ABSTRACT BOOK

KARADENİZ 17. ULUSLARARASI UYGULAMALI BİLİMLER KONGRESİ

RİZE
8 - 10 KASIM 2024

KARADENİZ
17. ULUSLARARASI
UYGULAMALI
BİLİMLER
KONGRESİ

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November 8 - 10, 2024
Rize

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RİZE

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Salon	Moderator		Bildiri No ve Başlığı / Paper ID and Title	Authors
HALL / SALON 1	**Assist. Prof. Dr., IŞINSU ERSAN ÖZTÜRK**	1	A STUDY ON THE EFFECT OF PUPPETS ON IN OPERA NARRATION: MONDONVILLE'S OPERA TITON ET L'AURORE	Assist. Prof. Dr., IŞINSU ERSAN ÖZTÜRK
		2	THE SOCIOCULTURAL EFFECTS OF GLOBAL TRENDS IN POPULAR MUSIC	Asst. Prof. Dr. Cihan TABAK Zerrin ÇİMEN
		3	PİYANO EĞİTİMİNDE NÜANS TERİMLERİNİN KART OYUNU İLE ÖĞRETİLMESİ VE BAŞARIYA ETKİSİ	Eda Asya AKSU Prof. Dr. M. Kayhan KURTULDU
		4	PİYANO EĞİTİMİNDE GRUBETTO İŞARETİNİN ÖĞRETİLMESİNDE ANLAMLANDIRMAYA DAYALI HİKÂYELERİN ETKİSİ	Şehribanu ZAMAN Prof. Dr. M. Kayhan KURTULDU
		5	DEMİR KÜLTÜ İLE İLGİLİ İNANIŞLAR: ARDAHAN ÖRNEĞİ	Dr. ELVAN SALTAŞ KORKMAZ
		6	KUZEYDOĞU ANADOLU BÖLGESİ HALK İNANIŞLARINDA SÜPÜRGE	Dr. ELVAN SALTAŞ KORKMAZ

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HALL / SALON 2	**Doç. Dr. Erkan UZUN**	1	EVALUATION OF THE BASIC ELEMENTS OF GREEN BANKING WITH A FUZZY MULTI-CRITERIA DECISION MAKING APPROACH	Doç. Dr., Gülay DEMİR Doç. Dr., Yüksel AYDIN
		2	PRIORITIZATION OF PROJECT CRITERIA WITH FUZZY MULTI-CRITERIA DECISION MAKING METHOD IN BLOCKCHAIN TECHNOLOGY	Doç. Dr., Gülay DEMİR Doç. Dr., Rahim ARSLAN
		3	HALKLA İLİŞKİLER UYGULAMALARINDA YAPAY ZEKA KAYNAKLI BİR TEHDİT: ALGORİTMİK ÖN YARGI	Öğr. Gör. MURAT CAN BAŞARAN Prof. Dr. BURCU ÖKSÜZ
		4	İLETİŞİM ALANINDA YAPAY ZEKA KONULU YAYINLARIN BİBLİYOMETRİK ANALİZİ	Prof. Dr. BURCU ÖKSÜZ Öğr. Gör. MURAT CAN BAŞARAN
		5	BIST SÜRDÜRÜLEBİLİRLİK ENDEKSİNDE İŞLEM GÖREN ŞİRKETLERİN ÇEVRESEL İLKELERE UYUM DURUMUNUN DEĞERLENDİRİLMESİ	Dr. Öğr. Üyesi İpek YAYLALI
		6	KONAKLAMA İŞLETMELERİNDE MALİYET ARTIRAN ETKENLERİN TESPİTİ VE MALİYET DÜŞÜRME ÖNERİLERİ	Doç. Dr. Erkan UZUN
		7	SEYAHAT İŞLETMELERİNDE MALİYET ARTIRAN ETKENLERİN TESPİTİ VE MALİYET DÜŞÜRME ÖNERİLERİ	Doç. Dr. Erkan UZUN
		8	YEŞİL YETENEK ÜZERİNE BİBLİYOMETRİK ANALİZ	Dr. Öğrencisi Merve ŞENER Doç. Dr. Canan YILDIRAN

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HALL / SALON 3	**Prof. Dr. Nilgün GÜNEROĞLU**	1	THE EFFECT OF LANDSCAPE ON MUSEUM DESIGN: THE CASE OF LOUVRE MUSEUM ABU DHABI	Asist. Prof.Dr.MakbulenurONUR Research Assistant Dr. Demet Ülkü GÜLPINAR SEKBAN
		2	PLANT SELECTION IN LANDSCAPE DESIGN IN DESERT CLIMATE CONDITIONS CASE OF DUBAI	Asist. Prof.Dr.MakbulenurONUR Research Assistant Dr. Demet Ülkü GÜLPINAR SEKBAN
		3	THE IMPORTANCE OF MULCHING IN RIDER LANDSCAPE, RIZE CITY EXAMPLE	Assoc. Prof. Dr.,Ömer Lütfü ÇORBACI Res. Asst. Dr.,Türker OĞUZTÜRK
		4	EVALUATION OF GERMINATION SUCCESS OF Liatris spicata (L.) 'ALBA' SEEDS AT DIFFERENT STRATIFICATION TIMES IN STRATIFICATION MEDIA STERILIZED WITH DIFFERENT METHODS	Res. Asst. Dr.,Türker OĞUZTÜRK Assoc. Prof. Dr.,Ömer Lütfü ÇORBACI Ayça MAVİ
		5	Socio-Ecological Approaches in Urban Planning and Design	Assoc. Prof. Dr. Aysel YAVUZ
		6	ON PURPOSE DESIGN SUGGESTIONS FOR ROOF GARDENS	Prof. Dr. Nilgün GÜNEROĞLU
		7	CLIMBING PLANTS IN LANDSCAPE ARCHITECTURE	Prof. Dr. Nilgün GÜNEROĞLU

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HALL / SALON 4	**Prof. Dr., SAVAŞ YILMAZ**	1	DISCRIMINATION OF ALBURNUS DERJUGINI AND VIMBA VIMBA (LEUCISCIDAE) SAMPLED FROM HARŞİT STREAM (TÜRKİYE) WITH OTOLITH MORPHOMETRY AND SHAPE ANALYSIS	Assoc. Prof. Dr., MELEK ÖZPİÇAK Asst. Prof., SEMRA SAYGIN Prof. Dr., SAVAŞ YILMAZ
		2	DETERMINATION OF THE PHYLOGENETIC CHARACTERISTICS OF THE SPECIES *Luciobarbus kersin* (Heckel, 1843)	Arif PARMAKSIZ
		3	DETERMINATION OF THE PHYLOGENETIC CHARACTERISTICS OF THE SPECIES *Luciobarbus xanthopterus* Heckel, 1843	Arif PARMAKSIZ Necmettin DOĞAN Elif KORKMAZ
		4	DYE REMOVAL BY BACTERIA ISOLATED FROM SUGAR INDUSTRY WASTEWATER	PhD Student, Suleyman BERBERLER PhD Student, Kubra OZTAT Prof Dr, Cansu FILIK ISCEN
		5	ISOLATION AND OPTIMIZATION OF A BROWN PIGMENT PRODUCED BY *Bacillus atrophaeus* JCM 9070 FROM PAPER INDUSTRY WASTEWATER	PhD Student, Kubra OZTAT PhD Student, Suleyman BERBERLER Prof Dr, Cansu FILIK ISCEN
		6	DONDURMA YAPIMINDA SÜT YAĞINA VE SÜT PROTEİNİNE ALTERNATİF BİTKİSEL KAYNAKLARIN KULLANIMI	Salih Özdemir Sümeyye Kaçalin Cihat Özdemir

