who are proud of the organizations they work for perform better and achieve creative success.

Studies which aim to provide indicators of how organizational pride can be fostered show that this is possible through factors such as suitable working conditions, volunteer programmes or the positive external reputation of the organization. In addition, another phenomenon that is critical for the formation of organizational pride is the existence of an employee's organizational identity. While pride is based on the individual associating themselves with a successful situation, it is stated that in order for pride to exist, the employee must perceive a similarity between their individual identity and organizational identity. Kraemer and Gouthier (2014), on the other hand, list the antecedents of organizational pride as autonomy, manager reputation and team support. Enterprises should pay attention to the above-mentioned issues and fulfil the requirements in order for their employees to feel pride in the organization. Employees who are proud of the organization they work for play a critical role in achieving the goals of the enterprise by showing more performance. In line with these explanations, it can be said that there is a significant and positive relationship between organizational pride and employee performance.

**Keywords:** Organizational pride, Employee performance, Organizational behaviour.



### PROSPECTS FOR THE INTERSECTION OF LAW AND ARTIFICIAL INTELLIGENCE

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#### ABSTRACT

Law arose from the need of human society to establish justice, order, and responsibility within itself. It is an attempt by man to bring order to the chaos within himself. Artificial intelligence is the technological embodiment of the desire to go beyond the human mind and project one's knowledge outward. These two systems – one sociocultural, the other technocognitive – developed in parallel and began to collide at the dawn of the 21st century. This collision is already taking a transitional form: the law is looking for a normative basis for artificial intelligence, while artificial intelligence holds a mirror up to the law, revealing its deepest contradictions.

This study draws historical and philosophical parallels between the emergence of law and the development of artificial intelligence. The “shared vision” that emerges from this is not that they are actors fighting against each other, but perhaps that they are two voices of human history that complement each other. The study shows that where law and AI converge, this can open the way to regulation and enforcement and new ethical systems, hybrid decision-making, and a deeper collective consciousness. It is both a renaissance of law and a search for AI to find its place in humanity.

In the 21st century, as digital transformation accelerates, the interaction of law and technology, especially artificial intelligence (AI), creates new ethical and legal challenges. This study takes an interdisciplinary approach that combines the fields of law and artificial intelligence. This study examines the impact of algorithms on the principle of fairness and the ethical risks that arise from the automation of decision-making in legal systems.

This collaboration not only represents a synthesis of technological and legal approaches, but also carries a message about how the legal system of the future should be shaped. The threats and opportunities of algorithmic solutions are analyzed in the context of human rights, shared responsibility, transparency of decisions, and risks of discrimination.

With this research, we show that the interaction of law and technology is not only theoretical but also vital in terms of maintaining public faith in justice. Such an approach can be an important step towards increasing the fairness, transparency and reliability of legal systems.

**Keywords:** artificial intelligence, law, algorithmic justice, ethical responsibility, discrimination.



### YAPAY ZEKÂ DESTEKLİ HALKLA İLİŞKİLERİN DUYGUSAL ZEKÂ ÜZERİNE ETKİLERİ VE ALGI YÖNETİMİ

#### THE EFFECTS OF ARTIFICIAL INTELLIGENCE-SUPPORTED PUBLIC RELATIONS ON EMOTIONAL INTELLIGENCE AND PERCEPTION MANAGEMENT

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#### ÖZET

İçerisinde bulunduğumuz dijital çağda yapay zekâ, halkla ilişkiler alanında her geçen gün daha yaygın bir şekilde kullanılmaktadır. Yapay zekâ destekli halkla ilişkiler kavramı, markaların, şirketlerin veya bireylerin hedef kitleleriyle daha kolay ve gerçek zamanlı etkileşimde bulunmalarına olanak tanırken, aynı zamanda bu etkileşimin sonucu olarak duygusal zekâ üzerinde de algı yaratma imkânı sunmaktadır. Duygusal zekâ, insanların duygularını tanıma, anlama ve yönetme becerisini ifade etmektedir ve etkili iletişim de büyük öneme sahiptir. Bu kapsamda bu çalışma, yapay zekâ destekli halkla ilişkilerin duygusal zekâ üzerindeki etkileri ve algı yönetimi incelenmektedir. Yapay zekâ destekli iletişim araçlarının duygusal zekâ üzerindeki olumlu ve olumsuz etkileri tespit edilmektedir. Yapay zekanın duygusal zekâ üzerinde olumlu etkilerinden birkaçının, daha kişiselleştirilmiş iletişim ve hızlı geri bildirim sağlama gibi faktörler olduğu görülmektedir. Diğer yandan, yapay zekâ destekli iletişim araçlarının toplumun eylemlerini, fiziki etkileşim gereksinimlerini ve duygusal bağları azaltabileceği endişesi de bulunmaktadır. Ayrıca, yapay zekâ destekli halkla ilişkiler stratejilerinin algı yönetimine etkileri de incelenmektedir. Yapay zekâ destekli iletişim araçlarının, hedef kitlelerin algılarını şekillendirmede önemli bir rol oynayabileceği görülmektedir. Ancak, yapay zekâ destekli iletişim araçlarının algı yönetiminde de riskli yönlerinin olduğu ve doğru kullanılmadığında yanlış algılara neden olabileceği vurgulanmaktadır. Sonuç olarak, yapay zekâ destekli halkla ilişkilerin duygusal zekâ üzerindeki etkileri ve algı yönetimi konuları, halkla ilişkiler uzmanları ve marka yöneticileri için önemli bir tartışma konusudur. Bu çalışma, yapay zekanın halkla ilişkiler alanındaki rolünü ve potansiyelini daha iyi anlamak ve etkili iletişim stratejileri geliştirmek için bir temel oluşturmayı amaçlamaktadır.

**Anahtar Kelimeler** Yapay Zekâ, Duygusal Zekâ, Halkla İlişkiler, Algı Yönetimi,

#### ABSTRACT

In the digital age we are currently in, artificial intelligence (AI) is increasingly being used in the field of public relations (PR). The concept of AI-supported PR allows brands, companies, or individuals to interact more easily and in real-time with their target audiences, while also providing the opportunity to create perception on emotional intelligence as a result of this interaction. Emotional intelligence refers to the ability of individuals to recognize, understand, and manage emotions, which is crucial for effective communication. Within this context, this study examines the effects of AI-supported PR on emotional intelligence and perception management. The positive and negative impacts of AI communication tools on emotional intelligence are identified. Some of the positive effects of AI on emotional intelligence include more personalized communication and providing quick feedback. On the other hand, concerns exist that AI-supported communication tools may reduce societal actions, physical interaction needs,



and emotional connections. Furthermore, the study also investigates the effects of AI-supported PR strategies on perception management. It is observed that AI communication tools can play a significant role in shaping the perceptions of target audiences. However, it is emphasized that there are risky aspects of AI-supported communication tools in perception management, which could lead to misconceptions if not used correctly. In conclusion, the impacts of AI-supported PR on emotional intelligence and perception management are important topics for PR professionals and brand managers. This study aims to provide a foundation for better understanding the role and potential of AI in the field of public relations and developing effective communication strategies.

**Keywords:** Artificial Intelligence, Emotional Intelligence, Public Relations, Perception Management,



### ONE ASPECT OF NATO'S ENERGY SECURITY: THE NEXUS OF CLIMATE AND ENERGY TRANSITION

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#### ABSTRACT

NATO has increasingly recognized the profound interconnection between climate change and energy security, acknowledging that environmental challenges are reshaping the strategic landscape. This nexus necessitates a comprehensive approach to ensure the Alliance's resilience and operational effectiveness. At the 2021 Brussels Summit, NATO leaders endorsed the Climate Change and Security Action Plan, positioning the Alliance as a leader in understanding and adapting to climate-related security impacts (NATO, 2021). This plan emphasizes a 360-degree approach, encompassing awareness, adaptation, mitigation, and outreach efforts. Subsequently, the 2022 Strategic Concept identified climate change as a defining challenge, integrating it into NATO's core tasks of deterrence and defense (NATO, 2024a; Jankowski & Wieczorkiewicz, 2023).

The transition to sustainable energy sources is pivotal for NATO's operational readiness. Recognizing the risks of over-reliance on fossil fuels, especially highlighted by geopolitical tensions such as Russia's manipulation of energy supplies, NATO aims to diversify its energy portfolio. The Alliance has set targets to reduce emissions from its facilities and assets by 45% by 2030 and achieve net-zero emissions by 2050 (Farhan, Kossmann & van Rij, 2023; Climate Diplomacy, 2023). However, this transition presents challenges. Allied armed forces currently depend on a single fuel policy to ensure interoperability. As nations adopt varying green technologies at different paces, there's a risk of operational discrepancies. To address this, NATO introduced the "Military Energy Transition by Design" initiative, aiming to harmonize efforts and maintain cohesive defense capabilities (Kertysova, 2023). Climate change also introduces new dimensions to security threats (Balkan Şahin & Çetiner, 2024). Adversaries, notably Russia, have been disseminating disinformation related to climate and energy transitions to sow discord and undermine public trust. Furthermore, extreme weather events threaten the integrity of military installations and critical infrastructure. NATO's Climate Change and Security Impact Assessment underscores the need for resilient infrastructure and adaptive strategies to mitigate these risks (NATO, 2022, 2024b). The energy transition is not merely an environmental imperative but a strategic necessity. By investing in renewable energy, enhancing energy efficiency, and fostering innovation, NATO aims to bolster its defense posture while contributing to global climate goals. The Alliance's proactive stance ensures that it remains prepared to face emerging challenges, safeguarding both its member states and the broader international community (Çelikpala, 2024; Çetinkaya & Şahin, 2024). In conclusion, NATO's approach to the intertwined challenges of climate change and energy security reflects a commitment to adaptability, resilience, and strategic foresight. By addressing these issues head-on, the Alliance reinforces its role as a cornerstone of global security in an evolving world.





The purpose of this study is to analyze the intersections of climate and energy transition as an important dimension of NATO's energy security agenda. To this end, the decisions, programs, and practices of the Alliance in recent years in this context are examined, and the meaning that NATO as a security organization attributes to climate and energy transition issues is also determined.

**Keywords:** NATO, Energy Security, Climate Change, Energy Transition.

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### YEREL YÖNETİMLERİN İŞ SAĞLIĞI VE GÜVENLİĞİ UYGULAMALARINDAKİ İNSANİ RİSKLERE YÖNELİK KÖK SEBEPLER ROOT CAUSES OF HUMAN RISKS IN OCCUPATIONAL HEALTH AND SAFETY PRACTICES OF LOCAL GOVERNMENTS

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#### ÖZET

Sanayi ve teknoloji alanındaki hızlı gelişimin bir sonucu olarak, kentsel ve kırsal yaşam arasındaki hayat standartları arasındaki farklar sürekli kapanmaktadır. Şehirlerdeki hayat standartlarının artırılması ve bu standartların kırsaldaki halka da sunulması için yerel yönetimlerin bu hizmetleri sağlıklı ve güvenli ortamlarda gerçekleştirmeleri önem arz etmektedir. Yerel yönetimler bu hizmetleri sunarken bu sektöre ait çalışanlar, iş kazalarına veya meslek hastalıklarına maruz kalabilmektedir. Sektör çalışanlarını muhtelif risklerden korumak için tehlikelerin ağırlık merkezindeki insan faktörünün çok yönlü irdelenmesi, risklerin ana nedenlerini ortaya çıkararak bilimsel veriler doğrultusunda çözüm önerilerinin geliştirilmesi gerekmektedir. Bu çalışmada yerel yönetimlerin ana bileşeni olan il özel idareleri ile belediyelerde iş sağlığı ve güvenliğinin (İSG) önemine, iş kazalarına, iş kazalarının nedenlerine, kazaların önlenmesi için alınabilecek önlemlere değinilmiştir. Araştırmada öncelikli olarak yerel yönetimlerin İSG uygulamaları düzeyinin belirlenmesi amacıyla İSG yönetim uygulamaları ölçeği kullanılmıştır. İSG yönetim uygulamaları ölçüsü Christopher ve diğerleri (2012)'nin makalesinden ve Glendon and Litherland (2001)'in güvenlik iklimi anketinden adapte edilerek oluşturulmuştur. Ölçek 5 alt boyuttan meydana gelmektedir. 5'li likert (1: Kesinlikle katılmıyorum, 5: Kesinlikle katılıyorum) sistemle puanlanmıştır. Araştırmada 372 yetişkin yerel yönetim çalışanı ile çalışma yapılmıştır. Veriler SPSS 26.0 programına yüklendikten sonra analiz edilmiştir. Araştırmada yaş, cinsiyet, iş kazası durumu, iş deneyimi, İSG hakkında bilgi sahipliği durumu ile ramak kalay olayı yaşama durumu bağımsız değişkenlerine göre kategorik değişkenlerle alt boyutlarında (bağımlı değişken) anlamlı farklılık olup olmadığını Mann Whitney Testi ile; ikiden fazla grup durumunda parametrelerin gruplar arası karşılaştırmalarında Kruskal Wallis H-Testi kullanılmıştır. Kaiser-Mayer-Olkin (KMO) kriteri incelenmiş olup, testin anlamlılığı önemli bulunduğu için faktör analizinin yapılması uygun görülmüştür. Bartlett testi anlamlılık düzey değeri  $p = 0.000 < 0.001$  bulunmuştur ve Bartlett küresellik testi ( $\chi^2 = 7756,035$ ;  $P < 0,001$ ) anlamlı bulunmuştur.

**Anahtar Kelimeler:** İl Özel İdareleri, Belediyeler, İş Kazası, İş Sağlığı ve Güvenliği.

#### ABSTRACT

As a result of rapid developments in industry and technology, the gaps between urban and rural living standards are constantly closing. In order to increase living standards in cities and to offer these standards to rural people, it is important for local governments to provide these services in healthy and safe environments.

While local governments provide these services, employees in this sector may be exposed to work accidents or occupational diseases. In order to protect sector employees from various risks, the human factor at the center of gravity of the hazards should be examined in a multi-faceted manner, the main causes of the risks should be revealed and solution proposals should be developed in line with scientific data. In this study, the importance of occupational health and safety (OHS) in the provincial special



administrations and municipalities, which are the main components of local governments, work accidents, the causes of work accidents, and the measures that can be taken to prevent accidents are discussed. In the study, the OSH management practices scale was used primarily to determine the level of OSH practices of local governments. The OSH management practices scale was created by adapting the article by Christopher et al. (2012) and the safety climate survey by Glendon and Litherland (2001). The scale consists of 5 sub-dimensions. It was scored with a 5-point Likert (1: Strongly disagree, 5: Strongly agree) system. The study was conducted with 372 adult local government employees. The data were analyzed after being loaded into the SPSS 26.0 program. In the study, the Mann Whitney Test was used to determine whether there was a significant difference in the categorical variables and their sub-dimensions (dependent variable) according to the independent variables of age, gender, work accident status, work experience, knowledge about OHS and near-miss incident status; Kruskal Wallis H-Test was used in the comparison of the parameters between groups in the case of more than two groups. Kaiser-Mayer-Olkin (KMO) criterion was examined and since the significance of the test was found significant, it was deemed appropriate to conduct factor analysis. The Bartlett test significance level value was found to be  $p = 0.000 < 0.001$  and the Bartlett sphericity test ( $\chi^2 = 7756.035$ ;  $P < 0.001$ ) was found to be significant.

**Keywords:** Special Provincial Administrations, Municipalities, Labor Insurance, Occupational Health and Safety.

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### IMPORTANCE OF INTERDIGITAL HYPERPLASIA IN CATTLE

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#### ABSTRACT

Hoof diseases represent a major problem of modern intensive cattle production. Among them, interdigital hyperplasia has a significant place. This is the growth of fibrous tissue in the interdigital space of beef and dairy cattle. The pathogenesis of interdigital hyperplasia is thought to be multifactorial, but it is not well understood. Chronic interdigital skin irritation is the primary factor; factors that contribute to this irritation are thought to include poor hygiene, hindered walking surfaces, and other infectious hoof lesions. In dairy herds, hyperplasia appears to be related to other infectious hoof lesions, such as foot rot and digital dermatitis. The irritation and bacteria that cause infectious hoof lesions probably also can cause hyperplasia of the skin cells. Another relevant factor is the strain exerted on interdigital ligaments by inappropriate hoof-trimming practices, abnormal conformation, or unstable walking surfaces; this strain is believed to predispose to interdigital hyperplasia. The growth may be evident in various locations in the interdigital space initially, but as the mass grows, it will protrude dorsally. Texture of the hyperplasia will vary depending on the extent of irritation and the foot-bathing practices used. Irritated growths can become affected with digital dermatitis. Treatment of interdigital hyperplasia varies depending on the severity. Small lesions may not result in lameness nor require treatment, as long as the axial wall is not rubbing on the lesion. All interdigital hyperplasia lesions should be evaluated for concurrent digital dermatitis lesions and treated appropriately if present. Larger lesions that cause lameness and are unresponsive to conservative treatment may require surgical removal; however, care should be taken to dissect the fat pad in the interdigital space and avoid damage to the interdigital ligaments. Preventive practices for interdigital hyperplasia are similar to those for infectious hoof lesions; they include foot bathing and ensuring hygienic environmental conditions.

**Keywords:** interdigital hyperplasia, cattle, intensive cattle production



### FEN BİLİMLERİ ÖĞRETİM PROGRAMI DEĞİŞİKLİKLERİNE İLİŞKİN ÖĞRETMEN DENEYİMLERİ VE PERSPEKTİFLERİ ÜZERİNE NİTEL BİR İNCELEME

#### A QUALITATIVE STUDY ON TEACHER EXPERIENCES AND PERSPECTIVES REGARDING SCIENCE CURRICULUM CHANGES

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### ÖZET

Bu çalışmanın amacı, Türkiye Yüzyılı Maarif Modeli kapsamında güncellenen Fen Bilimleri Dersi Öğretim Programı'na ilişkin, devlet ortaokullarında görev yapan Fen Bilimleri öğretmenlerinin deneyimlerini, görüşlerini ve program değişikliklerinin eğitime yansımalarına dair algılarını derinlemesine incelemektir. Nitel araştırma desenlerinden durum çalışması modelinin benimsendiği bu araştırmanın katılımcılarını, 2024-2025 eğitim-öğretim yılında Kayseri ilindeki devlet ortaokullarında görev yapan 12 Fen Bilimleri öğretmeni oluşturmaktadır. Veriler, uzman görüşü alınarak geçerliği sağlanan yarı yapılandırılmış görüşme formu aracılığıyla toplanmış ve içerik analizi yöntemiyle (temalar, kategoriler, kodlar) analiz edilmiştir. Araştırma bulguları, öğretmenlerin büyük çoğunluğunun program değişikliklerini genel olarak olumlu karşıladığını ortaya koymaktadır. Özellikle öğrenme çıktılarının (kazanımların) azaltılması, içeriğin sadeleştirilerek güncellenmesi, konuların günlük yaşamla ve etik değerlerle ilişkilendirilmesi, “Köklerden Geleceğe” yaklaşımının entegrasyonu gibi yenilikler sıklıkla vurgulanan olumlu yönler olmuştur. Ayrıca, öğrenci merkezli, süreç odaklı, buluş yoluyla öğrenme ve etkinlik temelli yaklaşımların benimsenmesinin; deney yapabilme, üst düzey düşünme, veri toplama, analiz etme, problem çözme ve yaşam boyu öğrenme gibi bilimsel süreç becerilerinin gelişimine önemli katkılar sağladığı öğretmenler tarafından ifade edilmiştir. Değişikliklerin hem öğretmenlerin mesleki gelişimini desteklediği hem de öğrencilerin bireysel öğrenme deneyimlerini zenginleştirdiği belirtilmiştir. Bu sonuçlar, yeni öğretim programının potansiyel faydalarını ortaya koyarak, programın saha uygulamalarının etkinliğini artırma ve gelecekteki olası revizyonlar için değerli bir veri kaynağı sunmaktadır.

**Anahtar Kelimeler:** Fen Bilimleri Öğretimi, Öğretim Programı Değişikliği, Türkiye Yüzyılı Maarif Modeli, Öğretmen Görüşleri, Nitel Araştırma.

### ABSTRACT

The purpose of this study is to conduct an indepth examination of the experiences, views, and perceptions of science teachers working in public middle schools regarding the updated Science Course Curriculum within the framework of the Turkish Century Education Model, focusing on the reflections of these curriculum changes on education. Utilizing a case study model, one of the qualitative research designs, the participants of the study consisted of 12 science teachers working in public middle schools





in the province of Kayseri during the 2024-2025 academic year. Data were collected using a semi-structured interview form, validated through expert opinion, and analyzed using the content analysis method (themes, categories, codes). The research findings indicate that the vast majority of teachers generally view the curriculum changes positively. Particularly highlighted as positive aspects were innovations such as the reduction of learning outcomes, simplification and updating of the content, linking subjects with daily life and ethical values, and the integration of the “From Roots to the Future” approach. Furthermore, teachers stated that the adoption of student-centered, process-oriented, inquiry-based learning, and activity-based approaches significantly contributed to the development of scientific process skills, including experimenting, higher-order thinking, data collection, analysis, problem-solving, and lifelong learning. It was noted that the changes supported both the professional development of teachers and enriched the individual learning experiences of students. These findings reveal the potential benefits of the new curriculum, providing a valuable data basis for enhancing the effectiveness of its field implementations and for potential future revisions.

**Keywords:** Science Education, Curriculum Change, Turkish Century Education Model, Teacher Views, Qualitative Research.

*\* Bu çalışma, birinci yazarın ikinci yazar danışmanlığında hazırladığı yüksek lisans tezinden üretilmiştir.*



### LİFLE ÜRETİLMİŞ YALITIM MALZEMELERİ İLE ENERJİ ETKİN YAPI TASARIMININ OPTİMİZASYONU

#### OPTIMISATION OF ENERGY-EFFICIENT BUILDING DESIGN WITH FIBRE- PRODUCED INSULATION MATERIALSABSTRACT

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#### ÖZET

Enerji, modern hayatın ayrılmaz bir parçasıdır ve endüstriyel üretimden evsel kullanım alanlarına kadar geniş bir yelpazede önemli bir rol üstlenmektedir. Teknolojik ilerlemelerle birlikte enerjiye duyulan ihtiyaç sürekli artış göstermekte ve bu talep gelecekte de devam edecektir. Kömür, petrol ve doğal gaz gibi fosil kaynaklar, yenilenemez yapıları nedeniyle tükenme riski taşımaktadır. Bu durum, enerjinin daha verimli bir şekilde kullanılmasına ve bu konuda araştırmalar yapılmasına yönelik ilgiyi artırmaktadır. Özellikle binaların enerji tüketimindeki payı göz önüne alındığında, enerji verimliliği konusunda yapılacak çalışmalar büyük önem taşımaktadır. Binalarda enerji kullanımını minimize ederek tasarlanan enerji verimli yapılar, ısıtma ve soğutma ihtiyaçlarını azaltarak enerji tasarrufuna katkı sağlar. Bu tür yapıların küresel çapta enerji verimliliği sağlanması ve çevresel sürdürülebilirlik hedeflerine ulaşılması açısından olumlu etkileri bulunmaktadır. Enerji tasarruflu binalar tasarlamak veya mevcut yapıların verimliliğini artırmak için çeşitli enerji simülasyon yazılımlarından faydalanılmaktadır.

Çalışma için İzmir (Çiğli) ili iklim şartlarında 72 m<sup>2</sup> alana sahip 1+1 daire tasarlanmıştır. Tasarlanan yapının dış duvarlarında yapı malzemesi olarak tuğla ve içi boş bloklar kullanılmıştır. Yalıtım malzemesi olarak ise ahşap lifleri, okaliptüs lifleri, keten lifleri, kenevir lifi, selüloz lifi, jüt lifi, palmye yağı lifi, papirüs lifi, pamuk tozlu fiber, kedi kuyruğu, organik bantlı cam fiber ve ananas lifi kullanılmıştır. Yalıtım kalınlığı 40mm, yapı malzemesi kalınlığı 100mm + 100mm alınarak dış duvar sandviç duvar tipinde dizayn edilmiştir. Tüm malzemelerin kombinasyonları sonucu 24 alternatif elde edilmiştir. Oluşturulan alternatiflerin analizleri IES-VE enerji simülasyon programı ile yapılmıştır. Bu çalışmada, lif bazlı yalıtım malzemelerinin enerji etkin yapı tasarımlarında kullanımı ve optimizasyon süreçleri incelenmiştir. Enerji verimliliği açısından yapısal performansın artırılması, çevresel etkilerin minimize edilmesi ve sürdürülebilirlik hedeflerine katkı sağlanması amaçlanmıştır. Elde edilen bulgular, lif bazlı yalıtım malzemelerinin enerji tasarrufu ve çevre dostu yapı tasarımlarında önemli bir potansiyele sahip olduğunu göstermektedir.

**Anahtar Kelimeler:** Enerji etkin yapı, Lifli yalıtım malzemeleri, Enerji simülasyonu.

#### ABSTRACT

Energy is an integral part of modern life and plays an important role in a wide range of areas from industrial production to domestic use. With technological advances, the need for energy is constantly increasing and this demand will continue in the future. Fossil resources such as coal, oil and natural gas



are at risk of depletion due to their non-renewable nature. This situation increases the interest in using energy more efficiently and conducting research on this subject. Especially considering the share of buildings in energy consumption, studies on energy efficiency are of great importance. Energy efficient buildings designed by minimising energy use in buildings contribute to energy saving by reducing heating and cooling needs. Such buildings have positive effects in terms of achieving global energy efficiency and environmental sustainability goals. Various energy simulation software are utilised to design energy-efficient buildings or to increase the efficiency of existing buildings.

For the study, a 1+1 apartment with an area of 72 m<sup>2</sup> was designed in the climatic conditions of İzmir (Çiğli). Bricks and hollow blocks were used as building materials in the exterior walls of the designed building. Wood fibres, eucalyptus fibres, flax fibres, hemp fibres, cellulose fibres, jute fibres, palm oil fibres, papyrus fibres, cotton dust fibres, cat tail, organic banded glass fibres and pineapple fibres were used as insulation materials. The outer wall was designed in sandwich wall type with insulation thickness of 40mm and building material thickness of 100mm + 100mm. As a result of combinations of all materials, 24 alternatives were obtained. The analyses of the alternatives were performed with IES-VE energy simulation programme. In this study, the use and optimisation processes of fibre-based insulation materials in energy efficient building designs are investigated. It is aimed to increase structural performance in terms of energy efficiency, minimise environmental impacts and contribute to sustainability goals. The findings show that fibre-based insulation materials have a significant potential in energy saving and environmentally friendly building designs.

**Keywords:** Energy efficient building, Fibrous insulation materials, Energy simulation.



### LEVHA YALITIM MALZEMELERİYLE BİMS SEÇENEKLERİNİN ENERJİ VERİMLİLİĞİ AÇISINDAN ARAŞTIRILMASI INVESTIGATION OF BMS OPTIONS WITH BOARD INSULATION MATERIALS IN TERMS OF ENERGY EFFICIENCY ABSTRACT

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#### ÖZET

Kömür, petrol ve doğal gaz gibi fosil yakıtların sınırlı rezervlere sahip olması, enerji kaynaklarının sürdürülebilirliği konusunda ciddi endişelere yol açmaktadır. Bu endişeler ile birlikte çevresel etkiler, enerji güvenliği, iklim değişikliği ve ekonomik maliyetler gibi endişeler de enerji verimliliğine yönelme ihtiyacını öneli bir hale getirmektedir. Dünyada ve Türkiye’de enerji verimliliği konusunda birçok çalışmalara adım atılmıştır. Türkiye, 2007 yılında yürürlüğe giren 5627 sayılı Enerji Verimliliği Kanunu ile enerji verimliliği çalışmalarını yasal bir çerçeveye oturtmuştur. 2018 yılında yürürlüğe giren ulusal enerji verimliliği eylem planı ile enerji verimliliği hedeflerini belirlemiştir. Enerji verimliliği, enerji maliyetlerini düşürür, çevresel sürdürülebilirliği destekler ve sera gazı emisyonlarını azaltır. Ayrıca, enerji kaynaklarının tükenme hızını yavaşlatır. Binalarda yalıtım, enerji verimli cihazlar ve akıllı bina sistemleri; endüstriyel süreçlerde optimize edilmiş üretim yöntemleri; ulaşımda elektrikli araçlar ve yakıt verimliliği teknolojileri; tarımda enerji verimli sulama sistemleri gibi alanlarda uygulanabilir.

Bu doğrultularda hazırlanan bu çalışmada İzmir (Güzelyalı) iklim şartlarında 80 m<sup>2</sup> daire tek kat olarak IES-VE programında tasarlanmıştır. Yapının dış duvarlarında yapı malzemesi olarak boşluklu BİMS’ler ve yalıtım malzemesi olarak mantar levha, poliüretan levha, cam elyaf levha ve mineral elyaf levha kullanılmıştır. Bu malzemelerin çeşitli kombinasyonları sonucu 20 farklı alternatif elde edilmiştir. Levha yalıtım malzemeleri ve boşluklu BİMS’lerin kombinasyonu, dış duvarlarda enerji verimliliğini artırmak için oldukça etkili bir yöntemdir. Bu kombinasyon, hem ısı yalıtımı hem de yapı dayanıklılığı açısından avantajlar sunmaktadır. Alternatiflerin enerji analizleri IES-VE yazılımı ile değerlendirilmiştir.

**Anahtar Kelimeler:** BİMS, Levha yalıtım, Enerji verimliliği, Enerji simülasyonu.

#### ABSTRACT

The fact that fossil fuels such as coal, oil and natural gas have limited reserves raises serious concerns about the sustainability of energy resources. Together with these concerns, concerns such as environmental impacts, energy security, climate change and economic costs also make the need for energy efficiency important. Many steps have been taken in the world and in Turkey on energy efficiency. Turkey has put energy efficiency studies into a legal framework with the Energy Efficiency Law No. 5627, which entered into force in 2007, and has set energy efficiency targets with the national energy efficiency action plan that entered into force in 2018. Energy efficiency reduces energy costs, supports environmental sustainability and reduces greenhouse gas emissions. It also slows down the rate



of depletion of energy resources. It can be applied in areas such as insulation, energy efficient appliances and smart building systems in buildings; optimised production methods in industrial processes; electric vehicles and fuel efficiency technologies in transport; energy efficient irrigation systems in agriculture.

In this study prepared in these directions, an 80 m<sup>2</sup> flat in Izmir (Güzelyalı) climate conditions was designed as a single storey in IES-VE programme. In the exterior walls of the building, hollow BIMS were used as building material and cork board, polyurethane board, glass fibre board and mineral fibre board were used as insulation materials. As a result of various combinations of these materials, 20 different alternatives were obtained. The combination of board insulation materials and hollow BIMS is a highly effective method to increase energy efficiency in external walls. This combination offers advantages in terms of both thermal insulation and structural durability. Energy analyses of the alternatives were evaluated with IES-VE software.

**Keywords:** BIMS, Board insulation, Energy efficiency, Energy simulation



### TEK OTURUMLUK POZİTİF DİKKAT YANLILIĞI MODİFİKASYONUNUN NEGATİF DUYGULANIM ÜZERİNDEKİ ETKİSİ IMPACT OF SINGLE-SESSION POSITIVE ATTENTIONAL BIAS MODIFICATION ON NEGATIVE AFFECT

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#### ÖZET

Bu araştırmada, pozitif uyarılara yönelik dikkat yanlılığı modifikasyonunun yüksek negatif duygulanıma sahip genç yetişkinlerde hem dikkat yanlılığı hem de depresif belirtiler üzerindeki kısa-dönem etkileri tek oturumluk bir bilgisayar temelli müdahale protokolü aracılığıyla incelenmiştir. Negatif duygulanım düzeyi Beck Depresyon Envanteri (BDE) ile  $\geq 11$  puan alan ( $\leq 17$  puan kesme noktasının altında kalarak klinik depresyonu dışlayan) 47 üniversite öğrencisi (18–30 yaş, % 70 kadın) seçkisiz olarak dikkat yanlılığı modifikasyonu müdahale grubuna ( $n = 24$ ) veya aktif kontrol grubuna ( $n = 23$ ) atanmıştır. Çalışma öncesinde ve sonrasında dikkat yanlılığı, pozitif–negatif kelime çiftleri içeren bir nokta-prob göreviyle ölçülmüştür. Müdahale oturumunda, prob % 90 olasılıkla pozitif kelimenin ardında belirecek şekilde tasarlanmış; kontrol oturumunda bu olasılık % 50-% 50 olarak tutulmuştur. Deneyler PsychoPy programı ile yürütülmüş, uyarar seti Türkçe duygusal kelime normlarından uyarılmışlık, sıklık ve uzunluk açısından eşleştirilerek seçilmiştir. Veriler, 2 (zaman: ön-test, son-test)  $\times$  2 (grup: müdahale, kontrol) karma ANOVA ile analiz edilmiştir. Dikkat yanlılığı puanları için zaman ana etkisi ( $F_{(1,44)} = 0.05, p = .825$ ) ve zaman  $\times$  grup etkileşimi ( $F_{(1,44)} = 0.07, p = .788$ ) anlamsız bulunmuştur; grup ana etkisi de istatistiksel açıdan anlamlı değildir ( $F_{(1,44)} = 0.00, p = .992$ ). BDE puanlarında gruplar arası fark saptanmamış ( $F_{(1,45)} = 0.21, p = .651$ ); ancak zaman ana etkisi, tüm katılımcılarda son-test lehine hafif düzeyde fakat anlamlı bir azalmaya işaret etmiştir ( $F_{(1,45)} = 5.62, p = .022, \eta^2 = .111$ ). Bulgular, tek oturumluk pozitif dikkat yanlılığı modifikasyonunun dikkat yanlılığı ve depresif belirtiler üzerinde sınırlı bir etkiye sahip olduğunu göstermektedir. Bulgular, otomatize dikkat süreçlerinin kalıcı biçimde modifiye edilmesi için oturum sayısının artırılması, takip ölçümleriyle sürdürülebilirliğin test edilmesi ve pozitif duygu çıktılarını da içeren çok-bileşenli protokollerin denenmesi gerektiğine işaret etmektedir.

**Anahtar Kelimeler:** Dikkat yanlılığı, dikkat yanlılığı modifikasyonu, negatif duygulanım, tek oturumluk müdahale





### ABSTRACT

This study investigated the short-term effects of attentional bias modification toward positive stimuli on both attentional bias and depressive symptoms in young adults with high levels of negative affect. Forty-seven university students aged 18–30 years (70 percent women) who scored at least 11 but below the clinical cut-off of 17 on the Beck Depression Inventory were randomly assigned to either an attentional bias modification group ( $n = 24$ ) or an active control group ( $n = 23$ ). Before and after the intervention, attentional bias was assessed with a dot-probe task that presented pairs of positive and negative words. During the intervention session, the probe appeared behind the positive word on 90 percent of trials, whereas in the control session this probability was 50 percent. All tasks were programmed in PsychoPy software, and the words were selected from Turkish emotional word norms matched on arousal, frequency, and length. Data were analyzed with a two-by-two mixed analysis of variance with time (pre-test, post-test) as the within-participants factor and group (intervention, control) as the between-participants factor. For attentional bias scores, neither the main effect of time ( $F_{(1,44)} = 0.05$ ,  $p = .825$ ), nor the time-by-group interaction ( $F_{(1,44)} = 0.07$ ,  $p = .788$ ) reached statistical significance; the main effect of group was also non-significant ( $F_{(1,44)} = 0.00$ ,  $p = .992$ ). Beck Depression Inventory scores did not differ between groups ( $F_{(1,45)} = 0.21$ ,  $p = .651$ ), but showed a modest yet significant overall reduction from pre- to post-test ( $F_{(1,45)} = 5.62$ ,  $p = .022$ ,  $\eta^2 = .111$ ). These findings indicate that a single session of positive attentional bias modification produces only limited change in attentional bias and depressive symptoms. The results suggest that multiple-session protocols, follow-up assessments, and multi-component interventions that also target positive affect may be required to achieve durable modifications in automatic attentional processes.

**Keywords:** Attention bias, attention bias modification, negative affect, single-session intervention



### STEREOLİTOGRAFI YÖNTEMİ İLE ÜRETİLMİŞ NUMUNELERDE KÜRLEME SÜRESİNİN MALZEME ELASTİKİYET MODÜLÜNE ETKİSİNİN İNCELENMESİ

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#### ÖZET

Stereolitografi (SLA) yöntemi, fotopolimer reçinelerin katman katman seçici olarak kürlenmesi esasına dayanan ve karmaşık geometrilerin yüksek hassasiyetle üretimine olanak tanıyan bir katmanlı imalat teknolojisidir. Ancak bu yöntemle üretilen parçaların mekanik özellikleri, yalnızca üretim sırasındaki parametrelerle değil, aynı zamanda üretim sonrası uygulanan işlemlerle de yakından ilişkilidir. Bu çalışmada, SLA yöntemiyle üretilen fotopolimer numunelerde uygulanan **kürleme süresi** parametresinin, malzemenin elastikiyet modülü üzerindeki etkisi deneysel olarak incelenmiştir. Farklı katman kalınlıkları (0.05, 0.075, ve 0.1 milimetre), farklı ilk kürleme sürelerine (10, 15 ve 20 saniye) ve farklı son kürleme sürelerine (10, 20 ve 30 dakika) tabi tutulan standart numuneler hazırlanmış ve elastikiyet modülleri çekme testleri aracılığıyla belirlenmiştir. Deneysel sonuçlar, kürleme süresi ile elastikiyet modülü arasında doğrusal olmayan bir ilişki olduğunu ortaya koymuş; özellikle belirli bir süreye kadar elastikiyet modülünde artış gözlemlenirken, daha uzun süreli kürleme sürelerinde bu artışın durağanlaştığı ya da azaldığı tespit edilmiştir. Bu çalışma, SLA teknolojisi ile yüksek mekanik dayanım gerektiren parçaların üretiminde, kürleme süresinin optimizasyonunun önemine dikkat çekerek süreçye yönelik önemli bir katkı sağlamaktadır.

**Anahtar Kelimeler:** Stereolitografi (SLA), kürleme süresi, katman kalınlığı, elastikiyet modülü, fotopolimer reçine, katmanlı imalat, mekanik özellikler

#### ABSTRACT

Stereolithography (SLA) is an additive manufacturing technology based on the layer-by-layer selective curing of photopolymer resins, enabling the production of complex geometries with high precision. However, the mechanical properties of parts produced using this method are not solely dependent on the parameters during fabrication but are also closely related to the post-processing treatments applied. In this study, the effect of post-curing time on the elastic modulus of photopolymer specimens fabricated using the SLA method was experimentally investigated. Standard specimens were prepared with varying layer thicknesses (0.05, 0.075, and 0.1 millimeters), different initial curing durations (10, 15, and 20 seconds), and varying post-curing times (10, 20, and 30 minutes). The elastic moduli of the specimens were determined through tensile testing. The experimental results revealed a non-linear relationship between curing duration and elastic modulus; specifically, an increase in elastic modulus was observed up to a certain curing duration, beyond which the improvement plateaued or even decreased. This study highlights the importance of optimizing the curing duration in the production of mechanically robust components using SLA technology and provides valuable insights into the manufacturing process.

**Keywords:** Stereolithography (SLA), curing time, layer thickness, elastic modulus, photopolymer resin, additive manufacturing, mechanical properties



### INDIVIDUALISED NURSING CARE AND THE IMPORTANCE OF THE CONCEPT OF SPIRITUALITY

#### BİREYSELLEŞTİRİLMİŞ HEMŞİRELİK BAKIMI VE SPİRİTÜALİTE KAVRAMININ ÖNEMİ

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#### ABSTRACT

Nursing is a professional healthcare discipline whose primary responsibility is helping people and performing this responsibility with caring action, which has an independent function. Individualised care provides nursing care practices according to the individual's needs, requests, experiences, behaviours, feelings and opinions. People may need nursing care at any stage during their life, which begins with birth and ends with death. The uniqueness of humans separates them from other beings and requires knowing and understanding all the individual differences when providing nursing care. Achieving and maintaining individuality during the care is possible by approaching the individual from all aspects; planning, applying and evaluating the care practices specific to the individual; and ensuring their participation in their care practices. In parallel with the provision of individualised nursing care to individuals and their families, the spiritual aspect of individuals has become as important as other aspects. Spirituality is the effort of individuals to understand and accept their relationships with themselves and other people, their place in the universe, and the meaning of life. Nurses with the necessary knowledge, skills, and sensitivity to meet the individual's spiritual needs play an essential role in the individualisation of care.

The purpose of this review is to examine the role of the individual's spiritual needs in the individualisation of nursing care and to explain the importance of integrating the spiritual dimension into nursing practices so that the holistic structure of the person can provide individualised care.

**Keywords:** Individualised Care, Spirituality, Nursing Care

#### ÖZET

Hemşirelik temel sorumluluğu insana yardım etme olan ve bu sorumluluğunu bağımsız bir işlevi olan bakım eylemi ile yerine getiren profesyonel bir sağlık disiplini. Bireyselleştirilmiş bakım ise, bireyin gereksinimleri, istekleri, deneyimleri, davranışları, duygu ve düşünceleri göz önünde bulundurularak hemşirelik bakım uygulamalarının sunulmasıdır. İnsan doğumla başlayan ve ölümle sonlanan yaşam sürecinin herhangi bir aşamasında hemşirelik bakımına ihtiyaç duyabilir. İnsanın eşsizliği onu diğer bireylerden ayırarak, hemşirelik bakımı sunumunda tüm bireysel farklılıkların bilinmesini ve anlaşılmasını zorunlu kılar. Bakımda bireyselliğin sağlanması ve sürdürülmesi, bireyin tüm boyutlarıyla ele alınması, bakım uygulamalarının bireye özgü planlanması, uygulanması, değerlendirilmesi ve bireyin de kendi bakım uygulamalarına katılımı ile mümkündür. Hemşirelik bakımının birey ve ailesine bireyselleştirilmiş olarak sunulmasına paralel olarak bireylerin spiritüel boyutu diğer boyutları kadar önem kazanmıştır. Spiritüalizm, bireyin kendisi ve diğer insanlarla ilişkilerini, evrendeki yerini, yaşamın anlamını anlama ve kabul etme çabasıdır. Hemşirelerin bireyin spiritüel gereksinimlerini karşılama konusunda gereken bilgi, beceri ve duyarlılığa sahip olması, bakımın bireyselleştirilmesinde önemli rol oynar.

## 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES



Bu derlemenin amacı; hemşirelik bakımının bireyselleştirilmesinde bireyin spiritüel gereksinimlerinin rolünü incelemek ve bireyselleştirilmiş bakımın insanın bütüncül yapısına uygun olarak sunulabilmesi için spiritüel boyutun hemşirelik uygulamalarına entegrasyonunda öneminin açıklanmasıdır.

**Anahtar Kelimeler:** Bireyselleştirilmiş Bakım, Spiritüalizm, Hemşirelik Bakımı



### NURSING DIAGNOSES BASED ON NANDA AND NIC-NURSING INTERVENTIONS OF A PATIENT WHO HAD INTRACRANIAL HEMORRHAGE DUE TO RUPTURED ANTERIOR COMMUNICATING ARTERY (ACOMA) ANEURYSM

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#### ABSTRACT

Aneurysms rank among the top cerebral diseases and usually grow without any symptom and cause abnormal dilatation on the arterial wall. When aneurysms that grow and change are ruptured, they cause high morbidity and mortality depending on the area where the bleeding takes place. While the individual develops many intracranial and extracranial complications, the goal of care and treatment is to minimize the effects of these life-threatening complications and to prevent their development. For this purpose, the holistic approach is taken as a basis in the care of individual, while nursing process and internationally accepted nursing classification systems should be used as a systematic way in the presentation of care practices. In this study, the data of an individual who had intracranial hemorrhage due to ruptured anterior communicating artery aneurysm were evaluated based on Gordon's Functional Health Patterns Model and 9 nursing diagnoses in NANDA Taxonomy II and 24 nursing interventions in NIC were included for care.

**Keywords:** Nanda; NIC; nursing care; cerebral aneurysms



### ANTERİOR KOMMUNİKAN ARTER (ACOMA) ANEVİZMASI RÜPTÜRÜ NEDENİYLE İNTRAKRANİAL KANAMA GEÇİREN OLGUNUN NANDA' YA GÖRE HEMŞİRELİK TANILARI VE NIC- HEMŞİRELİK GİRİŞİMLERİ

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#### ÖZET

Serebral hastalıkların ilk sıralarında gelen anevrizmalar, çoğunlukla önceden belirti göstermeden büyür ve arter duvarında anormal dilatasyona sebep olurlar. Büyüyen ve değişim gösteren anevrizmalar rüptüre olduğunda, kanamanın gerçekleştiği alana göre yüksek oranda morbitide ve mortaliteye sebep olurlar. Bireyde intrakranial ve ekstrakranial birçok komplikasyon gelişirken, bakım ve tedavinin amacı hayati risk taşıyan bu komplikasyonların etkilerini en aza indirgeyip, gelişimini engellemektir. Bu amaçla bireyin bakımında bütüncül yaklaşım temel alınırken, bakım uygulamalarının sunumunda sistematik bir yol olarak hemşirelik süreci ve uluslararası düzeyde kabul edilen hemşirelik sınıflama sistemleri kullanılmalıdır. Bu çalışmada, anterior kommunikan arter anevrizması rüptürü ile intrakranial kanama geçiren bireyin verileri, Gordon'un Fonksiyonel Sağlık Örüntüleri Modeli temel alınarak değerlendirilip, bakımına ilişkin NANDA Taksonomi II'de yer alan 9 hemşirelik tanısına ve NIC' de yer alan 24 hemşirelik girişimine yer verilmiştir.

**Anahtar Kelimeler:** NANDA; NIC; hemşirelik bakımı; serebral anevrizmalar



## 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES



### THE EFFECT OF SOCIAL MEDIA USAGE ON MATHEMATICS ACHIEVEMENT OF 5th AND 6th GRADE STUDENTS

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#### ABSTRACT

In recent years, with the increasing amount of time students spend on social media, the question of how this affects their academic achievement has become an important research topic. This study aims to examine the possible effects of social media use on the mathematics performance of middle school students. The research was conducted during the first semester of the 2024-2025 academic year at a private school located in southeastern Turkey, involving 5th and 6th grade students. The sample consisted of 96 students, 46 girls and 50 boys. Students' social media usage habits include various factors that may influence their success in mathematics. Collecting demographic data related to social media usage is of critical importance in understanding students' digital habits. Furthermore, since the focus of the study is to identify the relationship between students' time spent on social media and their success in mathematics, a demographic information form containing questions on social media usage and mathematics achievement was administered to the students. The data obtained were evaluated using quantitative analysis methods, and the relationship between time spent on social media and mathematics achievement was examined. In addition, the study also analyzed the effects of social media use on students' study habits, levels of motivation, and attention spans. The results of this research, which is expected to contribute significantly to understanding the role of social media in education, indicated that the duration of social media usage negatively affects students' mathematics achievement. The study aims to reveal the potential positive and negative effects of social media on students' academic performance and to provide suggestions for educators, families, and policymakers.

**Keywords:** Mathematics Achievement, Student, Social Media, Middle School, Quantitative Analysis.

## 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES



### 5th GRADE MATHEMATICS CURRICULUM CHANGE IN TURKEY: A SCHOOL-BASED STUDY

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#### ABSTRACT

This study aims to thoroughly examine the effects of the revised 5th grade mathematics curriculum, implemented as the initial phase of a gradually changing middle school curriculum, on all stakeholders (teachers, students, and administrators) in selected sample schools in Turkey. The research addresses various topics such as the challenges faced during the curriculum change process, the adaptation of teachers to the new curriculum, changes in students' academic achievement and motivation, the roles of administrators throughout the process, and the difficulties they encountered. A survey as a quantitative research method, including open ended questions involving a qualitative approach, was employed to collect more detailed information from students, teachers, and administrators. The data obtained were analyzed using statistical methods via the SPSS software package. The study provides suggestions and evaluations intended to shed light on potential problems that may arise in schools during curriculum transitions, the advantages of the new curriculum compared to the previous one in practical implementation, and to support future studies on similar educational reforms.

**Keywords:** Mathematics Curriculum, Academic Achievement, Curriculum Change, Middle School, Statistical Analysis.



### PİRİDOKSİN BAĞIMLI EPİLEPSİ: OLGU SUNUMLARI VE LİTERATÜR TARAMASI PYRIDOXINE DEPENDENT EPILEPSY: CASE REPORTS AND LITERATURE REVIEW

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#### ÖZET

**Amaç ve Kapsam:** Piridoksin bağımlı epilepsi (PBE), çoğunlukla yenidoğan döneminde ortaya çıkan, popülasyonun yaklaşık 700.000’de 1’inde gözlenen nadir bir epilepsi türüdür. Hastalarda, antiepileptik ilaçlara dirençli ve tekrarlayan nöbetler gözlenmektedir. Nöbetlere ek olarak solunum güçlüğü, kas tonusunda artma, abdominal distansiyon, huzursuzluk, hipotermi gibi klinik bulgular da görülebilmektedir. PBE’nin görülme sıklığının az olması ve tanı konulmasının güçlüğü nedeniyle kesin insidansı bilinmemektedir. PBE, antequitin (a-aminoadipik-semialdehit dehidrogenaz-7A1) proteinini kodlayan ALDH7A1 genindeki mutasyon sonucu oluşmaktadır. PBE, otozomal resesif geçiş gösteren bir epilepsi türüdür. Geleneksel antiepileptik ilaçlara yanıt alınamayan epileptik nöbetlerde akla gelmesi hastalığın ayırıcı tanısının yapılabilmesinde oldukça önemlidir. Hastalar piridoksin tedavisine olumlu yanıt vermektedir. Kesin tanısı genetik analiz ve EEG bulguları ile konulmaktadır. Doğru tanı ve uygun tedavi planı ile hastaların nöbet sıklığının ve nöbet şiddetinin azaldığı bildirilmektedir. Çalışmamızın amacı; literatürdeki PBE olgu sunumlarını bir araya getirerek bu nadir hastalığı daha iyi tanımak ve tanı konulması ve tedavi planlamasında dikkate alınmasını sağlamaktır.

**Yöntem:** Çalışmaya PBE tanısı almış 3 olgu sunumu dahil edilmiştir. Olguların ortak özelliği, antiepileptik ilaçlara dirençli epileptik nöbetler görülmesi, piridoksin tedavisine olumlu yanıt vermesi, yenidoğan döneminde ortaya çıkması ve ALDH7A1 geninde mutasyon tespit edilmesidir. Her vakada, hastaların klinik geçmişleri, semptomları ve tedavi süreçleri detaylı bir şekilde incelenmiştir.

**Bulgular:** PBE, sıklıkla yenidoğan ve bebeklik döneminde ortaya çıkan, antiepileptik ilaç tedavisine dirençli tekrarlayan nöbetlerle karakterize bir hastalıktır. Hastalar piridoksin tedavisinden fayda görmektedirler. Piridoksin tedavisinin kesilmesi nöbetlerin tekrar oluşmasına neden olabilmektedir.

**Sonuç:** İncelenen vaka örnekleri PBE’nin klinikte karşılaşılan ortak özelliklerini içermektedir. İlaç dirençli epileptik hastalara tanı koyarken ve tedavi planı oluştururken PBE olasılığı da dikkate alınmalı ve göz önünde bulundurulmalıdır.

**Anahtar Kelimeler:** Epilepsi, piridoksin bağımlı epilepsi, ALDH7A1 mutasyonu, ilaç direnci, EEG

#### ABSTRACT

**Purpose and Scope:** Pyridoxine-dependent epilepsy (PBE) is a rare type of epilepsy that mostly occurs in the neonatal period and is observed in approximately 1 in 700,000 of the population. Patients are observed to have recurrent seizures that are resistant to antiepileptic drugs. In addition to seizures, clinical findings such as respiratory distress, increased muscle tone, abdominal distension, restlessness, and hypothermia can also be observed. Due to the low frequency of PBE and the difficulty of diagnosis,



the exact incidence is unknown. PBE occurs as a result of mutation in the ALDH7A1 gene, which encodes the antiquitin ( $\alpha$ -aminoadipic-semialdehyde dehydrogenase-7A1) protein. PBE is a type of epilepsy that is inherited autosomal recessively. It is very important to consider the differential diagnosis of the disease in epileptic seizures that do not respond to conventional antiepileptic drugs. Patients respond positively to pyridoxine treatment. The definitive diagnosis is made with genetic analysis and EEG findings. It is reported that with correct diagnosis and appropriate treatment plan, seizure frequency and seizure severity of patients decrease. The aim of our study is to bring together PBE case reports in the literature to better understand this rare disease and to ensure that it is taken into consideration in diagnosis and treatment planning.

**Method:** Three case reports diagnosed with PBE were included in the study. The common features of the cases were the occurrence of epileptic seizures resistant to antiepileptic drugs, positive response to pyridoxine treatment, occurrence in the neonatal period, and the detection of mutations in the ALDH7A1 gene. In each case, the clinical history, symptoms, and treatment processes of the patients were examined in detail.

**Results:** PBE is a disease that frequently occurs in newborns and infancy and is characterized by recurrent seizures that are resistant to antiepileptic drug treatment. Patients benefit from pyridoxine treatment. Discontinuation of pyridoxine treatment may cause seizures to reoccur.

**Conclusion:** The case examples examined include the common features of PBE encountered in the clinic. The possibility of PBE should be considered and kept in mind when diagnosing and developing a treatment plan for drug-resistant epileptic patients.

**Keywords:** Epilepsy, pyridoxine-dependent epilepsy, ALDH7A1 mutation, drug resistance, EEG.



### EĞİTİM ALANINDA WEB 2.0 KONUSUYLA İLGİLİ TÜRKİYE MERKEZLİ DERGİLERDE YAYINLANAN NİTEL MAKALELERİN İNCELENMESİ

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#### ÖZET

Bu araştırmanın amacı, Türkiye’de Web 2.0 teknolojilerinin eğitim ortamlarında kullanımına yönelik yayımlanmış nitel araştırma makalelerini sistematik olarak incelemek ve bu çalışmaların yöntemsel, tematik ve içeriksel eğilimlerini belirlemektir. Araştırma, nitel araştırma yöntemlerinden doküman analizi deseniyle yürütülmüştür. Çalışma grubunu, DergiPark veri tabanında Nisan 2025’e kadar yayımlanmış ve tam metnine erişilebilen Web 2.0 temalı nitel araştırma makaleleri oluşturmaktadır. Belirlenen ölçütler doğrultusunda ulaşılan 89 makaleden 38’i karma desenli olduğu için kapsam dışı bırakılmış; yalnızca nitel desenle hazırlanmış 51 makale analiz sürecine dâhil edilmiştir. Veri çözümleme sürecinde araştırmacı tarafından geliştirilen “Makale İnceleme Formu” kullanılmış; analizler betimsel yöntemle gerçekleştirilmiştir. Elde edilen bulgular, Web 2.0 teknolojilerinin eğitim alanında son yıllarda giderek artan bir ilgiyle ele alındığını göstermektedir. Özellikle 2021, 2022 ve 2024 yıllarında yayın sayılarında dikkat çekici bir artış gözlemlenmiştir. Makalelerin çoğunun iki yazarlı olarak yayımlanması, ikili iş birliklerinin baskın olduğunu ortaya koymuştur. Ayrıca çalışmaların büyük oranda eğitim alanına ait dergilerde yayımlandığı; veri toplama aracı olarak form, görüşme ve yarı yapılandırılmış görüşmenin öne çıktığı belirlenmiştir. Katılımcı profili incelendiğinde öğrenciler ve öğretmenlerin ağırlıklı olarak tercih edildiği, okul öncesi ve veli temsiliyetinin ise sınırlı olduğu tespit edilmiştir. Bu araştırma, Web 2.0 teknolojilerine ilişkin nitel çalışmaların sistematik bir biçimde haritalandırılmasına olanak sağlamış; alandaki akademik eğilimlerin daha bütüncül biçimde anlaşılmasına katkıda bulunmuştur. Elde edilen bulgular doğrultusunda disiplinlerarası yaklaşımların geliştirilmesi, uygulama temelli araştırmaların artırılması ve öğretmen eğitimi programlarında Web 2.0 araçlarının entegrasyonuna öncelik verilmesi önerilmektedir.

**Anahtar Kelimeler:** Web 2.0 teknolojileri, nitel araştırma, eğitim teknolojisi, dijital araçlar, doküman analizi

#### ABSTRACT

The purpose of this study is to systematically examine qualitative research articles published in Turkey regarding the use of Web 2.0 technologies in educational settings and to identify their methodological, thematic, and contextual trends. The study was conducted using document analysis, one of the qualitative research methods. The study group consisted of qualitative research articles focused on Web 2.0, published in the DergiPark database until April 2025 and available in full text. Of the 89 articles identified based on inclusion criteria, 38 were excluded due to their mixed-method designs; thus, 51 articles employing solely qualitative methods were included in the analysis. A “Research Article Review Form” developed by the researcher was utilized during the data analysis process, and findings were presented using descriptive analysis. Results revealed a growing academic interest in Web 2.0 technologies within the field of education, especially between the years 2021, 2022, and 2024. The majority of the studies were co-authored, indicating a prevalence of bilateral collaborations. Additionally, most of the articles were published in education-oriented journals, with forms, interviews,



and semi-structured interviews being the most frequently used data collection tools. Regarding participant profiles, students and teachers were most frequently included, whereas preschool-level participants and parents were underrepresented. This study provides a systematic mapping of qualitative studies on Web 2.0 technologies, contributing to a comprehensive understanding of academic trends in the field. Based on the findings, it is recommended to promote interdisciplinary approaches, increase practice-based research, and prioritize the integration of Web 2.0 tools in teacher education programs.

**Keywords:** Web 2.0 technologies, qualitative research, educational technology, digital tools, document analysis



## 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES



### TÜRKİYE'DE AKRAN ZORBALIĞI İLE İLGİLİ EĞİTİM ALANINDA YAPILAN LİSANSÜSTÜ TEZLERİN İNCELENMESİ

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#### ÖZET

Bu araştırmanın amacı, Türkiye'de eğitim alanında akran zorbalığı konusunu ele alan lisansüstü tezleri çeşitli değişkenler açısından incelemektir. Nitel araştırma desenine sahip olan bu çalışma, içerik analizi yöntemi ile yürütülmüştür. Veriler, Yükseköğretim Kurulu Ulusal Tez Merkezi veri tabanında 2006-2024 yılları arasında yayımlanmış ve elektronik ortamda erişime açık olan toplam 76 lisansüstü tez üzerinden elde edilmiştir. Araştırma kapsamında tezler; tür, yıl, üniversite, enstitü, anabilim dalı, araştırma yöntemi, modeli ve örneklem grubuna göre analiz edilmiştir. Bulgular, akran zorbalığı konusunun son yıllarda özellikle 2024 yılında yoğunlaştığını ve çalışmalarda büyük ölçüde yüksek lisans tezlerine (n=188) yer verildiğini ortaya koymuştur. En fazla tez çalışması Ankara Üniversitesi'nde, en fazla tercih edilen enstitü ise Eğitim Bilimleri Enstitüsü olarak belirlenmiştir. Tezlerin çoğunluğu Eğitim Bilimleri, Temel Eğitim ve Çocuk Gelişimi anabilim dallarında yürütülmüştür. Araştırma yöntemleri açısından en çok nicel yöntem (n=137) tercih edilirken, bunu nitel (n=47) ve karma (n=35) yöntemler takip etmiştir. Araştırma modelleri arasında ise tarama modeli (n=126) en yaygın kullanılan model olmuştur. Örneklem grupları incelendiğinde, tezlerin büyük bir bölümünde ortaokul (n=65) ve lise öğrencileri (n=50) ile çalışıldığı, okul öncesi, ebeveyn ve üniversite öğrencileri gibi gruplara ise daha az yer verildiği saptanmıştır. Elde edilen bulgular doğrultusunda, alandaki akademik ilgiyi artırmak ve gelecekteki çalışmalara katkı sunmak adına uygulamalı çalışmaların çoğaltılması, erken yaş gruplarına yönelik araştırmaların teşvik edilmesi, disiplinlerarası işbirliklerinin artırılması ve tezlerin uluslararası literatürle karşılaştırılarak ele alınması önerilmektedir.

**Anahtar Kelimeler:** Akran zorbalığı, lisansüstü tez, içerik analizi, eğitim, nitel araştırma

#### ABSTRACT

The aim of this study is to examine postgraduate theses in the field of education in Turkey that focus on the issue of peer bullying, considering various variables. Designed as a qualitative research, the study was conducted using the content analysis method. The data were obtained from a total of 76 postgraduate theses accessible online and registered in the Council of Higher Education Thesis Center between the years 2006 and 2024. The theses were analyzed based on type, year, university, institute, department, research method, model, and sample group. The findings revealed a growing academic interest in the topic of peer bullying in recent years, with the peak in 2024, and a significant majority of the studies being master's theses (n=188). Ankara University was found to be the institution with the highest number of theses, while the Institute of Educational Sciences was the most frequently preferred institute. Most theses were conducted within the Departments of Educational Sciences, Basic Education, and Child Development. In terms of research methods, the quantitative method (n=137) was the most preferred, followed by qualitative (n=47) and mixed (n=35) methods. Among the research models, the



survey model (n=126) was the most commonly used. Regarding sample groups, middle school students (n=65) and high school students (n=50) were the most studied populations, whereas groups such as preschool children, parents, and university students were less frequently included. Based on the findings, several recommendations were made to enhance academic contributions in the field, including the expansion of intervention-based studies, encouragement of research on early childhood groups, promotion of interdisciplinary collaborations, and comparative analyses with the international literature.

**Keywords:** Peer bullying, postgraduate thesis, content analysis, education, qualitative research



### INVESTIGATION OF WEAR PERFORMANCE OF SURFACE-MODIFIED LIGNOCELLULOSIC WASTE REINFORCED ECO-COMPOSITE MATERIALS

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#### ABSTRACT

In this study, the mechanical performances of walnut shell reinforced eco-composites were investigated. Walnut shell was chosen because it is a lignocellulosic waste. In this direction, surface modification processes were applied to walnut shell powder. Surface modification by alkalization process was the preferred method. Experimental analysis of hardness properties and tribological behavior of composite samples made of reinforcement materials including untreated raw samples, heat-treated only samples, and alkali-treated samples were performed. As a result, the measurement of friction coefficient together with weight loss data were conducted from the wear tests. In addition, the morphology and chemical composition of the wear surfaces were deeply studied using scanning electron microscope (SEM) and energy dispersive X-ray spectroscopy (EDX) analyses. The analysis data showed that composite samples containing walnut shell powder indicated optimal results when surface-treated by the alkalization method.

**Keywords:** Lignocellulosic Waste, Natural Reinforcements, Polymer Composites, Wear Performance



### INVESTIGATION OF THE EFFECT OF ALKALINIZATION PROCESS ON THE TRIBOLOGICAL PERFORMANCE OF AGRICULTURAL WASTE REINFORCED COMPOSITE MATERIALS

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#### ABSTRACT

In this study, the effect of the alkalizing process on improving the tribological performance of agricultural waste-derived reinforcement materials was investigated. Hazelnut shells were preferred as reinforcement material and the surface properties of this waste material were improved by chemical modification. Hazelnut shells were first physically cleaned, ground and sieved to 125  $\mu\text{m}$  size. The obtained powders were subjected to heat treatment at 100°C for 175 minutes. After heat treatment, surface activation occurred when the powder samples received an alkalizing process to establish better matrix bonding. The research created three reinforcement groups to study untreated particles and heat-treated particles and particles that underwent alkalizing surface modification. A combination matrix was made with epoxy by adding 10% (wt.) of the reinforced groups in the composite material. Shore D hardness testing evaluated the mechanical behaviours of the manufactured composites while their tribological properties were determined by using pin-on-flat equipment. The wear tests provided researchers with friction coefficient and weight loss measurements for every examined sample. Additionally, with the help of scanning electron microscope (SEM) with energy dispersive X-ray spectroscopy (EDX) functioned to study the detailed morphology and element distribution patterns on the wear surfaces. After analysing test data, it is determined that the alkalized specimens gained better strength in mechanical measurements together with enhanced wear resistance properties than the other groups. By this it is revealed that the tribological performance experienced an enhancing effect from the alkalized process which strengthened the chemical bonds between reinforcement and matrix elements.

**Keywords:** Alkalization, Surface Modification, Agricultural Waste, Polymer Composite



### ODAKLANMA STRATEJİLERİ FARK YARATIR MI? AYAK BİLEĞİ BURKULMALI BİREYLERDE TEK BACAK SQUATIN TABAN BASINCI VE ARKA ZİNCİR KAS AKTİVASYONUNA ETKİSİ

#### DO FOCUS STRATEGIES MAKE A DIFFERENCE? THE EFFECT OF SINGLE LEG SQUAT ON SOLE PRESSURE AND POSTERIOR CHAIN MUSCLE ACTIVATION IN INDIVIDUALS WITH ANKLE SPRAIN

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#### ÖZET

Ayak ve ayak bileği, düzgün postür için destek yüzeyi oluşturan, yürümenin oluşması ve devam ettirilmesini sağlayan kompleks bir yapıdır. Ayak bileği burkulmaları en sık görülen kas-iskelet sistemi yaralanmaları arasındadır. Bu yaralanmaların büyük çoğunluğu, plantar fleksiyondaki ayağın inversiyonundan kaynaklanan lateral bağ burkulmalarıdır. Bu durum tedavi edilse de birçok intrinsik ve ekstrinsik nedenden dolayı burkulma tekrar edebilir ve sporcuların yaklaşık %80'inde tekrar aynı yaralanma görülür. Ayak bileği instabilitesi sık tekrarlayan kişilerde performans, nöromusküler kontrol, propriyosepsiyon, peroneal kas reaksiyon süresi, kas kuvveti, kasların ve tendonların viskoelastik özelliği gibi birçok parametrede kayıplar meydana gelir. Sporcularda, bu özellik, çeşitli spor disiplinleri sırasında ayak bileğine uygulanan hareket aralığı ve stresler göz önüne alındığında daha da büyük önem kazanır. Kalça kasları gibi kaslardan oluşan arka zincir, ayak bileği eklemının stabilize edilmesinde ve dengenin korunmasında çok önemli bir rol oynar. Bu kaslardaki zayıflık veya dengesizlik ayak bileği instabilitesine sebep olabilir ve yaralanma riskini artırabilir. Bu nedenle, arka zincire odaklanan hedefli güçlendirme egzersizleri ayak bileği stabilitesini geliştirmek için gereklidir. Güçlü bir zihin- kas bağlantısı geliştirmek, etkili odaklanmanın anahtarıdır. Zihinsel olarak çalıştırılan kaslara odaklanarak bireyler bu kasları çalıştırma ve aktive etme yeteneklerini artırabilirler. Görselleştirme ve proprioseptif ipuçları gibi teknikler, bu bağlantıyı güçlendirmeye ve arka zinciri hedefleyen egzersizler sırasında kas katılımını artırmaya yardımcı olabilir. Çalışmanın amacı, arka zincir kaslarının etkinliğini artırarak ayak bileği stabilitesini geliştirmek ve tekrarlayan yaralanma riskini azaltmaktır. Bu bağlamda, odaklanma tekniklerinin kullanımı, egzersiz performansını ve rehabilitasyon sürecini optimize etmek için kritik bir rol oynamaktadır. Yaşları 18-25 arasında değişen ve kronik ayak bileği hastalığı bildiren yirmi (10 erkek ve 10 kadın) olgu değerlendirildi. Cumberland Ankle Instability Tool (CAIT) üzerinde <25 ayak bileği disfonksiyonu olduğunu bildiren kronik ayak bileği rahatsızlığı olan katılımcılar dahil edildi. Çalışma öncesinde ciddi ayak bileği yaralanması geçirmiş, nörolojik veya ortopedik problemleri olan, kronik hastalıklara (diyabet, romatoid artrit gibi) sahip, gebe olan, şiddetli psikiyatrik bozuklukları bulunan ve egzersiz kontraendikasyonları olan bireyler çalışmaya dahil edilmedi. Ayak basınç parametreleri pedobarografi ile değerlendirildi. Kas aktivasyonlarını değerlendirmek için 8 kanallı yüzeyel EMG sistemi (Noraxon Telemetry DTS System, Scottsdale, USA) kullanıldı. Etkilenen ekstremitelerde gluteus medius, biceps, femoris, uzun baş, gastroknemus ve peroneal kasların aktivasyonları ve ayak basıncı parametreleri pedobarografide tek bacak çömelme egzersizleri sırasında



kaydedildi. Tek bacak çömelme protokolü, herhangi bir odak olmadan, iç odak ve dış odak ile 3 farklı şekilde gerçekleştirildi. Randomizasyonu sağlamak için yapılan ölçümler A B-C, C-B-A, B-C-A, A-C-B olup, her hasta için farklı bir sırayla yapıldı. Çalışma yaş ortalaması 21.5 yıl (SS = 4.2), boyu 172.3 cm (SS = 8.1), ağırlığı 60.4 kg (SS = 12.3) ve Vücut Kitle İndeksi (VKİ) 21.7 (SS = 2.8) olan katılımcılar ile yapıldı. Bireylerin Cumberland Ankle Instability Tool puanı ortalama  $19.4 \pm 7.23$  olarak hesaplandı. Bu çalışmanın sonuçları, dış odaklanmanın iç odaklanmaya kıyasla anlamlı derecede daha düşük gluteus medius, biceps, femoris, uzun baş, gastrokneimus ve peroneal kas aktivasyonu ile sonuçlandığını ve tek bacak squat sırasında odaklanma olmadığını gösterdi ( $p < 0.01$ ). Ek olarak, dış odaklanma, iç odaklanmaya kıyasla daha iyi medial-lateral ve ön-arka kuvvet dağılımı ile sonuçlandı ( $p < 0.05$ ). Kronik ayak bileği instabilitesi olan hastalarda çeşitli odaklanma teknikleri hem kas aktivasyonunu hem de ayak basınç parametrelerini etkilemektedir. Dış odak anterior-posterior ve medial-lateral kuvvet dağılımını artırırken, yine dış odak tek bacak squat sırasında alt arka zincir kaslarının aktivasyonunu gösterdi. Bu bulgular, kronik ayak bileği instabilitesi olan hastalar için rehabilitasyon programlarında hedefe yönelik odak stratejilerinin potansiyelini göstermektedir.

**Anahtar Kelimeler:** Odaklanma Teknikleri, Ayak Bileği Burkulması, Nöromusküler Egzersiz, Arka Zincir, Taban Basınç Dağılımı, Kas Aktivasyonu, Tek Bacak Squat

### ABSTRACT

The foot and ankle is a complex structure that provides a support surface for proper posture and enables the formation and continuation of walking. Ankle sprains are among the most common musculoskeletal injuries. The majority of these injuries are lateral ligament sprains caused by inversion of the foot in plantar flexion. Although this condition is treated, the sprain may recur due to many intrinsic and extrinsic reasons and approximately 80% of athletes have the same injury again. People with recurrent ankle instability suffer losses in many parameters such as performance, neuromuscular control, proprioception, peroneal muscle reaction time, muscle strength, viscoelastic properties of muscles and tendons. In athletes, this feature takes on even greater importance given the range of motion and stresses applied to the ankle during various sports disciplines. The posterior chain of muscles, such as the glutes, plays a crucial role in stabilising the ankle joint and maintaining balance. Weakness or imbalance in these muscles can lead to ankle instability and increase the risk of injury. Therefore, targeted strengthening exercises focusing on the posterior chain are essential to improve ankle stability. Developing a strong mind-muscle connection is the key to effective focus. By focusing on the muscles that are mentally recruited, individuals can increase their ability to recruit and activate these muscles. Techniques such as visualisation and proprioceptive cues can help to strengthen this connection and increase muscle engagement during exercises targeting the posterior chain. The aim of the study was to improve ankle stability and reduce the risk of repetitive injury by increasing the efficiency of the posterior chain muscles. In this context, the use of focusing techniques plays a critical role to optimise exercise performance and the rehabilitation process. Twenty subjects (10 males and 10 females) aged between 18-25 years and reporting chronic ankle disease were evaluated. Participants with chronic ankle conditions who reported  $<25$  ankle dysfunction on the Cumberland Ankle Instability Tool (CAIT) were included. Individuals with severe ankle injuries, neurological or orthopaedic problems, chronic diseases (such as diabetes, rheumatoid arthritis), pregnancy, severe psychiatric disorders and exercise contraindications were excluded. Foot pressure parameters were evaluated by pedobarography. An 8-channel superficial EMG system (Noraxon Telemetry DTS System, Scottsdale, USA) was used to evaluate muscle activations. Activations of gluteus medius, biceps, femoris, long head, gastrocnemus and peroneal muscles and foot pressure parameters were recorded during single leg squatting exercises on pedobarography. The single leg squat protocol was performed in 3 different ways: without any focus,





with internal focus and with external focus. To ensure randomisation, the measurements were A B-C, C-B-A, B-C-A, B-C-A, A-C-B, in a different order for each patient. The study was conducted with participants with a mean age of 21.5 years (SD = 4.2), height 172.3 cm (SD = 8.1), weight 60.4 kg (SD = 12.3) and Body Mass Index (BMI) 21.7 (SD = 2.8). The mean Cumberland Ankle Instability Tool score of the individuals was calculated as  $19.4 \pm 7.23$ . The results of this study showed that external focalisation resulted in significantly lower gluteus medius, biceps, femoris, long head, gastrocnemus and peroneal muscle activation compared to internal focalisation and no focalisation during single leg squat ( $p < 0.01$ ). In addition, external focalisation resulted in better medial-lateral and anteroposterior force distribution compared to internal focalisation and no focalisation ( $p < 0.05$ ). Various focalisation techniques affect both muscle activation and foot pressure parameters in patients with chronic ankle instability. External focalisation increased anterior-posterior and medial-lateral force distribution, while external focalisation showed activation of the lower posterior chain muscles during single-leg squat. These findings demonstrate the potential of targeted focus strategies in rehabilitation programmes for patients with chronic ankle instability.

**Keywords:** Focusing Techniques, Ankle Sprain, Neuromuscular Exercise, Rear Chain, Sole Pressure Distribution, Muscle Activation, Single Leg Squat



### MOBBİNG'İN İŞ PERFORMANSINA ETKİSİNDE ÖRGÜTSEL GÜVENİN ARACI ROLÜ

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#### ÖZET

İşgörenlerin çalıştıkları işletmelerde mobbing içeren davranışlar ve durumlarla karşılaşma olasılıkları bulunmaktadır. Bu çalışmada işletmelerde mobbinge uğrayan iş görenlerin, iş performanslarında yaşanan değişim ele alınmıştır. Ayrıca Mobbinge maruz kalma düzeyinin performans üzerine etkisinde örgütsel güvenin aracı etkisi de belirlenmeye çalışılmıştır. Mobbing bir grup ya da bir bireye karşı tek seferlik değil sistematik bir şekilde uzun zaman dilimine yayılarak uygulanan aşağılama, psikolojik şiddet, baskı ve dışlama davranışıdır. Mobbing örgütlerde yöneticilerin iş görenlere (düşey), örgütte çalışan iş görenlerin birbirlerine (yatay) ve iş görenlerin yöneticilere uyguladıkları (dikey) dışlama davranışları olarak karşımıza çıkabilmektedir. İş performansı iş görenlerin örgütün belirli bir dönemde yerine getirdikleri görevleri örgütün hedeflerine ne derecede yerine getirdiği hakkında bilgi veren bir ölçüttür. İş görenlerin başarılı bir şekilde gerçekleştirdikleri işlerin karşılığında motivasyonlarını arttıracak teşviklerin verilmesi iş gören performansını olumlu etkilemektedir. Örgütsel güvenin örgüt içerisinde oluşması yöneticilerin görevidir. Yöneticilerin iş görenleri adil bir şekilde yönetmesi, iş görenleri liderlik algısıyla geliştirilmesi gibi uygulamalar iş görenlerin örgütsel güven algılarının performansını arttırdığı değerlendirilmektedir. Güven duygusunun kazanılması kolay değildir. Bu araştırmanın amacı, iş görenlerin örgüt içerisinde maruz kaldıkları mobbingin durumunun iş performanslarını ne ölçüde etkilediği ve örgüte duydukları güven duygusunun bu duruma etkisini incelemektir. Literatür çalışmaları incelendiğinde yapılan araştırmalarda ulaşılan sonuçlar ise mobbing ve iş performansı arasındaki ilişki incelendiğine benzer araştırma verileri bulunmaktadır. Tamay (2021) mobbing ve iş performansı arasındaki ilişki ( $r=-0.242$ ) kuvvetinde  $p<0,05$  anlamlılık düzeyinde negatif yönlü zayıf ilişki gözlemlenmiştir. Kaya (2024)'de ise mobbing ve iş performansı arasında ( $r=-0.533$ ) kuvvetinde  $p<0.001$  anlamlılık düzeyinde negatif yönlü güçlü ilişki gözlemlenmiştir. Mobbing ile örgütsel güven arasındaki ilişki ise bazı araştırmalarda orta düzeyde negatif yönde anlamlı ilişki bulunurken ( $r=0.32$ ,  $p<0.01$ ) bazılarında ise yüksek düzeyde negatif ilişki bulunmaktadır. Örgütsel güven ile iş performansı arasındaki ilişki ise bazı araştırmalarda pozitif yönde güçlü düzeyde anlamlı etki bulunurken ( $r=0.327$ ,  $p<0.001$ ) bazılarında pozitif yönde zayıf düzeyde etki bulunmuştur ( $r=0.348$ ,  $p<0.01$ ). Araştırmanın bağımsız değişkeni mobbing, bağımlı değişkeni iş performansı, aracı değişkeni ise örgütsel bağlılık olarak belirlenmiştir. Bu araştırmada nicel araştırma yöntemi anket ile veriler elde edilecektir. Anket içeriği ise mobbinge uğrayan iş görenlerin performanslarının ne yönde etkilendiğini ölçmek ve örgütsel güvenin bu durum içerisindeki aracı etkisini ölçmeye yardımcı sorulardan oluşmaktadır. Elde edilen veriler ise SPSS ve Amos programları kullanılarak analizleri edilecektir. Elde edilen sonuçlar ile araştırma problemine ilişkin değerlendirme yapılarak araştırma problemine ilişkin önerilerde bulunulacaktır.

**Anahtar Kelimeler:** İşletme, Mobbing, İş performansı, Örgütsel güven



### ABSTRACT

There is a possibility that employees may encounter mobbing behaviors and situations in the businesses they work in. In this study, the changes in job performance of employees who were exposed to mobbing in businesses were discussed. In addition, the mediating effect of organizational trust on the effect of the level of exposure to mobbing on performance was also tried to be determined. Mobbing is a behavior of humiliation, psychological violence, oppression and exclusion that is applied to a group or an individual not once but systematically over a long period of time. Mobbing can be seen in organizations as exclusionary behaviors that managers apply to employees (vertical), employees apply to each other (horizontal), and employees apply to managers (vertical). Job performance is a measure that provides information about the extent to which employees fulfill the tasks they perform in a certain period of time in line with the organization's goals. Providing incentives that will increase the motivation of employees in return for the work they successfully perform has a positive effect on employee performance. It is the duty of managers to create organizational trust within the organization. Practices such as managers managing employees fairly and developing employees with a sense of leadership are evaluated to increase the performance of employees' perception of organizational trust. It is not easy to gain a sense of trust. The aim of this research is to examine the extent to which the mobbing that employees are exposed to within the organization affects their job performance and the effect of their sense of trust in the organization on this situation. When the literature studies are examined, the results obtained in the studies conducted show that there are similar research data that examine the relationship between mobbing and job performance. Tamay (2021) observed a negative weak relationship between mobbing and job performance ( $r = -0.242$ ) at the  $p < 0.05$  significance level. In Kaya (2024), a strong negative relationship was observed between mobbing and job performance ( $r = -0.533$ ) at a significance level of  $p < 0.001$ . In terms of the relationship between mobbing and organizational trust, while some studies found a moderate negative significant relationship ( $r = 0.32$ ,  $p < 0.01$ ), some found a high negative relationship. In the relationship between organizational trust and job performance, while some studies found a strong positive significant effect ( $r = 0.327$ ,  $p < 0.001$ ), some found a weak positive effect ( $r = 0.348$ ,  $p < 0.01$ ). The independent variable of the study was determined as mobbing, the dependent variable as job performance, and the mediator variable as organizational commitment. In this study, data will be obtained through a quantitative research method, a survey. The content of the survey consists of questions that help measure how the performance of employees exposed to mobbing is affected and the mediating effect of organizational trust in this situation. The obtained data will be analyzed using SPSS and Amos programs. The results obtained will be evaluated regarding the research problem and suggestions will be made regarding the research problem.

**Keywords:** Business, Mobbing, Job performance, Organizational trust



### INTERPLAY BETWEEN LIPOPHILICITY, SOLUBILITY, AND SKIN PERMEABILITY

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#### ABSTRACT

A delicate balance between lipophilicity and solubility is crucial for optimizing drug absorption, bioavailability, and dermal permeability. In this *in silico* study, four hydrazone ester derivatives were analyzed using SwissADME to explore how lipophilic structural elements affect water solubility and skin permeation potential. All molecules exhibited moderate lipophilicity, with Log P values ranging from 2.93 to 3.61. These values fall within the range optimal for oral drugs, while also facilitating membrane permeability, including transdermal diffusion. Consistently, their skin permeability (Log K<sub>p</sub>) values (approximately -4.4 to -4.9 cm/s) indicate favorable, albeit limited, passive diffusion through the stratum corneum. Solubility predictions using the ESOL model categorized all compounds as “moderately soluble”, which aligns with the observed increase in Log P. A notable trend was observed in the dimethyl-substituted compound, which showed the highest Log P and lowest solubility, reinforcing the classical inverse correlation between lipophilicity and aqueous solubility. These insights highlight that the compounds possess a favorable lipophilicity–solubility balance suitable for both oral and potential transdermal delivery routes, with minimal compromise in formulation.

The table below summarizes the key findings:

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Molecule	Log P	Log S (Solubility)	Log Kp (Skin Permeation)
Mol 1	2.93	-4.3	-4.76
Mol 2	3.29	-4.6	-4.58
Mol 3	3.61	-4.89	-4.41
Mol 4	3.29	-4.6	-4.41

**Keywords-** Lipophilicity, Log P, water solubility, skin permeability, Log Kp, ESOL model, transdermal delivery, hydrazone esters, drug formulation



### ANALYSIS OF PHYSICOCHEMICAL PROPERTIES SUPPORTING ORAL BIOAVAILABILITY

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#### ABSTRACT

Physicochemical profiling is essential for anticipating the oral absorption potential of novel drug candidates. In this study, four hydrazone ester derivatives were evaluated using SwissADME to assess their compatibility with oral administration standards. All compounds conformed to multiple drug-likeness filters, including Lipinski, Veber, Ghose, Egan, and Muegge rules, suggesting robust oral drug-likeness. The molecular weight of all four derivatives ranged between 254–282 g/mol, well below the 500 Da threshold. Their topological polar surface area (TPSA) remained consistently at 50.69 Å<sup>2</sup>, indicating strong membrane permeability while still maintaining a degree of solubility. Hydrogen bond donors (HBD = 1) and acceptors (HBA = 3) fall within ideal limits, optimizing interaction with biological targets without compromising absorption. The compounds also feature a moderate number of rotatable bonds (5–6), which helps balance conformational flexibility and receptor binding. Together, these results support the hydrazone ester scaffold as a viable platform for orally active drug development and highlight their potential to advance in preclinical pharmacokinetic studies.

The table below summarizes the key findings:



## 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES



Molecule	MW (g/mol)	TPSA (Å²)	HBD	HBA	Rotatable Bonds
Mol 1	254.28	50.69	1	3	5
Mol 2	268.31	50.69	1	3	5
Mol 3	282.34	50.69	1	3	6
Mol 4	268.31	50.69	1	3	6

**Keywords-** Oral bioavailability, physicochemical properties, Lipinski rule, TPSA, H-bonding, molecular weight, drug-likeness, hydrazone derivatives, rotatable bonds

## 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES



### NURTURING MANAGEMENT SKILLS IN HIGH SCHOOL STUDENTS THROUGH CURRICULUM INTEGRATION

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#### ABSTRACT

This research proposes the integration of management skills into the high school curriculum to equip students with competencies essential for success in both academic and professional contexts. Recognizing the existing gap in the educational system, where curricula prioritize academic content over practical life skills, the study introduces a structured program focusing on project management, leadership, communication, and emotional intelligence.

The research adopts a quasi-experimental design involving students across two different classes with a control group and an experimental group receiving targeted training. The curriculum is informed by the Project Management Institute Educational Foundation (PMIEF) framework and will be delivered through project-based, experiential learning. Activities include project planning, execution, monitoring, and communication exercises that enhance both technical and interpersonal skills.

The study aims to evaluate the impact of this training on students' academic performance, motivation, collaboration, and readiness for real-world challenges. Data will be collected using pre- and post-tests, surveys, interviews, and case studies, analyzed through both quantitative and qualitative methods. Theoretical underpinnings include Piaget's constructivism, Vygotsky's social development theory, and the Self-Determination Theory, all supporting active, socially-engaged, and autonomous learning.

The research paper targets key research questions related to learning outcomes, student perceptions, and implementation challenges. Anticipated difficulties include teacher preparedness and time constraints in crowded school timetables. To mitigate these, the study suggests teacher training and flexible curriculum integration.

Ultimately, the research advocates for a shift in Lebanese secondary education toward developing 21st-century skills. It aspires to improve not only student competencies but also broader educational outcomes by aligning with global educational trends and employer expectations. The findings are expected to inform national curriculum reform efforts and inspire similar initiatives regionally.

**Keywords:** Project, Management, Curriculum, Education, Students



### AN INVESTIGATION OF PRE-SERVICE MATHEMATICS TEACHERS' MATHEMATICAL CONNECTION SKILLS THROUGH THE SCENARIOS THEY PREPARED

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#### ABSTRACT

One of the process standards emphasized by the National Council of Teachers of Mathematics [NCTM] (2000), mathematical connections, continues to maintain its relevance in the field of mathematics education (Font & Rodríguez-Nieto, 2024). This is because making connections within mathematics itself, as well as understanding what mathematics means in relation to other domains, supports meaningful learning (García-García & Dolores-Flores, 2018, 2020; Kilpatrick et al., 2001; Rodríguez-Nieto et al., 2020). In fact, in some theoretical frameworks (e.g., Duval, 2006; Godino et al., 2019), mathematical connections are considered a crucial component in the construction of mathematical knowledge. All of this has led researchers (Businskis, 2008; Evitts, 2004; Eli et al., 2011; Rodríguez-Nieto et al., 2021; 2022) to focus more deeply on mathematical connections.

Students' ability to make mathematical connections is often directly related to the teacher's ability to create appropriate learning environments (Weinberg, 2001). The critical role that teachers play in the process of fostering mathematical connections can either enhance or limit students' opportunities to make such connections (Venkat & Adler, 2012). Therefore, teachers should design environments that allow students to become aware of mathematical connections (Businskis, 2008; Leikin & Levav-Waynberg, 2007; Mhlolo et al., 2012; NCTM, 2020). Classrooms that support the development of mathematical connections not only help students learn mathematics more effectively, but also enable them to view mathematics as a coherent whole and to better understand its role in modern society (Eli et al., 2011, 2013).

Despite the calls for teachers to create mathematical connections, the literature shows that, especially novice teachers, rarely establish such connections in the classroom—or when they do, these connections tend to be implicit rather than explicit (Bartels, 1995; Eisenhart et al., 1993). If teachers fail to make connections during their instruction, the likelihood of students learning mathematics with understanding may be limited or even obstructed. As a result, many students struggle in school—not because their teachers lack content knowledge, but because teachers are unable to connect the subject matter to students' existing thinking patterns or prior knowledge (Irvine, 2003). In this context, it can be said that the knowledge and skills of pre-service teachers regarding mathematical connections play a direct role in the effectiveness of the teaching process. A teacher who does not see mathematics as a coherent body of knowledge by its very nature is unlikely to create learning experiences that make those connections explicit for students. This, in turn, makes it more difficult for students to perceive mathematics as a unified structure and prevents them from benefiting from opportunities to connect mathematical ideas (Wright, 2018). The emphasis on the ability to make connections as a critical skill that students should develop in mathematics lessons highlights the importance of how this issue is addressed by pre-service teachers in mathematics education (Genç, 2023). Mathematical connections may emerge, for instance, as students engage in mathematical tasks or solve mathematical problems (García-García & Dolores-Flores, 2018). How to make these connections visible has become a focus of interest for many researchers. Models or classifications have been developed to capture mathematical connections in



participants' written texts or in the verbal arguments they produce (Hatisaru, 2024). Based on the scenarios prepared by pre-service teachers, this study seeks to answer the following three questions:

What types of mathematical connections do pre-service teachers make (e.g., connections to daily life, to other disciplines, between mathematical concepts, through multiple representations, to the arts, or to out-of-school contexts)?

Which mathematical concepts do pre-service teachers prefer when constructing mathematical connections?

In the mathematical connections they construct, who do pre-service teachers expect to make the connection predominantly (themselves or the students)?

For this purpose, a qualitative research method was adopted, and a case study design was employed. Thirty middle school pre-service mathematics teachers were asked to write scenarios that included mathematical connections. These written scenarios were used as the data source. The data were analyzed descriptively in line with the research questions. The findings revealed that pre-service teachers tended to prefer making connections to daily life and between mathematical concepts, while they occasionally struggled to incorporate other types of connections. In addition, they generally preferred to make the mathematical connections themselves rather than having students construct them. The data analysis process is still ongoing.

**Keywords:** Mathematical Connections Skills, Pre-service Middle School Mathematics Teachers, Scenarios.

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### HOW DO MIDDLE SCHOOL PRE-SERVICE MATHEMATICS TEACHERS REASON WHEN COMPARING DATA SETS WITH EQUAL AND UNEQUAL NUMBERS

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#### ABSTRACT

The need to understand statistical ideas and results, which are present in every area of today's world (Ben-Zvi, 2017; Eichler & Zapata-Cardona, 2016; Wild, et al., 2018), has directly influenced the teaching process and is now included in statistical teaching programs (Batanero, et al., 2011). The teacher's ability to directly determine the effectiveness of the statistical teaching process (e.g., Shaughnessy, 2007) highlights the importance of having knowledge and skills related to statistical concepts and the relationships between these concepts. One of these concepts is the concept of distribution (Wild, 2006). This is because distribution is one of the models that allows seeing the data as a whole (Bakker & Gravemeijer, 2004; Petrosino, et al., 2003). Distribution is not only a critical tool for examining data (Moore, 1990) but also forms the foundation for understanding other statistical concepts (e.g., variability) (Reading & Canada, 2011; Shaughnessy, 2007; Wild et al., 2018). Therefore, understanding the concept of distribution is important for competence in statistics (Ciancetta, 2007). Individuals who can correctly analyze the concept of distribution can make statistical decisions and interpretations (Konold & Higgins, 2003; Konold & Pollatsek, 2002).

Comparing distributions creates motivation for statistical research (Makar & Confrey, 2004) and enables the understanding of different statistical concepts (e.g., variability) (Madden, 2008; Tran, et al., 2016). In some statistical problems, distributions with equal numbers need to be compared, while in others, distributions with unequal numbers must be compared. When comparing distributions with equal numbers, additive reasoning is usually sufficient, but additive reasoning can lead to incorrect patterns when comparing distributions with unequal numbers. In this case, comparing the ratios or ratio coefficients is necessary to compare distributions with different numbers. Additive reasoning is not sufficient for comparing distributions with different numbers, and multiplicative reasoning is required. This allows for an evaluation of the data densities (i.e., ratios) (Burrill, et al., 2003). However, studies (e.g., Doerr & Jacob, 2011; Makar & Confrey, 2002; 2004) show that students struggle when comparing distributions. It is believed that examining how middle school pre-service mathematics teachers reason is important for two reasons. First, based on the reasoning processes of pre-service teachers, the content of undergraduate courses can be organized. Second, since pre-service teachers will be the teachers of the future, these reasoning processes contain clues about the teaching processes they will design in the future. In this context, it is aimed to reveal how future teachers reason when comparing equal and unequal numbers distributions, and the question "How do middle school pre-service mathematics teachers reason when comparing equal and unequal numbers distributions?" is explored.

The study was conducted with 45 third-year middle school pre-service mathematics teachers from a mathematics teaching program at a public university located in the Central Anatolia region of Turkey. The pre-service teachers worked in groups of 2-3 people. The pre-service teachers were asked to work on two tasks for a week, and class discussions were held afterward on these tasks. Although most of the pre-service teachers were able to use additive reasoning when comparing equal numbers distributions, they faced various difficulties when comparing distributions with unequal numbers.

**Keywords:** Distributions, Equal and unequal numbers, Middle school pre-service mathematics teachers





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### THE AMOUNT OF MEDIUM-MOLECULAR PEPTIDES IN THE LIVER OF WHITE RATS DIFFERING BY TYPE OF NERVOUS SYSTEM

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#### ABSTRACT

The article presents the results of a study conducted to investigate the amount of medium-molecular peptides (MMP) in the liver tissue of adult white rats differing in nervous system type under conditions of protein-deficient nutrition. The animals were divided into stress-resistant and stress-sensitive groups. Control animals from each group were kept under standard vivarium conditions, while the experimental animals were fed a protein-deficient diet for 10, 20, and 30 days. This type of feeding is referred to as a protein-deficient background. At the end of each feeding period, the amount of MMP was measured in the liver tissue homogenates of both control and experimental rats. The results showed that, compared to the respective controls of both groups, the amount of MMP increased in the livers of the stress-resistant group, while a decrease was observed in the stress-sensitive group. Furthermore, when compared with the stress-resistant group, the stress-sensitive rats showed a reduction in MMP levels in the liver.

**Keywords:** Liver, Medium-molecular peptides (MMP), Protein-free nutrition, Stress-resistant rats, Stress-sensitive rats.



### NOISE POLLUTION FROM ROAD TRAFFIC IN TIRANA NDOTJA AKUSTIKE NGA TRAFIKU RRUGOR NË TIRANË

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#### ABSTRACT

The study analyzes the noises caused by road traffic in the capital city. In conditions of major demographic changes, road traffic has increased, affecting the increase in noise pollution. The study analyzes the factors that cause these noises, their relationship to intensity, distribution, regulation of road traffic, evaluates the noise level and gives recommendations for their reduction. The experiences of the norms of different countries are covered. Different models of noise field analysis and evaluation are analyzed. The need for a comprehensive initiative is emphasized: from urban planners, environmental engineers, road transport engineers, civil engineers to noise reduction. The experience has been brought by the measures that have been taken to protect against road transport noise. Measurements of the noise level developed in Tirana are presented

#### ABSTRAKT

Studimi analizon zhurmat e shkaktuara nga trafiku rrugor në kryeqytet. Në kushtet e ndryshimeve të mëdha demografike është rritur trafiku rrugor gjë që ndikon në rritjen e nivelit të ndotjes akustike. Në studim analizohen faktorët që shkaktojnë këto zhurma, lidhja e tyre me intensitetin, shpërndarjen, rregullimin e trafikut rrugor, vlerësohet niveli i zhurmave dhe jepen rekomandime për uljen e tyre. Trajtohen përvoja të normave të vendeve të ndryshme. Analizohen modele të ndryshme analize dhe vlerësimi të fushës së zhurmave. Theksohet nevoja e një inisiative gjithëpërfshirëse: nga urbanistë, inxhinierë mjedisi, inxhinierë të transportit rrugor, inxhinierë ndërtimi për kufizimin e zhurmave. Sillet përvoja nga masat që janë marrë për mbrojtjen nga zhurmat e transportit rrugor. Paraqiten matje të nivelit të zhurmave të zhvilluara në Tiranë.



### SOUNDING THE SELF: VISUAL ART'S RESPONSE TO MUSIC IN THE REPRESENTATION OF CONTEMPORARY IDENTITY BENLİĞİ SESLENDİRMEK: ÇAĞDAŞ KİMLİĞİN TEMSİLİNDE GÖRSEL SANATIN MÜZİĞE TEPKİSİ

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#### ABSTRACT

This study investigates how visual art and music shape and express contemporary identity. Using an interdisciplinary approach that incorporates theories from visual culture, musicology, and identity studies, the study examines the works of four prominent contemporary artists: Julie Mehretu, Shirin Neshat, Bill Viola, and Sophie Calle. It analyses how sonic aspects serve not just as aesthetic influences but also as structural and metaphorical techniques, allowing these artists to explain and traverse the intricacies of selfhood in a globalised, rapidly changing society.

Mehretu's abstract works use layered forms and rhythmic visual gestures to express urban vibrancy and fractured spatial identities, echoing the cadence of musical compositions. Neshat's work confronts the suppression of feminine identity through the dynamics of sound and silence, highlighting the contrast between cultural repression and individual expression. Viola's immersive video installations use ambient soundtracks and slow-motion visuals to explore themes of metamorphosis, memory, and the cyclical nature of human existence, highlighting the function of sound in heightening the emotional and existential aspects of visual experience. Calle uses audio tales, photographs, and conceptual imagery to critically analyse how personal experiences and collective memories are communicated and modified in the performative aspects of identity. These artists' works show how the combination of sound and picture may provide a compelling foundation for redefining identity as a fluid, ever-changing construct. This synthesis goes beyond traditional sensory boundaries and contributes to a larger discussion about sensory perception and cultural hybridity in modern art.