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HALL / SALON 5	**Prof. Dr. Sevim Polat**	1	ISOLATION AND CHARACTERIZATION OF BIOSURFACTANT-PRODUCING BACTERIA FROM OLIVE MILL WASTES	Assoc. Prof. Dr. Ebru UYAR Sümeya ORTAKAYA
		2	POLLUTION CAUSED BY RECREATIONAL FISHING	Muhammet BULUT Doç.Dr. Tuncay ATEŞŞAHİN
		3	EVALUATİON OF THE INVASİVE CARASSİUS GİBELİO SPECİES IN TERMS OF RECREATİONAL FİSHİNG (KARAKAYA DAM LAKE - ELAZIĞ)	Muhammet BULUT Doç.Dr. Tuncay ATEŞŞAHİN
		4	Numerical Analysis of Flow Characteristics of a Water-Particle Mixture in a Manifold Using Ansys CFX Program	Dr. SeyhmusTUMUR
		5	A STUDY ON THE UTILIZATION POSSIBILITIES OF BEACH-CAST MACROALGAE	Prof. Dr. Sevim Polat Prof. Dr. Abdurahman Polat
		6	DETERMINATION OF BIOCHEMICAL CONTENTS OF TWO RED MACROALGAE SPECIES (LAURENCIA OBTUSA AND GANONEMA FARINOSUM) DISTRIBUTED IN MERSİN COAST (NORTHEAST MEDITERRANEAN)	Berna Nur Kodaz Prof. Dr. Sevim Polat

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HALL / SALON 6	**Assoc. Prof. Dr. ZEYNEP ERGÜN**	1	EFFECTS OF ABIOTIC STRESS FACTORS ON BLACKBERRY *(Rubus sp.)* PLANT GROWTH UNDER IN *VITRO* CONDITIONS	Öğr. Gör. SELCAN ÖZYALIN Doç. Dr. HAKAN KELES Doç. Dr. MURAT GÜNEY
		2	IMPORTANCE OF EXPLANT SELECTION IN IN *VITRO* PROPAGATION OF RASPBERRY *(Rubus sp.)*	Öğr. Gör. SELCAN ÖZYALIN Doç. Dr. ZEYNEP ERGÜN Doç. Dr. MÜJGAN GÜNEY
		3	GENE EXPRESSION AND METABOLIC PATHWAYS IN FRUIT QUALITY: FLAVOR, COLOR, AND NUTRITIONAL VALUE	Assoc. Prof. Dr. MÜJGAN GÜNEY Lect. SELCAN OZYALIN Assoc. Prof. Dr. HAKAN KELES
		4	ENHANCING FRUIT QUALITY THROUGH GOOD AGRICULTURAL PRACTICES (GAP): A SUSTAINABLE AND TECHNOLOGICAL PERSPECTIVE	Assoc. Prof. Dr. MÜJGAN GÜNEY Assoc. Prof. Dr. ZEYNEP ERGÜN Assoc. Prof. Dr. MURAT GÜNEY
		5	THE GREEN WALNUT HUSK IN AGRICULTURAL WASTE MANAGEMENT	Doç. Dr. HAKAN KELES Doç. Dr. Müjgan GÜNEY Dr. Öğr. Üyesi. Zeynep ERGÜN
		6	MICROPROPOGATION OF WALNUT (*Juglans regia L.*)	Doç. Dr. HAKAN KELES Öğr. Gör. Selcan ÖZYALIN Doç. Dr. Murat GÜNEY
		7	USAGE AREAS OF SAFFRON (*Crocus sativus L.*) PLANT	Assoc. Prof. Dr. ZEYNEP ERGÜN Assoc. Prof. Dr. MÜJGAN GÜNEY Assoc. Prof. Dr. MURAT GÜNEY
		8	THE IMPORTANCE OF WHİTE LILY *(Lilium candidum L.)* PLANT	Assoc. Prof. Dr. ZEYNEP ERGÜN Lect. SELCAN OZYALIN Assoc. Prof. Dr. HAKAN KELES
		9	TRANSCRIPTOME AND GENOMIC ANALYSIS OF ALMOND (*Prunus dulcis*)	Assoc. Prof. Dr. Murat GÜNEY Assoc. Prof. Dr. Zeynep ERGÜN Assoc. Prof. Dr. Müjgan GÜNEY
		10	ANALYSIS OF PLANT STRESS RESPONSE MECHANISMS USING RNA SEQUENCING	Assoc. Prof. Dr. Murat GÜNEY Lect. Selcan ÖZYALIN Assoc. Prof. Dr. Hakan KELES

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HALL / SALON 7	**Doç. Dr. Ali İMAMOĞLU**	1	MONITORING AND EVALUATING LULC CHANGES IN MARMARA LAKE REGION USING AI-SUPPORTED SENTINEL-2 LAND COVER DATA (2017–2023)	Asst. Prof., Münevver Gizem Gümüş Asst. Prof., Ceren Yağcı Prof. Dr., Kutalmış Gümüş
		2	BOĞAZLIYAN DERESİ HAVZASI'NDA YAŞANAN EROZYON PROBLEMİ (YOZGAT)	Doç. Dr. Ali İMAMOĞLU
		3	VOLKANİK MAĞARA KULLANIMINA KIRSAL BİR ÖRNEK, ANINKAYA MAĞARA KOMPLEKSİ (NEVŞEHİR)	Doç. Dr. Ali İMAMOĞLU
		4	SPATIAL ANALYSIS OF TRAFFIC ACCIDENTS BASED ON SEVERITY INDEX	Assist. Prof. Dr., TUĞBA MEMİŞOĞLU BAYKAL
		5	YENİLENEBİLİR ENERJİ KAYNAĞI OLARAK ODUN PELETİ ÜRETİMİ: TÜRKİYE'NİN KÜRESEL SEKTÖRDEKİ ROLÜ VE POTANSİYELİ	Esma Nur KORKUSUZ Dr. Öğr. Üyesi, Hakan AYDOĞAN

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HALL / SALON 8	**Prof. Dr. Selahattin BARDAK**	1	ECONOMETRIC ANALYSIS OF EDUCATIONAL EXPENDITURES IN TURKEY	Arş. Gör. Dr. Tuba KARABACAK Prof. Dr. Murat KÜLEKÇİ
		2	EVALUATION OF THE MOST COMMON PROBLEMS IN TRADITIONAL SHOPPING WITH THE DECISION TREE MODEL	Prof. Dr. Selahattin BARDAK
		3	EVALUATION OF CONSUMERS' TRADITIONAL AND/OR ONLINE SHOPPING PREFERENCE REASONS WITH COLLABORATION ANALYSIS	Prof. Dr. Selahattin BARDAK
		4	DEĞİŞTİRİLMİŞ Pİ-SİGMA YAPAY SİNcİR AĞI İLE BORSA ÖNGÖRÜSÜ	Prof. Dr. Eren BAŞ Prof. Dr. Erol EĞRİOĞLU
		5	DAYANIKLI RESİM BULANIK REGRESYON FONKSİYONLARI YAKLAŞIMI İLE BORSA ÖNGÖRÜSÜ	Prof. Dr. Eren BAŞ Prof. Dr. Erol EĞRİOĞLU