**Keywords:** visual art, music, current identity, multidisciplinary, selfhood.

#### ÖZET

Bu çalışma, çağdaş kimliğin şekillendirilmesi ve temsiliinde görsel sanat ve müzik arasındaki etkileşimi araştırıyor. Görsel kültür, müzikoloji ve kimlik çalışmalarından teorileri birleştiren disiplinler arası bir yaklaşım kullanan araştırma, dört önemli çağdaş sanatçının eserlerini analiz ediyor: Julie Mehretu, Shirin Neshat, Bill Viola ve Sophie Calle. Ses öğelerinin yalnızca estetik etkiler olarak değil, aynı zamanda yapısal ve metaforik araçlar olarak nasıl işlev gördüğünü araştırıyor ve bu sanatçıların küreselleşmiş, hızla gelişen bir toplumda benliğin karmaşıklıklarını ifade etmelerini ve bunlarda gezinmelerini sağlıyor.

Mehretu'nun soyut kompozisyonları, kentsel canlılığı ve parçalanmış mekansal kimlikleri çağrıştırmak için katmanlı formlar ve ritmik görsel jestler kullanıyor ve müzik kompozisyonlarında bulunan ritmi yansıtıyor. Neshat'ın çalışması, kadınsı kimliğin bastırılmasına karşı koymak için ses ve sessizliğin dinamiklerini kullanıyor ve kültürel baskı ile kişisel ifade arasındaki gerilimi vurguluyor. Viola'nın sürükleyici video enstalasyonları, dönüşüm, hafıza ve insan varoluşunun döngüsel doğası temalarını



derinlemesine incelemek için ortam ses manzaralarını ağır çekim görüntülerle birleştiriyor ve sesin görsel deneyimin duygusal ve varoluşsal boyutlarını geliştirmedeki rolünü vurguluyor. Calle, kişisel deneyimlerin ve kolektif hafızanın kimliğin performatif yönlerinde nasıl ifade edildiğini ve dönüştürüldüğünü eleştirel bir şekilde incelemek için sesli anlatıları fotografik ve kavramsal görüntülerle birleştiriyor.

Bu sanatçıların uygulamaları, ses ve görüntünün birleşmesinin kimliği akışkan, sürekli gelişen bir yapı olarak yeniden hayal etmek için güçlü bir çerçeve yarattığını gösteriyor. Bu sentez, geleneksel duyusal sınırları aşıyor ve çağdaş sanatta duyusal deneyim ve kültürel melezlik üzerine daha geniş bir söyleme katkıda bulunuyor.

**Anahtar Sözcükler:** Görsel sanat, müzik, çağdaş kimlik, disiplinlerarası, benlik.





### AKSARAY KURŞUNLU VE ULU CAMİ SÜSLEMELERİ ÜZERİNE BİR İNCELEME A STUDY ON THE DECORATIONS OF AKSARAY KURŞUNLU AND ULU MOSQUE

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#### ÖZET

Aksaray, İç Anadolu Bölgesi'nde yer alan, tarihi ve kültürel zenginlikleriyle öne çıkan bir ildir. Aksaray, tarihi çok eskilere dayanan bir yerleşim yeridir. Hititler, Frigler, Romalılar, Bizanslılar, Selçuklular ve Osmanlılar gibi birçok medeniyete ev sahipliği yapmıştır. Selçuklular döneminde önemli bir ticaret merkezi olan şehir, Osmanlılar zamanında da gelişimini sürdürmüştür. Tarih boyunca birçok medeniyete ev sahipliği yaptığı için zengin bir kültürel ve dini mirasa sahiptir. Özellikle Selçuklu ve Osmanlı döneminden kalma camileri, şehrin tarihi dokusunu koruyan önemli eserler arasındadır.

Bu çalışmada ise Aksaray ilinde bulunan Ulucamii ve Kurşunlu camilerinin genel özellikleri ve süslemeleri hakkında bilgi verilmiştir.

**Anahtar Kelimeler:** Ulu Camii, Kurşunlu Camii, Selçuklu camileri, Osmanlı camileri, Tarihi yapılar, Camii süslemeleri, Aksaray mimarisi

#### ABSTRACT

Aksaray is a province located in the Central Anatolia Region and stands out with its historical and cultural richness. Aksaray is a settlement dating back to ancient times. It has been home to many civilisations such as Hittites, Phrygians, Romans, Byzantines, Seljuks and Ottomans. The city, which was an important trade centre during the Seljuk period, continued its development during the Ottomans. Since it has been home to many civilisations throughout history, it has a rich cultural and religious heritage. Especially the mosques from the Seljuk and Ottoman periods are among the important artefacts that preserve the historical texture of the city.

In this study, information about the general characteristics and decorations of Ulucamii and Kurşunlu mosques in Aksaray province is given.

**Keywords:** Ulu Mosque, Kurşunlu Mosque, Seljuk mosques, Ottoman mosques, Historical buildings, Mosque decorations, Aksaray architecture



### TÜRK DÜNYASINDA KOÇ BOYNUZU MOTİFİNİN KULLANIMI VE ÖNEMİ THE USE AND IMPORTANCE OF THE RAM'S HORN MOTIF IN THE TURKISH WORLD

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#### ÖZET

Koç boynuzu motifi, Türk dünyasında derin sembolik anlamlar taşıyan ve pek çok sanat dalında karşımıza çıkan önemli bir geleneksel motiflerimizdendir. Bu motif, tarihsel süreç içinde yalnızca bir süsleme ögesi değil, aynı zamanda toplumsal değerleri, inanç düşüncelerini yansıtan bir sembol olmuştur. Halı ve kilim dokumacılığından taş ve metal işçiliğine, ahşap oymacılığından mimari süslemelere kadar geniş bir alanda kullanılmıştır. Motifin taşıdığı anlamlar arasında güç, bereket, koruma, kutsallık ve süreklilik ön plana çıkmaktadır. Geleneksel Türk sanatlarının en karakteristik ve derin anlamlı motiflerinden biri olan koçboynuzu, Türk kültür coğrafyasında asırlardır varlığını sürdüren önemli bir motiftir. Bu motif, sadece dekoratif bir unsur olarak değil, aynı zamanda sosyokültürel ve inanç düşüncelerin yansımada da önemlidir. Türklerin hayvancılıkla iç içe geçmiş yaşam tarzı, koçun ve dolayısıyla koçboynuzu motifinin kültürel değerler arasında yer almasını sağlamıştır. Koçboynuzu motifinin kökenleri, Türklerin erken dönem göçebe kültürlerine kadar uzanmaktadır. Orta Asya'nın geniş bozkırlarında yaşayan Türk boyları için koç, gücün, dayanıklılığın ve bereketin temsilcisi olarak kabul görmüştür. Bu nedenle koç figürleri ve boynuz motifleri, Türk sanatının hemen her dalında süsleme unsuru olarak yer almıştır. Özellikle dokuma sanatlarında, maden işçiliğinde ve mimari süslemelerde sıklıkla karşılaşılan bu motif farklı coğrafyalarda farklı stilize edilmiş farklı formları kullanılmıştır. Bu çalışmada koç boynuzu motifinin tarihsel gelişimi, sembolik anlamları, sanattaki kullanımı ele alınmıştır. Motifin kültürel önemini gösteren halı ve kilim örnekleri başta olmak üzere farklı sanat alanlarında kullanımı görsellerle sunulmaktadır.

**Anahtar Kelimeler:** Koç boynuzu, motif, süsleme, kültür, sanat

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#### ABSTRACT

The ram's horn motif is an important traditional motif that carries deep symbolic meanings in the Turkish world and appears in many branches of art. This motif has been not only an ornamental element in the historical process, but also a symbol reflecting social values and belief ideas. It has been used in a wide range of fields from carpet and rug weaving to stone and metal work, from wood carving to architectural ornaments. Among the meanings carried by the motif, power, fertility, protection, holiness and continuity come to the fore. The ram's horn, one of the most characteristic and deeply meaningful motifs of traditional Turkish arts, is an important motif that has existed for centuries in the Turkish cultural geography. This motif is important not only as a decorative element, but also in the reflection of sociocultural and belief ideas. The lifestyle of the Turks, which is intertwined with animal husbandry, has ensured that the ram and therefore the ram's horn motif is among the cultural values. The origins of the ram's horn motif date back to the early nomadic cultures of the Turks. For the Turkish tribes living in the vast steppes of Central Asia, the ram was recognised as the representative of strength, endurance and fertility. For this reason, ram figures and horn motifs have taken place as an ornamental element in almost every branch of Turkish art. This motif, which is frequently encountered especially in weaving



arts, metalwork and architectural ornaments, has been used in different stylised forms in different geographies. In this study, the historical development of the ram horn motif, its symbolic meanings and its use in art are discussed. The use of the motif in different art fields, especially in carpets and rugs, which show the cultural importance of the motif, is presented and evaluated with visuals.

**Keywords:** Ram's horn, motif, ornament, culture, art



### INVESTIGATION OF WATER ABSORPTION CHARACTERISTICS OF BIOCOMPOSITE SAMPLES MADE WITH BIORESIN ADDED WITH PINE TURPENTINE OIL

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#### ABSTRACT

Nowadays, biomaterials that can be recycled at an affordable cost, are biodegradable and obtained from renewable resources are increasingly being used. The importance of bio-composites has been further understood as composite materials produced from raw materials that do not decompose in nature at the end of their life cycle, i.e., are not renewable, cause an important environmental problem. In this study, bioresin was created by adding pine turpentine oil to the epoxy resin from thermosets and this bioresin was reinforced with jute, cotton and hemp fabric from natural fibers. The content of hemp fabric is 70% hemp/30% cotton. Jute and cotton fabrics are selected from natural woven fabrics. Vacuum assisted resin transfer moulding and open moulding method was used as the production method. Samples using sand were produced using vacuum-assisted resin transfer moulding, while samples not using fabric were produced using the open mould method. In order to create bioresin, pine turpentine oil was added to the epoxy resin at 10%, 20%, 30%, 40% and 50% by weight. Pine turpentine oil was added to the epoxy by mixing with a magnetic stirrer without any chemical treatment. Samples produced using only epoxy resin were also produced as reference samples. Samples were produced for testing both without fabric, with only bioresin mixtures, and with three natural fiber fabrics, for a total of 24 pieces. The 24 samples produced were subjected to water testing to test their water absorption amounts. In the samples where regular weight measurements were made for a period of 2 weeks, the bioresin samples consisting of only epoxy and pine turpentine oil mixtures without fabric showed water absorption in the range of 0.42%-0.65%. The samples produced only with epoxy showed a water absorption of 6.19%. It was determined that the samples with 30% pine turpentine oil added were the ones with the least water absorption. While an increase in water absorption was observed as the oil ratio went from 0% to 20%, a decrease was achieved at 30% oil ratio, and the amount of water absorption tended to increase again at 40% and 50% oil ratios. It is anticipated that biocomposite samples produced with 30% pine turpentine oil can be used in the automotive, construction and aviation sectors where low water and moisture absorption is desired.

**Keywords:** Biocomposites, Bioresin, Natural Fiber, Hemp Fiber, Pine Turpentine.



### EXAMINATION OF WATER ABSORPTION CHARACTERISTICS IN BIORESINS AND BIOCOMPOSITES FORMED USING HEMP FIBER, HEMP OIL AND HEMP POWDER

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#### ABSTRACT

The high carbon emissions and environmental impacts occurring in the production of synthetic fiber and polymer matrix materials have increased the search for sustainable materials in many sectors, especially in the automotive industry. For this reason, biocomposites stand out as environmentally friendly alternatives. In this study, hemp fabric, hemp seed oil and hemp seed powder were combined in different ratios (for hemp oil 2.5%-7.5%-12.5%-17.5%, for hemp powder 5%-10%-15%-20%) and fiber-reinforced and without fiber biocomposite samples were produced. The produced samples were subjected to water absorption test and the water absorption behaviours of the samples were examined. Epoxy resin was used as the matrix material. Biocomposite samples were produced using the vacuum-assisted resin transfer method and the open molding method, which is different from traditional production methods but has a simpler production. A total of 48 samples of 6 different combinations were produced in accordance with ASTM D5229 standard and subjected to water absorption test at one-hour intervals on the first day and at 24-hour intervals on the following days for a total of 336 hours. As a result of the water absorption test, it was observed that in samples without fiber reinforcement, as the oil content increased, the water absorption rate decreased, while in samples containing hemp powder, as the dust content increased, the void ratio increased and the water absorption rate increased, and in samples where hemp oil and powder were used together, increasing dust ratio at fixed oil ratios increased water absorption. The least water absorption was measured as 1.1% in EHO125P5 (12.5% epoxy hemp oil /5% powder) sample, and the highest water absorption was measured as 4.96% in EHO125P20 (12.5% epoxy hemp oil/20% powder) sample. In hemp fiber reinforced samples, when the powder ratio was increased up to 15%, the water absorption rate decreased, while an increase in water absorption rates was observed at powder ratios of 20% and above. In samples containing only oil, the increase in the oil ratio also increased the water absorption rate. While the powder ratio remained constant in samples containing oil and dust, it was observed that increasing oil ratios increased the amount of water absorption. The least water absorption was measured as 5.99% in the VEHO25P15 (2.5% epoxy hemp oil/ 15% powder) sample, and the highest water absorption was measured as 19.12% in the VEHO175P15 (17.5% epoxy hemp oil/15% powder) sample. The results revealed that the samples with 12.5% oil ratio and 5% powder ratio were the least water absorbing samples in both fiber and without fiber samples.

**Keywords:** Biocomposites, Bioresin, Hemp Fiber, Hemp Oil, Hemp Powder.



### PERİFERİK AMELOBLASTOMA: BİR VAKA SUNUMU VE LİTERATÜR İNCELEMESİ PERIPHERAL AMELOBLASTOMA (PA)

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#### ÖZET

#### PERİFERAL AMELOBLASTOMA (PA)

Periferal ameloblastoma (ekstraosseöz tip ); iyi huylu, ağrısız, ekzofitik, yavaş büyüyen, genellikle çenenin dişleri içeren bölümündeki yumuşak dokuda bulunan ve nadir görülen bir odontojenik tümördür. Ameloblastomanın kemik-içi formuna benzer histolojik özellikler içerir. 1911'den 2014 yılına kadar 200'den az PA vakası rapor edilmiştir. Mikroskopik özellikleri; bulunduğu bölgedeki epitel dokudan köken alır, lezyon içinde odontojenik epitel adaları bulunur. Kemik infiltrasyonu bulunmamaktadır. Ayırıcı tanıda gingival tümörler, periferal odontojenik fibroma, piyogenik granüloma, mukoepidermoid tümör, epidermoid karsinoma, periferal dev hücreli granüloma ve diğer periferal hiperplastik şişlikler göz önünde bulundurulmalıdır. Rekürrens %16-19'dur ve takibe alınmalıdır. PA, bulunduğu bölgedeki kemiğe infiltre olmadan yavaş ilerleyen ve bazen kortikal kemiğe yayılım gösterebilir.

45 yaşında erkek hastadan 2020 yılında 38 numaralı dişin lingual bölgesinden hipertrofik, kızarıklık yumuşak doku patolojisi görülmüştür. 2025 yılında 36 numaralı dişin lingual tarafında yeniden ortaya çıkan hipertrofik şişkin yumuşak doku patolojisi görülmüştür.

Yumuşak doku eksizyonu 15C bistüri ile alındı. 36 numaralı dişin furkasyonuna kadar kürete edildi. Bölge sf ile yıkanılıp askı suturla kanaması kontrol altına alındı. Lezyon lingual sinire yakın komşulukta bulunmaktadır. Cerrahi operasyon sonrası bir ay sonraki kontrolünde lingual sinir hasarı bulunmamaktadır.

**Anahtar kelime:** Ameloblastoma; gingival tümörler, cerrahi operasyon, rekürrens

#### ABSTRACT

Peripheral ameloblastoma is a benign, painless, exophytic, slow-growing, rare odontogenic tumour usually found in the soft tissue in the part of the jaw containing the teeth. It has histological features similar to the intra-osseous form of ameloblastoma. Less than 200 cases of PA were reported from 1911 to 2014.

Microscopic features; It originates from the epithelial tissue in the region, odontogenic epithelial islands are found in the lesion. There is no bone infiltration. In addition, gingival tumours, peripheral odontogenic fibroma, pyogenic granuloma, mucoepidermoid tumour, epidermoid carcinoma, peripheral giant cell granuloma and other peripheral hyperplastic swellings should be considered in the differential diagnosis. Recurrence is 16-19% and should be followed up. PA progresses slowly without infiltrating the bone in the region and may sometimes spread to the cortical bone.

In 2020, a 45-year-old male patient presented with hypertrophic, reddened soft tissue pathology in the lingual region of tooth number 38. In 2025, hypertrophic swollen soft tissue pathology was seen





reappearing on the lingual side of tooth 36. Soft tissue excision was performed with a 15C scalpel. Tooth number 36 was curetted up to the furcation area. The area was washed with sf and the bleeding was controlled with a hanging suture. The lesion is in close proximity to the lingual nerve. There is no lingual nerve damage in the follow-up one month after the surgical operation.

**Keywords:** Ameloblastoma; gingival tumors, surgical operation, recurrence



### DYNAMIC BEHAVIOR OF ROTOR SYSTEMS WITH SUPPORT NONLINEARITIES

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#### ABSTRACT

Support nonlinearity is a significant and often unavoidable feature in rotating machinery, with direct implications for system performance, stability, and long-term reliability. Such nonlinearities frequently arise at mechanical joints, particularly at bolted connections where components interface with structural supports. This study focuses on the numerical investigation of a single-disk flexible rotor system with support nonlinearity introduced through Belleville washers—conical spring elements commonly used in bolted joints. These washers exhibit a highly nonlinear force–deflection relationship, making them a suitable candidate for representing geometric and contact-induced nonlinearities in rotor–support interactions.

This research aims to model and simulate the dynamic behaviour of a rotor system with nonlinear support conditions, and to assess the impact of geometric variations in Belleville washers on the steady-state response of the system. The rotor configuration considered in this study consists of a centrally located rigid disk mounted on a flexible shaft modelled using Euler–Bernoulli beam theory. The model accounts for rotary inertia, gyroscopic effects, and mass imbalance to reflect realistic operating conditions. The governing equations of motion are derived in weak form using Hamilton’s Principle, allowing for a consistent energy-based formulation of the problem.

To solve the system dynamics, the transverse (in-plane and out-of-plane) displacements are approximated using the Rayleigh–Ritz method, and the resulting weak-form equations are discretized accordingly. The Harmonic Balance Method (HBM) is then employed to obtain approximate steady-state periodic solutions of the nonlinear differential equations. The analysis includes both linear and nonlinear configurations for comparison. Frequency response curves are generated across a range of rotor speeds to assess resonance behaviour, softening or hardening effects, and nonlinear shifts in response characteristics. Additionally, time-domain simulations are performed to observe the evolution of transverse deflections and orbital behaviour under different support conditions.

The results demonstrate that the presence and magnitude of nonlinear stiffness at the support, primarily governed by the geometry of the Belleville washers, have a substantial effect on the dynamic behaviour of the rotor system. These effects include amplitude-dependent resonance shifts, changes in orbit shape, and nonlinear modifications to the frequency response. The study highlights the importance of incorporating nonlinear support models into the design and analysis of rotor systems, particularly in applications where bolted joints and conical washers are prevalent.

**Keywords:** Rotor dynamics, Nonlinear support, Belleville washer, Harmonic Balance Method (HBM), Rayleigh–Ritz method, Weak-form formulation



### ORTAOKUL ÖĞRENCİLERİNİN KENDİ KENDİNE ÖĞRENME BECERİ DÜZEYLERİNİN İNCELENMESİ INVESTIGATION OF SELF-DIRECTED LEARNING SKILL LEVELS OF MIDDLE SCHOOL STUDENTS

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#### ÖZET

Bu araştırmanın amacı, ortaokul 7. sınıf öğrencilerinin kendi kendine öğrenme beceri düzeylerini belirlemek ve bu becerilerin cinsiyet değişkenine göre farklılaşıp farklılaşmadığını incelemektir. Kendi kendine öğrenme, çağdaş eğitim yaklaşımlarında kritik bir beceri olarak kabul edilmekte olup, öğrencilerin öğrenme süreçlerini bağımsız yönetebilmeleri özellikle fen bilimleri eğitimi açısından önem taşımaktadır. Araştırma, nicel araştırma desenlerinden tarama modeline göre yürütülmüştür. Çalışmanın örneklemini, 2023-2024 eğitim-öğretim yılı bahar yarıyılında Kayseri'deki devlet ortaokullarında öğrenim gören 407 yedinci sınıf öğrencisi oluşturmaktadır. Veri toplama aracı olarak, 25 maddeden oluşan ve beşli Likert tipi yapıya sahip “Fen Bilimleri Dersine Yönelik Kendi Kendine Öğrenme Becerileri Ölçeği” kullanılmıştır. Ölçeğin genel Cronbach Alpha güvenirlik katsayısı 0.80 olarak hesaplanmıştır. Verilerin analizinde betimsel istatistikler ve cinsiyet değişkeninin etkisini belirlemek amacıyla bağımsız örneklem t-testi kullanılmış; analizler SPSS programı ile gerçekleştirilmiş ve verilerin normal dağılımı basıklık-çarpıklık değerleri ile teyit edilmiştir. Bulgular, öğrencilerin büyük çoğunluğunun (%79.4) kendi kendine öğrenme becerilerinin “iyi” veya “çok iyi” düzeyde olduğunu göstermiştir. Öğrencilerin sadece %0.5’inin “düşük” düzeyde beceriye sahip olduğu belirlenmiştir. Bağımsız örneklem t-testi sonuçları, kendi kendine öğrenme beceri düzeyleri açısından cinsiyetler arasında istatistiksel olarak anlamlı bir fark olmadığını ortaya koymuştur ( $p>0.05$ ). Sonuç olarak, araştırmaya katılan ortaokul öğrencilerinin genel itibarıyla yüksek düzeyde kendi kendine öğrenme becerilerine sahip oldukları ve bu becerilerin cinsiyetten etkilenmediği görülmüştür. Bu bulgular, fen bilimleri öğretiminde öğrenci merkezli yaklaşımların ve kendi kendine öğrenmeyi teşvik eden öğretim stratejilerinin tasarlanması ve uygulanması için değerli veriler sunmaktadır.

**Anahtar Kelimeler:** Fen Bilimleri, Kendi Kendine Öğrenme, Beceri, Nicel Araştırma, Ortaokul.

#### ABSTRACT

The aim of this research is to determine the self-directed learning skill levels of 7th-grade middle school students and to examine whether these skills differ based on the gender variable. Self-directed learning is considered a critical skill in contemporary educational approaches, and the ability of students to independently manage their learning processes is particularly important for science education. The research was conducted based on the survey model, a quantitative research design. The study sample comprised 407 seventh-grade students attending public middle schools in Kayseri during the spring



semester of the 2023-2024 academic year. The “Self-Directed Learning Skills Scale Towards Science Course”, comprising 25 items with a five-point Likert-type structure, was used as the data collection instrument. The overall Cronbach’ Alpha reliability coefficient for the scale was calculated as 0.80. Descriptive statistics and an independent samples t-test were employed for data analysis to determine the effect of the gender variable. Analyses were conducted using SPSS software, and the normality of data distribution was confirmed via skewness and kurtosis values. The findings indicated that the vast majority of students (79.4%) demonstrated “good” or “very good” levels of self-directed learning skills. Only 0.5% of the students were found to possess “low” level skills. The independent samples t-test results revealed no statistically significant difference between genders concerning self-directed learning skill levels ( $p>0.05$ ). In conclusion, the participating middle school students were generally found to possess high levels of self-directed learning skills, which were not influenced by gender. These findings provide valuable data for designing and implementing student-centered approaches and instructional strategies that promote self-directed learning in science education.

**Keywords:** Science Education, Self-Directed Learning, Skills, Quantitative Research, Middle School.

*\* Bu çalışma, birinci yazarın ikinci yazar danışmanlığında hazırladığı yüksek lisans tezinden üretilmiştir.*



### KOLOREKTAL KANSER GELİŞİMİNDE TGF- $\beta$ SİNYAL YOLAĞININ ÖNEMİ THE IMPORTANCE OF THE TGF- $\beta$ SIGNALING PATHWAY IN COLORECTAL CANCER PROGRESSION

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#### ÖZET

Kolorektal kanser (KRK), dünya çapında en sık teşhis edilen üçüncü malignitedir ve kanserle ilişkili ölüm oranlarında ise ikinci sırada yer almaktadır. Erkeklerde görülme sıklığı kadınlara oranla %25 daha fazladır ve ülkeler arasında belirgin farklılıklar göstermektedir. Avrupa Birliği Ülkelerinde, KRK'nın tüm yeni kanser teşhislerinin yaklaşık %12,7'sini ve tüm kanserle ilişkili ölümlerin ise yaklaşık %12,4'ünü oluşturduğu bildirilmektedir. KRK'lı hastalarda 5 yıllık sağ kalım, tanı anında hastalığın evresine bağlı olarak erkeklerde %28,5 ila %57 ve kadınlarda %30,9 ila %60 arasında değişmektedir. Evre IV'te tanı konulan hastalarda ise 5 yıllık sağ kalım, %10 gibi oldukça düşük oranlarda görülmektedir.

Karaciğer ve akciğer metastazları için yeni cerrahi yaklaşımlar ve bölgesel tedaviler olmakla birlikte, ileri evre KRK'lı hastaların prognozu zayıf kalmaya devam etmektedir. Bu nedenle, tedavi stratejilerini optimize etmek için kanser oluşumu ve metastaz gelişiminin altında yatan moleküler mekanizmaların belirlenmesi büyük önem arz etmektedir. Dönüştürücü büyüme faktörü-beta (TGF- $\beta$ ) sinyalleme, hücre büyümesi, farklılaşma, çoğalma, apoptoz, epitel-mezenkimal geçiş (EMT), hücre dışı matrisin (ECM) yeniden şekillenmesi, anjiyogenez, hücre bağışıklık tepkileri ve homeostaz dahil olmak üzere birçok biyolojik süreçte kritik rol oynayan en önemli yollardan biri olarak görülmektedir. Tümör oluşumunun erken evrelerinde TGF- $\beta$  proteini, hücre döngüsünün durmasını ve apoptozu indükleyerek baskılayıcı bir rol oynarken, kanserin ilerleyen aşamalarında TGF- $\beta$  neo-anjiyogenezi, tümör invazyonu ve metastazını kolaylaştıran immünoşüpresifler olarak fonksiyon göstermektedir. TGF- $\beta$  yolundaki değişiklikler ve ilişkili SMAD proteinlerindeki mutasyonlar kolorektal karsinogenezinde yaygındır ve bu nedenle tümör oluşumu ve gelişiminde kritik özellikler ortaya koymaktadır.

Bu incelemede normal TGF- $\beta$  sinyalizasyonu ve ardından bu sinyal yolağının KRK patogenezindeki rolüne yönelik çalışmalar irdelenmiştir. Aynı zamanda, birden fazla süreçteki stratejik rolü göz önüne alındığında, KRK hastalarında TGF- $\beta$ 'yi hedeflemek için geliştirilen farklı stratejileri ve buna yönelik terapötik hedefler olarak potansiyel klinik uygulamalar güncel literatür eşliğinde değerlendirilmiştir.

**Anahtar Kelimeler:** Kolorektal Kanser, TGF- $\beta$ , Moleküler Yolak

#### ABSTRACT

Colorectal cancer (CRC) is the third most commonly diagnosed malignancy worldwide and ranks second in terms of cancer-related mortality. The incidence in men is 25% higher than in women and varies significantly between countries. Within the European Union, the proportion of new cancer diagnoses attributable to CRC is approximately 12.7%, while CRC accounts for 12.4% of all cancer-



related deaths. In patients diagnosed with CRC, the 5-year survival rate varies between 28.5% and 57% in male patients and between 30.9% and 60% in female patients, depending on the stage of the disease at the time of diagnosis. In patients diagnosed at stage IV, the 5-year survival rate is as low as 10%.

Although there are new surgical approaches and regional therapies for liver and lung metastases, the prognosis for patients with advanced CRC remains poor. Therefore, it is crucial to identify the molecular mechanisms underlying cancerigenesis and metastasis development to optimize treatment strategies. Transforming growth factor-beta (TGF- $\beta$ ) signalling is considered to be one of the most significant pathways that play critical roles in many biological processes, including cell growth, differentiation, proliferation, apoptosis, epithelial-mesenchymal transition (EMT), extracellular matrix (ECM) remodelling, angiogenesis, cellular immune responses and homeostasis. In the early stages of tumourigenesis, TGF- $\beta$  protein plays a suppressive role by inducing cell cycle arrest and apoptosis. In the later stages of cancer, however, TGF- $\beta$  functions as an inhibitor of the immune system, facilitating neo-angiogenesis, tumour invasion and metastasis. Alterations in the TGF- $\beta$  pathway and mutations in associated SMAD proteins are common in colorectal carcinogenesis and thereby reveal critical features in tumorigenesis and development.

In this review, normal TGF- $\beta$  signaling and subsequent studies on the role of this signaling pathway in CRC pathogenesis are reviewed. At the same time, given its strategic role in multiple processes, we evaluate the different strategies developed to target TGF- $\beta$  in CRC patients and its potential clinical applications as therapeutic targets in the current literature.

**Keywords:** Colorectal Cancer, Transforming Growth Factor- $\beta$ , Molecular Pathway





### SCALING DATA FOR STRENGTH: EVALUATING CNN-BASED INVISIBLE WATERMARKING ACROSS VARYING MS-COCO DATASET SIZES

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#### ABSTRACT

Invisible watermarking is a crucial technique in the protection of digital media, allowing content owners to embed hidden information without degrading visual quality. With the growing application of deep learning in image processing, Convolutional Neural Networks (CNNs) have emerged as promising tools for learning adaptive watermarking strategies. While recent studies have explored the design and performance of such models, the influence of training dataset size on their effectiveness has received limited attention. This study examines how varying amounts of training data impact the imperceptibility and robustness of CNN-based invisible watermarking.

Using the MS-COCO 2017 validation set, we trained three separate autoencoder models on 25%, 50%, and 75% of the dataset, embedding a fixed grayscale watermark into color images. To assess image quality, we used standard metrics such as Structural Similarity Index (SSIM), Peak Signal-to-Noise Ratio (PSNR), and Mean Squared Error (MSE). In addition, we tested robustness by applying common attacks, including JPEG compression and Gaussian noise, to the watermarked images.

Our findings show that increasing the training dataset leads to better visual quality in the watermarked outputs, with noticeable improvements in both SSIM and PSNR. The model was highly resilient to JPEG compression across all dataset sizes. However, Gaussian noise had a more significant impact, particularly at lower data volumes. These results suggest that dataset scale is a key factor in enhancing both the fidelity and resilience of neural watermarking systems. This research provides valuable insight for future developments in watermarking technologies, especially those targeting real-world applications where image quality and security must be balanced effectively.

**Keywords:** CNN, invisible watermarking, MS-COCO, robustness, autoencoder



### DEFORMATION MEASUREMENTS IN EARTH-FILLED DAMS (EXAMPLE: DARLIK DAM)

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#### ABSTRACT

Darlık Dam plays a vital role in the water supply of Istanbul, and ensuring the safety of the dam has become even more important due to natural disasters such as earthquakes and floods, which have increased in recent years. Deformation measurements, which are used to monitor dam safety and identify potential risks in advance, are analyzed under two main headings: non-geodetic methods and geodetic methods. Non-geodetic methods provide instantaneous data by monitoring relative movements on the body with devices placed during dam construction. These methods enable continuous monitoring of small movements in the dam structure. On the other hand, geodetic methods detect the absolute movements and structural changes of the dam using precise measuring instruments such as GNSS, total station and leveling. These methods provide long-term monitoring of the dam's response to environmental factors and allow for more comprehensive analysis. In this paper, geodetic deformation measurements performed at Darlık Dam, one of the largest water sources of Istanbul, are discussed in detail. Due to the strategic importance of the dam, precise measurements were taken over geodetic networks installed at different points of the dam in deformation monitoring studies and these data were analyzed with advanced computational methods. The aim of the study is to emphasize the importance of geodetic deformation monitoring methods applied on earth-filled dams and to evaluate the results of monitoring studies conducted at Darlık Dam. The results obtained have provided valuable contributions to engineering processes in terms of monitoring the structural health of the dam, identifying potential hazards in advance and ensuring long-term safety. These data provide important clues to increase the sustainability of the structural health of dams and to ensure effective management of water resources.

#### ÖZET

İstanbul'un su temininde hayati bir rol oynayan Darlık Barajı'nın güvenliğinin sağlanması, son yıllarda artan deprem ve sel gibi doğal afetler nedeniyle daha da önemli hale gelmiştir. Baraj güvenliğini izlemek ve olası riskleri önceden tespit etmek için kullanılan deformasyon ölçümleri, jeodezik olmayan yöntemler ve jeodezik yöntemler olmak üzere iki ana başlık altında incelenmektedir. Jeodezik olmayan yöntemler, baraj inşaatı sırasında yerleştirilen cihazlarla gövde üzerindeki göreceli hareketleri izleyerek anlık veri sağlamaktadır. Bu yöntemler baraj yapısındaki küçük hareketlerin sürekli izlenmesini sağlar. Jeodezik yöntemler ise GNSS, total station ve sayısal nivo gibi hassas ölçüm aletleri kullanarak barajın bağlı ve mutlak hareketleri ile yapısal değişimlerini tespit eder. Bu yöntemler barajın çevresel faktörlere verdiği tepkinin uzun vadeli olarak izlenmesini sağlar ve daha kapsamlı analizlere olanak tanır. Bu çalışmada, İstanbul'un en büyük su kaynaklarından biri olan Darlık Barajı'nda gerçekleştirilen jeodezik



deformasyon ölçümleri ayrıntılı olarak ele alınmaktadır. Barajın stratejik önemi nedeniyle deformasyon izleme çalışmalarında barajın farklı noktalarına kurulan jeodezik ağlar üzerinden hassas ölçümler alınmış ve bu veriler ileri hesaplama yöntemleri ile analiz edilmiştir. Çalışmanın amacı, toprak dolgu barajlarda uygulanan jeodezik deformasyon izleme yöntemlerinin önemini vurgulamak ve Darlık Barajı'nda yapılan izleme çalışmalarının sonuçlarını değerlendirmektir. Elde edilen sonuçlar, barajın yapısal sağlığının izlenmesi, olası tehlikelerin önceden tespit edilmesi ve uzun vadeli güvenliğin sağlanması açısından mühendislik süreçlerine değerli katkılar sağlamıştır. Bu veriler, barajların yapısal sağlığının sürdürülebilirliğini artırmak ve su kaynaklarının etkin yönetimini sağlamak için önemli ipuçları sağlamaktadır.

**Introduction and Purpose:** Dams are critical engineering structures constructed for energy generation, drinking water supply, agricultural irrigation and flood control. In recent years, dam safety against natural disaster risks has become increasingly important. Therefore, the structural health of dams needs to be continuously monitored. In this study, geodetic deformation monitoring methods carried out at the Darlık Dam, which has a strategic importance in the water supply of Istanbul, are discussed in detail. Since Darlık Dam is one of the largest sources of drinking water supply to Istanbul, ensuring its safety is of vital importance. For this purpose, precise measurements are made through geodetic networks established at different points of the dam and the structural condition of the dam is continuously monitored by evaluating these data with advanced analysis methods. Geodetic methods allow the movements of the dam body to be monitored in a time-dependent manner so that possible deformations can be detected and intervened early. The aim of the study is to introduce the monitoring studies carried out at Darlık Dam, to provide information about the advanced technologies used in this process and to share the recommendations developed for dam safety.

**Materials and Methods:** In the study, precise measurements were taken, and structural movements were monitored using geodetic networks installed at different points of the dam. Precision GNSS ( $\pm 5$  mm), total station ( $0.5''$  angle accuracy and  $0.6 \text{ mm} + 1.0 \text{ ppm}$  distance accuracy) and leveling ( $0.3 \text{ mm/km}$ ) were used as data collection tools. The location information of the dam was obtained with GNSS, angle and distance measurements were performed with total station, and elevation changes were determined with leveling. During the measurement process, corrections were made according to the ambient conditions and data reliability was ensured. The data collected were analyzed by geodetic methods and deformation trends were determined. Correlation and regression analyses were used to examine the relationships between the structural condition of the dam and environmental factors. These methods allowed the acquisition of critical information for the safety of Darlık Dam.

**Results:** After the completion of the Darlık Dam, deformation monitoring studies were carried out continuously. In these studies, which were carried out twice a year, the movements around the dam were meticulously monitored at certain points. The geodetic deformation network is composed of 4 points on solid ground and 9 points in areas where movement is expected, while the classical triangulation network consists of 13 points in total. The accuracy of the deformation measurements, which were carried out on 9 separate dates, was ensured by station balancing and error analysis, and height differences and horizontal distances were meticulously checked. The difference tables and graphs show the evolution of



the measurement results over time and provide critical data on the structural condition and long-term performance of the dam. This data contributes to the early detection of potential structural problems.

**Discussion and Conclusion:** The measurement data provides important information for regular monitoring of the stability and safety of the dam. No inconsistencies or errors between observations were detected because of the straightness, edge and leveling measurements. In addition, data critical to the structural condition and long-term safety of the dam were found to be consistent with the reference points. The findings indicate that the structural integrity of the dam is preserved and there is no risk because of deformation measurements.

**Key Words:** Deformation, Darlık Dam, geodetic deformation, dam safety, structural monitoring



### DESIGN OF MICROCONTROLLER-BASED RESONANCE MONITORING SYSTEM FOR LLC TYPE MEDIUM FREQUENCY INVERTER

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#### ABSTRACT

Resonant inverters are widely chosen for their low switching losses and high efficiency, but maintaining peak performance remains challenging under varying load conditions. This study presents a microcontroller-based resonance monitoring system design to overcome the limitations of traditional LLC inverters, which typically rely on fixed control schemes or hardware-only solutions with limited dynamic response. The designed system is specifically adapted for a 10 kW, 10 kHz LLC resonant inverter used in induction heating applications. A series-resonant topology is employed, in which an inductively coupled voltage-source inverter drives the LLC tank to maximize current transfer while preserving a straightforward control structure, high power density and efficient thermal management. A full-bridge PWM stage using IGBTs is then synchronized to the resonant inductor's zero-current crossings, thus achieving Zero-Current Switching. This arrangement makes it possible to track the resonant frequency continuously: an ARM-based STM32G484CE microcontroller measures the tank response, detects resonance and adjusts the switching frequency in real time. Experimental results show the system responds rapidly to load transients and maintains a tracking error between  $\pm 1\%$  and  $\pm 0.5\%$ . Keeping the operating frequency close to resonance reduces switching and conduction losses, significantly expanding the inverter's high-efficiency range.

**Keywords:** Resonance Tracking, Induction Heating, LLC Resonant Inverter.



### DESIGN OF WEB-BASED CONTROL INTERFACE USING HTTPD PROTOCOL FOR ARM MICROPROCESSOR-BASED ETHERNET SWITCHING

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#### ABSTRACT

The growing number of in-vehicle electronic components—such as IP cameras, validators, and driver terminals—has led to the need for a centralized control and monitoring platform in modern transportation systems. To address this demand, the R&D Center of Kent Kart Ege Elektronik has developed a managed 48V Power over Ethernet switch that supports serial communication and the Simple Network Management Protocol for device communication and power distribution. This study focuses on expanding the capabilities of this switch by integrating Lightweight IP (LWIP) and Hypertext Transfer Protocol Daemon (HTTPD) support into a microcontroller, alongside developing a web-based control interface. The microcontroller is the STM32F107RCT6, part of the ARM Cortex-M3 family, and it is adapted to support TCP/IP stack functionality through LWIP, and lightweight web server capabilities via HTTPD. These protocol integrations are implemented using STM32CubeIDE and the C programming language. The web-based control interface is developed using HTML, CSS, and JavaScript, providing access through standard web browsers. It is hosted on the embedded HTTP server of the switch and accessed via a web browser over a direct ethernet connection from a connected computer. The developed interface enables real-time monitoring of connected devices, including their operational status, network connectivity, and input voltage supplied to the ethernet switch. This allows early fault detection and simplifies system diagnostics. In addition to enhancing the system's user interactivity, the study strengthens the existing communication capabilities of the device by complementing SNMP and serial communication with modern, web-based interaction.

**Keywords:** STM32, LWIP, HTTPD, Ethernet Switch, Web Interface.





### GÖRÜNTÜ SAHTEKÂRLIĞININ GÖLGE DURUMU AÇISINDAN İNCELEMESİ

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#### ABSTRACT

With the instant availability of cameras to every person through mobile phones, every moment of the day and every event can be recorded. These images and videos can also be circulated worldwide via the Internet. Not only original images, but also images with altered content or structure are frequently used to mislead with disinformation, to attract attention in social media or to gain an advantage in favour of or against records that could be evidence. The manipulation of the content or structure of an image for these or similar purposes is called image forgery. In this study, shadow-based detection methods for detecting deception are discussed and analysed. The success rates of artificial intelligence-supported studies are also evaluated in terms of future use.

**KEY WORDS:** Digital Image Processing, Shadow Analysis, Deepfake, Image Forgery, Forensics, Image Verification Techniques, Forged Image Detection

#### ÖZET

Kameraların, cep telefonları aracılığıyla her insanın anlık kullanımına sunulması ile beraber günün her anı ve her olay kaydedilebilir hale geldi. Bu görüntü ve videolar, internet aracılığıyla da dünya genelinde dolaşıma girebilmektedir. Dezenformasyon ile yanıltma, sosyal medyada dikkat çekme ya da delil olabilecek kayıtlarda lehte ya da aleyhte avantaj sağlamak amacıyla sadece orjinal görüntüler değil, içeriği ya da yapısıyla oynanmış görüntüler de sıklıkla kullanılmaktadır. Bu veya benzeri amaçlarla, bir görüntünün içeriğinde ya da yapısında manipülasyon yapılmasına görüntü sahtekarlığı adı verilir. Bu çalışmada aldatmanın ortaya çıkartılması için gölge tabanlı tespit yöntemleri ele alınarak, analiz edilmiştir. Yapay zeka destekli çalışmaların başarı oranları da gelecek dönemde kullanım açısından değerlendirilmiştir.

**ANAHTAR KELİMELELER:** Dijital Görüntü İşleme, Gölge Analizi, Derin Sahte, Görüntü Sahtekarlığı, Adli Bilişim, Görüntü Doğrulama Teknikleri, Sahte Görüntü Tespiti



### BOYUN EĞİCİ DAVRANIŞLARIN YORDAYICISI OLARAK EBEVEYN TUTUMU VE DIŞSAL UTANÇ

### PARENTAL ATTITUDES AND EXTERNAL SHAME AS PREDICTORS OF SUBMISSIVE BEHAVIOR

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#### ÖZET

Bu çalışma, algılanan ebeveyn tutumları ve dışsal utanç boyun eğici davranışlar üzerindeki yordayıcı etkisini incelemeyi amaçlamıştır. Dışsal utanç, bireyin başkalarının gözünde olumsuz algılandığına dair geliştirdiği utanç duygusudur ve bu hissin, bireyin daha fazla uyum sağlayıcı davranış sergilemesine neden olabileceği düşünülmektedir. Araştırmada veri toplama araçları Boyun Eğici Davranışlar Ölçeği, 'Utandırıcı Diğer Ölçeği-2', 'Çocuk Yetiştirme Tutum Ölçeği' ve "Sosyodemografik Bilgi Formu" kullanılmıştır. Örneklemi, yaşları 18-53 arasında değişen, 177 kadın ve 133 erkek olmak üzere toplam 310 yetişkin oluşturmuştur. Çalışma için toplanan verilerin normallik testleri yapıldığında çarpıklık (Skewness) değerlerinin -.51 ile .98 arasında, basıklık (Kurtosis) değerlerinin ise -.69 ile .99 arasında değiştiği görülmüştür, bu değerler veri setinin normal dağılıma sahip olduğunu göstermiştir. Yapılan t-testi sonucunda değişkenlerin cinsiyete göre anlamlı bir şekilde farklılaşmadığı ( $p > .05$ ) ve ilişki durumu ve eğitim düzeyine göre farklılaşmalar olduğu ortaya çıkmıştır. Dışsal utanç ile boyun eğici davranışlar arasında pozitif ve orta düzeyde bir ilişki bulunmuştur ( $r = .53, p < .01$ ). Yapılan regresyon analizine göre, dışsal utanç boyun eğici davranışların %28'ini anlamlı şekilde yordamaktadır ( $\beta = .53, p < .001$ ). Bireyin hissettiği dışsal utanç arttıkça, boyun eğici davranışlar gösterme eğilimi de artmıştır. Algılanan anne kabulü ( $\beta = -.15, p < .05$ ) ve baba kabulü ( $\beta = -.16, p < .05$ ), boyun eğici davranışları negatif yönde; anne ( $\beta = .16, p < .05$ ) ve baba kontrolü ( $\beta = .13, p < .05$ ) ise pozitif yönde ve düşük düzeyde yordamaktadır. Bu sonuçlar, bireyin erken dönemde algıladığı ebeveyn tutumlarının ve dışsal utanç duygusunun, sosyal ilişkilerde sergilenen boyun eğici davranışlar üzerinde etkili olabileceğini göstermektedir.

**Anahtar Kelimeler:** boyun eğici davranışlar, dışsal utanç, ebeveyn tutumları.

#### ABSTRACT

This study aims to examine the predictive effects of perceived parenting styles and external shame on submissive behaviors. External shame is the feeling that an individual develops when they believe they are negatively perceived by others, and it is thought that this feeling may lead to the individual displaying more accommodative behaviors. The data collection tools used in this study were the 'Submissive Behaviors Scale', 'Other as Shamer Scale-2', 'Parenting Styles Questionnaire' and 'Sociodemographic Information Form'. The sample consisted of 310 adults, 177 women and 133 men, aged between 18 and 53. The data showed normal distribution, and an independent t-test was performed for sociodemographic



variables. When normality tests were performed on the collected data, it was found that the skewness values ranged from  $-.51$  to  $.98$ , and the kurtosis values ranged from  $-.69$  to  $.99$ , indicating that the dataset followed a normal distribution. The t-test revealed that the variables did not differ significantly based on gender ( $p > .05$ ), while differences were found based on relationship status and education level. A positive and moderate relationship was found between external shame and submissive behaviors ( $r = .53, p < .01$ ). According to regression analysis, external shame significantly predicts 28% of submissive behaviors ( $\beta = .53, p < .001$ ). As the individual's experience of external shame increases, the tendency to exhibit submissive behaviors also increases. Perceived maternal acceptance ( $\beta = -.15, p < .05$ ) and paternal acceptance ( $\beta = -.16, p < .05$ ) negatively predict submissive behaviors, while maternal control ( $\beta = .16, p < .05$ ) and paternal control ( $\beta = .13, p < .05$ ) positively and weakly predict submissive behaviors. These results suggest that the parenting styles perceived by an individual in early stages and the feeling of external shame may have an impact on the submissive behaviors exhibited in social relationships.

**Keywords:** submissive behaviors, external shame, parenting styles.



### GAS CHROMATOGRAPHY-OLFACTOMETRY (GCO) SCREENING OF ODORANT COMPOUNDS ASSOCIATED WITH THE TAILS-OFF FLAVOUR IN WINE DISTILLATES

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#### ABSTRACT

The development of off-flavours in wine distillates, particularly those associated with the tails fraction, is a key issue in the production of high-quality spirits. The traditional distillation of wine to obtain wine spirit is carried out discontinuously in a still, requiring the precise separation of the distillation fractions: heads, hearts, and tails, each with a distinct chemical composition. The final fraction, known as the "tails," is typically separated due to its heavy and unpleasant aroma, which is identified in the sensory evaluation of wine spirits and is negatively correlated with overall wine spirit quality. However, the specific compound or compounds responsible for this tails-off flavour have yet to be identified.

Therefore, this study aims to identify and characterize the volatile compounds responsible for the "tails-off" flavour in certain wine distillate tails fractions using Gas Chromatography-Olfactometry (GCO), an analytical technique that combines gas chromatography/flame ionization detector (GC-FID) with human olfactory detection, allowing for the direct identification of odorant compounds in complex matrices like wine distillates. A frequency detection method was applied using nine sniffers to evaluate the detected odour notes while the compounds were simultaneously eluted in the FID detector. This approach aids in identifying compounds with "tails" odour notes. In parallel, gas chromatography/mass spectrometry (GC-MS) was used to determine the exact identity of the compounds.

The initial results of this study reveal the presence of compounds with both pleasant and unpleasant odour notes in the tails fraction, originating from different chemical families. For example, the sniffers detected the presence of diacetyl, which imparts butter, caramel, and vanilla notes, as well as isovaleric acid, which has cheese and foot odour notes. However, no compound was detected in the analysed tails fraction with a distinct "tails" odour. Most of the compounds with heavy and unpleasant aromas belonged to the fatty acid family.



By identifying the specific odorant compounds responsible for the tails-off flavour, this research lays the groundwork for potential strategies in distillation process optimization, aimed at reducing off-flavour development and improving the overall sensory quality of wine-based distillates.

**Keywords:** wine distillate, tails, off flavours, odorants

### Acknowledgments

This work was supported by Foundation for Science and Technology (FCT, Portugal) for their financial support through the Projects UIDB/05183 [MED&CHANGE], UIDB/00681 [CERNAS-IPCB] and [RISE-HEALTH]



### THE ROLE OF INDUSTRIAL DESIGN IN SUSTAINABILITY

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#### ABSTRACT

Today, with growing worries about the environment and an awareness of how our consumer habits affect the world around us, industrial design plays an essential role in moving the world closer to a more sustainable future. Due to resource scarcity and environmental destruction, traditional production models (short-term profit, mass production) are now being questioned and replaced by design strategies centered on ecological sustainability and social well-being. Sustainable design is shaped by minimizing damage to nature, extending product life, facilitating recycling, and using environmentally friendly materials. In the product design process, elements such as energy and resource efficiency, life cycle analysis (Hemel, 1998), and social responsibility are important for sustainability. Sustainable principles influence how industrial products are designed, created, and consumed, starting from the selection of environmentally friendly materials to a design process focusing on disassembly. It rethinks the role of the designer and elevates the transformative power of design as an embedded methodology for the environmental and social transformations that the world needs. The need for products that minimize environmental impacts, utilize sustainable materials, and encourage resource efficiency is increasing and pushing the industry to innovate more sustainable production processes, products that are easier to recycle or dispose of, and designs that extend product life (Pasupuleti, 2024). According to Manzini and Vezzoli (2008), sustainability could be a strategic plan for the future; a protection of the environment, culture, and socially responsible future for generations. A key component of an ideal industrial ecosystem is to enhance the resource efficiency of materials. However, Haupt and others define the term as a system where material and energy are used with minimal loss through widespread reuse, recycling, and regeneration in production and consumption systems (Haupt et al., 2016). This paper discusses the industrial design practices that are redefining sustainable design principles (circular economy, cradle-to-cradle, life cycle thinking and design for environment). The importance of using sustainable materials, energy efficiency, and ethical practices throughout product life cycles. Though based on theory, design for sustainability is more commonly associated with applied strategies, such as durability, reusability, and minimal environmental load, throughout a product's life. Design has established itself as a means of ecological and social transformation, beyond simply playing with aesthetics and functionality. At the same time, it looks into the impact that the infusion of technologies associated with Industry 4.0 (IoT, AI) has on promoting smart and sustainable production systems while requiring the need for innovation in design thinking and business ethics. Sustainable industrial design is not only a competitive necessity but also an issue of long-term global welfare.



### A STUDY ON CONTEMPORARY FACADES OF TALL BUILDINGS - THE CASE OF TIRANA, ALBANIA

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#### ABSTRACT

One of the most significant issues and difficulties that developing societies face is the physical identity of buildings and urban facades. Albania is also one of these rapidly developing countries. Mostly in Tirana, there has also been a surge in change, with a number of high-rise new buildings and the exterior appearance of architecture in the capital. Representing these advancements in the methods for using building materials, among the many important components are facades. In recent years, curtain walls have remained one of the most enduring concepts of modern architectural theory. They are transforming cities' not only aspects of aesthetics but also technical performance. Particularly in contemporary practice, curtain walls offer a microcosm of key architectural concerns, such as energy and climate responsiveness, resource efficiency, digital design and fabrication breakthroughs, and the age-old goal of designing structures and areas that are both functional and imaginative. So contemporary facades are created differently depending on the shape, style, individual approach, climatic or cultural reaction, and techniques employed. Consequently, contemporary curtain walls are becoming an increasingly complex system. This study aims to provide state-of-the-art information on the structural characterization of contemporary facades, with a special focus on the rapidly developing European city of Tirana. This aims to identify and classify design and execution metrics with the effect of climate conditions, with a specific focus on the region. The study's main objectives are to generate a variety of patterns, analyze and comprehend the tall structures, and evaluate how these patterns affect stability. Investigating architectural surface elements that are both visually beautiful and effectively applied is the aim. Architectural designs that handle surfaces in accordance with structural connections and different connecting and regulating processes are analyzed as part of the research. The paper will analyze 12 tall buildings constructed last decade that are over 70 meters. With this paper, it is thought that it will contribute to the development of the structures planned to be built and enhance sustainability later in the region. Conclusions were developed by collaborative analysis and synthesis of inferences from case studies in each area and categorization. It also compares the convenience for a wider range of receivers in European society.

**Keywords:** Contemporary facades, design, metrics, structural parameters.





### UNUTULAN DERSLER, HATIRLANAN DENEYLER: FEN BİLİMLERİ ÖĞRETMENLERİNİN ÖĞRENCİLİK YILLARINDAKİ FEN ÖĞRENME DENEYİMLERİ ÜZERİNE BİR İNCELEME

### FORGOTTEN LESSONS, REMEMBERED EXPERIMENTS: AN INVESTIGATION INTO SCIENCE TEACHERS' SCIENCE LEARNING EXPERIENCES DURING THEIR STUDENT YEARS

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#### ÖZET

Fen Bilimleri öğretmenlerinin kendi öğrencilik yıllarındaki deneyimleri, mevcut öğretim pratiklerini ve tutumlarını şekillendirmede kritik bir rol oynamaktadır. Bu deneyimsel anıları anlamak, fen eğitiminin iyileştirilmesi açısından önemlidir. Bu çalışma, Fen Bilimleri öğretmenlerinin öğrencilik yıllarındaki fen dersi öğrenme deneyimlerine ve laboratuvar çalışmalarına katılımlarına ilişkin anılarını derinlemesine incelemeyi amaçlamıştır. Nitel araştırma desenlerinden olgubilim yaklaşımının benimsendiği çalışmada, Kayseri ilindeki devlet ortaokullarında görev yapan ve en az 10 yıl mesleki kıdeme sahip 12 Fen Bilimleri öğretmeni ile yarı yapılandırılmış görüşmeler gerçekleştirilmiştir. Veriler, içerik analizi yöntemiyle analiz edilerek temalar ve kategoriler belirlenmiştir. Bulgular, “Öğrenme Deneyimleri” ve “Laboratuvar ve Deney Çalışmaları” olmak üzere iki ana tema altında toplanmıştır. Öğretmenler, özellikle “canlılar dünyası” ve “sistemler” gibi yaşamla ilişkili konuları ve “basit makineler” gibi uygulamalı etkinlikleri olumlu hatırlarken; “çok yazı yazma”, “ezbere dayalı sistem” ve “materyal yetersizliği” gibi zorlukları sıklıkla dile getirmişlerdir. Katılımcıların çoğu, öğrencilik yıllarında laboratuvar imkanlarının kısıtlı olduğunu veya hiç olmadığını belirtmiştir. Deney yapma fırsatı bulduklarında ise bu deneyimlerin “kalıcı öğrenme”, “yaparak yaşayarak öğrenme” ve “somut öğrenme” sağladığını ifade etmişlerdir. Ancak genel olarak deneyimlerin ayrıntılarını hatırlamakta zorlanmaları, pasif öğrenme ortamlarının yaygınlığına işaret etmektedir. Sonuç olarak, aktif ve yaşantısal öğrenme (deneyler, ilgi çekici konular) pasif yöntemlere kıyasla daha kalıcı ve olumlu anılar bırakmaktadır. Bulgular, fen eğitiminde ezberci yaklaşımlar yerine uygulamalı, sorgulamaya dayalı ve öğrenci merkezli yöntemlerin önemini vurgulamakta ve öğretmen eğitiminden başlayarak tüm eğitim kademelerinde laboratuvar kullanımının ve aktif öğrenme stratejilerinin yaygınlaştırılması gerektiğini ortaya koymaktadır.

**Anahtar Kelimeler:** Fen eğitimi, Öğretmen anıları, Olgubilim, Öğrenme deneyimleri, Laboratuvar çalışmaları.



### ABSTRACT

Science teachers' own experiences during their student years play a critical role in shaping their current teaching practices and attitudes. Understanding these experiential memories is important for improving science education. This study aimed to explore in-depth the memories of science teachers regarding their science course learning experiences and participation in laboratory activities during their student years. Employing a phenomenological approach within qualitative research designs, the study conducted semi-structured interviews with 12 science teachers working in public middle schools in Kayseri province, each with at least 10 years of professional experience. Data were analyzed using the content analysis method, identifying themes and categories. Findings were grouped under two main themes: "Learning Experiences" and "Laboratory and Experiment Activities". Teachers positively recalled topics related to life (living world, systems) and hands-on activities (simple machines), while frequently mentioning challenges such as "excessive writing", "rote-based system", and "material inadequacy". Most participants reported that laboratory facilities were limited or non-existent during their student years. When they did have the opportunity to conduct experiments, these experiences were described as providing "permanent learning", "learning by doing", and "concrete learning". However, their general difficulty in recalling the details of experiences points to the prevalence of passive learning environments. In conclusion, active and experiential learning (experiments, engaging topics) leaves more lasting and positive memories compared to passive methods. The findings underscore the importance of hands-on, inquiry-based, and student-centered methods over rote approaches in science education, highlighting the need to promote laboratory use and active learning strategies across all educational levels, beginning with teacher training.

**Keywords:** Science education, Teacher memories, Phenomenology, Learning experiences, Laboratory activities.

*\* Bu çalışma, birinci yazarın ikinci yazar danışmanlığında hazırladığı yüksek lisans tezinden üretilmiştir.*

## 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES



### FEN ÖĞRETİMİ KAPSAMINDA AÇIK UÇLU SORULAR: FEN BİLİMLERİ ÖĞRETMENLERİNİN FARKINDALIKLARINA İLİŞKİN FENOMENOLOJİK BİR ARAŞTIRMA

#### OPEN-ENDED QUESTIONS WITHIN SCIENCE EDUCATION: A PHENOMENOLOGICAL STUDY OF SCIENCE TEACHERS' AWARENESS

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#### ÖZET

Fen bilimleri eğitiminde üst düzey düşünme becerilerinin geliştirilmesi ve değerlendirilmesi küresel bir önceliktir. Bu bağlamda, Türkiye'de Millî Eğitim Bakanlığı'nın 2023 yılında ölçme ve değerlendirme yönetmeliğinde yaptığı değişiklik ile yazılı sınavlarda açık uçlu sorulara geçiş kararı, bu soruların fen öğretimindeki rolünü ve öğretmenlerin bu konudaki farkındalığını önemli hale getirmiştir. Bu çalışma, Fen Bilimleri öğretmenlerinin fen öğretimi kapsamında açık uçlu sorulara ilişkin farkındalıklarını ve deneyimlerini fenomenolojik bir yaklaşımla derinlemesine incelemeyi amaçlamaktadır. Araştırma, Kayseri ilinde görev yapan ve açık uçlu soru hazırlama/değerlendirme deneyimi olan 10 Fen Bilimleri öğretmeni ile yürütülmüştür. Veriler, yarı yapılandırılmış görüşmeler yoluyla toplanmış ve içerik analizi yöntemiyle analiz edilmiştir. Bulgular, öğretmenlerin açık uçlu soruları genellikle “üst düzey bilişsel becerileri” ölçme aracı olarak tanımladıklarını, ayrıca “özgün düşünme”, “ifade özgürlüğü” ve “ifade yeteneği” ile ilişkilendirdiklerini göstermiştir. Öğretmenler, bu soruları yönetmelik değişikliği sonrası zorunlu olarak “yazılı sınavlarda” kullandıklarını, ancak “ders esnası”, “ünite değerlendirmesi” gibi farklı öğretim aşamalarında da kullandıklarını belirtmişlerdir. Soruların özellikle “yer ve çevre bilimi” ile “biyoloji” gibi sözel yoruma açık alanlarda daha uygun olduğunu düşünürken, “fizik” gibi matematiksel işlem gerektiren alanlarda kullanımını daha sınırlı gördükleri anlaşılmıştır. Öğretmenler, açık uçlu soruların faydalarını kabul etmekle birlikte, öğrencilerin cevaplama zorlukları, potansiyel kaygı ve hazırlık/değerlendirme süreçlerindeki zorluklar gibi endişeleri de dile getirmişlerdir. Sonuç olarak, öğretmenlerin açık uçlu soruların önemini kavramış olsalar da, bu soruları etkili bir şekilde tasarlama ve öğretim sürecine entegre etme konusunda desteğe ihtiyaç duydukları görülmektedir. Çalışma, öğretmen eğitimi ve mesleki gelişim programlarında açık uçlu soru yazma ve değerlendirme becerilerinin geliştirilmesinin önemini vurgulamaktadır.

**Anahtar Kelimeler:** Açık uçlu sorular, Fen eğitimi, Öğretmen farkındalığı, Fenomenoloji, Ölçme ve değerlendirme, Üst düzey düşünme becerileri.

#### ABSTRACT

The development and assessment of higher-order thinking skills in science education is a global priority. In this context, the decision by the Ministry of National Education in Türkiye in 2023 to transition to open-ended questions in written examinations, through a change in assessment regulations, has



highlighted the role of these questions in science teaching and the importance of teacher awareness on this subject. This study aims to explore in-depth the awareness and experiences of science teachers regarding open-ended questions within the scope of science education, using a phenomenological approach. The research was conducted with 10 science teachers working in Kayseri province who have experience in preparing/evaluating open-ended questions. Data were collected through semi-structured interviews and analyzed using the content analysis method. Findings revealed that teachers generally define open-ended questions as tools for measuring “higher-order cognitive skills”, and also associate them with “original thinking”, “freedom of expression”, and “expressive ability”. Teachers indicated that they mandatorily use these questions in “written examinations” following the regulatory change, but also utilize them during different teaching phases such as “during lessons” and for “unit assessment”. It was understood that while teachers consider these questions more suitable for fields open to verbal interpretation like “earth and environmental science” and “biology”, they perceive their use as more limited in fields requiring mathematical operations, such as “physics”. Although teachers acknowledge the benefits of open-ended questions, they also expressed concerns regarding students' difficulties in responding, potential anxiety, and challenges in the preparation/evaluation processes. In conclusion, while teachers seem to grasp the importance of open-ended questions, they appear to need support in effectively designing these questions and integrating them into the teaching process. The study emphasizes the importance of developing open-ended question writing and evaluation skills in teacher education and professional development programs.

**Keywords:** Open-ended questions, Science education, Teacher awareness, Phenomenology, Measurement and assessment, Higher-order thinking skills.

*\* Bu çalışma, birinci yazarın ikinci yazar danışmanlığında hazırladığı yüksek lisans tezinden üretilmiştir.*



### TFRS 9 FİNANSAL ARAÇLAR STANDARDININ BANKACILIK SEKTÖRÜNE ETKİSİ: BİST BANKA ENDEKSİNDE YER ALAN SEÇİLMİŞ BANKALARIN TAKİP ORANLARI İLE MAKROEKONOMİK DEĞİŞKENLER ARASINDAKİ İLİŞKİ

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#### ÖZET

Bu çalışmada TMS 39 Finansal Araçlar: Muhasebeleştirme ve Ölçme Standardı yerine yürürlüğe giren TFRS 9 Finansal Araçlar Standardı ile uygulamaya geçen yenilikler ve beklenen kredi zararı modelinin etkileri tanıtılacaktır. Çalışmanın ampirik kısmında ise makroekonomik değişkenlerden enflasyon, döviz kuru ve Gayri Safi Yurt İçi Hasıla (GSYİH)'nın bankaların kredi takip oranlarına etkilerini ölçmek ve değerlendirmek amaçlanmıştır. Bu amaçla, BİST Banka Endeksinde yer alan seçilmiş 6 adet bankanın 2011Q2-2024Q3 dönemine ilişkin takip oranları ile enflasyon, döviz kuru ve GSYİH makroekonomik değişkenleri kullanılarak analizler gerçekleştirilmiştir. Çalışmadan elde edilen ampirik bulgular incelendiğinde TFRS 9 sonrasında enflasyondan takip oranlarına doğru nedensellik ilişkisi sayısının arttığı, döviz kurundan takip oranlarına doğru nedensellik ilişkisi sayısının azaldığı ve GSYİH'dan takip oranlarına doğru nedensellik ilişkisi sayısının değişmediği tespit edilmiştir. Yapılacak gelecek çalışmalarda farklı makroekonomik değişkenlerin modele dahil edilerek daha derinlemesine analizlerin gerçekleştirilmesi detaylı sonuçların elde edilmesini sağlayacaktır.

**Anahtar Sözcükler:** TFRS 9, Takip Oranı, BİST Banka, Fourier Nedensellik Testi

#### ABSTRACT

This study will introduce the innovations put into practice with the IFRS 9 Financial Instruments Standard, which replaced the IAS 39 Financial Instruments: Accounting and Measurement Standard, and the effects of the expected credit loss model. In the empirical part of the study, it is aimed to measure and evaluate the effects of macroeconomic variables such as inflation, exchange rate and Gross Domestic Product (GDP) on banks' credit monitoring rates. For this purpose, analyses were conducted using the monitoring rates of 6 selected banks included in the BIST Bank Index for the period 2011Q2-2024Q3 and the macroeconomic variables of inflation, exchange rate and GDP. When the empirical findings obtained from the study are examined, it is determined that the number of causal relationships from inflation to monitoring rates increased after IFRS9, the number of causal relationships from exchange rate to monitoring rates decreased and the number of causal relationships from GDP to monitoring rates did not change. In future studies, more in-depth analyses will be carried out by including different macroeconomic variables in the model and will enable detailed results to be obtained.

**Keywords:** IFRS 9, Non-Performing Loan (NPL) Ratio, BIST Bank, Fourier Causality Test



### COMPARISON OF TEMPO TC, ISO 4832, AND CHROMOGENIC PLATE METHODS FOR THE ENUMERATION OF TOTAL COLIFORMS IN MILK AND CHICKEN SAMPLES

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#### ABSTRACT

Plate-based methods remain the reference standard for the enumeration of coliforms in diverse food matrices; however, they are labor-intensive, time-consuming, and require skilled personnel for accurate execution. In addition, the bioMérieux TEMPO system offers a rapid, automated alternative for the monitoring of total coliforms. This study aimed to compare the TEMPO TC (Total coliforms) automated system, International Standard Organization (ISO) 4832, and two chromogenic media (Biokar COMPASS Ecc Agar and VWR Chromocult Coliform Agar) for the enumeration of total coliforms using various spiked milk and chicken samples from different lots and batches. Spiked samples were prepared at three contamination levels: low, medium, and high. As a high level of contamination,  $8 \times 10^3$  cfu/g *E.coli*, as a moderate level contamination,  $8 \times 10^2$  cfu/g *E.coli*, and as a low-level contamination  $8 \times 10^1$  cfu/g *E.coli* were used. Total coliforms were compared with the TEMPO system and ISO 4832 and  $R^2$  as a result of the regression analysis was found as 0.91. An  $R^2$  0.87 value was determined using the TEMPO method and VWR and ECC chromogenic media culture. In addition, an  $R^2$  value of 0.86 was observed comparing the ISO 4832 method with the selective chromogenic medium. This study demonstrated that the TEMPO TC, ISO 4832, and chromogenic culture medium methods yielded comparable and statistically consistent results for enumeration of total coliforms across high, medium, and low contamination levels. In addition, TEMPO coliform count implementation verification was conducted in our laboratory and the implementation verification fulfills the predetermined acceptability standards according to ISO 16140-3: 2021.

**Keywords:** Total coliform, TEMPO TC, ISO 4832, Method verification, chromogenic culture media





### LINKING KARST GEOLOGY TO GROUNDWATER CHEMISTRY: HYDROGEOCHEMICAL INSIGHTS FROM ULA, SW TÜRKİYE

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#### ABSTRACT

This study investigates karst systems in the Akyaka district of Ula, Muğla (SW Türkiye), which are unique hydrogeological formations formed by the dissolution of soluble rocks via surface and groundwater interactions. These systems, typically developed in carbonate and gypsum lithologies over geological timescales, are influenced by environmental and climatic factors. A total of 16 sampling points were selected for groundwater analysis. Collected samples were chemically analyzed for major ions. Results indicate that the groundwater in the study area is characterized by low to moderate ionic strength and physicochemical content, rendering it suitable for domestic and agricultural use. Electrical conductivity (EC) ranged from 248 to 1054  $\mu\text{S}/\text{cm}$  (average: 508.69  $\mu\text{S}/\text{cm}$ ), denoting moderate salinity. The majority of samples (85.72%) fall within the C2 (medium salinity) category, while fewer belong to the C1 (low) and C3 (high) categories. Calcium ( $\text{Ca}^{2+}$ ) and magnesium ( $\text{Mg}^{2+}$ ) concentrations range from 1.58–8.85 mg/L and 0.21–6.2 mg/L, respectively, indicating soft to moderately hard water with low scaling potential. These findings align with previous regional studies (e.g., Altın et al., 2017), suggesting stable groundwater conditions. Sodium ( $\text{Na}^{+}$ ) and potassium ( $\text{K}^{+}$ ) concentrations are low, averaging 0.87 mg/L and 0.10 mg/L, respectively. Among anions, bicarbonate ( $\text{HCO}_3^{-}$ ) is dominant, reflecting carbonate rock dissolution, with variable contributions from chloride ( $\text{Cl}^{-}$ ), sulfate ( $\text{SO}_4^{2-}$ ), and carbonate ( $\text{CO}_3^{2-}$ ). Total dissolved solids (TDS) values between 172 and 739 mg/L classify all samples as freshwater. Ion ordering reveals  $\text{Ca}^{2+} > \text{Na}^{+} > \text{Mg}^{2+} > \text{K}^{+}$  for cations and  $\text{HCO}_3^{-} > \text{Cl}^{-} > \text{SO}_4^{2-}$  for anions. Elevated  $\text{HCO}_3^{-}$  and  $\text{Ca}^{2+}$  support significant carbonate interaction, confirmed by local lithology-dolomites and limestones. Piper diagram analyses identify a dominant Ca-Mg- $\text{HCO}_3$  groundwater type, indicating control by alkaline earth metals and weak acids. Salinity hazard indices confirm the water's suitability for irrigation. Most samples (85.71%) fall within the C2 class, ideal for irrigation under moderate leaching. Exceptions like GK1 and KZ1 wells (EC = 1054 and 737  $\mu\text{S}/\text{cm}$ , respectively) require caution and are suitable only for salt-tolerant crops. Notably, none of the samples reached the C4 (high salinity hazard) level. Acquired results from this study obviously indicated that groundwater chemistry of the study area is strongly shaped by the region's geology, including Quaternary alluvium, Jurassic-Triassic dolomitic limestone, and Mesozoic peridotites. Total hardness and TDS consistently classify the water as hard freshwater, appropriate for irrigation but warranting periodic monitoring to ensure sustainability.

**Keywords:** Water quality, major ions, Ula district, Muğla, salinity index, irrigation, hydrogeochemistry, karst geology





### PATHOGENICITY TEST METHODS OF PHYTOPATHOGENIC *FUSARIUM* SPP. IN THE *ALLIUM* SPECIES

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#### ABSTRACT

*Fusarium* species cause destructive plant diseases on various cultivated plants, especially the *Allium* genus, which belongs to the Amaryllidaceae family, and includes one of the more edible, medicinal-aromatic, and ornamental cultivated plants worldwide. The fungal pathogen *Fusarium* genus belongs to the Fungi Kingdom, Ascomycota Phylum, Sordariomycetes Class, Hypocreales Order, and Nectriaceae Family. Life cycle, overwintering, symptoms, and ecological requirements for being aggressive may vary from species to species in the *Fusarium* genus. *F. oxysporum* f. sp. *cepae*, *F. acutatum*, and *Fusarium proliferatum* are some of the pathogen species that cause disease in *Allium* spp. include onion (*Allium cepa* L.), leek (*Allium ampeloprasum* L.), garlic (*Allium sativum* L.), and their cultivars. After the correct isolation and identification of this pathogen, which is harmful to such a considerable plant group, pathogenicity tests must be conducted to fulfill Koch's Postulate to be sure. The correct start will ensure that the studies carried out afterward are conducted correctly, too. It is also possible that there will be differences in the pathogenicity tests of these plants, which are sometimes produced from seeds and sometimes from vegetative organs such as bulbs, corms, and tubers. This review article aimed to reveal the pathogenicity test methods of the phytopathogenic *Fusarium* species in *Allium* species and to try to understand the differences.

**Keywords:** *Fusarium* spp., *Allium* spp., Pathogenicity assays, Phytopathogen, Plant protection



### CLINICAL APPROACH TO HYPERCEMENTOSIS REQUIRING SURGICAL EXTRACTION: A CASE REPORT

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#### ABSTRACT

##### Objective:

Hypercementosis, defined by excessive cementum formation on tooth roots, is usually asymptomatic and discovered incidentally via radiographs. However, in rare advanced cases, it complicates extraction procedures. This report outlines a case of symptomatic hypercementosis requiring surgical intervention and discusses the clinical decision-making and treatment methodology.

##### Case

##### Presentation:

A 47-year-old female presented with pain in the left mandibular region. Radiographic and tomographic evaluations revealed hypercementosis affecting the second premolar and first molar. Standard extraction methods were ineffective due to ankylosis. Surgical removal was carried out conservatively to preserve the surrounding bone, with careful curettage of the lesion and postoperative follow-up extending over one year.

##### Discussion:

Although treatment is generally unnecessary for most hypercementosis cases, surgical extraction becomes essential when associated with functional symptoms or complicating anatomical involvement. Preoperative imaging and atraumatic techniques are pivotal for minimizing procedural risks. This case emphasizes tailored management strategies for complex hypercementosis cases.

##### Conclusion:

Surgical management of hypercementosis must be individualized based on radiographic findings and clinical presentation. Conservative surgical approaches ensure optimal healing and preservation of adjacent structures.

**Keywords:** Hypercementosis, Tooth extraction, Conservative surgery, Mandible, Case report.



### FIRAT ÜNİVERSİTESİ SPOR YÖNETİCİLİĞİ BÖLÜMÜ ÖĞRENCİLERİNİN SÜRDÜRÜLEBİLİRLİK TUTUMLARI ÜZERİNE BİR İNCELEME A STUDY ON THE SUSTAINABILITY ATTITUDES OF FIRAT UNIVERSITY SPORTS MANAGEMENT DEPARTMENT STUDENTS

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#### ÖZET

Bu çalışmanın amacı, üniversite öğrencilerinin sporda sürdürülebilirlik algılarının çeşitli demografik değişkenler (cinsiyet, öğretim türü, sınıf durumu, aktif spor yapma ve ailede profesyonel spor yapma) açısından incelenmesidir. Araştırma grubunu, Fırat üniversitesi spor bilimleri fakültesi spor yöneticiliği bölümünde öğrenim gören toplam 232 öğrenci (149 erkek, 83 kadın) oluşturmuştur. Çalışmada veri toplama aracı olarak Kişisel bilgi formu ve Sporda Sürdürülebilirlik Ölçeği (SSÖ) kullanılmıştır. Elde edilen verilerin analizinde SPSS istatistik paket programı kullanılmış; istatistiksel anlamlılık düzeyi  $p<0,05$  olarak belirlenmiştir.

Analiz sonuçlarına göre, cinsiyet değişkeni açısından sporda sürdürülebilirlik algısı bakımından anlamlı bir fark bulunmamıştır. Benzer şekilde öğretim türü (gündüz-gece eğitimi) ve aktif spor yapma durumu değişkenlerine göre de sürdürülebilirlik puanlarında anlamlı bir farklılık gözlenmemiştir. Ancak, sınıf durumu değişkeni açısından anlamlı bir fark tespit edilmiş, özellikle 2. sınıf öğrencilerinin sürdürülebilirlik puanlarının diğer sınıf düzeylerine göre daha yüksek olduğu görülmüştür ( $p=0.001$ ). Ayrıca, ailede profesyonel spor yapma durumu değişkeni açısından da anlamlı bir fark bulunmuş; ailesinde profesyonel sporcu olmayan bireylerin sürdürülebilirlik algılarının daha yüksek olduğu belirlenmiştir ( $p=0.019$ ).

Sonuç olarak, üniversite öğrencilerinin sporda sürdürülebilirlik algılarının bazı demografik değişkenlere göre farklılık gösterdiği saptanmıştır. Özellikle sınıf düzeyi ve ailede profesyonel spor yapma durumu, bu algıyı etkileyen önemli değişkenler olarak öne çıkmıştır. Bu bulgular doğrultusunda, sporda sürdürülebilirlik bilincini artırmaya yönelik farkındalık çalışmalarının farklı öğrenci gruplarına göre çeşitlendirilmesi önerilmektedir.

**Anahtar Kelimeler:** Spor, Yönetim, Sürdürülebilirlik.

#### ABSTRACT

The aim of this study is to examine the perceptions of university students about sustainability in sports in terms of various demographic variables (gender, type of education, class status, active sports and professional sports in the family). The research group consisted of a total of 232 students (149 male, 83 female) studying in the sports management department of the faculty of sports sciences at Fırat University. Personal information form and the Sustainability Scale in Sports (SSÖ) were used as data collection tools in the study. SPSS statistical package program was used in the analysis of the obtained data; the statistical significance level was determined as  $p<0.05$ .



According to the analysis results, no significant difference was found in terms of the perception of sustainability in sports in terms of the gender variable. Similarly, no significant difference was observed in the sustainability scores according to the variables of type of education (day-night education) and active sports. However, a significant difference was found in terms of the class status variable, and it was seen that especially the sustainability scores of the 2nd grade students were higher than the other grade levels ( $p=0.001$ ). In addition, a significant difference was found in terms of the variable of professional sports in the family; it was determined that the sustainability perceptions of individuals who did not have a professional athlete in their family were higher ( $p=0.019$ ).

As a result, it was determined that university students' perceptions of sustainability in sports differed according to some demographic variables. Especially, class level and professional sports in the family were important variables affecting this perception. In line with these findings, it is recommended that awareness studies aimed at increasing sustainability awareness in sports should be diversified according to different student groups.

**Keywords:** Sports, Management, Sustainability.



### THE EFFECT OF MEDIAN FILTER ENHANCEMENT OF DEPTH DATA ON VISUAL SLAM PERFORMANCE

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#### ABSTRACT

Simultaneous Localization and Mapping (SLAM) is a method that allows autonomous systems to determine their position and create maps of environments they have no prior knowledge about, all at the same time. These methods are very important for mobile robots, drones, and virtual reality applications. SplaTAM is a Visual Dense SLAM method that uses 3D Gaussian primitives for scene representation. This method uses RGB and depth images as input data to estimate the camera's position for localization and creates 3D map. Therefore, the quality of input data is important for system performance. The TUM-RGBD dataset, which is widely used in the comparative evaluation of SLAM methods in the literature, is preferred in a limited way due to the low quality of depth images. In this study, depth images in the TUM-RGBD dataset were improved using median filtering method. The new dataset was processed with the SplaTAM method and compared to the original dataset, a 18.67% decrease in depth loss error and 7.07% improvement in PSNR, 5.42% in SSIM and 17.43% in LPIPS values representing the mapping quality were achieved, respectively.

**Keywords:** SLAM, Gaussian Splatting, Median Filter, Depth Images



### ÇOCUK İSTİSMARI VE İHMALİ EĞİTİMİ ÜNİVERSİTE ÖĞRENCİLERİNİN FARKINDALIK DÜZEYLERİNİ ETKİLER Mİ? DENEYSEL BİR ARAŞTIRMA DOES CHILD ABUSE AND NEGLECT EDUCATION AFFECT THE AWARENESS LEVELS OF UNIVERSITY STUDENTS? AN EXPERIMENTAL RESEARCH

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#### ÖZET

Araştırma çocukla çalışacak meslek gruplarına yönelik bölümlerde okuyan üniversite öğrencilerine uygulanan “Çocuk İstismarı ve İhmali Eğitimi”nin öğrencilerin farkındalık düzeylerine etkisini araştırmak amacıyla yapılmıştır. Araştırma ön test–son test desenli, deneysel tipte bir araştırma olarak Türkiye’nin kuzey bölgesinde yer alan bir üniversitenin sağlık bilimleri fakültesinde okuyan öğrencileri (n=90) ile Eylül-Aralık, 2024 tarihleri arasından yürütülmüştür. Araştırmada çocuk ihmal ve istismarı dersi alan öğrenciler deney grubunu, bu dersi almayan öğrenciler ise kontrol grubunu oluşturmuştur. Deney grubundaki öğrenciler 14 hafta boyunca haftada 2 saat çocuk ihmal ve istismarı dersi almış, bu konuda farkındalık afişi hazırlamış ve internet gazetelerini bu konu ile ilgili olmak üzere bazı özellikler açısından tarayarak tamamlamışlardır. Veri toplama aracı olarak “Birey Tanılama Formu ve Çocuk İstismarı ve İhmalinin Belirti ve Risklerini Tanılama Ölçeği” kullanılmıştır. Veriler SPSS 22.0 paket programında analiz edilmiştir. Deney ve kontrol grubunda yer alan öğrencilerin tanımlayıcı özellikleri arasında istatistiksel olarak anlamlı bir fark saptanmamıştır ( $p>0.05$ ). Deney grubundaki öğrencilerin ön-test Çocuk İstismarı ve İhmalinin Belirti ve Risklerini Tanılama Ölçeği puan ortalaması  $230.40 \pm 16.16$ , son test puan ortalaması ise  $240.68 \pm 15.71$ ’dir. Kontrol grubundaki öğrencilerin ön-test puan ortalaması  $232.51 \pm 14.70$ ’dir. Deney ve kontrol gruplarındaki öğrencilerin ön-test puanları arasında istatistiksel olarak anlamlı fark belirlenmemiştir ( $p>0.05$ ). Deney grubundaki öğrencilerin son test puanı ile kontrol grubundaki öğrencilerin ön test puanları arasında istatistiksel olarak anlamlı fark belirlenmiştir ( $p<0.05$ ). Etki büyüklüğü 0.56 olarak hesaplanmıştır. Sonuç olarak, öğrencilerin çocuk istismarı ve ihmalinin belirti ve risklerini tanılama düzeyleri yüksektir. Bu durumun öğrencilerin sağlık bilimleri fakültesinde eğitim alıp müfredat kapsamında bu konulara kısa sürelide olsa yer veriliyor olmasından kaynaklanıyor olabilir. Deney grubundaki öğrencileri çocuk ihmal ve istismarı dersi sonrası çocuk istismarı ve ihmalinin belirti ve risklerini tanılama düzeylerinde artış saptanmıştır. Çocuk ihmal ve istismarı dersinin etkin olduğu ve müfredat kapsamında daha ayrıntılı ele alınması gerektiği düşünülmektedir. Deney ve kontrol grubundaki farkın orta düzeyde olduğu belirlenmiştir.

**Anahtar Kelimeler:** çocuk ihmal ve istismarı, sağlık bilimleri, eğitim, öğrenci



### ABSTRACT

This research aims to investigate the effect of “Child Abuse and Neglect Education” applied to university students studying in departments for professional groups that will work with children on the awareness levels of the students. The study was conducted as a pre-test-post-test experimental study with students (n=90) studying at the faculty of health sciences at a university located in the northern part of Turkey between September and December 2024. In the study, students who took a child neglect and abuse course formed the experimental group, and students who did not take this course formed the control group. Students in the experimental group took a 2-hour child neglect and abuse course per week for 14 weeks, prepared an awareness poster on this issue, and scanned online newspapers for certain features related to this issue. The “Individual Identification Form and Child Abuse and Neglect Symptoms and Risks Identification Scale” was used as the data collection tool. The data were analyzed using the SPSS 22.0 package program. No statistically significant difference was found between the descriptive characteristics of the students in the experimental and control groups ( $p>0.05$ ). The mean pre-test Child Abuse and Neglect Symptoms and Risks Identification Scale score of the students in the experimental group was  $230.40\pm16.16$ , and the mean post-test score was  $240.68\pm15.71$ . The mean pre-test score of the students in the control group was  $232.51 \pm 14.70$ . No statistically significant difference was found between the pre-test scores of the students in the experimental and control groups ( $p>0.05$ ). A statistically significant difference was found between the post-test scores of the students in the experimental group and the pre-test scores of the students in the control group ( $p<0.05$ ). The effect size was calculated as 0.56. In conclusion, the level of the students' diagnosis of the symptoms and risks of child abuse and neglect was high. This may be because the students received their education at the faculty of health sciences, and these subjects were included in the curriculum, albeit for a short time. An increase was found in the level of the students in the experimental group in the diagnosis of the symptoms and risks of child abuse and neglect after the child neglect and abuse course. The child neglect and abuse course is thought to be effective and should be addressed in more detail within the curriculum. It was determined that the difference between the experimental and control groups was moderate.

**Keywords:** child neglect and abuse, health sciences, education, student





### TİP 1 DİYABET TANISI ALAN ÇOCUKLARLA YAPILAN HEMŞİRELİKLE İLGİLİ LİSANSÜSTÜ TEZLERİN BİBLİYOGRAFİK İNCELENMESİ BIBLIOGRAPHY REVIEW OF NURSING-RELATED POSTGRADUATE THESES CONDUCTED WITH CHILDREN DIAGNOSED WITH TYPE 1 DIABETES

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#### ÖZET

Araştırmada, tip 1 diyabet tanısı alan çocuklarla yapılan lisansüstü tezlerin bibliyografik incelenmesi amaçlanmıştır. Araştırma, Nisan 2025 tarihinde Yükseköğretim Kurulu Ulusal Tez Merkezi veri tabanında “çocuk ve tip 1 diyabet” anahtar kelimesi kullanılarak hemşirelik alanında yıl sınırlaması olmadan tarama yapılmıştır. Tarama sonucunda 18 lisansüstü teze ulaşılmıştır. Araştırmanın dahil edilme kriteri tezin “tip 1 diyabet tanısı olması”, “çocuk ile yürütülmüş olması”, dahil edilmeme kriterleri olarak ise “ebeveyn ile yürütülmüş olması”, “öğretmen ile yapılmış olması” “sistemik derleme olması” şeklinde belirlenmiştir. Bu doğrultuda tezlerden 3’i ebeveynlerle, 1’i öğretmenlerle yapıldığı için, 1’i sistemik derleme olması nedeniyle analizlere dahil edilmemiştir. Dahil edilme kriterlerini karşılayan 13 tez yıl, lisansüstü eğitim durumu, araştırma tasarımı açısından incelenmiştir. Araştırmaların %76.9’u yüksek lisans tezi olup, %69.2’si tanımlayıcı tiptedir. Tezler toplamda 1.112 çocuk ile gerçekleştirilmiştir. Tezlerin %38.5’i tip 1 diyabet tanısı olan çocukların metabolik kontrolü ve yaşam kalitesi, 15.3’ü insülin uygulama becerisi ve ağrı, % 23.1’i çocukların okulda yaşadığı zorluklar ve diyabet yönetimi, %7.7’si çocukların öz bakım değerlendirme durumu, %7.7’si çocukların spiritüel iyilik düzeyini, %7.7’si çocukların hastalıklarına yönelik tutumları konularında yürütülmüştür. Tip 1 diyabet tanısı olan çocukların metabolik kontrolü ve yaşam kalitesi konusunda yürütülen tezlerin sonuçlarına göre çocukların yaşam kalitelerinin yüksek olduğu ve metabolik kontrolü sağlanan çocukların yaşam kalitelerinin daha yüksek olduğu görülmüştür. Ayrıca, insülin pompası kullanan çocukların, dijital oyun ve video animasyon temelli diyabet eğitimi alan çocukların, sanal gerçeklik gözlüğüyle egzersiz uygulayan çocukların ve aile etkileşimi iyi olan çocukların metabolik kontrollerinin daha iyi sağlandığı, HbA1c düzeylerinin azaldığı ve yaşam kalitelerinin arttığı belirlenmiştir. Tip 1 diyabetli çocukların hastalıklarına yönelik tutumların ve etkileyen faktörlerin değerlendirildiği tezde, sosyal güvence varlığı, annenin eğitimi, annenin çalışma durumu, babanın eğitimi ve birinci derece akrabasında diyabet olma durumunun çocukların hastalıklarına yönelik tutumlarını olumlu etkilediği bulunmuştur. Çocukların diyabet öz bakımların değerlendirildiği tezde, çocukların yüksek öz bakım gücüne sahip oldukları saptanmıştır. Çocukların spiritüel iyilik düzeyinin değerlendirildiği tezde, okul dönemi çocukların spiritüel yazı tekniği kullanılarak günlük tutmanın çocuğun kaygısını azalttığı ve spiritüel iyilik düzeyini arttığı görülmüştür. Çocukların insülin uygulama becerisinin ve ağrı düzeyinin değerlendirildiği tezlerde, çocukların insülin uygulaması toplam beceri puan performansının orta düzeyde olduğu görülmüş olup, insülin uygulama sırasında çocukların hissettiği ağrıyı azaltmada pet terapinin etkili olduğu saptanmıştır. Çocukların okulda yaşadığı zorluklar ve diyabet yönetimi ile ilgili yapılan tezlerde, çocukların büyük çoğunluğu okullarında sağlık hizmeti alabileceği bir hemşire olmadığı, diyabet uygulamaları, genel sağlık takibi ve çocuğun diyetine uygun öğün teminin sağlanması için ebeveynin okula gelmesi gerektiği görülmüştür. Bununla birlikte tip 1 diyabet tanısı olan çocuklar okulda akranlarıyla sorunlar yaşadığı, insülin kalemini arkadaşlarından sakladığı, buna bağlı doz kaybı yaşadığı saptanmıştır. Çocuğun HbA1c değeri ve tanı alma yaşına bağlı olarak çocuğun devamsızlık



süresinin fazla olmasının çocuğun okul başarısını olumsuz etkilediği görülmüştür. Sonuç olarak, tip 1 diyabet tanısı alan çocuklarla yapılan hemşirelikle ilgili lisansüstü tezlerin çoğunluğu tanımlayıcı tipte olduğu, genellikle metabolik kontrol ve yaşam kalitesi değerlendirildiği görülmüştür. Tip 1 diyabet tanısı olan çocukların öz yeterliliğini arttıracak, metabolik kontrolünü sağlayacak ve yaşam kalitesini arttıracak randomize kontrollü deneysel araştırmalara ihtiyaç vardır.

**Anahtar Kelimeler:** Tip 1 diyabet, insülin enjeksiyonu, yaşam kalitesi, hemşirelik, lisansüstü tez

### ABSTRACT

The study aimed to conduct a bibliographic examination of postgraduate theses on children diagnosed with type 1 diabetes. The study was conducted in the National Thesis Center database of the Council of Higher Education in April 2025 using the keyword “child and type 1 diabetes” without any year limitation in nursing. As a result of the search, 18 postgraduate theses were reached. The inclusion criteria of the study were determined as “being diagnosed with type 1 diabetes”, “being conducted with a child”, and the exclusion criteria were determined as “being conducted with a parent”, “being conducted with a teacher”, and “being a systematic review”. Accordingly, 3 of the theses were not included in the analyses because they were conducted with parents, 1 was not included in the analyses because they were conducted with teachers, and 1 was not included in the analyses because it was a systematic review. 13 theses that met the inclusion criteria were examined in terms of year, postgraduate education status, and research design. 76.9% of the studies were master's theses, and 69.2% were descriptive. The theses were conducted with a total of 1,112 children. 38.5% of theses were conducted on metabolic control and quality of life of children diagnosed with type 1 diabetes, 15.3% on insulin injection skills and pain, 23.1% on difficulties experienced by children at school and diabetes management, 7.7% on children's self-care assessment status, 7.7% on children's spiritual well-being level, and 7.7% on children's attitudes towards their illness. According to the results of these studies conducted on metabolic control and quality of life of children diagnosed with type 1 diabetes, it was observed that children's quality of life was high, and children whose metabolic control was achieved had a higher quality of life. In addition, it was determined that children using insulin pumps, children receiving diabetes education based on digital games and video animations, children exercising with virtual reality glasses, and children with good family interaction had better metabolic control, decreased HbA1c levels, and increased quality of life. In the thesis where the attitudes of children with type 1 diabetes towards their illnesses and the affecting factors were evaluated, it was found that the presence of social security, the mother's education, the mother's employment status, the father's education and the presence of diabetes in a first-degree relative positively affected the children's attitudes towards their illnesses. In the thesis where the children's diabetes self-care was evaluated, it was determined that they had high self-care power. In the thesis, where the spiritual well-being level of the children was assessed, it was observed that keeping a diary using the spiritual writing technique of school-age children reduced the children's anxiety and increased their spiritual well-being. In the theses, where the children's insulin injection skills and pain levels were evaluated, it was seen that the children's total skill score for insulin injection was at a moderate level. It was determined that pet therapy was effective in reducing the pain felt by the children during insulin injection. In the theses about the difficulties experienced by children at school and diabetes management, it was seen that the majority of the children did not have a nurse at their schools from whom they could receive health services and that the parent had to come to school for diabetes applications, general health follow-up and provision of meals suitable for the child's diet. However, it has been determined that children diagnosed with type 1 diabetes experience problems with their peers at school, hide their insulin pens from their friends, and lose doses due to this. It has been observed that the child's HbA1c value and the child's long absence period, depending on the age of



diagnosis, negatively affect the child's school success. As a result, it has been observed that most nursing-related postgraduate theses conducted with children diagnosed with type 1 diabetes are descriptive in type, and generally evaluate metabolic control and quality of life. There is a need for randomized controlled experimental studies that will increase the self-efficacy of children diagnosed with type 1 diabetes, provide metabolic control, and improve quality of life.

**Keywords:** Type 1 diabetes mellitus, insulin injection, self-sufficiency, quality of life, postgraduate thesis.



### MANDİBULAR SİNİRLE KOMŞU DENTİGERÖZ KİST VAKASINDA MARSUPYALİZASYONU TAKİP EDEN KORONEKTOMİ YAKLAŞIMI: SİNİR KORUYUCU STRATEJİ

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#### ÖZET

Dentigeröz kistler; sürmemiş, gömük dişlerin kronları ile ilişkili olan benign odontojenik kistlerdir. Radiküler kistlerden sonra en sık görülen odontojenik kistler olup patogenezi bilinmemektedir. Sıklıkla mandibular üçüncü molar, maksiller kanin ve maksiller üçüncü molar dişler ile beraber görülürler. Genellikle asemptomatiktir ve rutin dental radyografik inceleme sırasında fark edilir. Çok geniş bir yaş dağılımı görülmekle beraber sıklıkla 20-30 yaşlarında ortaya çıkarlar. Erkeklerde görülme insidansı kadınlardakinden daha yüksektir.

Bu vaka, mandibular üçüncü molar dişle ilişkili dentigeröz kistin inferior alveolar sinirle yakın komşuluğu durumunda uygulanan koronektomi yöntemini ve postoperatif sinir fonksiyonlarının korunmasını ele almaktadır.

50 yaşındaki erkek hasta, sol alt bölgesinde hafif ağrı şikayetiyle gittiği dental klinikteki hekimin radyolojik ve klinik değerlendirmesi sonucu hastanemize yönlendirildi. Panoramik radyografi ve konik ışınlı bilgisayarlı tomografi (CBCT) ile yapılan değerlendirmede, gömülü sol mandibular üçüncü molar dişle ilişkili dentigeröz kistin mandibular sinirle doğrudan temas halinde olduğu, lingual ve bukkal kortekslerin incelendiği saptandı. Sinir hasarı, kortekslerin perforasyonu ve mandibular fraktür risklerini en aza indirmek amacıyla hastaya marsupyalizasyon tedavisi başlandı. Üç aylık takip sonucunda kistin enükleasyonu ve gömülü dişe koronektomi prosedürü uygulandı; kist kavitesi içindeki dişin kron ve kökün koronal bir bölü üçü çıkarıldı, kökler ise mandibulada bırakıldı. Operasyon sonrası takiplerde hastada herhangi bir nörolojik komplikasyon gözlenmedi. Ayrıca 3. ayda alınan kontrol tomografisinde kökün apikal noktasının sinirden uzaklaştığı ve kavite sınırları boyunca radyoopak kemik trabekülasyonları gözlemlendi.

Sinirle komşu dentigeröz kist vakalarında marsupyalizasyonu takip eden koronektomi, mandibular sinir bütünlüğünü korumaya yönelik etkili ve güvenli bir cerrahi alternatif sunmaktadır. Bu yaklaşım, özellikle sinir fonksiyonlarının korunması açısından önem arz etmektedir.