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HALL / SALON 1	**Natalia Ivanova,**	1	THE HONG KONG LOW-FERTILITY DILEMMA: CAN MAINLANDERS' BIRTHS CONTRIBUTE TO REVITALIZING THE LOW-FERTILITY ISSUE?	Nancy Iri Dr. Ling Sze Leung
		2	A MULTI-AGENT SYSTEM FOR ENHANCING KNOWLEDGE MANAGEMENT AND E-LEARNING	Natalia Ivanova, Viktor Petrov
		3	PHYSICIAN BRAIN DRAIN: DRIVERS AND IMPACTS IN BANGLADESH	Amina Hossain, Farid Mahmud, Saifur Rahman
		4	TRANSITION FROM REGIONALISM TO COALITION: SHIFTS IN LANGUAGE POLITICS AND LEADERSHIP IN THE TAMIL MOVEMENT	Dr. Arun Natarajan
		5	A FRAMEWORK FOR EFFECTIVE KNOWLEDGE SHARING IN INTERCONNECTED ENTERPRISES	Sahar Makhmalbaf
		6	USER ENGAGEMENT AND SATISFACTION IN INFORMATION SYSTEMS	Hasan Kermani, Laila Abdelrahman
		7	ENVIRONMENTAL IMPACTS OF URBANIZATION ON RIVER HEALTH IN THE KERMAN REGION	Mohammad Rezaei, Zahra Tavakoli, Ali Amini, Reza Ghanbari
			A BAYESIAN FRAMEWORK FOR PREDICTING POLITICAL RISKS THROUGH IMPLICIT KNOWLEDGE	Dr. Kaveh Shafiei
		8	ORGANIZATIONAL INNOVATION IN PUBLIC-LISTED REAL ESTATE DEVELOPMENTS	Dr. Maria Sanchez, Ahmed Khalil

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HALL / SALON 2	**Dr. Fahad M. Al-Saleh**	1	RELATIONSHIP BETWEEN GENDER AND PERFORMANCE WITH RESPECT TO A BASIC MATH SKILLS QUIZ IN STATISTICS COURSES IN LEBANON	Hiba Naccache
		2	INSIGHTS AND VISUALS FROM VIRTUAL AND IN-PERSON LEARNING ENVIRONMENTS	Ranya Al-Fahad, Omar K. Salah
		3	STUDENT VIEWS ON CODE SWITCHING BY UNIVERSITY INSTRUCTORS: A PERSPECTIVE FROM THAILAND	Anong Srisai
		4	ADOPTING A STUDENT-CENTERED PEDAGOGY IN TERTIARY EDUCATION	Leila M. Farhat
		5	COMBINING HIGHER ORDER THINKING SKILLS WITH GEOGEBRA IN PRE-SERVICE TEACHER TRAINING	Samira J. Qassem, Fadi K. Marwan
		6	A FLIPPED CLASSROOM MODEL FOR STUDENTS IN THE HUMANITIES	Anjali Patel
		7	THE TECH-PEDAGOGICAL SHIFT: CREATING AND UTILIZING AN ONLINE WRITING PLATFORM	Sarah L. Hughes, Michael J. Tan, Emily R. Martin
		8	EVALUATING THE EFFECTIVENESS OF ONLINE ASSESSMENTS IN PROMOTING CRITICAL THINKING SKILLS	Ahmad Z. Mufeed, Hanan R. El-Khateeb, Laila A. Barakat

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HALL / SALON 3	**Prof. Dr. Jessica Albright**	1	OPEN EDUCATIONAL RESOURCE IN ONLINE MATHEMATICS LEARNING	Haohao Wang
		2	REDEFINING EDUCATIONAL REFORM: ALIGNING CURRICULUM WITH INSTITUTIONAL PRINCIPLES	Emma L. Thompson
		3	EXPLOITING BIG DATA TO ENHANCE EDUCATIONAL OUTCOMES	Ravi Nair
		4	LEVERAGING SOCIAL MEDIA AS AN INNOVATIVE LEARNING PLATFORM IN INDONESIAN TERTIARY EDUCATION: A STRUCTURAL EQUATION MODELING STUDY	Lina Hapsari, Rudi Santoso, Amir Rahman
		5	EMBRACING INFORMATION AND COMMUNICATION TECHNOLOGY TO MAXIMIZE CHILDREN'S SCIENTIFIC POTENTIAL: SUSTAINABLE DEVELOPMENT CHALLENGES IN KENYA	Samuel Karanja
		6	GLOBAL PERSPECTIVES ON HIGHER EDUCATION: CRAFTING A UNIVERSAL SUCCESS FRAMEWORK FOR PRE-CLINICAL MEDICAL STUDENTS – AN ACTION RESEARCH INITIATIVE	Prof. Dr. Jessica Albright
		7	TEAM COLLABORATION IN HIGHER EDUCATION: A DETAILED CASE STUDY	Ananya Verma
		8	EXAMINING TEACHER INTERACTIONS IN A "LEARNER-CENTERED" PEDAGOGICAL FRAMEWORK	Liu Chen

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HALL / SALON 4	**Sukanya Pattharaporn**	1	ACCESS TO HIGHER EDUCATION IN NIGERIA: THE UNIVERSITY OF CALABAR PRE-DEGREE PROGRAM EXPERIENCE	Eni I. Eni, James Okon, Ashang J. Ashang
		2	MANAGING COOPERATIVE LEARNING IN GRADUATE MATHEMATICS COURSES	Dr. Aria Lee
		3	THE INTERCONNECTION BETWEEN ARM ACUPRESSURE POINTS AND TRADITIONAL MASSAGE THERAPY	Sukanya Pattharaporn
		4	ASSESSMENT RUBRICS IN TECHNICAL EDUCATION	Norafida Mohamad, Zainul Azhar, Shahrul Nizam
		5	KNOWLEDGE ABOUT DRUG USE AND BEHAVIOR TOWARD ANTIMICROBIAL MEDICATIONS	Nirun Phanwong
		6	INTEGRATING PROJECT-BASED LEARNING TO ADVANCE NATIONAL QUALIFICATIONS FRAMEWORK OBJECTIVES	Assis. Prof. Dr. Sithiporn Prasert
		7	DEVELOPING ONLINE MODULES TO ENHANCE THE LEARNING EXPERIENCE OF MASTER'S STUDENTS IN CURRICULUM DESIGN AT SRIPatum University	Dr. Pattama Khaopong
		8	FOSTERING COLLABORATIVE ONLINE LEARNING ENVIRONMENTS FOR FACULTY MEMBERS	Maya Chen, Sara Thompson, Alexei Ivanov

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HALL / SALON 5	**Dr. Emilia Rodriguez**	1	VOICE IN PRE-SERVICE TEACHER DEVELOPMENT	Pintipa Seubsang, Suttipong Boonphadung
		2	NURTURING FUTURE EDUCATORS INTO COMPETENT PROFESSIONALS	Dr. Emilia Rodriguez
		3	DEVELOPING A CURRICULUM TO ENHANCE LEARNING ENGAGEMENT OF SECOND-YEAR STUDENTS IN THE COLLEGE OF EDUCATION THROUGH MULTIPLE INTELLIGENCES	Sofia Chen, Liam O'Sullivan
		4	EXPLORING UNIVERSITY STUDENTS' LEARNING STYLES IN BANGKOK: CHARACTERISTICS AND EFFECTIVE TEACHING CONTEXTS	Rajesh Kumar
		5	EXAMINING THE CONNECTION BETWEEN DISTRIBUTED LEADERSHIP AND STUDENT ACHIEVEMENT: A RESEARCH SYNTHESIS	Dr. Anja Müller
		6	EFFECTIVENESS OF THE NEUROLOGICAL IMPRESS METHOD AND RECURRENT READING ON THE READING FLUENCY OF CHILDREN WITH LEARNING DISABILITIES IN OYO STATE, NIGERIA	Samuel Okafor
		7	VIRTUAL CAMPUS AS A PEDAGOGICAL FRAMEWORK FOR ONLINE EDUCATIONAL SUPPORT	Dr. Naomi Patel
			VALIDATING PERSONAL IDENTITY THROUGH REMOTE ASSESSMENT IN E-LEARNING ENVIRONMENTS	Evelyn Johnson, Thomas Chen
		8	THE IMPACT OF INTRINSIC MOTIVATION ON STUDENTS' WILLINGNESS TO ENGAGE WITH SOFTWARE APPLICATIONS	Dr. Rachel Adams, Mark Thompson

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HALL / SALON 6	**Dr. Jamilah Aziz**	1	THE TENDENCIES OF DEVELOPMENT OF THE MANAGEMENT IN THE EDUCATION SYSTEM OF THE REPUBLIC OF KAZAKHSTAN	Altynai Zhaitapova, Aizhan Satyvaldiyeva
		2	REAL-TIME CONTROL LEARNING GAME - VELOCITY CHALLENGE THROUGH WHEEL EDUCATION - DATA COLLECTION SYSTEM DEVELOPMENT	Elena Petrovna, Marko Novic
		3	E-LEARNING ACTIVITIES: ANALYSIS AND CLASSIFICATION BASED ON SIGNIFICANT LEARNING ATTRIBUTES	Sofia Reyes, Ahmed Khan, Laura Martinez, James Kim
		4	INVESTIGATING THE LINK BETWEEN LEARNING MOTIVATION AND ACADEMIC PERFORMANCE	Dr. Aiko Tanaka
		5	INTEGRATING TECHNOLOGY IN EDUCATION: FOSTERING PERSONALITY AND SOCIAL GROWTH IN YOUTH	Dr. Jamilah Aziz, Prof. Fahad Al-Hakim
		6	IMPACT OF ARTIFICIAL SUCCESS IN MATHEMATICAL TASKS ON JUNIOR HIGH STUDENTS' SELF-EFFICACY	Hiroshi Nakamura, Kenji Saito
		7	ENHANCING TEACHER PROFESSIONALISM THROUGH CERTIFICATION PROGRAMS: A CASE STUDY FROM INDONESIA	Assoc. Prof. Rina Prabowo
			DOCTORAL STUDENTS' RESEARCH SKILLS WITHIN A SUSTAINABILITY FRAMEWORK	L. Hristova, D. Stefanov
		8	CONTRIBUTIONS TO SUSTAINABLE DEVELOPMENT AMONG STUDENTS AT THE UNIVERSITY OF MADEIRA (PORTUGAL)	Dr. Filipe Carvalho

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HALL / SALON 7	**Prof. Marco Giordano**	1	OMMUNITIES OF INTEREST: THREE UNIQUE CASE STUDIES IN WIDER UNIVERSITY AND SCHOOL PARTNERSHIPS IN AUSTRALIA	M. Zeegers, D. Barron
		2	TRANSFORMING EDUCATIONAL ENGAGEMENT IN OUTCOME-BASED HIGHER EDUCATION: A MOVE TOWARDS STUDENT-CENTERED APPROACHES	Dr. Elena Petrova
		3	ESSENTIAL ELEMENTS OF CURRICULUM INNOVATION IN LANGUAGE EDUCATOR PREPARATION	Prof. Marco Giordano
		4	ENHANCING E-LEARNING COURSE QUALITY IN HIGHER EDUCATION THROUGH STUDENT FEEDBACK	Maria Johnson, Liam Chen
		5	CREATING A SELF-EFFICACY ASSESSMENT TOOL FOR HIGH SCHOOL PHYSICAL EDUCATION INSTRUCTORS	Dr. Jenna Smith
		6	INNOVATION IN EDUCATION: FOSTERING CREATIVITY FOR ENGAGEMENT AND UNDERSTANDING IN SCIENCE LEARNING	Dr. Amira Zayed
		7	DESIGNING AND ASSESSING A VIRTUAL LEARNING PLATFORM FOR HEARING-IMPAIRED CHILDREN	Aldo Ruiz
		8	DIGITAL STORYTELLING AS A STRATEGY FOR TEACHING READING TO MEDIA-SAVVY STUDENTS	Sarah N. Martinez

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HALL / SALON 1	**Prof. Dr. NİZAMİ MUSTAFA**	1	Coefficient Bound Estimates for the Pseudo-Convex Function Class of Complex Order	Prof. Dr. NİZAMİ MUSTAFA Doç. Dr. VEYSEL NEZİR Grad. Stud. Davut MİNGSAR
		2	Coefficient Bound Estimates for the Pseudo-Starlike Function Class of Complex Order	Prof. Dr. NİZAMİ MUSTAFA Doç. Dr. VEYSEL NEZİR Grad. Stud. Davut MİNGSAR
		3	COEFFICIENT BOUND ESTIMATES FOR THE PSEUDO-STARLIKE BI-UNIVALENT FUNCTION CLASS	Prof. Dr. NİZAMİ MUSTAFA Doç. Dr. VEYSEL NEZİR Grad. Stud. KENAN YALÇIN
		4	COEFFICIENT PROBLEM FOR THE PSEUDO-CONVEX BI-UNIVALENT FUNCTION CLASS	Prof. Dr. NİZAMİ MUSTAFA Doç. Dr. VEYSEL NEZİR Grad. Stud. KENAN YALÇIN
		5	COEFFICIENT BOUND ESTIMATES AND FEKETE-SZEGÖ PROBLEM FOR THE PSEUDO-CONVEX FUNCTION CLASS	Prof. Dr. NİZAMİ MUSTAFA Doç. Dr. VEYSEL NEZİR Grad. Stud. NAHİDA GÖKÇEK
		6	COEFFICIENT ESTIMATES AND FEKETE-SZEGÖ PROBLEM FOR THE PSEUDO-STARLIKE UNIVALENT FUNCTION CLASS	Prof. Dr. NİZAMİ MUSTAFA Doç. Dr. VEYSEL NEZİR Grad. Stud. NAHİDA GÖKÇEK
		7	FIXED POINT PROPERTY FOR NONEXPANSIVE MAPPINGS ON LARGE CLASSES IN AN -DUAL OF A DIFFERENCE SEQUENCE SPACE	Assoc. Prof. Dr. VEYSEL NEZIR Prof. Dr. NIZAMI MUSTAFA
		8	LARGE CLASSES IN A BANACH SPACES IN CLOSE RELATION TO AN -DUAL OF A DIFFERENCE SEQUENCE SPACE AND THEIR FIXED POINT PROPERTIES FOR NONEXPANSIVE MAPPINGS	Assoc. Prof. Dr. VEYSEL NEZIR Prof. Dr. NIZAMI MUSTAFA
		9	LARGE CLASSES IN -DUAL OF A DIFFERENCE SEQUENCE SPACE AND THEIR FIXED POINT PROPERTIES FOR NONEXPANSIVE MAPPINGS	Assoc. Prof. Dr. VEYSEL NEZIR Prof. Dr. NIZAMI MUSTAFA
		10	LARGE CLASSES IN A KÖTHE-TOEPLITZ DUAL OF A DIFFERENCE SEQUENCE SPACE AND THEIR FIXED POINT PROPERTY FOR NONEXPANSIVE MAPPINGS	PhD Student, AYSUN GÜVEN Assoc. Prof. Dr. VEYSEL NEZIR Prof. Dr. NIZAMI MUSTAFA
		11	FIXED POINT PROPERTY FOR NONEXPANSIVE MAPPINGS ON LARGE CLASSES IN A KÖTHE-TOEPLITZ DUAL OF A DIFFERENCE SEQUENCE SPACE	PhD Student, AYSUN GÜVEN Assoc. Prof. Dr. VEYSEL NEZIR Prof. Dr. NIZAMI MUSTAFA