**Anahtar Kelimeler:** Dentigeröz kist, marsupyalizasyon, koronektomi, mandibular sinir, üçüncü molar, sinir koruyucu cerrahi



### ABSTRACT

Dentigerous cysts are benign odontogenic cysts associated with the crowns of unerupted or impacted teeth. They are the second most common odontogenic cysts following radicular cysts, and their pathogenesis remains unknown. They are frequently observed in association with mandibular third molars, maxillary canines, and maxillary third molars. Typically asymptomatic, they are often detected incidentally during routine dental radiographic examinations. Although they can occur across a wide age range, they most commonly present between the ages of 20 and 30, with a higher incidence in males than in females.

This case presents the application of the coronectomy technique and the preservation of postoperative nerve function in the presence of a dentigerous cyst associated with a mandibular third molar in close proximity to the inferior alveolar nerve.

A 50-year-old male patient was referred to our hospital by a dental clinic where he had initially presented with mild pain in the lower left mandibular region. Radiographic and cone-beam computed tomography (CBCT) evaluations revealed a dentigerous cyst associated with an impacted lower left mandibular third molar in direct contact with the mandibular nerve, along with thinning of both the lingual and buccal cortical plates. To minimize the risk of nerve injury, cortical plate perforation, and mandibular fracture, marsupialization was initiated. After three month follow-up, enucleation of the cyst and coronectomy of the impacted tooth were performed. The crown and the coronal one-third of the root were removed, while the remaining roots were left in place. No neurological complications were observed during postoperative follow-ups. Additionally, CBCT performed at the third-month follow-up showed that the apical tip of the root had moved away from the nerve, and radiopaque bone trabeculation was noted along the cavity margins.

In cases where dentigerous cysts are in close proximity to the inferior alveolar nerve, marsupialization followed by coronectomy offers an effective and safe surgical alternative for preserving nerve integrity. This approach is particularly important for the protection of neural function.

**Keywords:** Dentigerous cyst, marsupialization, coronectomy, mandibular nerve, third molar, nerve sparing surgery



### ÇANKIRI TUZ MAĞARASININ FUNGAL MİKROBİYOTASININ TESPİT EDİLMESİ

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#### ÖZET

Çankırı Kaya Tuz Mağarası ülkemizin önemli turizm amacıyla kullanılan bir mağarasıdır. Bu çalışmanın amacı, Çankırı tuz mağarasının fungal mikrobiyotasının belirlenmesidir. Fungal mikrobiyotanın belirlenmesi amacıyla hem hava hem de mağara duvarları olmak üzere iki farklı örnekleme yöntemi kullanılmıştır. Bu çalışmada, Çankırı Kaya Tuzu Mağarası'nın giriş, iç alanları ve mağaranın çıkışı bölümü olmak üzere üç farklı alanda, her bir alanda iki farklı örnekleme noktası seçilerek, toplamda altı örnekleme noktasında yapılmıştır. Mağarada havadaki mikroorganizmaların tespiti ve mağaranın duvarlarından olacak şekilde altı farklı noktadan tuz örnekleri alınmıştır. seçilen altı örnekleme alanında da hava örneklemeinde fungal gelişimler gözlenmiştir. Hava örneklerinde en fazla gelişim gösteren fungus *Penicillium* spp. olmuştur ve iki farklı *Penicillium* türü tespit edilmiştir. Hava örneklerinde en çok gelişim gösteren ikinci fungus *Mucor* sp. olmuştur. Duvardan sürüntü örneklemeinde ise sadece ikinci örnekleme noktasında üç petriden ikisinde *Penicillium* spp. ve *Cladosporium* sp. fungusu gelişim göstermiştir. Üçüncü örnekleme noktasında hava örneklerinde üç petriden birinde *Gleoporus taxicola* ve bir petride ise *Taloromyces* sp. fungusu tespit edilmiştir. Altıncı örnekleme noktasında ise *Aspergillus* sp. tespit edilmiştir. Mağarada patojen olacak yoğunlukta ciddi fungal etmenler tespit edilmemiştir. Sonuç olarak, tespit edilen fungusların belli bir yoğunluğa ulaşmaması ve çeşitlenmemesi adına mağaranın havalandırmasına dikkat edilmesi mağara içine konulacak dışarıdan getirilen materyallerin temiz ürünler olmasına da özen gösterilmelidir.

**Anahtar Sözcükler:** Fungal flora, Tuz mağarası, Speleoterapi, Çankırı





### WILLOW KUANTUM ÇİPİ VE KUANTUM SONRASI GÜVENLİĞİ: HİBRİT YAKLAŞIMLAR; GELECEK TEHDİT ANALİZİ VE GÜVENLİK REHBERİ WILLOW QUANTUM CHIP AND POST-QUANTUM SECURITY: HYBRID APPROACHES, FUTURE THREAT ANALYSIS, AND SECURITY GUIDE

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#### ÖZET

Kuantum bilgisayarlar, klasik bilgisayar mimarilerinin ötesinde işlem gücü sunarak günümüzde yaygın kullanılan şifreleme yöntemlerinde önemli ölçüde güvenlik açıkları oluşturur. Google'ın 105 kubitlik Willow işlemcisi, gelişmiş Kuantum Hata Düzeltme (QEC) mekanizmaları sayesinde Grover ve Varyasyonel Kuantum Saldırıları (VQAA) gibi algoritmaları güçlendirerek AES, ARIA ve Blowfish gibi simetrik şifrelemeleri tehdit etme potansiyeline sahiptir. Öte yandan Microsoft'un Majorana fermiyonlarına dayalı topolojik donanım yaklaşımları pasif hata toleransı sayesinde daha kararlı kuantum sistemlerinin önünü açmaktadır.

Bu çalışmada, Willow çipine ait deneysel performans verileri ve mantıksal hata oranları ayrıntılı şekilde değerlendirilmektedir. Bu kapsamda, farklı sektörlerde (finans, sağlık, kamu) “şimdi sakla, sonra çöz” (store now, decrypt later) yaklaşımının ne tür risklere yol açabileceği irdelenmektedir. Ayrıca klasik ve post-kuantum (kuantum sonrası) unsurları birleştiren hibrit kriptografik çözümler ve NIST'in PQC standardizasyon süreci ele alınarak kurumsal geçiş stratejilerine yönelik öneriler sunulmaktadır. Özellikle uzun vadeli gizlilik ihtiyacı duyan tüm verilerin; güçlü kuantum bilgisayarlar faaliyete geçer geçmez kırılma ihtimaline karşı önceden önlem alması gerektiği vurgulanmaktadır. Willow gibi yüksek kubitli işlemciler ve Majorana temelli topolojik hesaplama yöntemleri yakın gelecekte hem simetrik hem de asimetrik şifreleme yaklaşımlarında köklü dönüşümler doğurabilir. Bu nedenle kurumların ve araştırmacıların kuantum sonrası güvenliğe geçişte proaktif davranması, hibrit modelleri test etmesi, standardizasyon süreçlerini yakından takip etmesi ve uzman güvenlik rehberleri hazırlaması önerilir. Ayrıca Willow ve Majorana benzeri yenilikçi sistemlerin yaygınlaşmasıyla birlikte post-kuantum (kuantum sonrası) güvenliğini esas alan uluslararası standartların hızlı şekilde benimsenmesinin beklendiği ifade edilmektedir.

**Anahtar Kelimeler:** Kuantum Hesaplama, Willow, Post-Kuantum Kriptografi, Simetrik Şifreleme, Grover Algoritması, Varyasyonel Kuantum Saldırıları, Hibrit Kriptografi

#### ABSTRACT

Quantum computers present significant vulnerabilities for currently widespread encryption methods by offering computational power beyond that of classical computer architectures. Google's 105-qubit Willow processor, through advanced Quantum Error Correction (QEC) mechanisms, enhances the capabilities of algorithms such as Grover's and Variational Quantum Attacks (VQAA), thereby posing a potential threat to symmetric encryption schemes like AES, ARIA, and Blowfish. On the other hand,





Microsoft's topological hardware approaches based on Majorana fermions pave the way for more stable quantum systems thanks to their passive fault tolerance.

This study provides a detailed evaluation of the experimental performance data and logical error rates associated with the Willow chip. Within this scope, the risks posed by the "store now, decrypt later" paradigm across various sectors (finance, healthcare, public administration) are examined. Additionally, hybrid cryptographic solutions that combine classical and post-quantum elements, as well as NIST's Post-Quantum Cryptography (PQC) standardization process, are discussed with recommendations for institutional transition strategies. Emphasis is placed on the necessity for all data requiring long-term confidentiality to be safeguarded in advance, due to the possibility of rapid decryption once powerful quantum computers become operational.

Processors with high qubit counts like Willow and Majorana-based topological computing methods may lead to profound transformations in both symmetric and asymmetric encryption approaches in the near future. Consequently, it is recommended that institutions and researchers adopt a proactive stance in the transition to post-quantum security, test hybrid models, closely follow standardization efforts, and develop expert security guidelines. Furthermore, it is anticipated that with the proliferation of innovative systems such as Willow and those based on Majorana fermions, international standards centered on post-quantum security will be adopted rapidly.

**Keywords:** Quantum Computing, Willow, Post-Quantum Cryptography, Symmetric Encryption, Grover Algorithm, Variational Quantum Attacks, Hybrid Cryptography



### AÇIK VE UZAKTAN EĞİTİM PROGRAMLARINDA DİN EĞİTİMİ: ÖĞRENCİ DENEYİMLERİNİN NİTEL ANALİZİ

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#### ÖZET

Bu çalışma, açık ve uzaktan eğitim yöntemiyle yürütülen ilahiyat önlisans programlarında öğrenim gören bireylerin programı tercih nedenlerini, eğitim süreçlerine ilişkin değerlendirmelerini ve mezuniyet sonrası beklentileri üzerinden eğitim deneyimlerini incelemek amacıyla gerçekleştirilmiştir. Araştırmada nitel bir yaklaşım benimsenmiş olup, amaçlı örnekleme yöntemiyle seçilen 15 katılımcı ile yarı yapılandırılmış görüşmeler yapılmıştır. Toplanan veriler, içerik analizi yöntemiyle incelenerek katılımcıların deneyimlerine dair ana temalar belirlenmiştir. Araştırma sonucunda elde edilen bulgular, katılımcıların büyük bir çoğunluğunun dini bilgi edinme, mesleki gelişim sağlama ve din hizmetlerinde görev alma yönünde motivasyonlara sahip olduğunu ortaya koymaktadır. Ayrıca, açık öğretim sisteminin esnekliği, bireylerin farklı yaş, sosyal statü ve eğitim düzeylerinde bu programa yönelmesine olanak tanımaktadır. Bu çalışma, açık ve uzaktan eğitim sistemlerinde din eğitimi alanında program tasarımı ve öğrenci destek sistemleri için önemli çıkarımlar sunmaktadır. Elde edilen sonuçların açık ve uzaktan eğitim programlarında yürütülen din eğitimi faaliyetlerinin daha verimli hâle getirilmesi için yapılabilecek iyileştirmelere katkı sağlayacağı düşünülmektedir.

**Anahtar Kelimeler:** Açık ve Uzaktan Eğitim, Din Eğitimi, Önlisans İlahiyat, Mezuniyet Beklentisi.

#### ABSTRACT

This paper investigates the educational experiences of students enrolled in associate degree programs in theology offered through open and distance learning. It focuses on participants' motivations for choosing the program, their evaluations of the learning process, and their expectations regarding post-graduation outcomes. A qualitative research design was employed, and data were collected through semi-structured interviews conducted with 15 participants selected via purposive sampling. The data were analyzed using content analysis, through which key themes representing participants' experiences were identified. The findings indicate that the majority of participants were motivated by the desire to acquire religious knowledge, achieve professional development, and pursue roles in public religious services. Furthermore, the flexibility of the open education model enables individuals from diverse age groups, educational levels, and social backgrounds to access theological education. This study provides valuable insights for the development of curriculum design and student support systems in the field of religious education within open and distance learning frameworks. The findings are expected to

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contribute to efforts aimed at enhancing the overall effectiveness and accessibility of religious education programs in such contexts.

**Keywords:** Open and Distance Education, Religious Education, Associate Degree in Theology, Graduation Expectations.



### KÖÇEKÇE TÜRÜNÜN MÜZİKAL ÖZELLİKLERİ VE MÜZİKTE KULLANIM BİÇİMLERİ

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#### ABSTRACT

Köçekçe is a musical genre that emerged within the Ottoman-Turkish musical tradition, primarily associated with street performances, public entertainment, and dance. Built predominantly on a 9/8 rhythmic pattern, typically stressed as 2+2+2+3, köçekçe developed as both a musical and a kinetic expression, blending rhythm with bodily movement and cultural identity. Over time, it evolved beyond its folkloric roots and found renewed expression in art music, theatrical scores, film soundtracks, and contemporary symphonic works.

Following the foundation of the Turkish Republic, efforts to construct a national music identity led composers to incorporate köçekçe as a means of linking modern musical language with traditional idioms. Notable examples include Ulvi Cemal Erkin's *Köçekçe Suite* (1937), Ferit Tüzün's *Çayda Çıra Suite*, and the "Köçekçe" movement from Muammer Sun's *Three Pieces*. These works illustrate how köçekçe has been adapted into various compositional frameworks, maintaining its characteristic rhythm while contributing to modern expressions of national identity. This paper analyzes the musical attributes of the köçekçe genre and explores its various forms of use in different periods and stylistic contexts. The genre is reconsidered not only as a folkloric element but also as a structural and symbolic component in contemporary Turkish composition, bridging tradition and modernity through rhythm.

**Keywords:** Köçekçe, asymmetric rhythm, genre analysis, contemporary Turkish composers, national music

#### ÖZET

Köçekçe, Osmanlı-Türk müziği geleneğinde özellikle sahne, sokak ve eğlence ortamlarında gelişmiş, ritmik yapısıyla ön plana çıkan bir müzik türüdür. Genellikle 9/8'lik ölçü üzerine kurulan bu tür, 2+2+2+3 vurgulu ritmik kalıbıyla tanınır ve çoğunlukla dans eşlikli icralarda yer alır. Köçekçenin belirgin aksak ritmi, onu yalnızca ritmik bir yapı değil, aynı zamanda bedenle bütünleşen kültürel bir ifade biçimi hâline getirmiştir. Bu müzik türü, zamanla geleneksel sınırlarının ötesine geçerek sanat müziği, sahne müzikleri, film müziği ve çağdaş senfonik kompozisyonlarda da yer bulmuştur.

Cumhuriyet dönemiyle birlikte ulusal bir müzik dili oluşturma çabası içerisinde köçekçe, besteciler tarafından hem gelenekle bağ kurmak hem de ritmik dinamizm elde etmek amacıyla kullanılmıştır. Ulvi Cemal Erkin'in *Köçekçe Süiti* (1937), Ferit Tüzün'ün *Çayda Çıra Süiti* gibi yapıtları ve Muammer Sun'un *Üç Parça* adlı eserindeki "Köçekçe" bölümü, bu türün çağdaş bestecilik diline nasıl adapte edildiğini gösteren örnekler arasında yer alır. Bu bildiride, köçekçe türünün müzikal özellikleri tanımlanmakta ve söz konusu bestecilerin eserleri üzerinden müzikteki kullanım biçimleri tartışılmaktadır. Böylece köçekçe, hem tarihsel hem de çağdaş boyutlarıyla incelenerek müzikal kimliği yeniden değerlendirilmekte, gelenek ile modernlik arasında ritmik bir köprü olarak ele alınmaktadır.

**Anahtar Kelimeler:** Köçekçe, aksak ritim, tür analizi, çağdaş Türk besteciliği, ulusal müzik



### ÇOCUKLARDA PSİKOLOJİK SERMAYE KONULU YAPILAN LİSANSÜSTÜ TEZLERİN İNCELENMESİ

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#### ÖZET

Psikolojik sermaye (PsyCap), bireylerin olumlu psikolojik durumlarını yansıtan, işlevsel davranışları destekleyen bir yapı olarak tanımlanmaktadır. Bu yapı; öz yeterlik, umut, iyimserlik ve psikolojik dayanıklılık olmak üzere dört temel bileşenden oluşmaktadır. Psikolojik sermaye, bireyin yalnızca mevcut psikolojik kaynaklarını değil, aynı zamanda gelişimsel potansiyelini de yansıttığı için “kim olduğumuz” kadar “kim olabileceğimiz” sorusuna da odaklanan dinamik bir kavramdır. Psikolojik sermaye, genel anlamda bireyin yaşamındaki pozitif psikolojik kaynakları temsil eden bir göstergedir. Çocukluk dönemi, bireyin psikolojik sermaye bileşenlerinin temellerinin atıldığı kritik bir gelişim evresi olarak kabul edilmekte ve bu kavramın erken yaşlarda incelenmesi, gelecekteki psikolojik sağlık ve uyum açısından büyük önem taşımaktadır. Bu araştırmanın amacı; çocukların psikolojik sermayesi ve temel bileşenleri olan umut, öz yeterlik, iyimserlik ve psikolojik dayanıklılık konularında yapılmış lisansüstü tezlerin doküman analizi yöntemiyle incelenmesidir. Bu kapsamda, 2015-2025 yılları arasında Yükseköğretim Kurulu (YÖK) Ulusal Tez Merkezinde yer alan, çocuklara yönelik psikolojik sermaye bileşenleri üzerine yapılmış lisansüstü tez çalışmaları incelenmiştir. Araştırma öncesinde belirlenen anahtar kelimeler ile yapılan arama sonucunda toplam 38 lisansüstü tez (Umut = 6, Psikolojik dayanıklılık = 11, İyimserlik = 0, Öz yeterlik = 7, Özyeterlik = 5, Öz-yeterlik = 8, Psikolojik sermaye = 1) araştırmaya dahil edilmiştir. Mevcut araştırmanın, literatürdeki genel eğilimleri ortaya koymada, araştırma konularında öne çıkan başlıkları belirlemede ve referans niteliğindeki akademik çalışmaları sunmada kaynak olarak gösterilebileceği düşünülmektedir.

**Anahtar Kelimeler:** Psikolojik sermaye, umut, öz yeterlilik, iyimserlik, psikolojik dayanıklılık.

#### ABSTRACT

Psychological capital (PsyCap) is defined as a construct that reflects the positive psychological states of individuals and supports functional behaviors. This construct consists of four basic components: self-efficacy, hope, optimism and resilience. Psychological capital is a dynamic concept that focuses on the question of “who we can be” as well as “who we are” as it reflects not only the individual's current psychological resources but also their developmental potential. In general, psychological capital is an indicator that represents the positive psychological resources in an individual's life. Childhood is considered to be a critical developmental stage in which the foundations of psychological capital components are laid, and examining this concept at an early age is of great importance in terms of future psychological resilience and adaptation. The aim of this study is to examine the postgraduate theses on



children's psychological capital and its main components, namely hope, self-efficacy, optimism and psychological resilience through document analysis method. In this context, postgraduate thesis studies on psychological capital components for children in the National Thesis Center of the Council of Higher Education (YÖK) between 2015 and 2025 were examined. A total of 38 graduate theses (Hope = 6, Psychological resilience = 11, Optimism = 0, Self-efficacy = 7, Self-efficacy = 5, Self-efficacy = 8, Psychological capital = 1) were included in the study as a result of the search with the keywords determined before the research. It is thought that the current study can be cited as a source in revealing the general trends in the literature, identifying the prominent titles in research topics, and presenting academic studies that are of reference quality.

**Keywords:** Psychological capital, hope, self-efficacy, optimism, resilience.



### OPTIMIZATION OF MICROCARRIER-BASED CULTIVATION OF VERO CELLS AND STIRRING STRATEGY IN STIRRED BIOREACTOR

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#### ABSTRACT

Animal cell cultures are a cornerstone in the production of biological therapeutics, particularly vaccines. Among various cell lines employed for this purpose, the Vero cell line, derived from the kidney epithelial cells of the African green monkey, has been extensively utilized for recent 30 years. The Vero cell line was the first continuous cell line to be approved by the WHO for the manufacturing of human viral vaccines, and the scaling up ability to industrial volumes without compromising cell viability or viral yield. Their anchorage-dependent growth necessitates the development of bioprocess strategies tailored for adherent cell cultivation. Microcarrier technology presents a robust alternative, particularly for large-scale applications, by providing a significantly increased surface area-to-volume ratio and enabling adherent cells to grow in a suspension-like environment. Microcarriers differ in their physicochemical properties, such as material composition, surface coating, charge, and size. Furthermore, insufficient cell-microcarrier adhesion may result in detachment under hydrodynamic forces in stirred bioreactors, negatively impacting culture performance and vaccine yield.

This study aimed to evaluate the performance of various commercially available dextran-based and polystyrene-based microcarriers on the proliferation, morphology, and viability of Vero CCL-81 cells under different stirring conditions and in distinct culture media. In the first phase of the study, three different commercial microcarriers were evaluated using three culture conditions: fully serum-free medium (SFM), serum-free medium supplemented with 2% FBS, and EMEM containing 10% FBS as control group in a 125ml spinner flask. Results of first phase, cell proliferation in fully SFM was lower than in cultures containing serum. On the contrary, cultures conducted with SFM containing 2% FBS, results were similar to cultures in EMEM containing 10% FBS. The first phase of the study identified a dextran-based microcarrier in combination with Cellvento SFM supplemented with 2% FBS as the most suitable condition for scale-up in the 25 L bioreactor process.

In the second phase of the study, the selected microcarrier and medium were used to find out the optimal stirring strategies for cell growing in a 25 L stirred bioreactor equipped with a pitch-blade impeller. Five different protocols were compared, based on the determination of intermittent and continuous stirring strategy for a 25 L stainless steel bioreactor. Results of second phase, considering both cell numbers and





morphological examination of microcarriers by the nuclei counting method, protocol 3 was determined as the most efficient protocol. However, here we propose when working with large volume bioreactors, the intermittent stirring period may remain the same, but there may be changes in continuous stirring speed due to the impeller dimensions. The results contribute to the development of scalable, cost-effective, and regulatory-compliant vaccine manufacturing platforms based on microcarrier-supported adherent cell culture systems.

**Keywords:** Animal cell culture, Microcarier, SFM, Bioreactor, Stirring strategy



### FROM TRAFFIC CHAOS TO WALKABLE COMMUNITIES: CAN TIRANA EMBRACE THE 15-MINUTE CITY AND SUPERBLOCKS?

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#### ABSTRACT

In the face of climate change, rising inequality, and rapid urbanization, cities must adopt transformative planning strategies to ensure sustainable mobility. The 15-minute city and Superblock models have emerged as innovative approaches to reducing car dependency, enhancing public spaces, and promoting equitable access to urban services. However, in Tirana, where chaotic high-rise expansion, traffic congestion, and limited public spaces characterize urban growth, implementing such models presents unique challenges and opportunities.

This study evaluates whether Tirana's urban form, mobility policies, and land use strategies can support the implementation of the 15-minute city and Superblock models. It explores how high-density development, inadequate pedestrian infrastructure, and car dominance influence the feasibility of these models and identifies policy shifts necessary for transformation.

Using a case study methodology, this research analyzes land use distribution, mobility networks, and public space allocation in Tirana. Data is gathered through GIS mapping, transport assessments, and stakeholder interviews, with comparative analysis of successful 15-minute city and Superblock implementations in Barcelona, Paris, and Latin American cities to identify lessons applicable to Tirana.

Findings indicate that while Tirana's central areas, such as Blloku and Pazari i Ri, exhibit elements of the 15-minute city, rapid high-rise expansion without integrated infrastructure undermines widespread implementation. Meanwhile, the city's efforts to pedestrianize key areas and promote cycling show promise but are fragmented and lack citywide integration. Superblocks, which prioritize traffic calming, public space creation, and local accessibility, could be adapted to Tirana's urban fabric, but require stronger regulatory frameworks and mobility restructuring.

Tirana's case demonstrates both the challenges and the transformative potential of applying 15-minute city and Superblock principles in rapidly growing urban environments. To succeed, the city must address unregulated development, enhance public transit, and reclaim space for pedestrians and cyclists. The study highlights policy and design strategies that could enable these models to function as tools for equitable, sustainable urban mobility in Tirana and similar fast-growing cities.

While implementing the 15-minute city and Superblock models in Tirana presents challenges, they offer promising pathways to transform the city's mobility and urban environment. Strategic, context-sensitive planning, with an emphasis on inclusive land use policies, sustainable transport solutions, and public space creation, could enable Tirana to achieve a more equitable, sustainable, and resilient urban future.

**Keywords:** 15-minute city, Superblocks, sustainable mobility, land use policy, pedestrianization, urban transformation, Tirana



### EFFECT OF STONE COLUMNS IN SOIL IMPROVEMENT

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#### ABSTRACT

Vibro-replacement is a soil improvement method used to strengthen loose or weak ground for foundations. By replacing and vibrating the soil, this technique ensures improvement in the foundation performance. This study focuses on improving weak, compressible soils at a construction site in the port of Durrës, Albania, using the vibro-replacement method with gravel piles. This ground improvement technique aims to create a stable foundation base by reducing soil settlement (consolidation subsidence) and the risk of soil liquefaction, which are concerns at this location. The paper details the installation of these gravel piles and confirms that this reinforcement method effectively increases the load-bearing capacity of the planned slab foundation.

**Keywords:** Soil improvement, Vibro replacement, Vibro compaction, Gravel piles



### GAMIFIED LISTENING ASSESSMENT FOR ESP LEARNERS: EXPLORING MOTIVATION AND SKILL DEVELOPMENT IN TECH-MEDIATED ENVIRONMENTS

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#### ABSTRACT

This study investigates the impact on listening comprehension and motivation in students learning English for Specific Purposes (ESP) in the field of software engineering through gamified assessment. The use of a quasi-experimental mixed-methods design involved a sample size of 80 undergraduate students, consisting of 40 participants in an experimental group that utilized gamified tools like Quizizz, EdPuzzle, and Moodle extensions, and 40 participants in a control group that went through listening tests in a non-gamified way. Listening comprehension was tested through pre- and post-IELTS-based academic tests, and learner motivation was measured through a standardized survey instrument supported by follow-up semi-structured interviews. The experimental group learned ESP-specific listening skills, such as role-playing bug reporting in software, technical briefings for new features, and client support conversations, delivered in gamified forms. Results supported major improvements in both listening skills and motivation for the gamified group compared to the control group. The gamified features, advancement through accumulating points, interactive feedback levels, and leaderboard placement, promoted deeper student engagement and experimental listening behaviors. The findings suggest that gamified assessments may positively resolve pedagogically poor areas in ESP learning by leveraging linguistic and cognitive engagement in domain-specific areas. Future research is advisable to analyze long-term effects and inter-disciplinary applications of gamified approaches to ESP training.

**Keywords:** English for Specific Purposes (ESP), listening comprehension, gamified assessment, software engineering, motivation, innovation



### THE BIOCHEMICAL PROCESS OF HUMAN DEVELOPMENT FROM CONCEPTION TO DEATH

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#### ABSTRACT

This study explores the intricate biochemical and inorganic processes that occur throughout the human life cycle—from the moment of conception in the womb to biological death. Beginning with fertilization, the paper examines the complex nutrient and ion exchanges between the mother and fetus, highlighting mechanisms such as active transport, facilitated diffusion, and endocytosis. Key metabolic processes including glucose metabolism, amino acid synthesis, and the transport of critical metal ions like calcium, iron, and zinc are detailed. The research also addresses the biochemical transformations that occur after death, including rigor mortis, autolysis, and the role of inorganic compounds such as  $\text{CO}_2$ ,  $\text{NH}_3$ , and  $\text{H}_2\text{S}$  in decomposition. By integrating perspectives from developmental biology, chemistry, and forensic science, this study underscores the continuity and significance of biochemical reactions in both the formation and cessation of human life.

**Keywords:** fetal development, biochemical processes, nutrient transport, death chemistry, forensic science, metal ion exchange, placenta



### COMPARISON OF MOBILE APPLICATION DEVELOPMENT PLATFORMS

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#### ABSTRACT

Over the past ten years, there has been a considerable surge in the production of mobile applications. The performance of well-built apps is significantly influenced by the development approaches. There are two often used development frameworks: (1) Native, in which the program is tailored to run on a particular platform, and (2) Cross-platform, in which the application is made to run on a number of different systems. This study will address the question of which technique to use when in various situations. We thoroughly compared the two approaches by examining mobile apps utilizing both procedures. Case studies of platforms created using the various technologies were looked at. When selecting the best strategy, performance, usability, and support are important considerations. According to the requirements and type of the application being developed, our findings demonstrate that both ways are possible, with native application having the advantage.

**Keywords:** Mobile Applications, Native, Cross-platform



### THE EFFECT OF TRUST IN TEAMS AND TEAM-MEMBER EXCHANGE ON TEAM PERFORMANCE

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#### ÖZET

Bu çalışma ile takımlarda güven ve takım üye etkileşiminin takım performansı üzerindeki etkisinin araştırılması amaçlanmıştır. Günümüzde yaygınlıkla kullanılan takım çalışması, bireysel çabaların ötesine geçilerek kolektif başarıyı hedefleyen örgütlerde, stratejik bir öneme sahiptir. Takım, ortak bir hedef için bir araya gelmiş, görevleri birbirine bağlı olan ve sonuçlardan kolektif şekilde sorumlu olan çalışma topluluklarını ifade etmektedir. Takımların etkinliğini belirleyen temel unsurlar arasında yer alan takımlarda güven ve takım-üye etkileşimi (TÜE), takım performansını çok boyutlu biçimde etkilemektedir. Takımlarda güven, takım üyelerinin birbirlerinin yeterliliklerine, niyetlerine ve başarılarına yönelik olumlu beklentiler geliştirmesi ve ortak hedefler doğrultusunda risk alarak işbirliğine açık olmaları durumu, olarak tanımlanmaktadır (Costa & Anderson, 2011). Alanyazında, güven düzeyi yüksek olan takımların bilgi paylaşımı, karşılıklı yardımlaşma, çatışma yönetimi ve yenilikçi davranışlar gösterme açısından daha başarılı olduğu vurgulanmaktadır (Alsharo vd., 2017; De Jong & Elfring, 2010). Öte yandan, TÜE, takım üyelerinin, takımın bütününe yönelik yardım, bilgi paylaşımı, işbirliği ve karşılıklı bağlılık gibi sosyal etkileşimlere dair algılarını kapsayan çok boyutlu bir kavramdır (Seers, 1989; Seers vd., 1995). TÜE; üyeler arası ilişkilerin niteliği, kaynak paylaşımı ve duygusal bağlılık boyutları üzerinden değerlendirilmektedir. Yüksek düzeyde TÜE, yalnızca görev performansını değil, aynı zamanda tutumsal ve davranışsal performans bileşenlerini de olumlu yönde etkileyerek takımın kolektif başarısını desteklemektedir (Srivastva & Singh, 2015). Takım performansı ise takımın belirli bir zaman dilimi içerisinde görevlerini yerine getirme derecesi ve örgüt yararına ürettiği toplam değer olarak tanımlanmaktadır. Modern iş dünyasında, takım performansı yalnızca çıktı odaklı değil; görev performansı, tutumsal performans ve davranışsal performans boyutlarıyla bütüncül bir şekilde ele alınmaktadır. Görev performansı; kalite, zaman ve çıktı miktarını içerirken, tutumsal performans takım üyelerinin aidiyet, uyum ve işbirliği düzeyini yansıtır. Davranışsal performans ise bilgi paylaşımı, yardımlaşma, normlara uyum gösterme ve destekleyici davranışlarla ilişkilidir. Bu çok boyutlu yapı, takım performansını yalnızca iş sonuçlarıyla değil, aynı zamanda süreçlerin niteliği ve takım içi ilişkilerin gücüyle de değerlendirmeyi zorunlu kılmaktadır (Motowidlo, 2003; Wang, 2023). Bu kapsamda yürütülen görgül araştırmada veriler, kolayda örnekleme yöntemi kullanılarak çevrimiçi anketler ile toplanmıştır. Çalışmanın örneklemini Türkiye’de takımlarda görev alan çalışanlar oluşturmaktadır. Çalışma kapsamında 319 anket toplanmış bunların 307 adedi araştırmaya dahil edilmiştir. Veriler Hayes makrosu kullanılarak Hiyerarşik Regresyon yöntemiyle analiz edilmiştir.





Analiz sonuçları takımlarda güvenin, takım performansı üzerinde anlamlı bir doğrudan etkisi olduğunu göstermiştir ( $\beta = 0,603$ ,  $p < 0,001$ ). Ayrıca, takımlarda güvenin takım-üye etkileşimi üzerinde güçlü bir etkisi olduğu ( $\beta = 0,577$ ,  $p < 0,001$ ) ve takım üye-etkileşiminin de takım performansını anlamlı şekilde etkilediği ( $\beta = 0,389$ ,  $p < 0,001$ ) tespit edilmiştir. Bootstrap analizi (5000 örneklem), takım-üye etkileşiminin anlamlı bir aracılık etkisine sahip olduğunu doğrulamıştır (dolaylı etki = 0,225, %95 GA [0,130, 0,333]). Model, takım performansındaki varyansın %62,4'ünü açıklamıştır ( $R^2 = 0,624$ ,  $F(2,304) = 251,869$ ,  $p < 0,001$ ). Bu bulgular, takımlarda güvenin takım-üye etkileşimini artırarak takım performansını artırdığını ortaya koymaktadır.

Bu çalışma ile takımlarda güven ve takım-üye etkileşiminin, takım performansını önemli ölçüde şekillendirdiği ortaya koyulmuştur. Örgütlerin takım performansını artırmaya yönelik stratejilerinde bu iki yapının bütüncül biçimde ele alınması gerektiği ve takım performansının sürdürülebilirliği açısından takımlarda güven ve takım-üye etkileşiminin kritik birer unsur olduğu tespit edilerek; örgütsel davranış ve örgütsel psikoloji alanına önemli bir katkı sağlanmıştır.

**Anahtar Kelimeler:** Takımlarda Güven, Takım-Üye Etkileşimi, Takım Performansı.

### ABSTRACT

This study aims to investigate the effect of trust in teams and team-member exchange on team performance in teams. Team work, widely used today, has strategic importance in organizations that aim for collective success by going beyond individual efforts. A team refers to working communities that have come together for a common goal, have interdependent tasks, and are collectively responsible for the results. Trust in teams and team-member exchange (TMX), which are among the key elements determining team effectiveness, affect team performance in a multidimensional manner. Trust in teams is defined as team members developing positive expectations regarding each other's competencies, intentions, and achievements, and being open to collaboration by taking risks in line with common goals (Costa & Anderson, 2011). In the literature, it is emphasized that teams with high levels of trust are more successful in terms of information sharing, mutual assistance, conflict management, and displaying innovative behaviors (Alsharo et al., 2017; De Jong & Elfring, 2010). On the other hand, TMX is a multidimensional concept that encompasses team members' perceptions of social interactions such as help, information sharing, cooperation, and mutual commitment toward the team as a whole (Seers, 1989; Seers et al., 1995). TMX is evaluated through the dimensions of the quality of relationships between members, resource sharing, and emotional commitment. High levels of TMX positively affect not only task performance but also attitudinal and behavioral performance components, thus supporting the collective success of the team (Srivastva & Singh, 2015). Team performance is defined as the degree to which a team fulfills its tasks within a specific time period and the total value it produces for the benefit of the organization. In the modern business world, team performance is considered not only output-oriented but holistically with the dimensions of task performance, attitudinal performance, and behavioral performance. Task performance includes quality, time, and output quantity, while attitudinal performance reflects team members' levels of belonging, harmony, and cooperation. Behavioral performance is related to information sharing, mutual assistance, adherence to norms, and supportive behaviors. This multidimensional structure necessitates evaluating team performance not only with work results but also with the quality of processes and the strength of intra-team relationships (Motowidlo, 2003; Wang, 2023). In the empirical research conducted within this scope, data were collected through online surveys using the convenience sampling method. The sample of the study consists of employees working in teams in Turkey. A total of 319 surveys were collected, of which 307 were included in the research. The data were analyzed using the Hierarchical Regression method with the Hayes macro. The analysis results showed that trust in teams has a significant direct effect on team



performance ( $\beta = 0.603$ ,  $p < 0.001$ ). Additionally, it was determined that trust in teams has a strong effect on team-member exchange ( $\beta = 0.577$ ,  $p < 0.001$ ), and team-member exchange significantly affects team performance ( $\beta = 0.389$ ,  $p < 0.001$ ). Bootstrap analysis (5000 samples) confirmed that team-member exchange has a significant mediating effect (indirect effect = 0.225, 95% CI [0.130, 0.333]). The model explained 62.4% of the variance in team performance ( $R^2 = 0.624$ ,  $F(2,304) = 251.869$ ,  $p < 0.001$ ). These findings reveal that trust in teams increases team performance by enhancing team-member exchange.

This study demonstrates that trust in teams and team-member exchange significantly shape team performance. It has been determined that these two structures should be handled holistically in organizations' strategies to increase team performance, and that trust in teams and team-member exchange are critical elements for the sustainability of team performance; thus, an important contribution has been made to the field of organizational behavior and organizational psychology.

**Key Words:** Trust in Teams, Team-Member Exchange, Team Performance.

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### ASSESSMENT OF THE IMPACTS OF TEMPERATURE-DEPENDENT EXHAUST GAS FORMATIONS ON THE DETECTION PERFORMANCE OF TERRESTRIAL LIDARS USING THE KIM MODEL

SICAKLIĞA BAĞLI EGZOZ GAZI OLUŞUMLARININ KARASAL LİDAR'LARIN  
ALGILAMA PERFORMANSI ÜZERİNDEKİ ETKİLERİNİN KİM MODELİ  
KULLANILARAK DEĞERLENDİRİLMESİ

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#### ABSTRACT

In recent years, advanced driving assistance systems have been widely used in hybrid and electric vehicles for safety purposes. It is very important for the detection subsystems and sensor structures in these systems to perceive the environment in the best way and operate in terms of safety. One of the most important sensors used for this purpose is Lidar (Light detection and ranging) sensors. Lidars are generally divided into three main groups: air Lidars, terrestrial Lidars and bathymetric Lidars.

Terrestrial Lidars provide millimeter-scale precision by sending short light pulses, usually at 1064 nm wavelength, and measuring the time it takes for these pulses to reflect off objects and the time of flight. In this way, a large number of measurement points are obtained, and three-dimensional and high-resolution images of objects around the vehicle are produced. However, the detection performance of such Lidars can be adversely affected by smoke, fog, dust and especially aerosols such as exhaust gases in the atmosphere. In other words, the light photons produced by the laser light source in the Lidar device are absorbed and scattered by hitting aerosols in the atmosphere. Especially in cold weather conditions, the smoke coming out of the vehicle exhausts condenses, causing the laser light photons to scatter in the air and be absorbed by the environment at a high rate. This situation can reduce the detection performance of the Lidar sensor and cause measurement errors. Because, Lidar detects the smoke coming out of the vehicle exhausts as an object, this situation, which is classified as a ghost object, prevents safe driving. This situation reduces the detection performance of the Lidar sensor and causes measurement errors.

In this study, the effects of aerosols in the atmosphere and temperature-dependent exhaust gas formations on Lidar detection performance have been investigated using the Kim model. The Kim model is used to estimate the attenuation of laser signals, especially at visibility distances lower than 500 meters. Therefore, within the scope of this study, the signal attenuation and visibility caused by the exhaust gas depending on the temperature have been analyzed in the Matlab environment using the Kim model and the equations related to the changes in temperature have been obtained. In response to the temperature variations in the range of -10 – 20 °C, Lidar light attenuation has taken the values between 601.54 dB/km and 12.03 dB/km. On the other hand, for the ambient temperature changes between -10 °C and 20 °C, the visibility has taken the values in the range of 1.96 – 97.75 m. From these values, it is seen that the attenuation and visibility parameters change exponentially. In addition, the



simulation findings and numerical results obtained in the study has shown that cold weather conditions and exhaust gas formations reduce the detection performance of Lidar sensors and thus reduce the detection range.

**Keywords:** Automotive LIDAR, Temperature Effect, Exhaust Gas, Signal Attenuation, Visibility, LIDAR Sensing Performance.

### ÖZET

Son yıllarda, güvenlik amaçlı olarak hibrit ve elektrikli araçlarda, gelişmiş sürüş destek sistemlerinden büyük ölçüde yararlanılmaktadır. Bu sistemlerde yer alan algılama alt sistemlerinin ve sensör yapılarının, çevreyi en iyi şekilde algılayarak işlem yapması güvenlik açısından oldukça önemlidir. Bu amaçla kullanılan en önemli sensörlerden biri, Lidar (Light Detection and Ranging) sensörlerdir. Lidar'lar, genel olarak hava Lidar'lar, karasal Lidar'lar ve batimetrik Lidar'lar olmak üzere üç ana gruba ayrılırlar.

Karasal Lidar'lar, genellikle 1064 nm dalga boyunda kısa ışık darbeleri gönderip bu darbelerin nesnelerden yansıyarak geri dönüş süresini ölçerek milimetrik ölçekte hassasiyet sağlamaktadır. Böylelikle, çok sayıda ölçüm noktası elde edilerek, aracın çevresindeki nesnelerin üç boyutlu ve yüksek çözünürlükte görüntüleri üretilmiş olur. Ancak, bu tür Lidar'lar algılama performansları, atmosferdeki duman, sis, toz ve özellikle egzoz gazı gibi aerosollerden olumsuz etkilenebilmektedir. Diğer bir ifadeyle, Lidar cihazı içerisindeki lazer ışık kaynağının ürettiği ışık fotonları, atmosferdeki aerosollere çarparak soğurulmakta ve saçılmaktadır. Özellikle soğuk hava koşullarında, araçların egzozlarından çıkan duman yoğunlaşarak lazer ışık fotonlarının havada saçılmasına ve ortam tarafından yüksek oranda soğurulmasına sebep olmaktadır. Bu durum, Lidar sensörün algılama performansını düşürerek, ölçüm hatalarına neden olabilmektedir. Çünkü Lidar, araçların egzozlarından çıkan dumanı nesne olarak algıladığından, hayalet nesne olarak sınıflandırılan bu durum güvenli sürüşün gerçekleşmesini engellemektedir. Bu durum, Lidar sensörün algılama performansını düşürerek, ölçüm hatalarına neden olmaktadır.

Bu çalışmada, Kim modeli kullanılarak atmosferdeki aerosollerin ve sıcaklığa bağlı egzoz gazı oluşumlarının Lidar algılama performansı üzerindeki etkileri incelenmiştir. Kim modeli, özellikle 500 metreden düşük görüş mesafelerinde lazer sinyallerinin zayıflamasını tahmin etmek için kullanılmaktadır. Dolayısıyla, bu çalışma kapsamında, Kim modeli kullanılarak sıcaklığa bağlı olarak egzoz gazının neden olduğu sinyal zayıflaması ve görüş mesafesi, Matlab ortamında analiz edilmiş ve sıcaklığa bağlı değişimlerine ilişkin denklemler elde edilmiştir. Sıcaklığın -10 – 20 °C aralığında değişimine karşılık, Lidar ışık zayıflaması 601,54 dB/km ile 12,03 dB/km arasında değerler almıştır. Öte yandan, ortam sıcaklığının -10 °C ile 20 °C arasında değişimi için görüş mesafesi, 1,96 – 97,75 m aralığında değerler almıştır. Bu değerlerden, zayıflama ve görüş mesafesi parametrelerinin eksponansiyel olarak değiştiği görülmektedir. Ayrıca, çalışmada elde edilen simülasyon bulguları ve nümerik sonuçlar, soğuk hava koşullarının ve egzoz gazı oluşumlarının, Lidar sensörlerin algılama performansını azalttığını ve dolayısıyla algılama menzilini düşürdüğünü göstermiştir.

**Anahtar Kelimeler:** Otomotiv LIDAR, Sıcaklık Etkisi, Egzoz Gazı, Sinyal Zayıflaması, Görüş Mesafesi, LIDAR Algılama Performansı.

## 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES



### COMPARATIVE LIFE CYCLE ASSESSMENT AND ECONOMIC ANALYSIS OF BIOHYDROGEN PRODUCTION PROCESSES

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#### ABSTRACT

Biohydrogen production is a promising technology to address the growing demand for sustainable energy solutions while reducing greenhouse gas emissions. This study focuses on the comparative analysis of biohydrogen production from wastepaper and other biomass sources, employing Life Cycle Assessment (LCA) and economic evaluations. Key environmental metrics such as Global Warming Potential (GWP), Acidification Potential (AP), and Eutrophication Potential (EP) were evaluated. Wastepaper has emerged as a promising and cost-effective feedstock for biohydrogen production, offering environmental benefits that align with the principles of a circular economy. Opportunities for improvement include optimizing the pretreatment methods to increase cellulose availability and enhancing microbial fermentation processes for better yields. These findings contribute valuable insights for the development of renewable energy solutions, emphasizing the scalability and economic feasibility of wastepaper-based biohydrogen technologies.

**Keywords:** Life Cycle Assessment (LCA), Biohydrogen Production, Economic Feasibility





### TABLE OLIVE PROCESSING WASTEWATER TREATMENT WITH HOMOGENEOUS FENTON PROCESS

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#### ABSTRACT

The table olive and olive oil industries are prominent agro-industrial sectors, playing a vital role in the economies of Mediterranean Basin nations. The properties and quantity of table olive processing wastewater (TOPW) are contingent upon the olive variety and the techniques employed during processing. According to the International Olive Council (IOC) data, 420000 tons of table olives were produced in Turkey in 2018. The washing of olive fruits in the production of olives is made up of waste water from brackish and brine processes. High chemical oxygen demand (COD), dissolved and total suspended solids, oils and refractory organic compounds such as phenolic substances which are derived from olives and processing techniques. The treatment efficiency of conventional treatment processes not sufficient to obtain the desired discharged values to any water body when used alone. Therefore, in practice, several treatment methods are recommended or planned to be applied together. Advanced oxidation methods are one of the recommended options for this purpose.

The present work used a Homogeneous Fenton process. This approach is considered as classical Fenton process. This study aims to treat table olive processing wastewater (TOPW) using the Homogeneous Fenton oxidation process. The experiment focused on Fenton process, examining specific factors such as reaction time for Fenton processes, the concentrations of ferrous ion and hydrogen peroxide. The Box-Behnken statistical design method was employed to conduct experimental research. An investigation was conducted to examine the influence of reaction conditions on the mineralization and degradation of refractory organic compounds. The Fenton process achieved an optimal phenol removal of 20 %, color removal of 70 %, and COD removal of 95 %. The highest efficiency of COD was achieved as 95% with a dose of 3500 mg/L hydrogen peroxide and 350 mg/L iron at 27.5 min retention time. The results indicate that the Fenton process is a viable advanced oxidation method for treating



table olive processing effluent. The advantage of classical Fenton oxidation process is that easy application of real wastewater treatment process, it can be easily adapted conventional chemical treatment unit or it can be used instead of conventional chemical treatment process in treatment scheme.

**Keywords:** Advanced Oxidation Process, Table Olive Processing Wastewater, Fenton Process





### TÜRKİYE KART: ULUSAL ULAŞIMDA ENTEGRASYON MODELİ

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#### ÖZET

Bu çalışma, Türkiye genelinde ulaşım sistemlerinin bütünleşik bir yapıya kavuşturulması amacıyla geliştirilen Türkiye Kart uygulamasını değerlendirmektedir. Mevcut durumda şehir bazlı çalışan ulaşım kartlarının birbirinden bağımsız olması, kullanıcı deneyiminde dağınıklığa ve operasyonel zorluklara neden olmaktadır. Türkiye Kart projesi, tüm illerdeki toplu taşıma sistemlerini tek bir temassız kart altyapısı altında birleştirmeyi hedeflemekte; böylece şehirler arası geçişlerde ödeme kolaylığı, veri temelli yönetim ve dijital entegrasyon gibi avantajlar sunmaktadır. Bu çalışma kapsamında, mevcut sistemlerin Türkiye Kart modeline evrilme süreci analiz edilmiş; altyapı, mevzuat, kullanıcı alışkanlıkları ve hizmet sağlayıcıların tutumları doğrultusunda Türkiye Kart'ın sunduğu potansiyel avantajlar ve karşılaştığı sınırlılıklar ortaya konulmuştur. Elde edilen bulgular, kartın ulusal ölçekte mobilitayı kolaylaştırabileceği ancak dijital eşitsizlik, teknik uyumsuzluk ve yönetimsel engeller gibi sorunların da göz ardı edilmemesi gerektiğini göstermektedir.

**Anahtar Kelimeler:** Türkiye Kart, ulaşım entegrasyonu, akıllı ulaşım sistemleri, temassız ödeme, dijital mobilite

#### ABSTRACT

This study evaluates the Türkiye Kart initiative, developed to integrate transportation systems across Turkey into a unified structure. Currently, the existence of city-specific transportation cards operating independently leads to fragmentation in user experience and operational challenges. The Türkiye Kart project aims to consolidate public transportation systems across all provinces under a single contactless card infrastructure, offering benefits such as seamless intercity payments, data-driven management, and digital integration. Within the scope of this study, the transition process of existing systems towards the Türkiye Kart model has been analyzed; the potential advantages and limitations of Türkiye Kart have been identified in light of infrastructure, legislation, user habits, and service providers' attitudes. The findings indicate that while the card could facilitate mobility on a national scale, issues such as digital inequality, technical incompatibilities, and governance challenges must not be overlooked.

**Keywords:** Türkiye Kart, transportation integration, smart transportation systems, contactless payment, digital mobility



### İSTANBUL'DA TOPLU ULAŞIM UYGULAMALARI

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#### ÖZET

Günümüzde dijital teknolojilerin şehir içi ve şehirler arası ulaşım sistemlerine entegre edilmesi, yalnızca bireysel hareketliliği kolaylaştırmakla sınırlı kalmamakta aynı zamanda şehirlerin sürdürülebilirlik hedeflerine ulaşmasına da doğrudan katkı sunmaktadır. Bu çalışma, İstanbul'da aktif olarak hizmet veren dijital ulaşım uygulamalarını çok boyutlu bir bakış açısıyla ele almakta; her bir sistemin teknoloji altyapısı, kullanıcı deneyimi, erişilebilirlik düzeyi, ödeme sistemi ve toplumsal etkileri açısından karşılaştırmalı bir analizini sunmaktadır. Çalışmada taksi tabanlı sistemlerden (İTaksi, BiTaksi, Uber), entegre toplu taşıma çözümlerine (İstanbulkart Mobil, Otobüsüm Nerede, Moovit), mikromobilité hizmetlerine (BinBin, GEZ, HOP!, Martı) ve araç paylaşımı temelli platformlara (MartıTAG, BlaBlaCar) kadar geniş bir uygulama yelpazesi incelenmiştir. Hem kamu hem de özel girişimlere dayalı sistemler, şehir içi ulaşımın dijitalleşme düzeyi açısından değerlendirilmiş; kullanıcı odaklılık, veri güvenliği, kurumsal yapı ve teknolojik sürdürülebilirlik bağlamında tartışılmıştır. Çalışma bulguları, İstanbul'daki akıllı ulaşım sistemlerinin tekil bir modele dayanmak yerine, çok çeşitli teknolojik yaklaşımların eş zamanlı olarak geliştiğini ortaya koymaktadır. Bu çeşitlilik, ulaşım ekosisteminde hem kamu hem de özel sektör odaklı çözümlerin bir arada varlık göstermesine olanak tanımakta; kullanıcı ihtiyaçlarına göre şekillenen hibrit sistemlerin giderek yaygınlaştığını göstermektedir. Özellikle farklı hizmet türlerinin entegre edilebilirliğine yönelik gelişmeler, gelecekte daha bütüncül ve esnek ulaşım çözümlerinin uygulanabilirliğini artırmaktadır.

**Anahtar Kelimeler:** Akıllı ulaşım sistemleri, dijital ulaşım uygulamaları, mikromobilité, teknolojik sürdürülebilirlik, entegre toplu taşıma

#### ABSTRACT

The integration of digital technologies into urban and intercity transportation systems today not only facilitates individual mobility but also directly contributes to the achievement of cities' sustainability goals. This study adopts a multidimensional approach to examine the digital transportation applications currently operating in Istanbul, offering a comparative analysis of each system in terms of technological infrastructure, user experience, accessibility, payment systems, and social impact. The study investigates a wide range of applications, spanning from taxi-based services (İTaksi, BiTaksi, Uber) to integrated public transport solutions (İstanbulkart Mobil, Otobüsüm Nerede, Moovit), micromobility services (BinBin, GEZ, HOP!, Martı), and vehicle-sharing platforms (MartıTAG, BlaBlaCar). Both public and private sector-driven systems are assessed with regard to the level of digitalization in urban



transportation, and are discussed in the context of user orientation, data security, institutional structure, and technological sustainability. The findings indicate that smart transportation systems in Istanbul are not evolving within a singular framework but are developing through multiple technological approaches simultaneously. This diversity allows for the coexistence of public and private sector-driven solutions within the transportation ecosystem and underscores the growing prevalence of hybrid systems shaped by user needs. In particular, recent developments in the integration of various service types suggest a rising potential for more holistic and flexible transportation solutions in the future.

**Keywords:** Smart transportation systems, digital mobility applications, micromobility, technological sustainability, integrated public transport



### COMPUTATIONAL EVALUATION OF CHOLINE CHLORIDE–GLYCEROL DEEP EUTECTIC SOLVENT FOR CO<sub>2</sub> CAPTURE: A POSSIBLE SUSTAINABLE ALTERNATIVE TO CONVENTIONAL SOLVENTS

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#### ABSTRACT

The combustion of fossil fuels releases substantial amounts of carbon dioxide (CO<sub>2</sub>), a major greenhouse gas contributing to global warming and climate change. Conventional solvents used for CO<sub>2</sub> capture, such as amine-based systems, have demonstrated high efficiency but are often associated with significant drawbacks, including toxicity, high volatility, and energy-intensive regeneration processes. As a sustainable alternative, deep eutectic solvents (DESs) have attracted increasing interest due to their low cost, low toxicity, biodegradability, and customizable properties. In this study, a binary DES composed of choline chloride (hydrogen bond acceptor) and glycerol (hydrogen bond donor) was investigated for its potential in CO<sub>2</sub> capture. Quantum chemical calculations were employed to evaluate the interaction mechanisms, binding energies, and thermodynamic feasibility of CO<sub>2</sub> absorption in this DES, in comparison to a conventional solvent. The findings provide molecular-level insights into the effectiveness of this green solvent for post-combustion CO<sub>2</sub> capture, particularly from flue gas streams. This research supports the development of environmentally friendly technologies aimed at mitigating climate change while ensuring human and ecological safety.

**Keywords:** Carbon capture, Deep eutectic solvent, Choline chloride, Glycerol.



### ENHANCING METRONIDAZOLE SOLUBILITY WITH DEEP EUTECTIC SOLVENTS: COMPUTATIONAL INSIGHTS INTO A GREEN FORMULATION STRATEGY

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#### ABSTRACT

Metronidazole, a widely used active pharmaceutical ingredient (API), is effective in the treatment of bacterial and parasitic anaerobic infections. However, its poor aqueous solubility significantly limits its bioavailability and therapeutic efficacy. This poses a major formulation challenge, particularly for oral and pediatric applications where liquid dosage forms are preferred. Traditional solubility enhancement techniques—such as micellar solubilization, hydrotropy, amorphization, co-crystallization, and self-emulsifying drug delivery systems—often raise concerns related to toxicity and physical instability. In recent years, deep eutectic solvents (DESs) have emerged as promising, sustainable alternatives for improving the solubility of poorly water-soluble drugs. DESs, typically composed of a hydrogen bond donor and acceptor, offer advantages such as low toxicity, biodegradability, ease of preparation, and tunable physicochemical properties. In this study, a DES composed of choline chloride and propylene glycol was investigated as a potential solubilizing medium for metronidazole using a quantum mechanical calculation approach. Computational analysis was conducted to evaluate the molecular interactions between metronidazole and the DES components. The study established the potential of the DES to enhance the solubility of metronidazole in contrast to water, providing valuable insight into the improved solubilizing capacity of the selected DES. These findings highlight the potential of DESs as green and efficient alternatives for enhancing the solubility of metronidazole. By integrating computational modeling with green chemistry principles, this approach contributes to the development of safer, more effective, and environmentally sustainable pharmaceutical formulations.

**Keyword:** Deep Eutectic Solvent, Solubility, Active Pharmaceutical Ingredient, Drug Delivery, Quantum Mechanics.

## 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES



### EXTENSION DEMONSTRATION OF IMPROVED WHEAT TECHNOLOGIES IN TWO LOCATIONS OF ZARIA AND PLATEAU STATE

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#### ABSTRACT

**Purpose:** This paper aims to contribute to the body of knowledge around best to identify improved wheat technology in Agricultural Extension. **Methodology:** Two LCRI location will be consider based on potentiality and accessibility for supervision. In each Location one lead farmer comprising of 49 farmers will be selected for demonstration. Gender and youth balance in each location will be strictly considered. A total of 100 hosting farmers will be participating. Four improved wheat varieties; Norman, Imam, Altar-84, and Bolaugh-100 (as recently released will be planted side by side on adjacent plots of 2500m<sup>2</sup> at two locations of Zaria and Plateau State. The demo plots will be replicated by hosting farmers. All the necessary recommended agronomic practices will equally apply for all of the plots. Accordingly; spacing of 20cm between rows will be used for the demonstration. Besides; the recommended 5<sup>1/2</sup> bag of NPK/ha of 15-15-15 at sowing and either 2 <sup>1/2</sup> bag of urea/ha, and 100-120 kg of wheat seed per hectare. The Plots will be managing jointly by the researcher, extension workers and hosting farmers. All other recommended agronomic practices will be maintaining equally for all plots.

**Keywords:** Extension Demonstration on Improved Wheat Technology



### FORMULATION AND EVALUATION OF ANTIOXIDANT RICH HERBAL LIQUID TONER

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#### ABSTRACT

The present study focuses on the formulation and evaluation of an antioxidant-rich polyherbal liquid toner utilizing natural ingredients such as Green Tea, Lemongrass, and Hibiscus. The developed formulations were assessed for key parameters including pH, viscosity, homogeneity, spreadability, and dermatological safety. Among the three prepared formulations, batch F3 emerged as the optimized variant, exhibiting a skin-compatible pH (5.55), uniform texture, and optimal viscosity (20.3 cP) that ensured smooth application and non-sticky feel. These properties contributed to improved antioxidant delivery and user comfort. The stability studies indicated that the formulation maintained its integrity under standard storage conditions. Overall, the polyherbal toner demonstrates promising potential as a natural, chemical-free skincare product with notable antioxidant and skin-rejuvenating effects. Further investigations focusing on long-term stability, microbiological safety, and consumer acceptability are warranted to support its scalability and market introduction.

**Keywords:** Antioxidant, Polyherbal Liquid Toner, Safety, Stability.





### DEVELOPMENT OF NOVEL SUSTAINABLE FIBRE AND MELANGE YARN MANUFACTURING

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#### ABSTRACT

The textile industry's rapid growth has raised significant environmental concerns due to its high resource consumption and pollution. As a response, there is an increasing emphasis on developing sustainable fibers and eco-conscious yarn manufacturing methods. Central to this approach is the use of biodegradable and renewable fibers that reduce environmental impact while delivering functional performance. Traditional cotton and synthetic fibers often fall short in sustainability. In contrast, organic cotton, bamboo viscose, Lyocell, and Seacell are emerging as eco-friendly alternatives. Organic cotton is grown without synthetic chemicals, preserving soil and water quality. Bamboo viscose is biodegradable and offers natural antibacterial and UV-resistant properties. Lyocell, produced through a closed-loop process, ensures minimal chemical discharge. Seacell, derived by integrating seaweed into Lyocell, contains minerals and vitamins that offer added skincare benefits.

Melange yarns made from these fibers are gaining popularity due to their multi-tonal aesthetic, soft texture, and moisture-regulating capabilities. Their performance and environmental impact depend on the choice of fiber, blending ratio, and dyeing techniques. This study investigates the development of melange yarns using blends of organic cotton with bamboo viscose, Lyocell, and Seacell in three ratios (30/70, 50/50, and 70/30) and two shade depths. Blending was conducted at the blowroom stage to mimic commercial melange production. Results indicate that yarns with lower shade depths and higher proportions of regenerated fibers exhibit better evenness, fewer imperfections, reduced hairiness, and higher tenacity. In contrast, cotton-rich blends show more irregularities and reduced elongation. Statistical analysis confirms that fiber type, blend ratio, and shade depth significantly influence yarn properties. This research supports the advancement of novel sustainable fiber blends for melange yarns, combining environmental responsibility with desirable textile performance.

**Keywords:** Sustainability, Biodegradability, Seacell, Smart cell

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### FINTECH AND GREEN FINANCE: SYNERGIES IN PROMOTING SUSTAINABLE INVESTMENTS

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#### ABSTRACT

The convergence of Financial Technology (FinTech) and Green Finance presents a transformative opportunity to accelerate sustainable investments and address pressing environmental challenges. FinTech innovations, including blockchain, digital banking, peer-to-peer lending, and AI-powered analytics, have revolutionized the accessibility, transparency, and efficiency of financial services, thereby enabling broader participation in green finance initiatives. By integrating environmental, social, and governance (ESG) metrics into investment platforms and leveraging data-driven tools for risk assessment and impact tracking, FinTech is fostering informed and responsible investment decisions. This paper explores the synergistic relationship between FinTech and green finance, highlighting how digital solutions can mobilize capital towards eco-friendly projects, enhance climate risk disclosure, and support the United Nations Sustainable Development Goals (SDGs). It also addresses the regulatory, technological, and ethical challenges inherent in this intersection and identifies emerging trends shaping the future of sustainable finance.

**Keywords:** FinTech, Green Finance, Sustainable Investments, ESG Integration, Climate Risk, Digital Financial Innovation, Blockchain, SDGs, Financial Inclusion, Environmental Sustainability.

## 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES



### ARTIFICIAL INTELLIGENCE IN FINTECH: RISK ASSESSMENT AND CREDIT SCORING

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#### ABSTRACT

Artificial Intelligence (AI) is rapidly transforming the landscape of financial technology (FinTech), particularly in the domains of risk assessment and credit scoring. Traditional credit evaluation methods, often reliant on limited historical financial data and manual analysis, are increasingly being replaced by AI-driven systems that offer more accurate, efficient, and inclusive credit evaluations. By leveraging machine learning algorithms, big data analytics, and alternative data sources such as social media activity, transaction history, and mobile usage patterns, AI can uncover hidden patterns and predict creditworthiness with enhanced precision. These advancements enable financial institutions to reduce default rates, minimize human bias, and extend credit to previously underserved populations. However, the adoption of AI also presents challenges related to data privacy, algorithmic transparency, and regulatory compliance. This paper explores the technological underpinnings, practical applications, and emerging risks of AI-powered credit scoring systems, offering insights into how they are reshaping the future of credit risk management in the FinTech era.

**Keywords:** Artificial Intelligence, FinTech, Risk Assessment, Credit Scoring, Machine Learning, Alternative Data, Financial Inclusion, Algorithmic Transparency.

## 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES



### TRADE BALANCE AND VALIDITY OF THE MARSHALL-LERNER CONDITION: A CRITICAL LITERATURE REVIEW

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#### ABSTRACT

The Marshall-Lerner (M-L) Condition, which suggests that a currency devaluation or depreciation will improve a country's trade balance only if the sum of absolute values of a country's import and export price elasticities is greater than one, is a fundamental concept of international economics. Over the years, many researchers have tested this condition across various countries using different econometric methods. This paper aims to critically review the existing literature on this topic and evaluate whether those findings provide statistically significant support for the M-L condition. While the paper is primarily a review paper, the paper also applies statistical testing to previously published elasticity estimates. Specifically, the author uses a one-sample t-test on the reported elasticity values to determine whether, on average, they provide statistical support for the M-L Condition. Although many studies report point estimates that suggest the M-L Condition is satisfied, further statistical testing reveals that in nearly half of the cases, the condition does not meet the required level of significance. These findings challenge the widely held belief that currency depreciation is a reliable tool to improve trade balances in developing and emerging economies. Policymakers who hope to improve their country's competitive position may find it valuable to understand that devaluation or depreciation is often less effective than traditionally assumed. Recognizing its limitations can encourage the adoption of more comprehensive and targeted economic policies.

**Keywords:** Marshall-Lerner Condition, Elasticities, Literature Reviews, Trade Balance



### BIOSTIMULATORY EFFECTS OF SEAWEED LIQUID EXTRACTS ON GROWTH AND PHYTOCHEMICAL ACCUMULATION IN *NILGIRIANTHUS CILIATES*

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#### ABSTRACT

*Nilgiranthus ciliatus*, a pharmaceutically significant medicinal plant widely used in Indian traditional Ayurvedic medicine, is renowned for its rich reservoir of bioactive phytochemicals exhibiting diverse therapeutic properties. However, increasing demand has led to its overexploitation in natural habitats, necessitating sustainable cultivation strategies to enhance its phytochemical yield. In this study, five different seaweed liquid extracts (SLEs) -*Gelidiella acerosa* (GA), *Gracilaria edulis* (GE), *Kappaphycus alvarezii* (KA), *Padina gymnospora* (PG), and *Sargassum cristaefolium* (SC) - were evaluated as biostimulants to improve plant growth and secondary metabolite production in *N. ciliatus* under on field pot culture conditions. The SLEs were applied via soil drenching at concentrations of 10%, 20%, 30%, 40%, and 50% on alternate days for two treatment durations (30 and 60 days). Significant variations in vegetative growth and metabolite accumulation were observed across treatments. Among the SLEs, *G. edulis* and *K. alvarezii* treatments notably enhanced morphological traits, total phytochemical content, antioxidant activity, and the yield of key bioactive compounds such as squalene and stigmaterol. Additionally, plants treated for 60 days demonstrated superior responses in all evaluated parameters compared to the 30-day treatments. These findings highlight the potential of specific seaweed extracts, particularly GE (10%, 20%) and KA (10%, 20%), as eco-friendly biofertilizers for sustainable enhancement of growth and secondary metabolite production in *N. ciliatus*, offering a promising strategy for its conservation and commercial utilization.

**Keywords:** Seaweed Liquid Extracts, On field elicitation, *Nilgiranthus ciliatus*, Squalene, Stigmaterol, Biostimulants, Sustainable agriculture



### ALBENDAZOLE IS USED TO TREAT NEUROCYSTICERCOSIS - NERVOUS SYSTEM

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#### ABSTRACT

Neurocysticercosis (NCC), the most common parasitic disease of the human nervous system, arises from infection with the larval stage of the pork tapeworm, *Taenia solium*. Humans typically acquire the infection by ingesting tapeworm eggs through fecal-oral contamination. Once ingested, the larvae migrate and can establish themselves in various tissues, including the brain and spinal cord. Within the nervous system, the *Taenia solium* larvae, known as cysticerci, can reside in the brain parenchyma, subarachnoid space, ventricular system, or spinal cord. The clinical manifestations of NCC are highly variable, depending on the number, size, and location of the cysts, as well as the host's immune response to the parasite. Common symptoms include seizures, headaches, focal neurological deficits, and hydrocephalus. In many instances, particularly in the early stages or with a limited number of cysts, individuals may remain asymptomatic. Albendazole is a benzimidazole anthelmintic drug commonly used in the treatment of parenchymal NCC. Its mechanism of action involves inhibiting tubulin polymerization in the parasite's cells, leading to the disruption of microtubules, impaired glucose uptake, and ultimately, the death of the cysticerci. The effectiveness of albendazole therapy can vary depending on factors such as the number and stage of the cysts. Treatment regimens typically range from days to weeks, and corticosteroids are often co-administered to manage the inflammatory response triggered by cyst degeneration and to improve drug bioavailability. While albendazole is a crucial tool in managing NCC, the overall treatment strategy often requires a comprehensive approach that may include anti-epileptic drugs for seizure control and, in some cases, surgical intervention.

**Keywords:** Neurocysticercosis, albendazole, tapeworm, hydrocephalus

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### ECONOMIC GROWTH, ENERGY CONSUMPTION AND THE CARBON NEUTRALITY TARGET: EVIDENCE FROM INDIA

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#### ABSTRACT

The Sustainable Development Goals recent progress report (2023) reveals that the current pace of progress in developing nations is not adequate to achieve SDG 7 by 2030 due to their ongoing reliance on non-renewable energy sources. In this regard, this research gives novel insights into the magnitude of CO<sub>2</sub> emissions with respect to smaller to larger changes in non-renewable energy through the multiple threshold NARDL model and whether renewable energy plays a mitigating role. Further, we are re-examining the pattern of cubic specification of EKC via the necessary and sufficient conditions in India between 1971 and 2019. The study's outcome confirms the asymmetric effect of non-renewable energy on CO<sub>2</sub> emissions. For instance, it increases CO<sub>2</sub> at lower to higher quantiles; however, the strength of the impact varies at different quantiles. Under the two- and four-quantile decomposition models, coefficients corresponding to the higher quantiles carried smaller values than the lower quantiles. Whereas renewable energy is effective in achieving the carbon neutrality goal of COP 26. Furthermore, both the quantile decomposition models satisfy the necessary and sufficient conditions, validating the N-pattern EKC with two real turning points. In line with the findings, this study suggests that the energy transition is a viable solution for reducing emission levels.

**Keywords:** Carbon dioxide, Non-renewable energy, Renewable energy, N-shaped Environmental Kuznets Curve, Multiple threshold NARDL, India.





### THEORETICAL ANALYSIS OF HYDRIDE PEROVSKITES FOR HYDROGEN STORAGE APPLICATIONS

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#### ABSTRACT

The present study investigates the physico-chemical properties of the perovskite  $\text{SrXH}_3$  ( $X = \text{Ti, Fe and Mn}$ ) in detail using density functional theory. Structural simulations show that all the substances are synthesizable and thermodynamically stable. The density of states (DOS) and electronic band structure analyses reveal that  $\text{SrXH}_3$  perovskites (where  $X = \text{Ti, Fe and Mn}$ ) behave like metallic materials. The shear and Young's moduli, the Poisson's ratio, and other mechanical parameters are estimated for novel polycrystalline materials. The results indicate that compounds with the formula  $\text{SrXH}_3$  ( $X = \text{Ti, Mn and Fe}$ ) are mechanically stable, brittle, and anisotropic. The gravimetric hydrogen storage capacities of  $\text{SrXH}_3$  ( $X = \text{Ti, Mn and Fe}$ ) were calculated to be 2.136 wt%, 2.035 wt% and 2.022 wt%, respectively. These substances have not yet been studied, as far as is known, therefore future research may be compared with these findings.

**Keywords:** DFT, Perovskite hydrides, Hydrogen storage, Elastic constants, Desorption temperature.

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### ECONOMIC ANALYSIS OF THE EFFECT OF INTEGRATED FARMING SYSTEMS ON THE LIVELIHOOD STRATEGIES OF FARMERS IN NORTH-WEST NIGERIA

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#### ABSTRACT

This study assessed the effect of integrated crop-livestock farming systems on farmers' livelihood strategies in North-West Nigeria. Using a double-logarithmic regression model, data were collected from 405 integrated crop-livestock farmers through a structured questionnaire. The findings revealed that key socio-economic factors such as household size, educational level, farming experience, farm size, farm produce, livestock size, and net income significantly influenced farmers' livelihoods. Specifically, household size had a negative and significant effect, implying that larger households strained farmers' income. Conversely, educational level, farming experience, farm size, farm produce, livestock size, and net income had positive and statistically significant effects, indicating that higher levels of these factors improved farmers' livelihood outcomes. The model recorded an R-squared value of 0.7722, suggesting that 77% of the variations in livelihood strategies were explained by the integrated farming variables. The F-statistic (212.4812,  $p < .01$ ) further confirmed the joint significance of the explanatory variables. Consequently, the null hypothesis was rejected, concluding that integrated crop-livestock farming systems positively affect farmers' livelihood strategies. The study recommends policy interventions that promote education, access to quality farm inputs and capacity-building programs to enhance the productivity and resilience of integrated crop-livestock farmers in the study area.

**Keywords:** Integrated farming, crop-livestock systems, livelihood strategies, farmers

**JEL classification code:** Q12, Q13, Q18 and O13



### HONEY INHIBITORY POTENTIAL AGAINST MULTISPECIES BACTERIAL BIOFILM

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#### ABSTRACT

Bacterial biofilms are a major worldwide healthcare problem (urinary tract infections) and are associated with decreasing quality of life and significant patient morbidity. This study is first to test Pakistani honey bees, *Apis dorsata* and *A. cerana* honey samples as anti biofilm, anti quorum sensing (QS) and biofilm dispersal agents honey against multispecies biofilm of bacteria (obtained from obese patients). Briefly, five previously identified isolates *Pseudomonas aeruginosa*, *Escherichia coli*, *Staphylococcus aureus*, *Morganella morganii* and *Klebsiella pneumoniae* (MT448672-MT448676) were selected. Antibiofilm study of all five isolates was tested against three antibiotics viz., erythromycin (20 µg/mL), lincomycin (100 µg/mL) and rifampicin (100 µg/mL). In order to form multispecies biofilm, identified bacteria were grown in batch culture by mixing equal volumes (OD<sub>590nm</sub>= 0.1) of 2, 3 and 5 bacterial isolates. In total 11 groups (g1-g11) were made. Crystal violet (CV) staining method was used to evaluate the antibiofilm potential and biofilm dispersal potential of both honey samples. QS inhibition in *P. aeruginosa* was measured following culture supernatant method. Antibiofilm study showed significant ( $p < 0.05$ ) resistance by *P. aeruginosa* against tested antibiotics. *E. coli*, *M. morganii* and *K. pneumoniae* were significantly susceptible to erythromycin and *S. aureus* to lincomycin. Minimum inhibitory concentrations (MIC) values of both honey samples showed 2 and 5% concentrations as having significant ( $p < 0.05$ ) inhibition potential of multispecies biofilm by all test groups (g1-g11). Though *A. dorsata* honey significantly inhibited biofilm formation at 2 and 5% against all groups but 2% concentration was highly significant against g2-g4 groups. Regarding *A. cerana* honey, 2% concentration was significantly effective against g1, g4-g7 and g9-g11 groups. Both honey samples significantly inhibited QS at 2 and 5%. The 5% concentration of *A. dorsata* honey significantly dispersed biofilm by all groups compared to 2% which showed dispersal potential only by g2 and g3 groups. Collectively, honey samples showed significant antibiofilm, anti-QS and biofilm dispersal potentials thus can be considered as good alternative to antibiotics.

**Keywords:** Honey potential as antibiofilm, quorum sensing, antibiotic resistance, resistant isolates



### MICROBIAL BIOFILMS POTENTIAL FOR PESTICIDES AND DYE BIOREMEDIATION

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#### ABSTRACT

Overuse of pesticides in agricultural soil and industrial wastewater containing dyes contaminate the environment severely and are toxic to animals and humans as well, so their removal from the environment is essential. The present study was focused on the bioremediation of pesticides (Cypermethrin (CYP) and Imidacloprid (IMI)) and dyes (Malachite Green (MG) and Congo Red (CR)) using biofilm of bacteria isolated from pesticides polluted agriculture soil and effluents from the textile industry. From pesticides polluted soil, four bacteria, namely, *Bacillus thuringiensis* (OP554568), *Enterobacter hormaechei* (OP723332), *Bacillus* sp. (OP586601), *Bacillus cereus* (OP586602) and from dyes polluted soil, three bacteria i.e., *L. sphaericus* (OP589134), *Bacillus* sp. (OP589135) and *Bacillus* sp. (OP589136), were identified based on 16S rDNA analysis. Biofilm of individual and mixed cultures of indigenous bacterial isolates was developed and tested for their ability to degrade pesticides (CYP and IMI) and dyes (MG and CR). UV-visible and FTIR spectroscopy was used for the confirmation of CYP, IMI, MG and CR degradation. From all, the mixed culture of *B. thuringiensis* + *Bacillus* sp. (5A) (g7) showed the highest degradation (46.2%) against CYP (100 $\mu$ L) and the mixed culture of *B. thuringiensis* + *E. hormaechei* + *Bacillus* sp. (5A) + *B. cereus* (g11) highly degraded (70.0%) IMI (100 $\mu$ L) within 10 days of incubation at 37 °C. Mixed culture of *Bacillus* sp. (CF3) + *Bacillus* sp. (DF4) (g6) showed the highest degradation (86.76%) against MG (100 $\mu$ L) and mixed culture of *L. sphaericus* + *Bacillus* sp. (CF3) highly degraded (30.78%) CR (100 $\mu$ L). UV-Vis spectral analysis revealed the major peak at 224 nm of CYP, 263nm of IMI, 581nm of MG and 436nm of CR, which completely disappeared after biofilm treatment. FTIR analysis showed several major peaks which are completely or partly disappeared and the appearance of many new peaks after biofilm treatment. As a result of this study, it was concluded that the biofilm of these bacteria could be suitable agents for the bioremediation of pesticides and dyes. This study expresses an ecofriendly approach for the bioremediation of harmful contaminants from the environment, like pesticides and dyes.

**Keywords:** Biofilm, Bioremediation, Cypermethrin, Imidacloprid, Congo red, Malachite green



### AMELIORATIVE EFFECTS OF *SOLANUM NIGRUM* METHANOLIC LEAF EXTRACT ON SUB-LETHAL TOXICITY OF CARBON NANOTUBES IN THE BRAIN, GILLS, AND HEART OF *CIRRHINUS MRIGALA*

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#### ABSTRACT

This research explores the therapeutic effects of *Solanum nigrum* in treating the sub-lethal toxicity caused by carbon nanotubes in *Cirrhinus mrigala*. Carbon nanotubes used in the study were characterized using FE-SEM to confirm their size. The fish's LC<sub>50</sub> was determined to be 327.65 mg/L, and then divided into three experimental doses the 10th, 20th, and 30th parts. Test groups G1, G2, and G3 were exposed to the same dosage (30th fraction) of 32.76 mg/kg of CNTs, while the *Solanum nigrum* extract for these groups was 30, 40, and 50 mg/L, respectively. The biochemical analysis of the plant indicated the presence of quercetin, caffeic acid, chlorogenic acid, ferulic acid, kaempferol, oxalic acid, malic acid, methyl malonic acid, malonic acid, citric acid, fumaric acid, vanillic acid, syringic acid, and cinnamic acid. The brain, gills, and heart showed various histological abnormalities, which were restored to the original histoarchitecture comparable to the control group (C), while the positive control group (T\*) exhibited the most significant histological abnormalities. *Solanum nigrum* proved to be effective in alleviating the histological abnormalities caused by carbon nanotubes in *Cirrhinus mrigala*.

**Keywords:** *Cirrhinus mrigala*, *Solanum nigrum*, Carbon Nanotubes.

## 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES



### GAUGING THE SUSTAINABILITY OF SOLID WASTE MANAGEMENT IN SMART CITY INNOVATIONS: ANALYZING THROUGH THE LENS OF INTERNATIONAL ENVIRO-LEGAL PARADIGM

*Priya Chaudhari*

#### ABSTRACT

With the ever-escalating population in urban areas, the municipal solid waste generation levels are increasing significantly, which has become a critical component of Environmental governance. Hence waste management becomes a challenge faced by developing, developed and advanced countries. The concept of smart cities has been embraced globally due to its potential to enhance the quality of life in urban areas. This paper explores the sustainability of solid waste management of Singapore, Helsinki, Zurich, Oslo and India. The research evaluates the legal, regulatory and institutional configuration which governs solid waste management in Singapore, Helsinki, Zurich, Oslo and India, assessing their alignment with environmental principles. This study also foregrounds the lacunas or obstacles in implementation of best innovative practices and environmental principles, laws that deal with solid waste management with efficacy and efficiency. The findings of the research accentuate the urgency for a more robust legal infrastructure, stricter enforcement mechanisms and adoption of bottom-up approach to achieve prolonged sustainability in solid waste management. Ultimately, this study contributes to the discourse on how legal instruments can expediate and promote environmentally just and effective solid waste management in emerging smart urban eco systems.

In applying doctrinal methodology, this research relies on such primary sources that include statutes, governmental data, original documents and on such secondary documents that include books, published research articles in scholarly journals, popular magazines, and newspaper articles.

**Keywords:** Solid Waste Management, Sustainability, Smart City Innovations, International enviro–legal framework.



### INK AND IDENTITY ACROSS BORDERS: THE JOURNEY OF YEMENI POET SALEM AL-AMIRI

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**Dr. Farhana Khan <sup>2</sup>**

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#### ABSTRACT

This autobiography traces the artistic and academic journey of Salem Abdulqawi Saleh Al-Amiri, a Yemeni poet, musician, and scholar. Born in 1970 in Thi Hiran, Al Dhalea', Yemen, Al-Amiri later pursued higher studies in English and American literature at Dr. Babasaheb Ambedkar Marathwada University in India from 2018 to 2024. His time in India marked a creative turning point, as he composed bilingual poems that reflect his experiences of cultural transition, identity, and emotional resilience. Works like *Indian Fingers*, *Feminism*, and *The Ink Blood* explore the interplay between heritage and modernity, war and peace, and personal and academic growth. Blending scholarship with artistic expression, Al-Amiri's story highlights how poetry and education can transcend borders and foster understanding across cultures.

**Keywords:** Cross-cultural , Identity , Poetry ,Transformation





### ARDUINO UNO-BASED STUNTING DETECTION APPLICATION INNOVATION IN TODDLERS AS A STRATEGY FOR ACHIEVING UNIVERSAL HEALTH COVERAGE IN THE SDGS

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#### ABSTRACT

The stunting rate in West Sumatra Province is still high compared to the national average. In Pariaman City, the prevalence of stunting is still at 16%, where the national target is 14% by 2024. The problem that occurs is that there is no development of an arduino uno-based stunting application. The purpose of this research is an application that can detect stunting in pregnant women and toddlers using arduino uno. The target of this application is to be able to measure the height and weight of pregnant women and toddlers automatically, so as to prevent stunting and the realisation of Pariaman City which is free from stunting problems. The research method begins with the data analysis stage of the factors and symptoms of stunting detection, the formation of applications and stunting detection tools, calculations using the stunting application and the results of the percentage of stunting detection. Implementation ends with the technology implementation stage to the community. The result of this research is a technological innovation in the form of an application using Arduino Uno, which can measure the weight and height of pregnant women and toddlers automatically and is directly processed by the SIPASBU application (Information System for Prevention of Stunting in Mothers and Toddlers), so that it can detect whether pregnant women or toddlers are stunted or not. The importance of this innovation was developed because this programme is a form of technological innovation that can later be utilised by the wider community in the form of health independence for pregnant women.

**Key Word:** stunting, arduino uno, application, SIPASBU



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#### ABSTRACT

This paper addresses urban development phenomena in Tirana, focusing on migratory movements during 2020 under the pressure of the COVID-19 pandemic. It examines the number of residents who changed their residence during this year, the reasons for this decision, and official data on the number of houses sold during this period.

This study used qualitative methods, including interviews and informal conversations. Data processing involved transcribing conversations and interviews, categorizing them by themes, and utilizing participants' quotes from the study.

Qualitative data analysis reveals that most interviewees identified better educational opportunities for their children and improved living conditions as the primary reasons for leaving their place of origin and moving to Tirana during the pandemic. Additionally, the data show a decline in house sales in Tirana during the same period.

This research emphasizes a small group of individuals expressing a sense of returning to their previous residences during the pandemic. This longing was motivated by the sense of security their hometowns provided. This is attributed to the low population density in their cities or villages of origin and the fact that families were united to cope with challenging situations.

**Keywords:** COVID-19, pandemic, migratory movements, place of origin, adaptation, return to the place of origin, etc.



### ETHNOBOTANICAL SURVEY ON HERBAL REMEDIES FOR THE MANAGEMENT OF TYPE 2 DIABETES IN THE CASABLANCA-SETTAT REGION, MOROCCO

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#### ABSTRACT

**Background:** Morocco faces a substantial public health challenge due to diabetes mellitus, affecting 12.4% of adults in 2023. The Moroccan population makes extensive use of phytotherapy and traditional medicine to address the difficulties this chronic condition poses. The aim of this study is to document the use of medicinal plants in traditional medicine for managing type 2 diabetes in the provinces of the Casablanca-Settat region.

**Methods** The study employed a semi-structured questionnaire for data collection. A study was conducted between August 1st and September 30th, 2023, and 244 individuals diagnosed with diabetes were invited to take part in the research, all of whom used at least one medicinal plant to manage type 2 diabetes, by visiting primary healthcare facilities in Morocco. The analysis included the use of Relative Frequency of Citation (RFC) to scrutinize the data.

**Results:** A total of 47 plant species belonging to 25 families were documented. Notably, the Apiaceae, Lamiaceae, and Fabaceae families were frequently mentioned in the context of treating type 2 diabetes in Morocco. Prominent among the cited plant species were *Sesamum indicum* L., *Lepidium sativum* L., followed by *Foeniculum vulgare* Mill., and *Rosmarinus officinalis* L. Seeds emerged as the plant part most commonly mentioned, with infusion being the prevailing preparation method and oral consumption being the most frequently depicted method of administration.

**Conclusion:** This research underscores the practicality of incorporating traditional medicine into the healthcare framework of the Casablanca-Settat region. The findings not only offer valuable documentation but also have a vital function in safeguarding knowledge regarding the utilization of medicinal plants in this locality. Moreover, they provide opportunities to delve deeper into the phytochemical and pharmacological potential of these plants.

**Keywords:** Phytotherapy, Ethnobotanical survey, Type 2 diabetes mellitus, Medicinal plants, Casablanca-settat, Morocco



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#### ABSTRACT

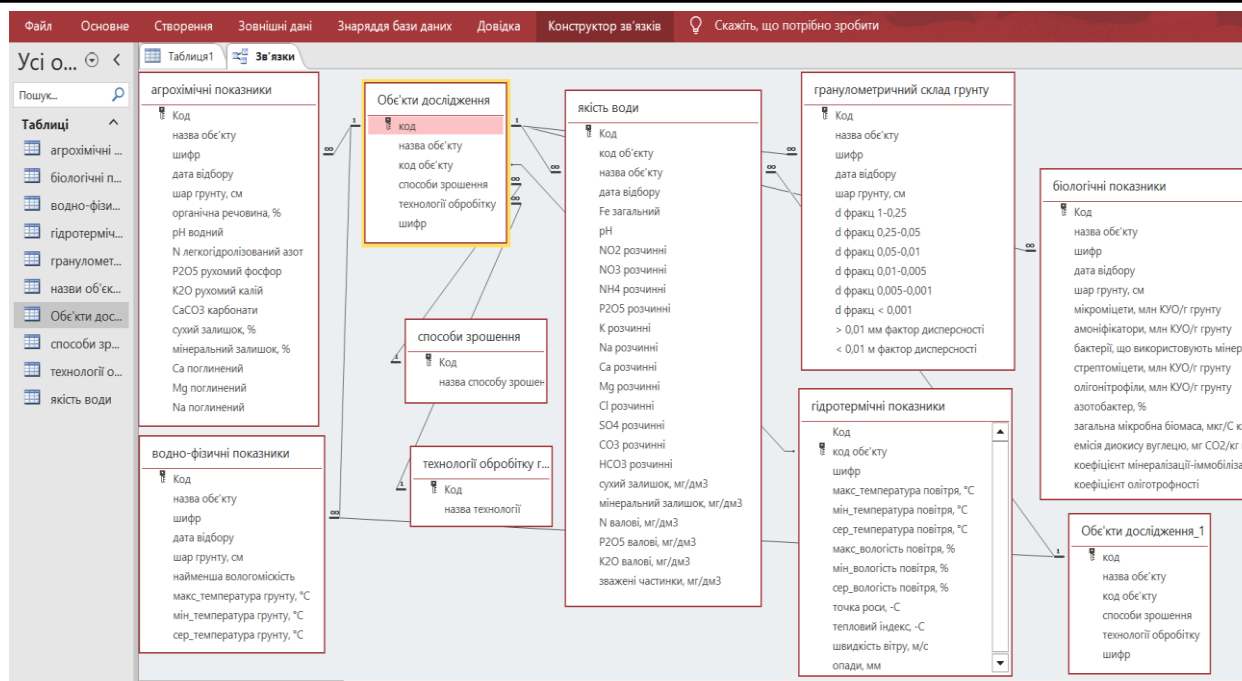
Databases are considered to be the cornerstone of analytical modelling, providing a structured, reliable, and scalable data foundation that is essential for deriving actionable insights and supporting data-driven decision-making. Robust data modelling practices enable organisations to define, organise and integrate complex, multi-source datasets. This, in turn, ensures data quality and consistency across analytical environments.

Recent advances have led to the emergence of foundation database models, which are characterised by their capacity to be pre-trained and generalisable. These models have the potential to support a wide spectrum of analytical tasks across diverse datasets with minimal retraining overhead. These models leverage expert representations of data and query plans, facilitating efficient summarisation, pattern recognition, and predictive analysis while adapting to new domains and hardware environments.

The database, which was created on the basis of fundamental research conducted at the Institute of Water Problems and Land Reclamation of the National Academy of Agrarian Sciences of Ukraine between 2018 and 2024, is being continually enriched with new research objects. The aim of this is to expand the geographical scope of studies and to evaluate the formation of water and nutrient regimes across a range of different soil types, as well as their responses to various soil tillage technologies (including no-till and deep plowing) and irrigation methods (including different irrigation techniques and natural moisture regimes). The database has been developed to systematically capture these parameters, thereby facilitating large-scale comparative analyses of soil-plant interactions. In this manner, researchers are enabled to assess the impact of agricultural practices on soil health and crop productivity in the rich Ukrainian soils.

*The technological framework.* The database operates on the Microsoft Access platform, which supports the execution of structured queries, efficient data management, and seamless integration with analytical tools. Microsoft Excel is a software programme that functions as an adjunct to Access, offering advanced data processing, statistical analysis, and visualisation capabilities. This integration ensures robust handling of complex datasets, from initial data entry to final report generation.

*Database Structure.* The database incorporates interconnected tables designed to store and analyse agronomic research data. The following components are of particular significance: research objects – the geographical locations and experimental sites; irrigation methods – drip irrigation, sprinkler, and natural moisture regimes; technological methods – soil tilling, protocols surrounding the application of fertilisers, and systems for the rotational cultivation of crops. The following indicators were considered on the basis of research plots in different regions of Ukraine: agrochemical, biological, hydrothermic, soil nutrient levels, microbial activity and thermal properties of soils, granulometric composition, and water quality metrics for irrigation (Fig. 1).



**Fig. 1.** Diagram of the database structure on the Microsoft Access platform and the analysis process (in Ukrainian)

An expanded structure of this kind facilitates a more comprehensive exposition of the role of the database in the analytical modelling process and its importance for conducting exhaustive research. Moreover, it can be adapted for different parameters and utilised by different countries.



### INVISIBLE FARMERS: CHALLENGING MALE DOMINANCE IN AGRICULTURE

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#### ABSTRACT

Agriculture has long been perceived as male dominated sector, obscuring the significant yet under reorganized contributions of women. The concept of male dominance in agriculture is deeply rooted in patriarchal structure and reinforced by societal norms that regard gender as a social construct. These norms assign rigid gender roles, designating men primary breadwinners and women as a secondary or invisible laborers, despite their active participation in every stages of agricultural production from sowing to harvesting. Women roles in agriculture are often informal, unpaid and unrecorded, which contributes to their marginalization in decision processes, resource access and policy formulation. Factors such as land ownership restrictions, limited access to credit and training and socio cultural expectations further entrench male dominance. Challenging this systemic inequality requires recognizing and vilifying women's labor, reforming policies to ensure equitable access to resources, promoting gender-sensitive education, and dismantling stereotype through community engagement. Empowerment women in agriculture not only fosters gender equality but also enhance food security and rural development.

**Keywords:** Challenging Male Dominance, Agriculture, Invisible Farmers



### GEOMORPHOLOGICAL DIVERSITY IN ABU GHARB DISTRICT – AN ANALYTICAL FIELD GEOGRAPHICAL STUDY

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#### ABSTRACT

This study seeks to explore and analyze the geomorphological diversity in Abu Gharb district, one of the areas located in the southwest of Najaf Governorate, Iraq, by employing a field and analytical approach supported by geographic information systems (GIS) techniques. The study focused on the classification of land forms, understanding the active geomorphological processes, and analyzing the impact of natural and human factors on the formation of surface appearance. The results show a clear diversity of geomorphological formations ranging from sedimentary plains, salt depressions and tectonic structures, reflecting a complex interaction between structural, climatic and hydrological factors.

**Keywords:** Geomorphology, Abu Gharb, Najaf, Terrestrial Diversity, GIS.





### MOLECULAR ANALYSIS OF CYST NEMATODE SPECIES IN THE MAIN POTATO PRODUCTION AREAS OF BLIDA PROVINCE, NORTHERN ALGERIA

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#### ABSTRACT

Potato cyst nematodes (PCNs) *Globodera pallida* and *G. rostochiensis* present the most damaging species to potato culture. These parasites become a harmful potential in several important potato production localities in Algeria. The aim of this study was to estimate the infestation degree, the density of cysts, and the molecular identification of PCNs from three localities of Blida “El affroun” Mouzaïa and “Meftah” regions in northern of Algeria. Cysts were extracted by using the Fenwick method from soil samples collected in each location. Extracted cysts were stored dry in tubes for molecular characterisation (Specific PCR., ITS-rDNA, *cytb* gene mtDNA and sequencing). Potato cyst nematodes were found in one out of three localities sampled in Blida province with a prevalence of 33.33%. The average density of PCNs was 2.4 cysts/100 cm<sup>3</sup> of soil, and the infestation degree was 12.19 juveniles and eggs per 100 cm<sup>3</sup> of soil. Whereas, both areas of El affroun and Mouzaïa localities were free from PCNs. Molecular identification revealed that *G. pallida* occurred mainly in the infested surveyed area. The phylogenetic association with the European populations indicated that Algerian populations of PCN were probably introduced from Europe by infested seed-potato.

**Key words:** *cytb* gene mtDNA, *Globodera pallida*, ITS rDNA, sequencing, specific PCR.



### AQUATIC MACROINVERTEBRATE BIODIVERSITY OF LAKE SIDI BOUDAROUA OUAZZANE, MOROCCO

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#### ABSTRACT

Natural lakes are a strategic reservoir for water resources and are also a bank for species in aquatic environments. Macroinvertebrates are considered the best bioindicators and reflect the state of these lakes. The objective of the current study was to inventory the aquatic macro-invertebrates of Lake Sidi Boudaroua Ouazzane, Morocco.

The observations under the microscope and the identification of species using identification keys have provided a clear idea of the trophic state of the environment. From the results of these analyses, we were able to build a results matrix. On this, descriptive statistical analyses were applied with the SPSS analysis software. These results show that a distribution of species has made it possible to highlight a seasonal temporal variation. A number of 237 individuals collected in the 3 sampling sites distributed in 11 orders, 22 families, and 26 genera testify to a good diversity of the Lac Sidi Boudaroua. The most abundant family is the Scarabaeidae (Coleoptera).

The biodiversity of macroinvertebrates reflects a significant floristic richness in the case of macrophytes and phytoplankton. Further taxonomic studies of all the biodiversity would make this site a real zoological and botanical garden that would attract not only researchers but also tourists and investors.

**Key words:** Biodiversity, survey, macroinvertebrates, Sidi Boudaroua lake, Morocco



### ASSESSMENT OF PHYSICOCHEMICAL QUALITY OF SIDI BOUDAROUA LAKE WATER, OUEZZANE, MOROCCO

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#### ABSTRACT

A lake is an aquatic system in permanent exchange with the external environment on which it depends. The study aimed to determine the physicochemical characteristics of the Lake Sidi Boudaroua water for evaluating its impact on the biodiversity of this lake.

Seasonal sampling campaigns were organized during the year 2020 at the Sidi Boudaroua water body. The first was in January, the second in April, the third in July, and the fourth in September. Measurements of some physicochemical parameters were made in situ (pH, electrical conductivity, turbidity and dissolved oxygen). Anion contents ( $\text{HCO}_3^-$  and  $\text{Cl}^-$ ) and cation contents ( $\text{Ca}^{2+}$ ,  $\text{Mg}^{2+}$ ,  $\text{Na}^+$ , and  $\text{K}^+$ ) were measured. Four samples of sediments were collected for analyses of granulometry, organic matter and carbonate content.

The waters of the water body are weakly alkaline (average pH is 8.59) and moderately mineralized (average electrical conductivity is 1339  $\mu\text{S}/\text{cm}$ ). Cation levels reveal a high concentration of sodium (258.4 mg/L) and calcium (131.3 mg/L) and low concentrations of magnesium (20.80 mg/L) and potassium (6.82 mg/L). Anion levels show high values for chlorine (195.82 mg/L) and bicarbonates (134.55 mg/L). The Boudaroua water is well oxygenated (dissolved oxygen content is 8.12 mg/L on average) and weakly turbid (average turbidity is 7.38 NTU). The geochemical analysis generally reveals for all sites fairly low contents of organic matter and carbonates and high contents of minerals.

The Sidi Boudaroua water lake constitutes an interesting hydrological basin characterized by a facies of calcium-chloro-sodium bicarbonate. The chemical analyses show a variation related to seasonal climatic influence.