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HALL / SALON 2	Doç. Dr. Sema yılmaz RAKICI	1	FREE FETAL DNA AND RNA IN MATERNAL BLOOD: THEIR PLACE AMONG PRENATAL TESTS	Assis. Prof., Demet ÇAKIR Lecturer, Arslan SAY Assic. Prof., Vasviye EROĞLU
		2	FETAL MONITORING TYPES AND MIDWIFERY APPROACHES	Ass. Prof., Demet ÇAKIR Ass. Prof., Vasviye EROĞLU Lecturer, Arslan SAY
		3	Preparing a Unified Code for Nuclear Data Tables	Dr. Fahrettin KOYUNCU
		4	Touch Therapy and Baby Massage in Neonates:The Evidence	Prof. Dr.Özgür ALPARSLAN Dr. Öğr. Üyesi Gizem ÇITAK
		5	ANTI-VACCINATON PROVISIONS IN PERSONAL AND SCIENTIFIC CASES	Prof. Dr.Özgür ALPARSLAN Dr. Öğr. Üyesi Gizem ÇITAK
		6	GÖZLER KALBİN AYNASIDIR: ONKOLOJİ HASTALARINDA BEDEN DİLİ	Doç. Dr. Sema yılmaz RAKICI
		7	PROSTAT KANSERİNDE PSMA-PET FÜZYON İLE HİPOFRAKSİYONE İNTRAPROSTATİK BOOST RADYOTERAPİ UYGULANMASI	Doç. Dr. Sema yılmaz RAKICI

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HALL / SALON 3	**Assist. Prof. Dr. Necmi YARBAŞI**	1	EXPERİMENTAL INVESTIGATION OF MECHANICAL PERFORMANCE OF SİLİCA FUME-BASED GEOPOLYMER CONCRETE CONTAINING MİCRO SYNTHETİC FİBER EXPOSED TO HİGH TEMPERATURE	Dr. BARIŞ BAYRAK MSc Student, YASEMİN ÖZBEN Prof. Dr. ABDULKADİR CÜNEYT AYDIN
		2	DEVELOPMENT OF DRYING CRACKS IN CLAYEY SOILS ADDED WITH RESIDUAL LIGNITE DUST UNDER WETTING-DRYING CYCLES	Assist. Prof. Dr. Necmi YARBAŞI
		3	EFFECT OF DISTANCE METRICS ON DIABETES PREDICTION USING K-NEAREST NEIGHBOR ALGORITHM	Şahin YILDIRIM Mehmet Safa BİNGÖL

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HALL / SALON 4	**Assoc. Prof. Dr. Ali Rıza DENİZ**	1	DIODE PERFORMANCE OF MgO MATERIAL	Assoc. Prof. Dr. Ali Rıza DENİZ
		2	EFFECTS OF TEMPERATURE AND RADIATION ON ELECTRICAL PARAMETERS OF Au/MgO/p-Si/Al DIODE	Assoc. Prof. Dr. Ali Rıza DENİZ
		3	INVESTIGATION OF THE EFFECTS OF STATCOM IN STEADY STATE OPERATION IN GRID-CONNECTED DFIG-BASED WIND TURBINES	Prof. Dr. M. Kenan DÖŞOĞLU Doç. Dr. Mustafa DURSUN Dr. Öğr. Üyesi Enes KAYMAZ
		4	2D MoSe 2 BASED SELF-POWERED SCHOTTKY PHOTODIODE DESIGN FOR VISIBLE AND NEAR INFRARED DETECTION	Doç. Dr. Musa ÇADIRCI Doç. Dr. Emin YILDIRIZ
		5	ÜÇ FAZLI ÇİFT AKTİF KÖPRÜLÜ DA-DA DÖNÜŞTÜRÜCÜNÜN METASEZGİSEL ALGORİTMA TABANLI PI DENETLEYİCİ İLE KONTROLÜ	TURGUT ABDİOĞLU Dr. Öğr. Üyesi YAHYA DANAYİYEN
		6	PARÇACIK SÜRÜ OPTİMİZASYONU YÖNTEMİ İLE DENKLEŞTİRİCİ KAT SAYILARININ BULUNMASI	Handan DERİN Arş. Gör. Emirhan YETER Dr. Öğr. Üyesi Yahya DANAYİYEN

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HALL / SALON 5	**Assoc. Prof. Dr., SELMAN KULAÇ**	1	MODELING OF STRAIN AGING EFFECTS IN AISI 304 AUSTENITIC STAINLESS STEEL WITH ARTIFICIAL NEURAL NETWORKS	Asst.Prof. Muhammet Anıl KAYA Asst.Prof. Cengiz Görkem DENGİZ Fırat DOĞAN
		2	A SIMULATIONAL COMPARISON OF EQUAL AND OPTIMUM POWER ALLOCATION CASES IN AN SDF COOPERATIVE TRANSMISSION SCENARIO FOR SMART VEHICLES	Assoc. Prof. Dr., SELMAN KULAÇ
		3	EV TİPİ TAMBURLU ÇAMAŞIR KURUTMA MAKİNELERİNDE MİKROPLASTİK FİLTRELEME SİSTEMİ	E&P Test Uzmanı, Onur TURHAN R&D Müdürü, Mustafa BANİ
		4	IMPROVEMENT OF ANTIBACTERIAL PROPERTIES IN Ti BASED ALLOYS: THE ROLE OF Ag ADDITION	Rumeysa DURAK Prof. Dr. Rıdvan YAMANOĞLU
		5	THE EFFECT OF STRESS SHIELDING IN Ti ALLOYS: A COMPARISON OF β -TYPE ALLOYS AND PRODUCTION METHODS	Rumeysa DURAK Prof. Dr. Rıdvan YAMANOĞLU

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HALL / SALON 6	**Prof. Dr. NİLGÜN ÖZDİL Dr. Öğretim Üyesi Z. EVRİM KANAT**	1	ARK ERGİTME YÖNTEMİ İLE İMALATIN AL-17Sİ VE AL-12Sİ-0,2Tİ ALAŞIMLARININ İÇYAPI VE MEKANİK ÖZELLİKLERİNE ETKİLERİNİN İNCELENMESİ	Doç. Dr. ALİ PAŞA HEKİMOĞLU Arş. Gör. MURAT HACIOSMANOĞLU
		2	EFFECT OF CREEP STRESS ON THE CREEP RATE OF INJECTION MOULDED POLYPROPYLENE BLOCK COPOLYMER MATERIAL	Dr. Öğr. Üyesi, Şenol ŞAHİN, Ferhat AKPINAR,
		3	ORTOPEDİK İMPLANT UYGULAMALARI İÇİN AZ31 Mg ALAŞIMININ Ti MİKRO ALAŞIMLANDIRMA İLE SİTOTOKSİSİTE ÖZELLİKLERİNİN İNCELENMESİ	Arş. Gör. Gamze YILDIRIM Sümeyye KOZAN Prof. Dr. Şennur CANDAN Prof. Dr. Meltem DEMİREL KARS Prof. Dr. Ercan CANDAN
		4	FANTAZİ İPLİK TÜRÜNÜN ÖRME KUMAŞ MUKAVEMETİNE ETKİSİ	Prof. Dr. NİLGÜN ÖZDİL Dr. Öğretim Üyesi Z. EVRİM KANAT
		5	SEPARATION EFFICIENCY OF C 18 STATIONARY PHASE FOR THE CO–ELUTED PEAKS OF TOCOPHEROLS: OPTIMIZATION AND MODELLING WITH CHEMOMETRICS	Fatma Nur Arslan

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HALL / SALON 7	**Dr. Öğr. Üyesi Alper Tunga ŞEN**	1	EVALUATION OF THE DIGITAL TRANSFORMATION PROCESS: A STUDY ON PUBLIC SECTOR AND PRIVATE SECTOR EMPLOYEES	Dr. Öğr. Üyesi Alper Tunga ŞEN
		2	IRON MAN WANG JINXI IN CHINESE PROPAGANDA	Doç. Dr. Abdülhakim Bahadır DARI Dr. Öğr. Üyesi Caner ÇAKI
		3	USA AND ENGLAND IN SOVIET PROPAGANDA IN SECOND WORLD WAR	Doç. Dr. Abdülhakim Bahadır DARI Dr. Öğr. Üyesi Caner ÇAKI
		4	A STUDY ON BENEDETTO CROCE'S UNDERSTANDING OF ART: THE EXAMPLE OF THE MOVIE "ANAYURT OTELİ"	Arş. Gör. Dr. SENA IŞIKGİL
		5	14 MAYIS TÜRKİYE SEÇİMLERİNİN KÖRFEZ ARAP MEDYASINDAKİ GÖRÜNÜMÜ	HASAN ALRAHMOUN Doç. Dr. MEHMET SENA KÖSEDAĞ

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HALL / SALON 8	**Doç. Dr.,SAYIM AKTAY**	1	IMPLEMENTING TRANSFORMATIONAL LEARNING THROUGH CLASSROOM ACTION RESEARCH TO ENHANCE STUDENT ACHIEVEMENT	Sriyanto Muchlas Ishafit Dwi SULISWORO
		2	GÖRME YETERSİZLİĞİNDEN ETKİLENEN ÖĞRENCİLERİN ÜNİVERSİTE YAŞAMINA UYUMLARI	Dr. Asil DERİN KILIÇ
		3	AN OVERVIEW OF RESEARCH ON READING SKILLS: A REVIEW BASED ON BIOMETRIC AND CONTENT ANALYSIS	Doktora Öğrencisi, Elif AKAN Prof. Dr., A. Halim ULAŞ
		4	SAYI HİSSİ VE PROBLEM ÇÖZME BECERİSİNE YÖNELİK TEMATİK İÇERİK ANALİZİ	Zeliha KILIÇ Prof. Dr. Gönül GÜNEŞ
		5	SINIF ÖĞRETMENLERİNİN SAYI HİSSİNE YÖNELİK GÖRÜŞLERİNİN İNCELENMESİ	Zeliha KILIÇ
		6	ORTAOKUL ÖĞRENCİLERİNİN ZORBALIK VE SİBER ZORBALIK DAVRANIŞLARINA YÖNELİK TEPKİLERİNİN BELİRLENMESİ	Dr. Derya ALTINIŞIK
		7	WHAT IS THE ACTION MODEL? WHAT IS IT NOT?	Doç. Dr. Melike SOMUNCU
		8	OKULLARDA GÜVENLİK VE ÇEVRE DÜZENLENMESİNİN ÖNEMİ	Beril Dindar Doç. Dr. Rukiye ARSLAN
		9	TÜRKİYE YÜZYILI MAARİF MODELİ 2024 HAYAT BİLGİSİ DERSİ ÖĞRETİM PROGRAMI VE ASKI SÜRECİ ETKİSİ	Doç. Dr.,SAYIM AKTAY
		10	TÜRKİYE YÜZYILI MAARİF MODELİ 2024 İLKOKUL SOSYAL BİLGİLER DERSİ ÖĞRETİM PROGRAMI VE ASKI SÜRECİ ETKİSİ	Doç. Dr.,SAYIM AKTAY

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HALL / SALON 1	**Dr. Priya Mehta**	1	THE PROJECT EVALUATION TO DEVELOP THE COMPETENCIES, CAPABILITIES, AND SKILLS IN REPAIRING COMPUTERS OF PEOPLE IN JOMPLUAK LOCAL MUNICIPALITY, BANG KHONTHI DISTRICT, SAMUT SONGKRAM PROVINCE	Wilailuk Meepracha
		2	EXPLORING ERRORS IN PREPOSITION USAGE AMONG FIRST-YEAR ENGLISH STUDENTS AT ALGERIA UNIVERSITY	Dr. Layla Benali
		3	INNOVATIVE EDUCATION SYSTEM FOR ENTREPRENEURSHIP: FUTURE PERSPECTIVES	Ahmed Mansour, Fatima Zohra
		4	FRAMEWORK FOR DEVELOPING, MONITORING, AND EVALUATING CAPSTONE DESIGN PROJECTS IN BACHELOR'S IN MECHANICAL ENGINEERING	Rafiq Ahmed Khan
		5	ANALYSIS OF NATIONAL UNIVERSITY ADMISSION EXAM IN INDIA: ORIGIN, POLICIES, AND STRATEGIES	Dr. Priya Mehta
		6	DIGITAL LANGUAGE LEARNING PLATFORM FOR ARABIC AS A SECOND LANGUAGE	Ziad Khoury
		7	IMPACT OF COGNITIVE ABILITIES AND LEARNING STYLES ON ENGINEERING STUDENTS' ACADEMIC SUCCESS	Dr. Neha Verma
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HALL / SALON 2	**Assoc. Prof. Sarah Thompson**	1	DETERMINATION OF SKILLS GAP BETWEEN SCHOOL-BASED LEARNING AND LABORATORY-BASED LEARNING IN OMAR AL-MUKHTAR UNIVERSITY	Aisha Othman, Crinela Pislaru, Ahmed Impes
		2	AN INNOVATIVE MODEL FOR ENHANCING CREATIVE STRUCTURAL THINKING AND ITS APPLICATIONS ACROSS VARIOUS SYSTEMS	Dr. Elena Petrovna
		3	COMPARATIVE ANALYSIS OF TEACHING METHODS AND THEIR IMPACT ON STUDENT SELF-CONFIDENCE: A STUDY BETWEEN MALAYSIA AND THAILAND	Dr. Amirul Rahman, Prof. Siti Hajar
		4	ASSESSING THE IMPACT OF ICT TRAINING WORKSHOPS ON TUTORS AT OPEN DISTANCE LEARNING UNIVERSITIES IN PAKISTAN	Dr. Amina Khan, Prof. Bilal Zafar
		5	DEVELOPMENT OF A COMPREHENSIVE MEASUREMENT TOOL FOR MULTIPLE INTELLIGENCES IN PRIMARY SCHOOL STUDENTS	Assoc. Prof. Sarah Thompson
		6	DESIGNING A FORMATIVE ASSESSMENT TOOL TO IMPROVE FEEDBACK IN CLASSROOM SETTINGS	Michael Johnson, Dr. Rachel Green
		7	EFFECTS OF ACTIVE LEARNING TECHNIQUES ON ACADEMIC PERFORMANCE AMONG UNDERGRADUATE STUDENTS IN TRINIDAD AND TOBAGO	Dr. Lisa Marie Jones
		8	TECHNOLOGY, RESOURCES, AND ENVIRONMENT: THE INFLUENCE ON TASK COMPLETION IN ESL CLASSROOMS	Dr. Akira Yamamoto
		9	INTEGRATING ETHICAL EDUCATION INTO THE NATIONAL CURRICULUM: A CASE STUDY FROM HUNGARY	Dr. János Szabó, Maria Kovács