**Key words :** Sidi Boudaroua water, Biological quality, Physicochemistry, Ouezzane, Morocco.

## 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES



### FEMINIST VOICE, RESISTANCE, AND EDUCATION IN MALALA YOUSAFZAI'S *I AM MALALA*

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*MA English, Sharda University*

*Dr. Raf Raf Shakil Ansari*

*Assistant Professor, Sharda University*

#### ABSTRACT

This paper examines *I Am Malala* through the lens of postcolonial feminist theory, highlighting how Malala Yousafzai's memoir functions as an act of narrative resistance against patriarchal, religious, and political oppression. Framing writing as a radical feminist tool, the study explores how Malala reclaims her voice in a culture of imposed silence, transforming personal trauma into collective testimony. Drawing on key theorists such as bell hooks, Gayatri Chakravorty Spivak, and Chandra Talpade Mohanty, the analysis underscores the significance of Malala's identity as a Pashtun Muslim girl navigating both local extremism and global expectations. The paper emphasizes the political significance of education as a feminist practice of freedom and the pivotal role of family, particularly Malala's father, in nurturing agency within a deeply patriarchal society. It argues that *I Am Malala* resists simplistic victimhood narratives by offering a nuanced portrayal of empowerment rooted in cultural specificity, religious faith, and feminist solidarity. Through writing, speech, and advocacy, Malala's voice becomes a transformative force that unsettles dominant narratives and champions the rights of girls worldwide.

**Keywords:** Girls' education, human rights, gender equality, activism, social change, resilience.

## 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES



### COST OF RELATED PARTY TRANSACTION AND VALUE OF LISTED CONSUMER GOODS COMPANIES IN NIGERIA

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#### ABSTRACT

Related party transactions (RPTs), are business dealings between entities under common control, these transactions have a dual impact on firm value. One impact of RPTs is they can enhance efficiency and cost-effectiveness through synergies and also, they may foster opportunistic behavior, resource diversion, and conflicts of interest. This study examines the impact of related party transaction cost on value of listed consumer goods companies in Nigeria over the period of twelve-years (2012-2023). An explanatory research design and census sampling technique were employed, with a data from the annual reports and accounts of 14 out of 21 listed consumer goods companies on Nigerian Exchange Group. Panel data regression analysis was used to analyzed the data. The findings revealed that related party sales have positive but insignificant influence on firm value, while related party purchases have a positive and significant effect. In contrast, related party receivables exhibit a negative and significant relationship, whereas related party payables and loans show negative but insignificant associations with listed consumer goods companies in Nigeria. However, leverage findings show positive and significant impacts firm value, while firm size exerts a negative influence. The study recommends optimizing related party purchases, ensuring timely receivables collection, and leveraging strategically to avoid financial distress. Large firms should enhance efficiency by streamlining operations, and corporate governance should be strengthened with transparent policies to reduce conflicts of interest, build investor confidence, and maximize firm value.

**Key words:** Related party, receivable, sales, payable, value



### FROM WASTE TO FEED: THE IMPACT OF PROCESSED BIOWASTE ON FISH HEALTH PERFORMANCE

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#### ABSTRACT

A 60-day feeding trial was conducted to evaluate the effects of different biochar supplements on the growth, nutritional digestibility, body composition, hematology, and mineral status of Nile tilapia (*Oreochromis niloticus*) fingerlings. Seven diets were formulated, including a control diet and six diets supplemented with 2% biochar derived from various sources (cotton stick, wheat straw, corn cob, house waste, grass waste, and green waste). The results showed that corn cob biochar (CCBC) supplementation significantly improved growth, nutrient absorption, and body composition, while reducing nutrient release into the water. CCBC also enhanced mineral absorption efficiency and improved hematological parameters. In contrast, house waste biochar (HWBC) had negative impacts. Overall, CCBC demonstrated potential as a valuable supplement for improving the growth and health of Nile tilapia.

**Keywords:** Biochar, Growth, Nutrient Digestibility, Biohar, Fish Health



### INVESTIGATION OF RAW AND CALCINED MAGNESITE-BASED PHASE CHANGE MATERIALS FOR THERMAL ENERGY STORAGE APPLICATIONS

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#### ABSTRACT

Magnesite ( $\text{MgCO}_3$ ) has gained increasing attention as a potential supporting material for organic phase change materials (PCMs) in thermal energy storage (TES) applications. This study explores the incorporation of magnesite with organic PCMs to enhance thermal stability, thermal conductivity, and shape retention during phase transitions. Organic PCMs, such as fatty acids and their derivatives, offer high latent heat storage capacity but suffer from leakage and low thermal conductivity. Magnesite, with its porous structure and favorable thermal properties, serves as a stabilizing matrix to mitigate these challenges. Experimental characterization, including differential scanning calorimetry (DSC), thermogravimetric analysis (TGA), and scanning electron microscopy (SEM), confirms the improved thermal performance and structural integrity of the magnesite-PCM composite. The results demonstrate the potential of this composite material for efficient and sustainable thermal energy storage applications, particularly in building energy management and renewable energy systems.





### SYNTHESIS OF CuO Nps FOR PHOTOCATALYTIC APPLICATIONS

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*University of khenchela, Algeria, Science of matter, Algeria*

#### ABSTRACT

Today, wastewater treatment and the sanitation of potable water supplies are major concerns. Among the most recent advances in water treatment, advanced oxidation processes (AOP) are solutions allowing the mineralization in an aqueous medium of organic molecules that are toxic to the ecosystem. heterogeneous photocatalysis. It is a photo-sensitized reaction based on the adsorption of light radiation by the catalyst, generally a semiconductor using CuO. It has the advantage of not introducing chemical compounds other than CuO into the medium to be treated. In this study, the copper nanoparticles were synthesized by a simple co-precipitation method which was obtained by heating at 80°C for photocatalytic application. The microstructural characterization of the nanopowder obtained was performed using X-ray diffraction (XRD) and SEM microscopy. XRD studies demonstrated that the formation of the CuO monoclinic phase and the average grain size of CuO crystallite was found to be 30 nm. SEM images indicate the morphology as a three-dimensional flower-like structure was successfully prepared for sub-sequent degradation of methylene blue (MB).

**Acknowledgements:** Abbes Laghrour university khenchela , Algeria

**Keywords:** CuO NPs X-ray diffraction SEM; Photocatalytic



### TIN OXIDE THIN FILMS DEPOSITED VIA ULTRASONIC SPRAY PYROLYSIS FOR PHOTOVOLTAIC APPLICATIONS

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#### ABSTRACT

SnO<sub>2</sub> thin films were deposited using the ultrasonic spray pyrolysis (USP) technique at a substrate temperature of 450°C. These films underwent comprehensive characterization through X-ray diffraction (XRD), Fourier-transform infrared spectroscopy (FTIR), and ultraviolet-visible (UV-Vis) spectroscopy to analyze their structural and optical properties.

XRD analysis confirmed the formation of a tetragonal rutile-type crystal structure, with the diffraction peaks matching the standard JCPDS data for SnO<sub>2</sub>. The average crystallite size was calculated using the Scherrer formula, yielding a value of approximately 35 nm, indicating the nanoscale nature of the films.

The FTIR spectra revealed the presence of distinct absorption bands characteristic of SnO<sub>2</sub>. Two prominent bands were identified: one corresponding to Sn-O stretching vibrations and another to Sn-O-Sn bending modes, both of which are signatures of tin oxide's chemical bonding environment. These features provide further evidence of the successful deposition of SnO<sub>2</sub> with proper stoichiometry.

For the optical properties, UV-Vis spectroscopy was employed to measure the films' transmittance and absorbance. The optical band gap energy was calculated using the Tauc plot method, showing direct band-to-band transitions. Additionally, the refractive index and other dispersion parameters were determined using the Wemple-DiDomenico single-oscillator model, which provided insights into the film's electronic structure. The estimated optical band gap energy was in the range typical for SnO<sub>2</sub>, further confirming the quality and potential applicability of the films in optoelectronic devices.

**Keywords:** Thin films, X-ray diffraction, FTIR spectroscopy, Optical properties.



### PROCEDURE VS. PRACTICE - EXPLORING THE IMPACTS OF PROCEDURAL DEVIATIONS IN DEEP BRAIN STIMULATION FOR PARKINSONISM

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#### ABSTRACT

##### INTRODUCTION

Parkinsonism a neurodegenerative condition caused by deficiency of dopamine, and characterized by both motor and non-motor symptoms. It's a progressive loss of dopaminergic neurons in the substantia nigra pars compacta, and accumulation of aggregated alpha-synuclein into intracellular structures called Lewy bodies, within specific brain regions. Traditional drug regimens, although capable of controlling these symptoms, lose their effectiveness over time and can further lead to motor complication such as drug induced dyskinesia. Deep brain stimulation (DBS) is a well-established surgical procedure of choice for patients with PD, potentially improving symptoms by stimulation on the subthalamic nucleus (STN) and the internal segment of the globus pallidus (GPi). (DBS) has a success rate of (80 to 90 percent), The advancements in imaging technology has increased reliance on radiological targeting, bypassing the electrophysiological guidance which comprised the remaining 10 percent of this unusual case.

##### METHODS

A case of a 51-year-old man diagnosed clinically for Parkinson's disease had undergone ECG, blood tests and MRI to rule out any other causes of Parkinsonism. The patient had undergone CT guided Deep brain stimulation targeting the sub thalamus nucleus without intra operative electrophysiological confirmation, due to its limited availability in the country. Despite the correct anatomical placement of the electrodes and recurrent follow ups for the first 6 months post surgically, the effectiveness was low, and the patient's condition deteriorated forcing him under high doses of levodopa regimen. A year later, revised DBS surgery was performed by replacing previously installed electrodes with new electrodes under electrophysiological guidance.

##### RESULT

After the first DBS surgery under CT guidance for the placement of the electrodes, which was the only available approach, the patient had no significant relief from his symptoms. He had to take heavy dosages of Levodopa to manage the symptoms of hypokinesia, tremors, dyskinesias, improper gait and speech which weren't resolved. After the second DBS surgery performed a year later, which was under electrophysiological mapping, The patient appeared well with no signs of tremors, hypokinesia, arthralgia, ataxic/antalgic gait. The patient had no need to continue levodopa and didn't require any other medication.

##### CONCLUSION

With the ongoing debate among surgeons regarding the necessity of electrophysiological control during (DBS) procedures, some argue that it is not essential. This case underscores its significance, especially in (STN) stimulation. These are extremely small and delicate structures, and even when imaging modalities such as CT and MRI indicate correct electrode placement, this may not always be accurate. Therefore, Electrophysiological guidance plays a critical role for confirming precise electrode localization. Effective DBS surgery relies on the intraoperative verification of accurate electrode positioning. Methods frequently employed for this objective include electrophysiological monitoring,



stimulation testing, and imaging during surgery. Many surgeons prefer to perform DBS with MER due to its precision and reliability. As more studies evaluate the outcomes of CT-guided implantations, doubts remain regarding the consistency and effectiveness of these techniques. Ultimately, the symptom-specific precision and accurate nuclear targeting achieved through electrophysiological guidance continues to be vital for ensuring optimal DBS efficacy.

**Keywords:** Deep Brain Stimulation, Electrophysiological Guidance, Parkinsonism, Subthalamic Nucleus, Electrode Implantation.

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### ASSESSMENT OF THE RELIABILITY OF THE THIOBARBITURIC ACID METHOD FOR THE QUANTIFICATION OF MALONDIALDEHYDE IN *THYMUS SATUREJOIDES*

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#### ABSTRACT

Malondialdehyde (MDA) is an organic molecule resulting from the degradation of polyunsaturated fatty acids through the process of lipid peroxidation. It is widely used in biological and medical research as a marker of oxidative stress. In plants, MDA serves as an indicator of abiotic stress, such as drought, salinity, extreme temperatures, and heavy metal exposure. Various methods can be employed to quantify MDA, including the Thiobarbituric Acid (TBA) method, and High-Performance Liquid Chromatography (HPLC), and Mass Spectrometry. The aim of this study is to test the reliability of the TBA method on *Thymus saturejoides* populations under water stress conditions, based on climatic data and plant water content. Population samples from different sites in the Moroccan High Atlas were collected between late April and early May 2023. MDA concentrations were determined spectrophotometrically, the water content of plant samples was determined by the difference between fresh and dry mass, while climatic parameters were extracted from the "power.larc.nasa.gov" website. The results revealed that the highest concentration of MDA was observed at the 'Argana' site, where the low water content in the plants is explained by a deficit in rainfall and relative humidity, combined with an increase in average temperatures. On the other hand, populations at the 'Boumalen Dads' site, which had a higher water content in the plants due to abundant rainfall and high relative humidity, accompanied by lower average temperatures, recorded lower levels of MDA. In conclusion it is probable that this technique will continue to be reliable. However, the use of modern techniques is recommended, especially when dealing with closely related values.

**Keywords:** Malondialdehyde ; TBA, Abiotic Stress, *Thymus saturejoides*.

## 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES



### THREE PATHS OF REFORM: A COMPARISON OF THE REFORMIST THOUGHTS OF NGUYEN TRUONG TO, PHAM PHU THU, AND NGUYEN LO TRACH

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#### ABSTRACT

This article examines and compares the reformist ideas of three prominent intellectuals during the reign of Tu Duc King: Nguyen Truong To, Pham Phu Thu, and Nguyen Lo Trach. Although all emerged amid the late 19th-century crisis and recognized the urgent need for reform, each proposed a distinct path, reflecting three different models of reformist thought. Nguyen Truong To prioritized technical, scientific-technological, and administrative reforms as immediate measures to safeguard the nation, while still adhering to a centralized political framework. Pham Phu Thu, drawing on his diplomatic experience in the West, emphasized internal reforms within the royal court, especially in education, taxation, and the recruitment of capable individuals. In contrast, Nguyen Lo Trach advocated for a more comprehensive, bottom-up reform agenda, calling for an expanded role for the people, local militias, and the extension of civil rights. Through comparative analysis, the article argues that 19th-century Vietnamese reformist thought was not monolithic, but rather comprised multiple reform trajectories yet all were ultimately constrained by a conservative political structure resistant to transformation.

**Keywords:** Reformist thought; Nguyen Truong To; Pham Phu Thu; Nguyen Lo Trach; Diversity of reform models.

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### SUSTAINABLE SOURCES OF NATURAL DYES AND THEIR APPLICATIONS

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#### ABSTRACT

The need for eco-friendly and sustainable alternatives has been boosted by growing environmental concerns. A significant modernization in the textile sector over the last few years has been a result of advancements in technology. This revolutionary development urges the scientific community to find eco-friendly and greener healthcare solutions, focusing on biomaterials to encourage green fabrication tactics. Currently, natural dyes pull back the attention of the scientific community due to the increase in awareness about the adverse effects of synthetic dyes on humans and our ecosystem. The natural dyes extracted from various biological sources have gained the interest of researchers. The biological sources yield different colorant compounds such as anthocyanin, flavones, lutein, tannin, betalains, anthraquinone, violacein, melanin, carminic acid, and kermesic acid. These bioactive compounds not only produce beautiful hue onto natural and synthetic fabrics but also add extract functionalities such as UV-protection, antimicrobial and antioxidant properties. This chapter highlighted the sources of natural dyes from different biological resources including plants, animals, microbes, minerals and insects, and their applications in the coloring industry. However, more research and advancement are required to enhance the efficiency of the extraction and dyeing process.

**Keywords:** Natural dyes, Sustainability, Green Chemistry, Textile Dyeing and Biodegradable dyes.



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### ASSESSMENT OF PHYSIOLOGICAL BEHAVIOR AND VINE PERFORMANCE IN TWENTY GRAPEVINE VARIETIES (*VITIS VINIFERA* L.)

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#### ABSTRACT

Grapevine (*Vitis vinifera*), with an estimated of 5000 to 15,000 cultivars, is one of the most important perennial crops with a long history of cultivation in the world (Lopes et al., 1999). Grape, represented by numerous table and raisin cultivars used in the production of juices, canned food, medicines, and various fermentation products, as well as grown for ornamental purposes, holds a special place in the world market. In the present study, vine balance, chlorophyll index, foliar temperature, relative water content and stomatal conductance were investigated in 20 introduced grapevine cultivars cultivated in Moroccan climate. Vines were cultivated at an experimental vineyard collection in the National Agricultural Research Institute of Morocco (INRA) at Ain Taoujdate and were planted in a density of 2m × 4m (vine × row). Since only limited information on that topic is available in the literature, this study was performed in order to compare adaptation and physiological behavior of introduced varieties based on their vegetative and physiological attributes. Results showed highly significant differences among genotypes. The cultivar ‘Danan’ had the highest chlorophyll index of 60,992 followed by the cultivar ‘Christmas’. Leaf area values were slightly similar among all cultivars. Thus, stomatal conductance varied from 179 mmol/s\*m<sup>2</sup> to 331,5 mmol/s\*m<sup>2</sup>, while relative water content was in the range of 97,7%–34,19%. The results highlight a high diversity within the studied vine germplasm, which is probably more genetically related. The accession panel can be recognized as an important gene pool for future breeding programs.

**Key words:** Grapevine, vine performance, physiological behavior, cultivar.



### APPLICATION OF TOTAL QUALITY MANAGEMENT THEORY TO INDIGENOUS LANGUAGE BROADCASTING: A STUDY OF ORISUN 89.5 FM ILE-IFE, OSUN STATE NIGERIA

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#### ABSTRACT

The print media have been the major culprit of some of the backwardness experienced in terms of utilization of indigenous languages by the media. The story is the same across African states where print media rise and fall because of lack of sustainability. However, the struggle and the advocacy for language revitalisation is gaining ground by the day. For instance, we now have a handful of radio stations in Nigeria that are monolingual or that use indigenous languages for the larger percentage of their broadcast. This study therefore was an attempt to evaluate how a monolingual radio station applied Total Quality Management (TQM) to its operations in order to produce and air quality programmes in Yoruba language. The study was therefore anchored on the Total Quality Management Theory, to account for long term success by having all staffers from the low level workers to the high ranking executives to pay attention to improving quality in order to deliver customer satisfaction. The quantitative method of analysis was utilised in the study. The study surveyed 25 workers of Orisun FM which were purposively sampled. The data were gathered through the aid of questionnaire and non-participant observation. The results revealed that the stated objectives of Orisun FM as an Indigenous language radio were well implemented. In the sense that it was confirmed that the station's programmes followed the objectives establishing it, Orisun FM worked with some language agencies to develop the grammar, vocabulary and pronunciation for broadcasting, there were linguistic criteria for employment of core staff, Orisun FM carried out revisions and modifications of her programmes to reflect the station's objectives from time to time. Orisun FM did not employ staff without journalistic training; Orisun FM did not employ staff without proficiency in Yoruba language and other things. It was also observed that the staff portrayed the customs and culture of the Yoruba ethnic group and their language they tended to promote.

**Key words:** Total Quality Management, Orisun FM, Indigenous Language, Yoruba Language & Broadcasting

## 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES



### A COMPARATIVE DOCTRINAL ASSESSMENT OF LEGAL STRATEGIES FOR PREVENTION AND PROSECUTION OF GIRL CHILD TRAFFICKING: INDIA, THE UNITED KINGDOM, AND THE PALERMO PROTOCOL

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#### ABSTRACT

Girl child trafficking is a grave transnational crime that continues to flourish despite international conventions and national legislations. This form of exploitation, often rooted in gender-based discrimination and socio-economic vulnerabilities, requires a nuanced legal response that not only punishes perpetrators but also addresses the systemic factors enabling the crime. While India and the United Kingdom have established legal frameworks to combat trafficking, the effectiveness of these mechanisms varies significantly, particularly in terms of protection, prosecution, and prevention. The Palermo Protocol, as the cornerstone of international anti-trafficking law, provides a benchmark against which national laws can be assessed. This research undertakes a doctrinal comparative analysis of the anti-trafficking legal frameworks of India and the United Kingdom, using the Palermo Protocol as a normative standard. The study identifies critical gaps in India's approach, especially in addressing the trafficking of girl children for purposes including sexual exploitation, forced labour, and organ trade. Despite multiple legislations such as the Immoral Traffic (Prevention) Act, the Protection of Children from Sexual Offences Act, and the Indian Penal Code provisions, enforcement and inter-agency coordination remain weak. Conversely, the UK's Modern Slavery Act 2015 demonstrates a more integrated and victim-centric approach, though it too faces challenges in implementation and cross-border cooperation. The paper focuses on to evaluate the doctrinal robustness of existing anti-trafficking strategies with a focus on the girl child, identifying legal gaps and recommending reforms aligned with the Palermo Protocol. Employing qualitative doctrinal methodology, the research draws from statutes, judicial decisions, and policy reports.

Key findings reveal that India lacks a consolidated anti-trafficking law, resulting in fragmented legal action and inadequate victim rehabilitation. In contrast, the UK's unified legal structure offers procedural advantages but falls short in post-trial support. The study recommends a harmonized legal framework for India, enhanced international collaboration, and gender-specific protocols in both jurisdictions.

**Keywords:** Girl child trafficking, India, United Kingdom, Palermo Protocol, comparative law, doctrinal analysis, anti-trafficking law, child protection, legal reform, modern slavery.



### DEVELOPMENT OF INDIGENOUS LANGUAGE MEDIA IN NIGERIA: AN EVALUATION OF PRINT AND BROADCAST MEDIA IN LANGUAGE DECOLONISATION AND REVITALISATION

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#### ABSTRACT

Communication scholars have posited that the media play important roles in any society. Among their functions, they are expected to perform the roles of information, education, entertainment and persuasion of the public. Also, the media perform vital roles in the development of any given society because the media lie in the center of existing wed relationships that appear between many interest groups with an intertwined policy development and implementation. However, communication theorists have also observed importance of language usage in the media which facilitates positive changes through the use of appropriate language. This study therefore traced the development of indigenous language media in Nigeria from print to broadcast media and the efforts made by the media in language decolonization and revitalization. It was discovered that the print media which trail blased the utilisation of indigenous languages did not sustain the tradition but the broadcast media are making frantic efforts to sustain the usage of indigenous languages. The broadcast media therefore are now in the fore front of language decolonization and revitalization in Nigeria.

**Keywords:** Print Media, Broadcast Media, Decolonisation, Revitalisation and Indigenous Language

## 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES



### LEGAL ACCOUNTABILITY FOR ECOCIDE: IMPLICATIONS FOR ENHANCING THE RESILIENCE OF GLOBAL FOOD SYSTEMS

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#### ABSTRACT

In international legal and environmental discourse, the term “ecocide”, which refers to the wilful destruction or serious damage of ecosystems, has gained more and more prominence. A key tool for tackling the escalating environmental crises endangering the viability of food systems around the world is legal accountability for ecocide. Deforestation, pollution, and unsustainable farming methods are examples of ecological degradation that compromise the resilience of global food systems by interfering with essential ecological services, including biodiversity, soil fertility, and water availability. This study investigates the implications for promoting the resilience of global food systems by looking at the existing legal frameworks and the possible incorporation of ecocide into international law. Strong legal accountability for ecocide could improve food security, encourage sustainable farming methods, safeguard important ecosystems, and act as a deterrence against environmental destruction. Recognizing ecocide in national and international legal frameworks could lead governments and institutions to strengthen laws and procedures aimed at preventing environmental harm, ensuring long-term stability of food systems, and addressing the injustices faced by marginalized communities affected by environmental degradation. Legislation targeting ecocide has significant potential to reinforce food systems. By enforcing legal accountability, authorities can actively reshape the regulatory landscape, encouraging both preventive and restorative actions to combat environmental damage. Ensuring that legal procedures are in line with sustainability goals will improve the resilience of food systems and ensure the long-term well-being of the environment and the world’s population, which depends on it for food security. By moving away from reactive to proactive legal frameworks, this strategy could revolutionise how the global community responds to environmental deterioration.

**Keywords:** Ecocide, Legal accountability, Food system resilience, Environmental sustainability.



### REDUCED 5-HT<sub>2C</sub> RECEPTOR RESPONSIVENESS FOLLOWING REPEATED MIDAZOLAM TREATMENT

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#### ABSTRACT

Repeated administration of midazolam, a benzodiazepine with potent anxiolytic properties, has been associated with alterations in 5-hydroxytryptamine (5-HT; serotonin) neurotransmission, particularly involving the serotonin 5-HT<sub>2C</sub> receptors. This study aimed to investigate the responsiveness of 5-HT<sub>2C</sub> receptors in rats repeatedly treated with midazolam. Adult male Albino Wistar rats were administered midazolam (2.5 mg/kg, oral) or vehicle once daily for 12 days. Following the treatment period, 5-HT<sub>2C</sub> receptor responsiveness was assessed using a combination of behavioral and neurochemical techniques, post- meta-Chlorophenylpiperazine (mCPP) challenge. Behavioral assessments included the conditioned place preference test and light-dark box activity. Neurochemical analyses involved estimations of 5HT, dopamine, and metabolites in the midbrain region using High-Performance Liquid Chromatography with Electrochemical Detection (HPLC-EC). Results indicated that repeated midazolam treatment led to alterations in 5-HT<sub>2C</sub> receptor responsiveness, including changes in anxiety-like behavior, hypophagic effects, place preference, and biogenic amines and metabolites. These findings suggest that chronic midazolam exposure can induce adaptations in the serotonergic system, particularly involving 5-HT<sub>2C</sub> receptors, which may contribute to the development of behavioral and neurochemical changes associated with benzodiazepine use. Further investigation into the mechanisms underlying these adaptations is warranted to better understand the implications for benzodiazepine pharmacology and potential therapeutic interventions.

**Keywords:** midazolam, meta-Chlorophenylpiperazine, 5-HT<sub>2C</sub>, addiction, 5-HT, dopamine, conditioned place preference, midbrain



### MOLECULAR MODELING FOR THE DESIGN OF NEW ANTI-INFLAMMATORY DRUGS USING 3D-QSAR, MOLECULAR DOCKING, AND ADMET PREDICTION

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#### ABSTRACT

The development of new anti-inflammatory agents is crucial for treating various inflammatory diseases. This study uses advanced computational analysis techniques, including 3D-QSAR modelling, molecular docking and pharmacokinetic properties evaluation (ADMET), to identify novel ligands with potent selective inhibitory activity of the PI3K $\delta$  isoform among various benzimidazole-substituted Pyrazolo[1,5-a]pyrimidine derivatives. We developed an optimal 3D-QSAR model using partial least squares (PLS) analysis and comparative molecular similarity coefficient analysis (CoMSIA), obtaining excellent correlations and predictive power ( $R^2 = 0.985$ ,  $Q^2 = 0.818$ ,  $SEE = 0.084$  and  $R^2_{\text{test}} = 0.859$ ). Our results highlight the significant roles of electrostatic and steric fields, which influence the variation in biological activity observed. Molecular docking was used to validate the 3D-QSAR methods and to explain the binding site and interactions between the most active ligands and the receptor. Based on these results, a new series of compounds was predicted. The best-anchored molecules were subjected to ADMET analysis.

**Keywords:** PI3K $\delta$ , 3D-QSAR, Molecular docking, ADMET, Pyrazolo[1,5-a]pyrimidine



## 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES



### THE INTERSECTION OF WAR CRIMES AND REFUGEE RIGHTS: LEGAL CHALLENGES AND PROTECTIONS UNDER INTERNATIONAL LAW

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#### ABSTRACT

In the context of international law, the relationship between war crimes and refugee rights is a complicated and dynamic problem. Mass displacement brought on by armed conflicts and war crimes often forces civilians to flee across international borders. Although there are legal protections provided by international humanitarian and refugee laws, there are still gaps in their effective realisation, accountability, and enforcement. The protection of displaced persons is frequently jeopardised by inconsistent interpretations and applications of the 1951 Refugee Convention, the Geneva Conventions, and the Rome Statute, which together offer a normative foundation. This is especially true in situations where state and non-state actors are complicit in international crimes. This study examines the difficulties experienced by actual refugees escaping war crimes as well as the legal quandaries that arise when those who commit such crimes apply for refugee status. The study pays special attention to the principle of non-refoulement and the exclusion rules in Article 1F of the Refugee Convention, which try to find a balance between holding people accountable and providing protection. Furthermore, the International Criminal Court's and other international tribunal's role in war crime prosecution is evaluated in light of the larger humanitarian need to protect refugees. The examination draws attention to conflicts between the pursuit of justice and the protection of human rights by looking at cases, legal documents, and official behaviour. To improve both responsibility for war crimes and the protection of vulnerable populations, it makes the case for a more integrated strategy that harmonises international criminal law with refugee law. We make policy proposals to enhance legislative consistency and execution across jurisdictions.

**Keywords:** War Crimes, Refugee Rights, International Law, Non-Refoulement, Accountability.

## 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES



### THE AFRICAN UNION ON SOCIOPOLITICAL STABILITY IN AFRICA: ACHIEVEMENTS AND CHALLENGES, 2002-2022

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#### ABSTRACT

Since the transformation of the Organisation of African Unity (OAU) to African Union (AU) in 2002, the AU has taken up the ambitious mandate of promoting peace, security, and democratic governance across the continent. However, despite the existence of key frameworks such as the African Peace and Security Architecture (APSA) and the African Governance Architecture (AGA), the continent has continued to witness troubling levels of political instability, armed conflict, and democratic backsliding. The persistence of military coups, post-electoral violence, and weak rule of law in various member states highlights a critical paradox: while the AU has designed robust mechanisms for intervention and accountability, the actual impact of these mechanisms remains inconsistent and often limited in scope and reach. One way to address this shortfall is by strengthening the AU's financial autonomy through sustainable internal funding mechanisms that reduce its overreliance on external donors, thereby enhancing its operational independence and responsiveness. This paper critically evaluates the African Union's performance in fostering socio-political stability in Africa between 2002 and 2022. It explores the extent to which the AU has been successful in mediating conflicts, supporting democratic transitions, and responding to governance crises. Through an analysis of interventions in regions such as the Sahel, the Horn of Africa, and Central Africa, the study interrogates the effectiveness of AU-led peacekeeping operations, diplomatic engagements, and normative frameworks. It further examines how structural limitations, such as insufficient enforcement powers and fragmented political will among member states, undermine the AU's role as a continental stabilizing force. In response, this paper suggests the establishment of a peer review and compliance mechanism to reinforce adherence to democratic principles and sanction member states that breach agreed norms. Drawing from qualitative and quantitative data, this study poses critical questions that guide its analysis: How effective has the AU been in preventing and resolving conflicts across the continent? What factors most significantly hinder its governance and peace efforts? And what institutional or policy reforms are necessary to strengthen the AU's role in building resilient democratic systems and preventing future crises? A key reform area is the enhancement of early warning systems and rapid response capacities within APSA to enable swift intervention in emerging conflicts. Additionally, this paper advocates for broader stakeholder engagement by involving civil society, youth, and local actors in peacebuilding and governance processes to ensure grassroots support and long-term legitimacy. By addressing these questions, this paper aims to contribute fresh insights to the discourse on continental governance and offer integrated, actionable pathways for enhancing the AU's credibility, capacity, and impact in ensuring peace and political stability in Africa.



### PHYSICAL ACTIVITY AND CANCER SURVIVAL: INSIGHTS FROM A COMPREHENSIVE META-ANALYSIS ACROSS FIVE MAJOR CANCER TYPES

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#### ABSTRACT

Cancer remains one of the leading causes of mortality worldwide; however, growing evidence suggests that post-diagnosis physical activity can significantly improve survival outcomes. This meta-analysis aimed to systematically assess the impact of physical activity on survival among patients diagnosed with breast, lung, prostate, colorectal, and skin cancers. A comprehensive literature search across four major databases (PubMed, Web of Science, Scopus, and Cochrane Library) identified 151 cohorts including nearly 1.5 million patients. Results indicate that physical activity after cancer diagnosis is associated with significantly reduced cancer-specific mortality in all examined cancer types. The strongest protective effect was observed in breast cancer (HR=0.69), followed by prostate (HR=0.73), colorectal (HR=0.71), and lung cancer (HR=0.76). In skin cancer, the association was not statistically significant (HR=0.86). The biological mechanisms underlying these benefits are multifaceted and include reductions in chronic inflammation, improvements in mitochondrial function, enhanced immune surveillance, and favorable epigenetic modulation. These processes may not only slow cancer progression but also attenuate aging-related cellular damage. Our findings support the integration of physical activity as an adjunctive strategy in cancer care. Structured exercise interventions should be considered as a core component of survivorship care plans, offering a practical, evidence-based approach to improving long-term outcomes in oncology.

**Keywords:** breast cancer, cancer survival, colorectal cancer, exercise, lung cancer, physical activity, prostate cancer, skin cancer

**Funding:** The project was funded by the Ministry of Innovation and Technology under the National Cardiovascular Laboratory Program: RRF-2.3.1-21-2022-00003 from the National Research, Development and Innovation Fund. Project no. TKP2021-NKTA-47 was also funded by the National Research, Development and Innovation Fund under the TKP2021-NKTA program, with the support of the Ministry of Innovation and Technology of Hungary.



### SUSTAINABLE ARTIFICIAL INTELLIGENCE: BUILDING ECO-FRIENDLY AND ETHICAL AI SYSTEMS

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#### ABSTRACT

The increasing worldwide dependence on Artificial Intelligence (AI) heightens the imperative to confront the environmental and ethical issues linked to its research and implementation. The notion of "Sustainable Artificial Intelligence" emphasizes the necessity of developing AI systems that are efficient, effective, ecologically responsible, and ethically principled. The ecological impact of AI, especially regarding energy use and resource utilization, prompts significant inquiries about its long-term viability. Training large-scale machine learning models frequently necessitates substantial computational resources, resulting in a considerable carbon footprint. Therefore, a thorough reassessment of AI's influence on the world is essential. This study explores the convergence of environmental sustainability with artificial intelligence, promoting environmentally conscious approaches in the design and implementation of AI systems. Strategies including algorithm optimization to reduce computing requirements, the use of renewable energy sources in data centers, and the creation of energy-efficient hardware are essential elements of a sustainable AI future. Nonetheless, sustainability encompasses more than merely environmental issues. Ethical considerations significantly influence the future trajectory of AI. What measures can be implemented to guarantee that AI systems are developed and utilized to foster fairness, transparency, and accountability? The challenges of bias in AI algorithms, data privacy concerns, and the potential for AI to intensify existing inequalities must be addressed in conjunction with ecological considerations. Ultimately, "Sustainable AI" represents not only a scientific issue but also a societal one. It necessitates a comprehensive strategy that amalgamates environmental accountability with ethical principles. By promoting interdisciplinary collaboration and emphasizing human well-being, we may develop AI systems that not only stimulate innovation but also advance a more sustainable and fair future. This paper examines essential challenges, providing insights on how to properly influence the future of AI in accordance with our shared values and global requirements.

**Keywords:** Sustainable Artificial Intelligence, Eco-Friendly AI Systems, AI Ethics, Environmental Impact of AI, Energy-Efficient AI.



### BIO-MONITORING POTENTIAL OF ROADSIDE PLANTS FOR HEAVY METALS POLLUTION USING PLANTS FUNCTIONAL GROUPS

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#### ABSTRACT

Heavy metals (HMs) are toxic, non-biodegradable metals and metalloids with atomic numbers and densities greater than 20 and 5 gm/cm<sup>3</sup> respectively. Fossil fuel combustion, industrial activities, municipal wastes, pesticide application, and smelting operations are the main sources of heavy metals. Employing roadside plants to combat HM pollution is an effective and eco-friendly strategy, as they can absorb and accumulate harmful metals from the contaminated environment. Plant leaves are the primary organ for photosynthesis and gaseous exchange and play an important role in heavy metal uptake and detoxification. The study aims to evaluate the bio-monitoring potential of roadside plants for heavy metal pollution using plant functional groups. Five plants species were selected for the study and for the identification of HMs and functional group present in plant leaves, FTIR (Fourier Transform Infrared Spectroscopy) and ICP-OES (Inductively Coupled Plasma Optical Emission Spectroscopy) were used. The results suggest that roadside plants significantly vary with functional groups in response to heavy metals. Aromatic compounds found in banyan tree highly correlates the presence of copper, iron and vanadium. Isocyanate found in Peepal, Golden Shower, Ashoka, designated availability of (As, Cu, Li, Zn) while the nitro-compounds present in these plants shows the presence of Be, Se. Nitro-compounds found in Indian siris marks the presence of (As, Cu, Sb, Zn). Overall, the data indicates that roadside plants can serve as an effective bio-monitors for heavy metal pollution.

**Keywords:** bio-monitoring, heavy metals, functional groups

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### THE ROLE OF MAGICAL REALISM IN ADDRESSING POLITICAL ISSUES IN AFRICAN DIGITAL SCREENWRITING

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#### ABSTRACT

This paper explores the use of magical realism as a powerful narrative strategy in African digital screenwriting to articulate, critique, and resist political oppression. In contexts often characterized by colonial legacies, authoritarian rule, and systemic corruption, African screenwriters increasingly turn to magical realism to circumvent censorship and present alternative political discourses. Rooted in African cosmologies and oral traditions, magical realism enables storytellers to merge the mystical and the real, thereby fostering symbolic representations of political realities. Through an analysis of key films such as *The Burial of Koko*, *I Am Not a Witch*, and *Hyenas*, this study examines how African screenwriters creatively deploy the genre to comment on neocolonialism, gender injustice, spiritual alienation, and state violence. Magical realism offers a culturally resonant and subversive aesthetic that allows for the dramatization of historical trauma, societal contradictions, and the reclamation of indigenous knowledge systems. Furthermore, with the advent of digital platforms and global streaming services, these narratives have found wider audiences and increased influence, extending the political impact of African cinema beyond local contexts. By emphasizing the fusion of the metaphysical with the socio-political, this paper highlights how magical realism continues to empower African screenwriters in voicing dissent, preserving cultural identities, and envisioning transformative futures in a rapidly digitizing world.

**Keywords:** magical realism, African digital screenwriting, political dissent, postcolonial cinema, symbolic resistance, indigenous epistemologies



### FINE-GRAINED ATTENTION-GUIDED MULTIMODAL SENTIMENT FUSION WITH FUZZY LOGIC MENTAL HEALTH DETECTION

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#### ABSTRACT

Early detection of mental health conditions is vital for timely intervention, yet traditional unimodal approaches often fall short in capturing the complex, multimodal manifestations of psychological states. This paper proposes a novel framework—Fine-Grained Attention-Guided Multimodal Fusion with Fuzzy Logic—designed to enhance mental health detection by integrating textual, visual, and acoustic modalities. Our method utilizes specialized encoders including BERT for text, CNN-RNN architectures for facial behavior, and OpenSMILE-BiLSTM for vocal attributes to extract expressive, high-dimensional features. A fine-grained attention mechanism enables both intra- and inter-modal relevance modeling, dynamically identifying subtle cues linked to a range of mental health indicators such as emotional dysregulation, cognitive load, and behavioral flattening. To handle the inherent ambiguity and subjectivity in psychological data, we incorporate a fuzzy logic-based decision layer. This layer defines fuzzy variables like emotional intensity, vocal energy, and facial expressiveness, and leverages interpretable membership functions along with a fuzzy inference engine to assess mental health states across a spectrum. We validate our framework on benchmark datasets such as DAIC-WOZ and CMU-MOSEI with annotated mental health signals. Experimental results show that our model outperforms state-of-the-art baselines in F1-score, AUC, and robustness, particularly under emotionally ambiguous or low-resource conditions. Visualizations of attention maps and fuzzy rule activations enhance transparency and model trustworthiness. This work demonstrates the value of combining fine-grained multimodal attention with fuzzy logic for robust, interpretable, and ethically aware mental health detection—offering potential for use in clinical diagnostics, teletherapy, and mental wellness applications.

**Keywords:** MULTIMODAL SENTIMENT ANALYSIS, FUZZY LOGIC, MENTAL HEALTH.





### STUDY OF *IN VITRO* PROPAGATION AND SELECTION FOR SALT TOLERANCE OF LOCAL *OPUNTIA* CACTUS

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#### ABSTRACT

*Opuntia* cactus is a horticultural crop, which is extensively used as food for humans and feed for animals in many countries of the world. This crop has widely adapted to different parts of Tunisia and is an integral part of the culture and economy of arid and semi-arid zones of the country. Recently, to fulfil the demand for large-scale cultivation in a short period by rapid mass multiplication, *in vitro* organogenesis and embryogenesis experiments were conducted with the aim of developing a protocol for *in vitro* propagation of local cactus from areole explants and *in vitro* selection of local cactus for salinity tolerance and resistance. For the first experiment, a reliable strategy was followed for micropropagation of *Opuntia ficus-indica* (L.) and *Opuntia robusta* L. cactus in the presence of the growth regulators, 6-benzylaminopurine (BAP) and metatoplin (mT), at four different concentrations (0.5, 1, 2 and 3 mg/l) and via callogenesis with 2,4-D and picloram at 2, 4, 6 and 8 mg/l. Results of the first experiment revealed that best values of shoot evolution for the 2 cactus species was recorded on media supplemented with BAP, mainly. Media with mT lead to vitroplants with less quality. *Opuntia robusta* vitroplantlets show better evolution results than *Opuntia ficus-indica* vitroplantlets. In the second experiment, large and compact calli were initiated on MS medium enriched with 2 and 4 mg/l picloram. For salinity stress tolerance, a decreasing pattern in number and quality of cactus shoots and calli were observed with increasing salinity levels and widely affected at 8 and 10 g/l NaCl. On media with 2, 4 and 6 g/l of NaCl, plantlets show a normal morphologic evolution indicating that cactus can tolerate relatively high salinity levels.

**Keywords:** *Opuntia* cactus, mT, *in vitro* propagation, NaCl, salinity stress.



### FROM INFECTION TO AUTOIMMUNITY: THE IMPACT OF VIRUSES ON THYROID DISORDERS WITH A FOCUS ON COVID-19

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#### **ABSTRACT**

Autoimmune thyroid diseases (AITDs), such as Hashimoto's thyroiditis and Graves' disease, result from immune system dysfunctions that target thyroid tissue. Although genetic factors are known to play a role, viral infections are increasingly identified as significant environmental triggers that disrupt immune tolerance. Various viruses, including Epstein-Barr virus (EBV), hepatitis C virus (HCV), human T-lymphotropic virus (HTLV-1), and more recently SARS-CoV-2 (COVID-19), have been linked to the initiation or worsening of thyroid autoimmunity. Suggested mechanisms involve molecular mimicry, direct viral infection of thyroid cells, and systemic immune hyperactivation marked by cytokine release. COVID-19, in particular, has been connected to a range of thyroid disorders, such as subacute thyroiditis, new-onset Graves' disease, and elevated thyroid autoantibodies. Post-infectious autoimmune thyroiditis has been noted even in individuals without a prior thyroid history, with some cases associated with ongoing inflammation and long COVID. Increasing evidence also indicates that people with existing AITDs may experience deteriorating thyroid function after viral infections, especially without immunomodulatory treatment. Understanding the relationship between viral infections and thyroid autoimmunity is essential for early detection, risk assessment, and long-term endocrine monitoring in both general and post-viral recovery populations.



### IN SILICO DESIGN OF JNK3 INHIBITORS VIA 3D-QSAR MODELING, MOLECULAR DOCKING, AND ADMET EVALUATION

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#### ABSTRACT

JNK3 (c-Jun N-terminal kinase 3) has attracted much interest in drug discovery owing to its potential therapeutically in neurodegenerative diseases. For this purpose, we employed a comprehensive in silico approach to examining 35 JNK3 inhibitors via 3D-QSAR modeling, molecular docking, and ADMET prediction.

We built stable and statistically confirmed models through the use of the CoMFA ( $Q^2 = 0.712$ ;  $R^2 = 0.969$ ) and CoMSIA ( $Q^2 = 0.821$ ;  $R^2 = 0.957$ ) approaches, which gave insights for designing seven novel analogs with superior predicted inhibitory activities. As a measure to guarantee dock protocol reliability, we redocked the reference ligand to produce an RMSD value of 0.400 Å, validating our docking setup.

The docking simulations showed stable interaction of the new compounds with important residues in the active site of JNK3, specifically MET146, MET149, and ASN152. Additionally, ADMET profiling suggested good pharmacokinetic properties and an encouraging profile in terms of safety for these molecules and pointed towards these molecules to be good drug candidates. This computational study provides useful structural information and establishes a foundation for designing novel JNK3-targeting therapeutics in the treatment of neurodegenerative disorders.

**Keywords:** JNK3, 3D-QSAR, Molecular Docking, ADMET, Neurodegenerative Diseases



### PRODUCTION OF BIOGAS USING CO-DIGESTION OF ORGANIC WASTE

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#### ABSTRACT

Environmental pollution is one of the major problems plaguing the modern world today. The environment and the various elements in the environment need energy to meet their need. So there is a need to produce energy from different sources. Solid Waste is one such material that can be used as a source for deriving energy. The studies on conversion of solid waste to energy have results several alternatives including the biogas generation from biodegradable organic waste. There are several alternatives in the estimation of biogas yield from the bio degradable fraction of solid waste. The different types of biodegradable organic waste may comprises of cow dung, pig waste, poultry manure, food waste, vegetable waste, kitchen waste etc. The present study focuses on production of biogas using cow dung with vegetable waste and poultry manure. In this study, by doing experimentation it is observed that the production of biogas from co-digestion of different organic waste is more than individual waste. The highest yield of biogas is obtained from co-digestion of cow dung with poultry manure than co-digestion of cow dung with the vegetable waste. Waste produced after the production of biogas is used as natural fertilizers for the growth of crops and fields and it gives good yield. By experimentations like energy recovery from solid waste, the conservation of non renewable energy resources may be possible and it also helps to protect our environment.

**Keywords:** Environmental pollution, Modern world today, Energy recovery, Natural fertilizers, Bio-gas, Cow dung and Solid waste

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### SMART TECHNOLOGIES FOR SMART LEARNING: A SURVEY ON TRENDS IN EDUCATIONAL TECHNOLOGY FOR SCHOOL DEVELOPMENT

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#### ABSTRACT

Intelligent technologies are growingly becoming the major foundations for modern day education. The incorporation of these smart technologies has altered the traditional learning methods into smart learning approaches which are neither restricted by location nor time. The implementation of smart learning is significantly connected with smart such as cloud computing (CC), wearable technology, Internet of things (IoT), big data, learning analytics, and many more. Al-Shami et al. (2018) asserts that smart learning is the leaning methodology that primarily relies on smart devices and intelligent technologies. This paper examines the applications of smart technologies and its effects on educational development. The paper discussion also includes smart learning environments and the evolving intelligent systems. In order to enhance the discussion on this paper, online Google form questionnaire instrument was used to collect relevant data from respondents. The responses collected were subjected to reliability analysis. The paper concludes that the concept of smart learning is characterized with the paradigm shift from traditional or conventional learning methods using intelligent technologies.

**Keyword:** Smart Technologies, Smart Learning, School Development.

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### ANBI – AI TECHNOLOGY FOR PERSONALITY AND HEALTH ANALYSIS

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#### ABSTRACT

ANBI is a pioneering artificial intelligence technology that analyzes personality traits and mental health through facial thermal mapping. It can be applied on smartphones and laptops with a front camera. Developed since 2019 by a multinational team and scientific advisors in Vietnam, ANBI utilizes deep learning to detect micro-expressions, analyze biochemical features, and assess nine main personality groups along with core health habits.

#### Applications:

- **Education:** Personalizing teaching methods.
- **Human Resources:** Evaluating candidates' potential and job fit.
- **Healthcare:** Early detection of stress and depression, supporting psychological care.