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HALL / SALON 3	**Dr. Sarah J. Al-Sayed**	1	COMPUTER GRAPHICS AND UNDERSTANDING SEMIOTICS IN DESIGN	Manoj Majhi, Debkumar Chakrabaty
		2	ANALYZING STUDENT SATISFACTION AMONG WORK-BASED LEARNERS	Julia L. Harris, Ahmed T. Fawzi
		3	ASSESSING THE USABILITY OF AN EDUCATIONAL PORTAL FOR IT FACULTY AT THE UNIVERSITY OF LIBYA	Khaled R. Badr, Laila S. Hamed
		4	DEVELOPING PROBLEM-SOLVING SKILLS IN ENGINEERING STUDENTS THROUGH ENGLISH LANGUAGE INSTRUCTION	Dr. Sarah J. Al-Sayed
		5	**TEXTURES FOR THE VISUALLY IMPAIRED: A STUDY OF HIMMAPAN CREATURES**	Dr. Alex Thompson, Emily Carter
		6	ENGLISH LANGUAGE TEACHING IN THE CONTEXT OF LMD REFORMS: A STUDY FROM ALGERIA	Dr. Leila M. Bouali
		7	DEVELOPING INFORMATIONAL CULTURE AMONG STUDENTS: STRATEGIES AND METHODS	Aigerim K. Nurpeissova
		8	VIRTUAL COLLABORATIVE LEARNING: ENHANCING STUDENT PERFORMANCE IN BAHRAIN	Dr. Omar S. Al-Nasr

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HALL / SALON 4	**Dr. Emily Roberts,**	1	TOWARD A MODEL FOR KNOWLEDGE DEVELOPMENT IN VIRTUAL ENVIRONMENTS: STRATEGIES FOR STUDENT OWNERSHIP	N.B. Adams
		2	THE FUTURE OF OPEN EDUCATION AND DISTANCE LEARNING IN ZAMBIA	*Jane Mwansa*
		3	NAVIGATING BETWEEN POLICY FRAMEWORKS AND TECHNOLOGICAL INNOVATIONS: EVALUATING THE SUSTAINABILITY OF DISTANCE EDUCATION	*Ravi Desai*
		4	FACULTY PERCEPTIONS ON THE IMPORTANCE OF COMPONENTS IN A VIRTUAL LEARNING ENVIRONMENT	Dr. Emily Roberts, Michael Chen
		5	APPLYING THE STUDENT-CENTRIC APPROACH IN TECHNOLOGY EDUCATION: STUDENT INSIGHTS	Amina Shah
		6	LEVERAGING BLOGGING TO FOSTER CRITICAL THINKING: A PILOT STUDY	Lena Kim, Daniel Zhang
		7	THE EXPERIENCES OF NIGERIAN SECONDARY SCHOOL GIRLS IN A DIGITAL MAKERSPACE	Dr. Chika Afolabi, Sadiq Adediran
		8	INVESTIGATING SELF-DIRECTED LEARNING IN YOUNG LEARNERS	Sara A. Kahn, Hassan Faridi

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HALL / SALON 5	**Dr. Ana Petrovic,**	1	THE ECONOMIC AND POLITICAL DIMENSIONS OF POLICE CORRUPTION IN NIGERIA	Amina Bello, Dr. Lukas Müller
		2	THE INFLUENCE OF DİSİNFORMATİON ON PUBLİC POLİCY DYNAMİCS: A COMPREHENSİVE DOCUMENTARY STUDY	Isabella Torres Rodrigues, Lucas Schmidt,
		3	THE NECESSITY OF A COMPREHENSIVE INDUSTRIAL EFFLUENT REGULATION: ADDRESSING RISKS TO EUROPEAN WATER BODIES	Sophie Ellee Thomas Richter
		4	ANALYZING ECONOMIC RELATIONS BETWEEN SOUTH KOREA AND JAPAN THROUGH WTO DISPUTES	Henrik L. Sorensen, Maria K. Johansson
		5	COMPARATIVE APPROACHES TO COUNTERING RADICALIZATION: INSIGHTS FROM EUROPE AND SOUTH EAST ASIA	Ryo Tanaka,
		6	LEGAL IMPLICATIONS OF CLIMATE CHANGE REGULATION: A COMPARATIVE ANALYSIS OF EARTHLIFE AFRICA JOHANNESBURG V MINISTER OF ENERGY AND OTHERS	Dr. Elena Müller Dr. Rajesh Patel
		7	THE INFLUENCE OF SOCİAL MEDİA ON EUROPEAN GOVERNANCE: A COMPARATİVE ANALYSİS	Maria Thompson Luca Bianchi
		8	ETHİCAL CHALLENGES İN LOCAL PUBLİC ADMİNİSTRATİON: A CASE STUDY FROM SOUTHERN EUROPE	Dr. Ana Petrovic,

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HALL / SALON 6	**Dr. Ana Šimunović,**	1	ENHANCING DETECTION OF SUBJECTIVE BIAS USING BIDIRECTIONAL TRANSFORMER REPRESENTATIONS AND LSTM NETWORKS	Sofia Mendes, Luka Pavlović, Elisabeth Keller
		2	ANALYZING DUBBING TECHNIQUES IN THE PORTUGUESE DUBBED VERSION OF MULAN (1998)	Ana Vicente Helena Sousa Ricardo Martins
		3	IMAGE PRIORITIZATION TECHNIQUES FOR ENHANCING OBJECT LABELING IN TRAINING DETECTION MODELS	Dr. Elisabeta Novak, Dr. László Horváth, Dr. Márton Szabó
		4	JUXTAPOSITION OF TIME AND IDENTITY: A STYLISTIC ANALYSIS OF THE SHORT STORY “TOO MUCH JOY” BY EVELYN BERG	Dr. Ana Šimunović,
		5	THE INFLUENCE OF INDUCED POSITIVE EMOTIONS ON CREATIVITY: EXPLORING PERSONAL DEVELOPMENT AND SOCIAL ADAPTATION THROUGH EMOTIONAL NARRATIVES	Sofia Hartmann, Anna Petrova
		6	END-TO-END METAPHOR DETECTION IN GREEK USING ADVANCED NEURAL NETWORK ARCHITECTURES	Andreas Krüger, and Thomas Fischer
		7	ANALYZING MICROBLOGS: EXPLORING THE PSYCHOLOGY OF POLITICAL LEANINGS	Meaghan Bowman
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HALL / SALON 7	**Assoc.Prof. Dr. Helena Borge**	1	ENHANCING ARABIC LANGUAGE PROCESSING WITH AN ADVANCED LIGHT STEMMER	Amina Karim Rustam Kamilov, Gulnara Davletshina
		2	ENHANCING KAZAKH LANGUAGE PROFICIENCY: A CASE STUDY FROM AL-FARABI KAZAKH NATIONAL UNIVERSITY	Aisulu Amanzholova, Marat Tulegenov
		3	THE INFLUENCE OF HYBRID SLANG IN DYSTOPIAN NARRATIVES: AN ANALYSIS OF A CLOCKWORK ORANGE	Alina Nurkhan, Talgat Bekbolat
		4	THE IMPACT OF PLANNING AND MEMORY ON NAVIGATIONAL SKILLS	Anisa Khamidova, Timur Akhmedov, Jamilbek Tursunov, Mukhammadali Nazarov
		5	EXPLORING COMPUTATIONAL CONSCIOUSNESS: THE DYNAMIC ABSTRACTION FRAMEWORK	Aisha Nurmatova, Faridbek Tursunov
		6	EXPLORING MORPHOLOGICAL INNOVATIONS IN TEXT MESSAGING AMONG URBAN BILINGUALS IN GREECE	Maria Papadopoulos Niroshan Silva
		7	INNOVATION IN BILINGUAL ADVERTISING: A STUDY OF SINHALA AND ENGLISH IN SRI LANKA	Assoc.Prof. Dr. Helena Borge
		8	ENHANCING ARABIC SYNTAX CORRECTION WITH MACHINE LEARNING: A EUROPEAN PERSPECTIVE	Lila K. Ritter, Thomas W. Müller, Emilie D. Weber, Hassan A. Bouazizi, Leila M. Johnson