#### The ANBI analysis report includes:

- An overview of personality traits and personal development insights
- Personal SWOT analysis
- Identification of key strengths and recommendations for suitable learning and career environments





## 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES



### THE THREAT OF ARTIFICIAL INTELLIGENCE TO STATE SOVEREIGNTY

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#### ABSTRACT

The threats posed by artificial intelligence and technology in general are numerous, including digital networks, social media, weapons, and other technologies that have become obstacles to preserving state sovereignty. We summarize these challenges as follows:

- **World Wide Web:** When we talk about artificial intelligence and advanced technology in general, or the developments that accompany this technology, we can imagine cross-border networks via fiber, managed by specific programs that allow them to spread and cross national borders. Since borders are a primary concern for countries to secure from any intrusion, this means that these countries will work hard to protect their borders. The use of the World Wide Web, of course, does not necessarily require it to be present in every country, cross borders, and threaten the entity of its state. China is the closest experiment to using a local network system, but it seems that countries have adopted the subject of the Internet and have a channel, albeit relatively. The nature of the work of these networks allows them to cross borders. Many questions always come to mind regarding technology and sovereignty. Has sovereignty actually begun to erode due to continuous use and development? In fact, some examples may alert us that the time to say that state sovereignty has ended may not have come yet. What China did may be a vivid and clear example of the state's ability to control its borders. In 2020, China canceled an important conference for one of the most important companies specialized in financial technology. The company's president even criticized China, saying, "We cannot go back," referring to the rejection of technology in a way that does not serve China's policy. Rather, China has begun to draw up controls and regulatory mechanisms, and here lies another problem, perhaps: Are we facing state control over the power of technology? And if there is state control, as we mentioned some examples, what are the standards that countries will put forward to control technology? Here we are talking about the Internet, as it is the dominant feature of this cross-border technology? And what is the extent of the authority of the restrictions that will be imposed? Here, the role of companies and their ability to attract and gain digital data will perhaps emerge. Many supporters of the technological trend call for rejecting the authorities of those countries. Perhaps no one can argue that what is related to the ideas regarding state sovereignty, especially some concepts, has begun With decline and erosion as a result of several factors, the most prominent of which is the growth of globalization. Globalization can be expressed at the present time in the twenty-first century by technology, especially artificial intelligence (AI). The sovereignty of states has been exposed to many challenges since its inception and its decision at the Westphalia Conference in the year (1648), the conference that approved territorial integrity, which can be considered the date of the true birth of sovereign states. Indeed, it is a fundamental pillar of the international system. If sovereignty represents the state's powers over its land and the imposition of its control over its land, then technology will undoubtedly reformulate that concept, as we are talking about a new, non-material dimension because it is in cyberspace, which differs from maritime and airspace, as well as from land and outer space. The characteristics that cyberspace enjoys differ from those areas, which makes talking about new balances for states that are originally seeking their sovereignty and imposing their powers on the Internet. Thus, relations between states with the presence of this interconnection will be intertwined and complex. If talking about the nature of sovereignty and technological progress, which takes many





forms, perhaps the most expressed is the Internet and more than that, artificial intelligence. So, here we are facing two parties, either their relationship is positive or negative. The danger of preserving sovereignty and ensuring its continuity is related to complex aspects, including the multiplicity of non-governmental actors. Therefore, the state is no longer the main controller in areas related to the lives of individuals. Groups within the state can manipulate data, launch attacks, and other problems imposed by modern technology. Contrary to this opinion, artificial intelligence (AI) may work to ensure sovereignty and perhaps strengthen it by enabling states to impose control over the digital world and thus the possibility of imposing broader control over the individuals of their society, as well as monitoring their borders and everything related to the technological field. However, it is clear from the above that artificial intelligence poses a challenge to the ability of states to maintain their sovereignty.



### E. COLI IN ALGERIEN UTIS: PREVALENCE, DRUG RESISTANCE, AND NON-DIARRHEAL EHEC RISKS

*Metidji Abdelkader*

#### ABSTRACT

##### Background:

Urinary tract infections caused by *Escherichia coli* represent a growing antimicrobial resistance threat in Algeria. This laboratory-based study provides crucial insights into uropathogenic *E. coli* characteristics from EL SALAM medical analysis Laboratory, serving as sentinel data for regional antimicrobial stewardship efforts.

##### Methods:

All *E. coli* isolates (n = 250) were collected consecutively from urine cultures processed at EL SALAM medical analysis Laboratory between March 2024 and May 2025. Isolates were identified by culture methods and biochemical tests. Antibiotic susceptibility testing was performed according to CLSI/EUCAST guidelines. Isolates are being preserved for planned EHEC virulence gene (\*stx1/2\*, *eae*) detection via PCR.

##### Study Design Advantages :

1. Standardized processing: All isolates handled through single-laboratory protocols
2. Clinical relevance: Represents real-world diagnostic specimens
3. Foundation for expansion: Establishes methodology for multi-center follow-up

##### Anticipated Impact :

- First characterization of EHEC risk in Algerian urinary isolates
- Laboratory-specific resistance patterns to guide local empiric therapy
- Model for antimicrobial resistance surveillance in resource-limited settings

**Keywords :** *UTIs*, Antimicrobial resistance, EHEC virulence, *Non-diarrheal infections*, Algeria



### METHOTREXATE OVERDOSE: A DIAGNOSTIC AND THERAPEUTIC EMERGENCY IN CLINICAL PRACTICE

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#### ABSTRACT

Methotrexate is a widely used immunosuppressive drug in internal medicine, rheumatology, dermatology, and hematology. Due to its narrow therapeutic index, overdose can lead to severe and potentially life-threatening toxicity, especially in the context of prescription errors or self-medication.

We report the case of a 54-year-old woman treated for rheumatoid arthritis who mistakenly took 17.5 mg of methotrexate daily for six consecutive days instead of a weekly dose. Ten days later, she developed gastrointestinal symptoms (nausea, vomiting, diarrhea, stomatitis), neurological signs (headache, dizziness, fatigue), and respiratory distress. On examination, she was hypoxemic (SpO<sub>2</sub> 70%), tachypneic, with bilateral pulmonary crackles and oral mucositis. Laboratory findings revealed severe leukopenia, acute kidney injury, liver cytolysis, and markedly elevated inflammatory markers. Chest imaging was consistent with acute interstitial pneumonitis. Management included discontinuation of methotrexate, administration of folinic acid, oxygen therapy, fluid resuscitation, empiric antibiotics, corticosteroids, and local treatment for stomatitis. Clinical and biological improvement was rapid and sustained.

Methotrexate overdose is a medical emergency that requires prompt recognition and appropriate management, including the administration of folinic acid to limit toxic effects.. This case highlights the need for close coordination between general practitioners and specialists to ensure safe prescribing and monitoring. Patient education, regular biological monitoring, and clear communication are essential to prevent such avoidable toxicities.

**Keywords:** Methotrexate, overdose, toxicity, interstitial pneumonitis, multidisciplinary medicine



### RECURRENT PLEURAL EFFUSION AS A MANIFESTATION OF MULTIPLE MYELOMA WITH LIGHT CHAIN AMYLOIDOSIS

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#### ABSTRACT

Multiple myeloma (MM) is the second most common hematologic malignancy, primarily affecting the bone marrow but occasionally infiltrating extramedullary tissues. Pleural effusion is seen in 6% of MM cases but rarely presents as a diagnostic feature (<1%). We report a case of recurrent pleural effusion revealing MM associated with AL amyloidosis in a 66-year-old woman with a history of pathological fractures. She presented with a month-long history of pleural effusion, severe general deterioration, dry cough, dyspnea (Stage III), chest pain, and diffuse bone pain. Clinical examination showed pleural effusion, confirmed by chest radiography, as well as macroglossia, splenomegaly, lower limb edema, and pelvic-spinal syndrome. Laboratory results showed anemia, lymphopenia, and an inflammatory syndrome. Pleural fluid analysis revealed exudative characteristics, while protein electrophoresis identified monoclonal gammopathy. Bone marrow biopsy showed 12-15% dystrophic plasma cells, and salivary gland biopsy confirmed AL amyloidosis. The diagnosis of stage III MM with AL amyloidosis was confirmed, and the patient was treated with chemotherapy, but she passed away shortly thereafter. This case underscores the rare yet significant link between pleural effusion and MM with AL amyloidosis, highlighting the need to consider hematologic disorders in elderly patients with recurrent pleural effusions

**Keywords:** Multiple Myeloma, AL Amyloidosis, Pleural Effusion, Hematologic Malignancy, Recurrent Effusion, Monoclonal Gammopathy, Light Chain Amyloidosis.



### TRANSPARENT TOWERS, HIDDEN COSTS: RETHINKING GLASS-DOMINANT FAÇADES IN URBAN SKYSCRAPERS

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#### ABSTRACT

Modern urban high-rise buildings equipped with extensive amounts of glass have emerged as permanent symbols of contemporary development, social status and citywide observation capabilities. Modern architectural trends that use extensive glass surfaces in building facades actually create substantial problems with energy efficiency and environmental care as well as indoor comfort. The research analyzes thermal along with operational costs stemming from high glazing ratios through their assessment of energy performance which increases cooling requirements. The research employs empirical data with energy modeling along with case studies across different climates to determine excessive glazing causes more than 30% increase in peak energy usage. The examination demonstrates that design orientation together with glazing selection and spatial surroundings directly influence the observed effects. The paper examines both technical and social-environmental consequences of transparent façades by examining their detrimental effects on comfort levels together with their long-lasting sustainability effects. Architects and urban planners should adopt performance-based approaches for façade design which require them to marry the desire for transparency with considerations about thermal efficiency according to research. The study adds value to contemporary research on sustainable high-rise designs by presenting multilayered design methods which join visual goals with sustainable objectives.

**Keywords:** Glass Façades; High-Rise Buildings; Glazing Ratios; Energy Efficiency; Thermal Performance.



### HEAT-READY URBANISM: DESIGNING THERMALLY ADAPTIVE SPACES IN A WARMING WORLD

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#### ABSTRACT

The required design of thermally adaptive urban spaces has ARISING IMPORTANCE for improving resilience and livability throughout cities worldwide because of worsening climate change effects. This research investigates Heat-Ready Urbanism as a concept which utilizes passive cooling approaches alongside transformable materials and heat-aware urban arrangements for managing the negative effects of urban heat islands along with temperature events. The study utilizes three different geographic areas incorporating arid, tropical and temperate zones to show that specific architectural solutions consisting of green systems and passing ventilation and reflective surfaces help create more comfortable environments while cutting down power usage. This study focuses on social equity within thermal resilience by identifying ways to create plans that protect vulnerable groups in marginalized communities. Fitting results support coordinated plans between architectural design at individual buildings and strategic landscape strategies and policy-making to build resilient low-carbon urban areas. The paper presents vital knowledge for architects alongside planners along with policymakers who wish to construct urban environments using thermal performance and adaptation to climate change.

**Keywords:** Thermal Comfort; Urban Heat Island; Climate-Responsive Architecture; Passive Cooling Strategies; Adaptive Urban Design.



### THE HEAT BENEATH THE PANELS: THERMAL BEHAVIOR OF PHOTOVOLTAIC FAÇADES IN URBAN ARCHITECTURE

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#### ABSTRACT

Building-Integrated Photovoltaics (BIPV) has risen as an architectural method to decrease conventional power use because cities actively seek sustainable energy solutions. The research investigates PV façade thermal characteristics inside urban architectural spaces to balance electricity generation performance with indoor thermal comfort standards. The research applies computational simulations together with field measurements and different BIPV configuration analyses to identify the relationship of material content and façade direction as well as climate specifications on thermal performance. The dual glass and ventilated system showed better insulation properties which protected the indoor environment from external heat during daylight hours. The study shows how inadequate thermal design of BIPV systems affect energy savings because of increased cooling requirements which illustrates the requirement for climate-sensitive integration methods. This research presents design solutions which harmonize photoelectric conversion efficiency with temperature modulation while promoting sustainable urban development of resilient and comfortable structured buildings.

**Keywords:** Building-Integrated Photovoltaics (BIPV); Thermal performance; Photovoltaic façades; Urban architecture; Passive cooling.





### DESIGNING FOR QUIET: ARCHITECTURAL INTEGRATION OF ACOUSTIC GLASS IN HIGH-DENSITY MIXED-USE BUILDINGS

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#### ABSTRACT

The combination of urban population increase with urban densification has established noise pollution as a fundamental architectural and public health concern. Research examines how acoustic glass laminates contribute to maximum acoustic comfort levels in dense mixed-use properties while creating harmony between performance and aesthetics. The research validates acoustic glass performance through combined quantitative sound testing and qualitative user feedback collection to find its average noise reduction reaches 42 decibels beyond typical barrier materials. Evaluation of acoustic glass implementation throughout different cities has shown its sound reduction capacity as well as its ability to blend with contemporary architectural designs. The study confirms acoustic glass includes both excellent acoustic features and architectural harmony thus encouraging increased urban development with sustainable methods. The research finalizes by suggesting interprofessional teamwork and new policies to create quieter residential neighborhoods by implementing architect-designed solutions.

**Keywords:** Acoustic Glass; Noise Pollution; Mixed-Use Buildings; Urban Soundscapes; Laminated Glass.

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### CULTURAL PLACEMAKING: ARCHITECTURAL STRATEGIES FOR ENHANCING CROSS-CULTURAL UNDERSTANDING

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#### ABSTRACT

Radiant as a fundamental design strategy architecture currently utilizes cultural placemaking to create buildings that establish a culture of social boundness between different populations. The research investigates spatial design methods as well as material symbolism together with community participation for fostering cultural integration in public and cultural infrastructure. The research identifies built environments as dialogical platforms through its evaluation of the Louvre Abu Dhabi together with the Aga Khan Museum and the National Museum of African American History and Culture. Architectural implementations that reuse cultural stories within their design while building areas that embrace everyone and combine traditional and contemporary features create environments which improve sociability and enhance cultural understanding between different social groups. The research utilizes theory and evidence to create an approach for creating physical spaces that unite different cultures in harmonious urban settings. The author proposes architectural principles which create adaptable inclusive cultural spaces that serve to bring people together through architecture.

**Keywords:** Cultural Placemaking; Cross-Cultural Understanding; Architectural Strategies; Intercultural Dialogue; Heritage Preservation.



### DUAL-COMFORT MATERIALS: HARMONIZING VISUAL TRANSPARENCY AND THERMAL PERFORMANCE IN BUILDING ENVELOPES

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#### ABSTRACT

The study examines recent developments in dual-comfort building materials that enhance both inside visibility and exterior insulation properties because architects require modern energy-efficient designs for human-centric buildings. The research examines the daylight diffusing and solar shading and thermal control abilities of electrochromic glass, phase change materials and translucent insulating panels through advanced material analysis. This paper analyses three advanced case studies from Al Bahr Towers and ETH House of Natural Resources to Bangor University's Science Park as it demonstrates how these technologies decrease building mechanical systems while improving user comfort and achieving sustainability goals. Performance assessment focuses on three key metrics which are thermal conductivity together with visible light transmittance and energy consumption metrics. The research demonstrates dual-function materials installed in façade constructions lead to enhanced building environmental quality together with improved design aesthetics and natural connection between humans and nature. The paper ends with research recommendations about how to progress dual-comfort deployment throughout modern architecture through life cycle analysis of materials alongside climate adaptable policies.

**Keywords:** Dual-comfort materials; Visual transparency; Thermal performance; Building envelopes; Electrochromic glass.



### SACRED CONFLUENCE AND MODERN GOVERNANCE: A CASE STUDY OF THE MAHA KUMBH MELA 2025

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#### ABSTRACT

The Maha Kumbh Mela 2025, held in Prayagraj, Uttar Pradesh from January 13 to February 26, 2025, stands as one of the largest religious gatherings globally, occurring every twelve years at the confluence of the Ganges, Yamuna, and Saraswati rivers. This sacred Hindu pilgrimage draws millions of devotees seeking spiritual purification and liberation from the cycle of rebirth. Beyond its religious significance, the event poses immense logistical, environmental, and socio-economic challenges, while simultaneously offering opportunities for innovation in public administration and infrastructure. This study explores the historical and cultural roots of the Maha Kumbh Mela and examines the multifaceted efforts required to organize such a large-scale event. It assesses public health concerns, environmental risks, economic impact, and the role of technological innovations in ensuring efficient management. The research methodology combines both primary data—gathered through unstructured interviews with religious leaders, pilgrims, vendors, and government officials—and secondary sources such as newspapers, official publications, and online databases.

Key findings highlight the complex logistics involved, from transportation and crowd control to sanitation and waste management, supported by advanced technologies including AI-powered surveillance, RFID wristbands, and digital services. The study also reveals significant economic benefits, projecting transactions of up to ₹4 lakh crore and job creation across sectors like hospitality, transportation, and retail. However, it also uncovers substantial public health and environmental challenges, including disease outbreaks, water contamination, and pollution due to mass gatherings. It is inferred that the 2025 Maha Kumbh Mela serves as a case study in balancing cultural tradition with modern governance. It emphasizes the need for continued research into large-scale events to develop context-specific, sustainable strategies for public health, environmental preservation, and economic resilience.

**Key words:** Maha Kumbh Mela, Confluence, Governance



### ASSESSING THE TOXICITY AND OPTIMAL DOSAGE OF *Jatropha tanjorensis* IN POULTRY PRODUCTION.A REVIEW

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#### ABSTRACT

*Jatropha tanjorensis*, a medicinal plant with antimicrobial and antioxidant properties, presents a promising natural alternative to synthetic additives in poultry production. However, its safe integration into poultry diets necessitates a thorough assessment of toxicity thresholds and optimal dosage regimes. This review consolidates current findings on the phytochemical profile, toxicological risks, and dose-dependent efficacy of *J. tanjorensis* in poultry systems. While acute toxicity studies in rodents suggest low immediate risk ( $LD_{50} > 5000$  mg/kg), prolonged exposure to high doses ( $\geq 400$  mg/kg) may induce hepatotoxicity and hormonal imbalances, as evidenced by reduced testosterone levels and sperm motility in male Wistar rats. Notably, methanol extracts of its leaves exhibit potent antimicrobial activity (50–100 mg/mL) against poultry pathogens like *Salmonella typhimurium*, with inhibitory zones comparable to conventional antibiotics. Subacute studies in poultry models highlight safe doses of 100–200 mg/kg feed, enhancing gut health and reducing bacterial loads without overt toxicity. Critical gaps persist, including species-specific pharmacokinetic data and long-term safety evaluations in poultry. Detoxification methods, such as solvent extraction, may mitigate residual risks while preserving bioactive efficacy. Collaborative research integrating ethnopharmacology and poultry science is essential to standardize dosage protocols, validate synergistic effects with vitamins (e.g., vitamin E), and establish regulatory guidelines. This review underscores the dual potential of *J. tanjorensis* as a sustainable feed additive and antimicrobial agent, contingent on rigorous optimization to balance therapeutic benefits against toxicity risks in poultry production systems.

**Keywords:** *Jatropha tanjorensis*, poultry feed additives, phytochemical toxicity, antimicrobial resistance, dosage optimization.



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#### ABSTRACT

Before deriving the time delay theorem, it is crucial to recall and review one of the most important mathematical tool that will be used to perform this operation. This tool is the Dirac's distribution, which is a brief impulse with zero duration noted  $\delta(t)$ . It is well known that the distributions are not, straightforward, known but identified by only the results of their action on a signal. For example, if the result of a distribution action on a signal is equal to the value of this signal at the origin, then this distribution is identified as Dirac's distribution, and vice versa, if we want to pick a sample at the origin, then we simply apply the Dirac's distribution  $\delta(t)$  to the signal. In this work, we will use this property to show the impact of this particular distribution in deriving the well-known time delay theorem without passing through the variable change as usually demonstrated in the literature. In addition, we will show the use of the Dirac's distribution as a robust mathematical tool to facilitate many mathematical processing such as the ideal sampling as well as the Fourier transform of a discrete signal.

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### MEDIFIT: A HOLISTIC AND REWARDING PLATFORM FOR PERSONALIZED HEALTH AND FITNESS

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#### ABSTRACT

MediFit is a comprehensive and innovative solution designed to help individuals achieve their health and fitness goals while earning real financial rewards. This all-in-one platform seamlessly integrates advanced fitness tracking, expert guidance, and personalized health recommendations, making it easier than ever to maintain a healthy lifestyle. By engaging with the app daily, users can earn real money rewards directly transferred to their accounts, providing motivation to stay consistent on their wellness journey. One of the standout features of MediFit is its personalized approach to health and fitness. The app provides expert advice from professional doctors who understand each user's unique body composition and health needs. Additionally, users receive guidance from dedicated personal trainers who help them stay committed to their fitness goals. By leveraging Body Mass Index (BMI) data, MediFit offers customized training programs without any additional cost, ensuring users get the best possible results tailored to their specific requirements. Beyond training and expert advice, MediFit simplifies the process of purchasing health and fitness supplements. The app curates a selection of supplements specifically suited to individual health needs, making shopping effortless and efficient. This added convenience ensures users have access to the right nutrition and products necessary to support their fitness journey. MediFit's intuitive tracking system allows users to monitor their progress with ease. The user-friendly interface and personalized fitness plans ensure consistent motivation and clear goal-setting, helping users stay on track. With the unique combination of financial incentives, expert health guidance, personalized fitness training based on BMI, and streamlined supplement shopping, MediFit redefines the approach to achieving and maintaining a healthier lifestyle. By integrating these elements, MediFit empowers users to take control of their health, stay active, and adopt sustainable habits that lead to long-term well-being. Whether you're looking to lose weight, build strength, or maintain an active lifestyle, MediFit provides the tools, support, and motivation necessary to help you live your best life. MediFit transforms the way people approach health and fitness by offering a holistic, personalized, and rewarding experience. By combining science-backed fitness strategies, professional guidance, real-time tracking, and financial motivation, the platform creates an engaging ecosystem that fosters sustainable well-being. Whether you're a beginner or a fitness enthusiast, MediFit ensures that staying active is not only beneficial for health but also financially and personally fulfilling.





### EFFECT OF BIO-SYNTHEZIZED METAL NANOPARTICLES LACED ANODE ON THE POWER GENERATION ABILITY OF COMPOST BASED MICROBIAL FUEL CELL

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#### ABSTRACT

Bio-compatible metal nanoparticles laced carbon fiber electrode is used for enhancing the efficiency as anodic performance can control the bio-electro-catalytic activity and overall power generation ability of compost based microbial fuel cells (MFC), Biological reagents are used as reducing and capping agent is used to synthesize metal nanoparticles. The results of Cyclic Voltammetry (C–V) and electrochemical impedance spectroscopy shows that metal NPs laced electrode exhibited increased current density and better bio-electro-catalytic activity than the bare electrode which shows selective response with respect to type of compost and fuel concentration in a coin cell sized MFC. Current-Voltage (I–V) measurements show that due to the increase in the bio-electro-catalytic activity, the electrical power increases drastically at room temperature in case of carbon rich compost at an optimized fuel concentration. The temperature dependence bipolar C–V measurements shows the enhancement in bio-electro-catalytic activity with increase in temperature. Also, significant improvement in durability and stability of MFC was observed with the lacing of metal NPs.

**Keywords:** Metal Nanoparticles, Coin Cell, Compost, Power

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### AN IN-DEPTH STUDY ABOUT NUREMBERG TRIAL AND ITS SIGNIFICANCE FOR ACHIEVING PEACE AND SECURITIES IN RESPECT TO INTERNATIONAL CRIMINAL JUSTICE REFORM

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#### ABSTRACT

The Nuremberg trial has a huge impact in developing the International criminal justice reform. It was one of the most historic trials ever, that drafting the code regarding crime against peace, securities of mankind, to develop the humanity and crime against war etc. The Nuremberg principle was established by United Nations, held on Nuremberg, Germany after the Second World War in the period of 1945-1946, the chief president was Harry S Trueman and the prosecutor was Robert H Jackson, the main motto to protest against the genocide, war, heinous torture and mass violence in the humanitarian ground. In the period of Second world war, more than 170 civilians were brutally murdered among all over the world especially in Russia, Cambodia, Sieria, Philippines, Somalia and many others. After that trial the International Military tribunal (IMT), International Law Commission (ILC), International Criminal Court (ICC) were first time introduced in the international regime. The researcher aims to critically analysis about the history of that trial, the significance of it in the modern era to deal with the fair trial procedure, to study about the aftermath, the tools and technologies had been emerged from that trial and also dealing with the challenges and controversies about the Nuremberg trial etc. This paper will be limited to doctrinal method of study with the help of various data, articles, newspapers etc and will try to discuss more other recommended trials, case laws, and some recommendations about the fair justice delivery system in the international regime.

**KEYWORDS:** Nuremberg Trial, Fair Trial, International Military Tribunal, Peace and Humanity etc.

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### CLIMATE RESILIENT URBAN PLANNING & GREEN INFRASTRUCTURE: A LEGAL ANALYSIS TOWARDS CLIMATE CHANGE MITIGATION

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#### ABSTRACT

The adverse impacts of climate change is one of the factors where cities have become epicentres to climate vulnerability. This urges the need to climate resilient urban planning and fostering green infrastructure. Climate resilient urban planning refers to the strategic developing of the cities that can resist, endure, adapt to the hostile effect of climate change like extreme weather patterns, floods, incessant rainfall, heatwaves, rising of sea-levels, etc. Green infrastructure is one of the key mechanisms to enhance resilience to combating climatic conditions by fostering green roofs, urban forests, wetlands, sustainable drainage systems. Both are the initiatives towards mitigating climate change impact and the sustainable development.

This paper analyses the importance of adopting and implementing the climate resilient urban planning and green infrastructure through legal framework. It also comprehends the role of Paris Agreement, 2015, Sendai Framework for Disaster Risk Reduction 2015 in international perspective and Environmental Protection Act, 1986, National Action Plan on Climate Change, 2008, Disaster Management Act, 2005 in Indian perspective. Therefore, this article critically analyses and discusses the importance of implementing and addresses the lacunas in the existing framework and its enforcement thereby ensuring resilience towards climate change impacts.

**Keywords:** Climate change, urban planning, green infrastructure, International and Indian perspective, legal analysis.



### ENFORCING ENVIRONMENTAL RESPONSIBILITY: A COMPARATIVE ANALYSIS OF JUDICIAL RESPONSES TO SINGLE-USE PLASTICS IN INDIA AND OTHER NATIONS

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#### ABSTRACT

With the escalating global urgency surrounding plastic pollution, the courts worldwide have increasingly become key, active promoters of environmental governance. The Indian judiciary, notably playing the role of an activist, has invoked the basic spirit of constitutional principles underlying the concept of right to life under Article 21 and the public trust doctrine to mandate the state to enforce action against environment degradation caused due to single-use plastics (SUPs). Landmark judgments such as the M.C. Mehta cases have underscored the influence of the judiciary in environmental policy implementation.

On the contrary, judicial approaches in jurisdictions like the European Union and Australia have largely complemented well-structured legislative mechanisms like the EU Single-Use Plastics Directive and Australia's National Plastics Plan, which emphasizes more on administrative accountability and its enforcement than judicial activism. Judicial intervention in the US, being shaped by federalism, the doctrine of preemption and varied state-level regulatory frameworks, has been observed to be quite restrained.

This research study intends to undertake a comparative analysis of judicial responses to regulatory frameworks and approaches towards mitigating single-use plastics in India and selected international jurisdictions like the United States, the European Union and Australia. This paper compares the institutional approaches, legal reasoning and outcomes of judicial responses to address their effectiveness in addressing SUPs. It seeks to identify the loopholes of enforcement, determine the best practices and suggest appropriate recommendations for legislative and judicial efforts, aiming to reinforce environmental protection from single-use plastics. This study will ultimately contribute to the discourse on the emerging role of judicial fraternity in addressing the challenges towards global sustainability through environmental jurisprudence.

**Keywords:** Single-use plastic, environment, judicial approach, regulatory framework, legislative mechanisms.

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### SOCIAL CONTROL AND MEDIA AS THE FOURTH ESTATE

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#### ABSTRACT

This paper examines the complex relationship between social control and media as the fourth estate, exploring their roles in shaping governance and social order. The paper synthesizes key theoretical frameworks, historical developments, and contemporary challenges to provide a comprehensive understanding of media's dual function as both a watchdog of power and an agent of social control. The theoretical foundation draws on the fourth estate theory, which positions media as a check on governmental power, which explains how society maintains order. By integrating these perspectives, the paper illuminates the tensions inherent in media's role in democratic societies. Historically, the review traces the evolution of media from early printing presses to the digital age, highlighting pivotal moments that shaped the fourth estate's development. It examines how technological advancements, changing societal norms, and shifting power dynamics have influenced media's capacity to fulfill its watchdog role while simultaneously functioning as a mechanism of social control. The paper explores various ways media acts as an agent of social control, including agenda-setting, framing, the manufacturing of consent, and the amplification of moral panics. It also addresses contemporary challenges to the fourth estate, such as economic pressures, ownership concentration, political polarization, and the proliferation of misinformation. Looking to the future, the paper considers emerging trends and potential directions for the fourth estate, including new models of journalism and the impact of emerging technologies. It concludes by emphasizing the ongoing importance of negotiating the balance between media's roles as fourth estate and agent of social control in an ever-changing social and technological landscape. This comprehensive analysis provides valuable insights for scholars, policymakers, and media practitioners grappling with the complexities of media's role in governance and social order in the 21st century.

**Keywords:** media, fourth estate, social control, government



### ML-BASED ANOMALY DETECTION FRAMEWORK FOR CYBERSECURITY ACROSS WIRELESS AND IOT NETWORKS

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#### ABSTRACT

This paper provides a complete framework to utilize machine learning (ML) algorithms to detect network behavior anomalies, which usually represent already known cyberattacks such as denial of service (DoS), spoofing and unauthorized access. We apply supervised, unsupervised, and semi supervised techniques to show the ability of the system to differentiate between typical and anomalous traffic pattern. All the methods like Data Preprocessing, Feature Extraction and then Training the data with various Algorithms such as Decision Trees, Support Vector Machines (SVM), Random Forest, KMeans Clustering and Deep Neural Networks are handled in the framework itself. The models were trained and validated on real world datasets available freely, such as UNSW NB15, CICIDS2017 and NSL KDD datasets. Experimental results show that ML based systems excel to the conventional techniques in finding zero day attacks and adaptive response to novel threats. For example PCA increased performance of ensemble and deep learning models further, as they were the most efficient. Moreover, the study illustrates real time integration, which allows the system to modify itself in response to continuous flow of network traffics and provides a scalable solution for a multitude of wireless infrastructure, such as WiFi, MANETs, and Internet of Things networks. Adversarial threats will be addressed, federated learning will be integrated and deployment optimized for such low resource wireless devices in future research. The paper is concluded that machine learning (ML) is a proactive and intelligent way of cybersecurity.

**Keywords:** Deep Learning, MANET, IoT, Machine Learning, Intrusion Detection, Cybersecurity, Wireless Networks, and Anomaly Detection.



### EFFECT OF SITE B' SUBSTITUTION ON THE EXCHANGE CONSTANTS IN QUADRUPLE PEROVSKITES $\text{CaCu}_3\text{Fe}_2\text{B}'_2\text{O}_{12}$ ( $\text{B}'=\text{Re}, \text{Os}$ ): A MONTE CARLO SIMULATION STUDY

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#### ABSTRACT

This work highlights a theoretical approach for calculating the exchange constants and studying the effect of site B' substitution in quadruple perovskites  $\text{CaCu}_3\text{Fe}_2\text{B}'_2\text{O}_{12}$  ( $\text{B}'=\text{Re}, \text{Os}$ ) by using Monte Carlo Simulations (MCS) in accordance with the Ising model and a correlation between internal energy and magnetism at each site. Utilizing the material's experimental temperature value, which has been estimated under an applied magnetic field  $h = 1\text{ T}$  for  $\text{CaCu}_3\text{Fe}_2\text{Re}_2\text{O}_{12}$ , and  $h = 0.1\text{ T}$  for  $\text{CaCu}_3\text{Fe}_2\text{Os}_2\text{O}_{12}$ , as well as a renormalization parameter  $\alpha$ , we have determined the exchange parameters. Along with the magnetization at each site, magnetic susceptibility, and specific heat, the internal energy of every magnetic arrangement has been calculated for each perovskite. The exchange constants that have been determined for  $\text{CaCu}_3\text{Fe}_2\text{Re}_2\text{O}_{12}$  are:  $J_{\text{Cu}-\text{Fe}} = 18.06\text{ meV}$ ,  $J_{\text{Cu}-\text{Re}} = 146.16\text{ meV}$ ,  $J_{\text{Fe}-\text{Re}} = 111.36\text{ meV}$ ,  $J_{\text{Cu}-\text{Cu}} = 0.35\text{ meV}$ ,  $J_{\text{Fe}-\text{Fe}} = 0.03\text{ meV}$ ,  $J_{\text{Re}-\text{Re}} = 0.17\text{ meV}$ , and the exchange constants obtained for  $\text{CaCu}_3\text{Fe}_2\text{Os}_2\text{O}_{12}$  are:  $J_{\text{Cu}-\text{Fe}} = 13.15\text{ meV}$ ,  $J_{\text{Cu}-\text{Os}} = 37.58\text{ meV}$ ,  $J_{\text{Fe}-\text{Os}} = 46.98\text{ meV}$ ,  $J_{\text{Cu}-\text{Cu}} = 0.13\text{ meV}$ ,  $J_{\text{Fe}-\text{Fe}} = 0.07\text{ meV}$  and  $J_{\text{Os}-\text{Os}} = 0.02\text{ meV}$ .

**Keywords:** Quadruple Perovskite  $\text{Ca}_2\text{Cu}_3\text{Fe}_2\text{Re}_2\text{O}_{12}$ ; Quadruple Perovskite  $\text{Ca}_2\text{Cu}_3\text{Fe}_2\text{Os}_2\text{O}_{12}$ ; Exchange constants; Monte Carlo Simulation; Internal energy at each site; Magnetization at each site.





### VAKA RAPORU: MAKSİLLA ANTEİÖR BÖLGEDE RADİKÜLER KİST VE ENÜKLEASYON İLE TEDAVİSİ

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#### ÖZET

Amaç: Radiküler kistler, çenelerde en sık karşılaşılan inflamatuvar odontojenik kistlerdir. Çürük ya da travma sonrası pulpa nekrozu ile ortaya çıkan bu kistler, genellikle asemptomatiktir. Ancak tedavi edilmediğinde zamanla büyüyerek komşu anatomik yapıların (örneğin, maksiller sinüs, burun mukozası) etkilenmesine yol açabilir. Güncel literatürde, özellikle büyük boyutlu vakalarda cerrahi enükleasyon veya marsupyalizasyon gibi tedavi yaklaşımları öne çıkmaktadır. İlgili bölgedeki dişler apikal rezeksiyon için erişilebilecek konumda iseler dişlere apikal rezeksiyon uygulanıp ağızda tutulabilir.

Enükleasyon, çene kistlerinin tedavisinde en sık tercih edilen cerrahi yöntemlerden biridir. Bu yöntemde, kist – ve mümkünse kapsülüyle birlikte – tek parça halinde çıkarılır. İşlem, kistin patolojik dokusunun tamamen alınmasını ve geride nüks oluşturabilecek hücre kalıntılarının bırakılmamasını amaçlar.

Apikal rezeksiyon (apikoektomi), dişin kök ucunun cerrahi olarak çıkarılması ve kalan kök ucunun biyouyumlu bir malzeme (genellikle Mineral Trioxide Aggregate, MTA) ile kapatılması işlemidir. Bu prosedür, genellikle klasik endodontik tedavinin (kanal tedavisi) başarısız olduğu veya erişimin zor olduğu durumlarda, kalıcı periapikal enfeksiyonların tedavisinde tercih edilir.

Amacımız büyük boyutlara ulaşmış, komşu anatomik yapıları etkilemiş ve çoklu dişlerini içine alan hastalarda enükleasyon ile birlikte apikal rezeksiyon yaparak kistin tedavisini ve dişlerin ağızda tutulmasını sağlamaktır.

#### ABSTRACT

Purpose: Radicular cysts are the most common inflammatory odontogenic cysts in the jaws. These cysts, which occur with pulp necrosis after caries or trauma, are usually asymptomatic. However, if left untreated, they can grow over time and affect adjacent anatomical structures (e.g., maxillary sinus, nasal mucosa). In the current literature, surgical enucleation or marsupialization are prominent treatment approaches, especially in large-sized cases. If the teeth in the relevant region are in a position accessible for apical resection, apical resection can be applied to the teeth and they can be kept in the mouth.

Enucleation is one of the most frequently preferred surgical methods in the treatment of jaw cysts. In this method, the cyst – and if possible its capsule – is removed in one piece. The procedure aims to completely remove the pathological tissue of the cyst and not to leave behind any cell residues that may cause recurrence.

Apical resection (apicoectomy) is the surgical removal of the root tip of the tooth and the closure of the remaining root tip with a biocompatible material (usually Mineral Trioxide Aggregate, MTA). This procedure is usually preferred in the treatment of persistent periapical infections in cases where classical endodontic treatment (root canal treatment) has failed or access is difficult. Our aim is to treat the cyst



and keep the teeth in the mouth by performing apical resection with enucleation in patients who have reached large sizes, affected adjacent anatomical structures and involved multiple teeth.

**Anahtar Kelimeler:** Radiküler kist, apikal rezeksiyon, enükleasyon

## 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES



### INVESTIGATION THE EFFECTS OF CRIME AND DEVIATION DETECTIVE OF SOCIALIZATION ON THE BEHAVIOR OF YOUNG OFFENDERS? IN UNIVERSITY OF ANNABA, ALGERIA

*Dr. Amara Sahraoui*

*The University of Baji Mukhtar Annaba, Algeria*

#### ABSTRACT

The institutions of socialization in any of the societies play a pivotal role in building the personality of the juvenile and its growth in a way that makes him a normal person in his society, committed to the rules of social control and its requirements, through a set of value and moral systems that these institutions seek to integrate into the personality of the juvenile, which are patterns that the society adopts and accepts. It is the basis of normal social relations, as well as the existing social system, all with the aim of protecting the juvenile and immunizing him from all social stimuli that may motivate him to enter the world of crime and delinquency.

**Keywords:** Socialization, Deviant Behavior, Juveniles.



### EMBRIOLOGY IN PLASTIC SURGERY

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#### ABSTRACT

Embryology, the study of the development of an embryo from the fertilization stage to birth, holds a pivotal role in plastic surgery. A deep understanding of embryonic development is essential for plastic surgeons, as many congenital deformities and malformations they treat arise during this critical period. Key structures such as the face, limbs, and body wall develop during specific embryonic stages, and disruptions during these stages can lead to conditions like cleft lip and palate, craniosynostosis, syndactyly, and more. In craniofacial surgery, for example, knowledge of the intricate processes involving the branchial arches, neural crest cell migration, and fusion of facial prominences helps surgeons in reconstructing defects and optimizing outcomes. Similarly, limb development, governed by precise patterns of growth and differentiation, is crucial in reconstructive surgeries involving limb deformities or trauma.

Plastic surgeons also utilize principles of tissue differentiation and organogenesis in regenerative techniques, such as tissue engineering and stem cell therapy. Understanding how tissues form and specialize during embryogenesis allows for more effective approaches in reconstructing damaged or lost tissue. Moreover, embryological insights guide the timing of surgical interventions. Certain conditions, such as craniofacial anomalies, require surgery during specific developmental windows to ensure optimal function and aesthetics. Thus, embryology serves not only as a foundation for understanding congenital anomalies but also as a roadmap for surgical planning and innovation in plastic surgery.

**Keywords:** Embryonic Development, Congenital Deformities, Craniofacial Surgery, Tissue Engineering



### NİKEL TAKVİYESİ İLE ÜRETİLEN ALÜMİNYUM MATRİKSİ KOMPOZİTLERİN AŞINMA ÖZELLİKLERİNİN İNCELENMESİ

#### INVESTIGATION OF WEAR PROPERTIES OF ALUMINUM MATRIX COMPOSITES PRODUCED WITH NICKEL REINFORCEMENT

**Doç. Dr. İsmail TOPCU**

*Alanya Alaaddin Keykubat Üniversitesi, Mühendislik Fakültesi, Metalurji ve Malzeme Mühendisliği  
Bölümü, Alanya, Antalya, Türkiye*

#### ÖZET

Bu çalışmayı, malzemelerin mekanik davranışları dinamik ve statik yük altındaki tepkileri ve dayanımları ile malzemede meydana gelebilecek deformasyon sonucunda fiziksel değişimler olarak tanımlayabiliriz. Bu nedenlerden dolayı operasyonel olarak görev yapan makine elemanlarında ciddi sorunlar yaşanabilir. Makine elemanlarının çalışma alanlarında devam eden proseslerde mekanik yük altındaki deformasyonlar nedeni ile çok büyük ekonomik kayıplar yaşanmaktadır.

Malzeme biliminin her geçen gün ilerlemesiyle birlikte mühendisler bu sorunları çözmek için kompozit malzemelerle çalışmış ve geleneksel malzemelerle karşılaştırıldığında önemli bir mesafe kat etmişlerdir. Mekanik özelliklerin iyi olan bir malzeme tasarlamak için yapılan projede, bor karbür takviyeli Al matrisli kompozit malzemeler kullanılmış ve özellikle fren diskleri gibi hareketli ortamlarda çalışan bileşenler incelenmiş ve mekaniksel sorunları en aza indirilmiştir.

Bu çalışmada, saf alüminyum ve alümina +sabit oranlı (%5) B<sub>4</sub>C tozlarına farklı miktarlarda (ağırlıkça% 7,5'a kadar) saf nikel tozları eklenmiştir. Tozlar, bir bilyalı değirmen kullanılarak yarım saat boyunca mekanik olarak karıştırılmıştır. Toz karışımları havada ve vakum altında sabir zamanda ve 575 °C'de sinterlenmiştir. Numunelerin mikroyapıları taramalı elektron mikroskopu kullanılarak incelenmiştir. Çalışmada sinterlenmiş kompakt numunelerin aşınma özellikleri araştırılmıştır. Numunelerin aşınma direnci artan nikel içeriğine bağlı olarak arttığı görülmüştür. Sonuçlar, nikel katkısının alüminyum ile B<sub>4</sub>C arasında güçlü bir bağlanma ara yüzeyi sağlayarak matris üzerinde aşınma davranışını geliştirdiğini göstermiştir.

**Anahtar kelimeler:** Aşınma direnci, Toz metalurjisi, B<sub>4</sub>C, Sinterleme

#### ABSTRACT

This study can be defined as the mechanical behavior of materials, their reactions and strengths under dynamic and static loads, and physical changes resulting from deformations that may occur in the material. For these reasons, serious problems can be experienced in operating machine elements. In the ongoing processes in the working areas of machine elements, major economic losses are experienced due to deformations under mechanical loads.

With the advancement of material science every passing day, engineers have worked with composite materials to solve these problems and have made significant progress compared to traditional materials. In the project carried out to design a material with good mechanical properties, boron carbide reinforced Al matrix composite materials were used and mechanical problems were minimized by examining components working in moving environments such as brake discs. In this study, different amounts of pure nickel powders (up to 7.5% by weight) were added to pure aluminum and alumina + fixed ratio (5%) B<sub>4</sub>C powders. The powders were mechanically mixed for half an hour using a ball mill.

The powder mixtures were sintered in air and vacuum at a fixed time and 575 °C. The microstructures of the samples were examined using scanning electron microscopy. The wear properties of sintered compact samples were investigated in the study. It was observed that the wear resistance of the samples



increased with increasing nickel content. The results showed that the addition of nickel improved the wear behavior on the matrix by providing a strong bonding interface between aluminum and B<sub>4</sub>C.

**Keywords:** Wear resistance, Powder metallurgy, B<sub>4</sub>C, Sintering



### NİKEL TAKVİYESİ İLE ÜRETİLEN ALÜMİNYUM MATRİKSİLİ KOMPOZİTLERİN MEKANİK ÖZELLİKLERİNİN İNCELENMESİ

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#### ÖZET

Bir malzeme tasarımı yaparken en önemli noktalardan biri malzemenin kullanım alanındaki çalışma koşullarıdır. Malzememizin makine veya ortamdaki diğer parçalarla teması nedeniyle bazı sorunlar yaşanabilir. Mekanik özellikler bu sorunların en önemlilerindedir.

Malzemelerin mekanik davranışları dinamik ve statik yük altındaki tepkileri ve dayanımları ile malzemede meydana gelebilecek deformasyon sonucunda fiziksel değişimler olarak tanımlayabiliriz. Bu nedenlerden dolayı operasyonel olarak görev yapan makine elemanlarında ciddi sorunlar yaşanabilir. Makine elemanlarının çalışma alanlarında devam eden proseslerde mekanik yük altındaki deformasyonlar nedeni ile çok büyük ekonomik kayıplar yaşanmaktadır.

Malzeme biliminin her geçen gün ilerlemesiyle birlikte mühendisler bu sorunları çözmek için kompozit malzemelerle çalışmış ve geleneksel malzemelerle karşılaştırıldığında önemli bir mesafe kat etmişlerdir.

Mekanik özelliklerin iyi olan bir malzeme tasarlamak için yapılan projede, bor karbür takviyeli Al matrisli kompozit malzemeler kullanılmış ve özellikle fren diskleri gibi hareketli ortamlarda çalışan bileşenler incelenmiş ve mekaniksel sorunları en aza indirilmiştir.

Bu çalışmada, saf alüminyum ve alümina + sabit oranlı (%5) B4C tozlarına farklı miktarlarda (ağırlıkça% 7,5'a kadar) saf nikel tozları eklenmiştir. Tozlar, bir bilyalı değirmen kullanılarak yarım saat boyunca mekanik olarak karıştırılmıştır. Toz karışımları havada ve vakum altında sabit zamanda ve 575 °C'de sinterlenmiştir. Numunelerin mikroyapıları taramalı elektron mikroskopu kullanılarak incelenmiştir. Çalışmada sinterlenmiş kompakt numunelerin yoğunluk ve sertlik özellikleri araştırılmıştır. Numunelerin mekanik özellikleri artan nikel içeriğine bağlı olarak arttığı görülmüştür. Sonuçlar, nikel katkısının alüminyum ile B4C arasında güçlü bir bağlanma ara yüzeyi sağlayarak matris üzerinde mekanik davranışını geliştirdiğini göstermiştir

**Anahtar kelimeler:** Mekanik özellikler, toz metalurjisi, B4C, sinterleme

#### ABSTRACT

One of the most important points when designing a material is the working conditions of the material in the area of use.

Some problems may occur due to the contact of our material with other parts in the machine or environment. Mechanical properties are among the most important of these problems. We can define the mechanical behaviors of materials as physical changes as a result of the reactions and strengths under dynamic and static loads and the deformation that may occur in the material. For these reasons, serious problems may occur in machine elements that work operationally. In the ongoing processes in the working areas of machine elements, very large economic losses are experienced due to deformations under mechanical load.

With the advancement of material science every passing day, engineers have worked with composite materials to solve these problems and have made significant progress compared to traditional materials.





In the project carried out to design a material with good mechanical properties, boron carbide reinforced Al matrix composite materials were used and especially components working in moving environments such as brake discs were examined and mechanical problems were minimized.

In this study, different amounts (up to 7.5 wt%) of pure nickel powders were added to pure aluminum and alumina + fixed ratio (5%) B<sub>4</sub>C powders. The powders were mechanically mixed for half an hour using a ball mill. The powder mixtures were sintered in air and under vacuum at a fixed time and 575 °C. The microstructures of the samples were examined using a scanning electron microscope.

The density and hardness properties of the sintered compact samples were investigated in the study. It was observed that the mechanical properties of the samples increased with increasing nickel content. The results showed that the nickel addition improved the mechanical behavior on the matrix by providing a strong bonding interface between aluminum and B<sub>4</sub>C

**Keywords:** Mekanik özellikler, toz metalurjisi, B<sub>4</sub>C, sinterleme



# 12. INTERNATIONAL EUROPEAN CONGRESS ON ADVANCED STUDIES IN BASIC SCIENCES

May 16-18, 2025, Albania  
University Metropolitan Tirana

## İlgili makama;

12. ULUSLARARASI AVRUPA TEMEL BİLİMLERDE İLERİ ARAŞTIRMALAR KONGESİ 16-18 Mayıs 2025 tarihleri arasında Tiran Metropolitan Üniversitesi'nde 21 farklı ülkenin akademisyen/araştırmacılarının katılımıyla gerçekleşmiştir. Kongre kapsamında sunumu yapılan 212 bildirinin 104 adeti Türkiye'den katılımcılar tarafından; 1081 bildiri ise 21 ülkeden katılımcılar tarafından sunulmuştur. Kongre 16 Ocak 2020 Akademik Teşvik Ödeneği Yönetmeliğine getirilen “*Tebliğlerin sunulduğu yurt içinde veya yurt dışındaki etkinliğin uluslararası olarak nitelendirilebilmesi için Türkiye dışında en az beş farklı ülkeden sözlü tebliğ sunan konuşmacının katılım sağlaması ve tebliğlerin yarıdan fazlasının Türkiye dışından katılımcılar tarafından sunulması esastır.*” değişikliğine uygun düzenlenmiştir.

Bilgilerinize arz edilir,

Saygılarımla,

**Prof. Dr. Nikolla Civici**  
Rector of University Metropolitan Tirana  
Honorary President of Congress



UNIVERSITY METROPOLITAN TIRANA  
FACULTY OF ENGINEERING AND ARCHITECTURE  
Str. "Sotir Kolea", Qyteti Studenti, Tirana, Albania

## TO WHOM IT MAY CONCERN

It has been deemed appropriate for the researchers named below to be assigned to "INTERNATIONAL EUROPEAN CONFERENCE ON INTERDISCIPLINARY SCIENTIFIC RESEARCH" organizing committee.

1. Msc. Donika Plakolli – UMT, Albania - Head of Organizing Committee
2. Prof. Dr. Agim Selenica – UMT, Albania
3. Assoc. Prof. Dr. Anna Yunitsyna – UMT, Albania
4. Dr. Sonila Daiu – UMT, Albania
5. MSc. Fatlinda Struga – UMT, Albania
6. Dr. Ernest Shtepani – UMT, Albania

"INTERNATIONAL EUROPEAN CONFERENCE ON INTERDISCIPLINARY SCIENTIFIC RESEARCH" is scheduled at May 16-18, 2025, at the premises of University Metropolitan Tirana.

Best regards,

Prof. Dr. Nikolla Civici  
Rector of UMT

Tirana, June 14, 2024