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HALL / SALON 1	**Prof.Dr.Arslan Topakkaya**	1	WHY ARE WE DOING PHILOSOPHY?	Doç. Dr., Serdar SAYGILI
		2	WHY CAN'T WE THINK CRITICALLY?	Doç. Dr., Serdar SAYGILI
		3	METAFİZİK-ONTOLOJİ FARKI	Prof.Dr.Arslan Topakkaya
		4	AUGUSTİNUS'TA METAFİZİK	Prof.Dr. Arslan Topakkaya
		5	MENTAL CONFLICT AND THE PROBLEM OF UNITY IN DESCARTES' PHILOSOPHY	Dr. Eda HAYRİOĞULLARI

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HALL / SALON 2	**Doç. Dr. Yasemin BAKİ**	1	ÇOCUK YAZININDA KARAKTER TÜRLERİ VE KARAKTER GELİŞTİRME YOLLARI: ZAMAN ZAMAN İÇİNDE ANADOLU MASALLARI ÖRNEĞİ	Doç. Dr. Yasemin BAKİ Öğretmen, Nesibe Yıldırım
		2	MEVLANA İDRİS ZENGİN'İN ''KORKU DÜKKANI'' ADLI ESERİNİN DUYARLIK EĞİTİMİ AÇISINDAN İNCELENMESİ	Öğretmen, Nesibe Yıldırım Doç. Dr. Yasemin BAKİ
		3	BİLİM VE SANAT MERKEZİNDE (BİLSEM) GÖREV YAPAN ÖĞRETMENLERİN ÜSTÜN YETENEKLİ ÇOCUKLARA VERİLEN DESTEK EĞİTİM HAKKINDAKİ DÜŞÜNCELERİ	Doç. Dr. Nazan KAYTEZ Öğr. Gör. Dr. Ayşe ÇİFTCİ Dr. Öğr. Üyesi Güzin Yasemin TUNÇAY
		4	COMPARISON OF THE EVALUATION DIMENSIONS OF PRESCHOOL EDUCATION PROGRAMS	Dr. EMİNE ELA ŞİMŞEK
		5	ÖĞRETMEN ADAYLARININ MEDYA OKURYAZARLIĞI DÜZEYLERİ İLE SOSYAL BECERİLERİ ARASINDAKİ İLİŞKİNİN İNCELENMESİ	Yüksek Lisans Öğrencisi, Kudret YILDIRIM
		6	VİSUAL MATHEMATİCS LİTERACY SELF-EFFİCACY PERCEPTİON LEVELS OF SECONDARY SCHOOL STUDENTS STUDYİNG İN URBAN RURAL AREAS	Yüksek Lisans Öğrencisi, AHMET MUAMMER ÖZKAN Prof. Dr. KÜRŞAT YENİLMEZ
		7	OKUL MÜDÜRLERİNİN İLETİŞİM BECERİLERİ	Uzm. Öğretmen Mehtap PÜSKÜRT Prof. Dr. Semiha ŞAHİN
		8	OKUL MÜDÜRLERİNİN KRİZ YÖNETİMİ İLE İLETİŞİM BECERİLERİ ARASINDAKİ İLİŞKİ	Uzm. Öğretmen Mehtap PÜSKÜRT Prof. Dr. Semiha ŞAHİN

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HALL / SALON 3	**Doç. Dr., BEYZA ERKOÇ**	1	ÇOCUK İHMAL VE İSTİSMARI KONUSUNDA YAPILMIŞ TEZLERİN FARKLI DEĞİŞKENLERE GÖRE İNCELENMESİ	Doç. Dr., BEYZA ERKOÇ
		2	GÖÇLER, REFAKATSİZ ÇOCUKLAR ve SOSYAL HİZMET	Doç. Dr., BEYZA ERKOÇ
		3	SOSYAL MEDYA KULLANIMININ ADOLESANLARDA YARATTIĞI ETKİLER	Doç. Dr., BEYZA ERKOÇ
		4	COMPARISON OF COUNTRY PRACTICES WITHIN THE SCOPE OF DISASTER LOGISTICS MANAGEMENT: JAPAN, USA, TÜRKİYE	ÖZLEM BÖLÜKBAŞ
		5	A MODEL PROPOSAL FOR INCREASING THE EFFECTIVENESS OF PUBLIC SERVANTS' UNIONS IN NATIONAL SOCIAL DIALOGUE PROCESSES	Assist. Prof.Dr. Neşe YILDIZ
		6	RİSK ANALİZİ VE TEHLİKE AVCILIĞI YÖNTEMİ:ÇANAKKALE' DE BİR UYGULAMA	YÜKSEK LİSANS ÖĞRENCİSİ RAHİME AKAT DR.ÖĞRETİM ÜYESİ,FEHMİ VOLKAN AKYÖN,

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HALL / SALON 4	**Prof. Dr. Serkan DİLEK**	1	ANALYSIS OF TURKEY'S FOREIGN TRADE WITH COUNTRIES ON THE CENTRAL CORRIDOR WITHIN THE SCOPE OF THE MODERN SILK ROAD PROJECT	Doç. Dr. Ali KONAK Prof. Dr. Serkan DİLEK
		2	MEASURING SOURCE COUNTRY DIVERSIFICATION OF IMPORTS OF SELECTED ASIAN COUNTRIES WİTH HERFİNDAHL-HİRSCHMAN ENDEKSİ	Prof. Dr. Serkan DİLEK Doç. Dr. Ali KONAK
		3	TÜRKİYE'NİN AVRUPA BİRLİĞİ KARŞISINDAKİ ULUSLARARASI TİCARET VE TAŞIMACILIK PERFORMANSININ ÖLÇÜLMESİ: İSTATİSTİKSEL BİR ANALİZ	Dr. Öğr. Üyesi, SEYYİD ALİ ERTAŞ
		4	AVRUPA BİRLİĞİ ÜLKELERİNDE YAŞAM KALİTESİ GÖSTERGELERİNİN PERFORMANS ANALİZİ: İSTATİSTİKSEL BİR DEĞERLENDİRME	Dr. Öğr. Üyesi, SEYYİD ALİ ERTAŞ
		5	EĞİTİM DURUMLARINA GÖRE FERTLERİN ESAS İŞ GELİRLERİNİN ENFLASYON KARŞISINDAKİ DURUMU	Prof. Dr. SAVAŞ ERDOĞAN Öğr. Gör. Dr. ABDULBAKİ PINAR
		6	D8 ÜLKELERİNİN MAKROEKONOMİK PERFORMANSLARININ CRITIC VE TOPSIS YÖNTEMLERİ İLE ÖLÇÜMÜ	Öğr. Gör. Dr. ABDULBAKİ PINAR Prof. Dr. SAVAŞ ERDOĞAN
		7	ÇAY İŞLETMELERİNİN 2023 YILI PERFORMANSININ VERİ ZARFLAMA ANALİZİ METODUYLA DEĞERLENDİRİLMESİ	Yüksek Lisans Öğrencisi, GAMZE ÇAKMAK Prof. Dr. MEHMET KARAHAN
		8	HOLLANDA SENDROMU: AZERBAYCAN ÜZERİNE LİTERATÜR TARAMASI	Tarlan Azizov

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HALL / SALON 5	MİNE HAM	1	SERBEST DÜZGÜN TAM VEKTÖR ÖRGÜLERİ	Cemile Yüsra Nur GENERAL Prof. Dr. Ömer GÖK
		2	SIRALI YARI-FREDHOLM OPERATÖRLERİ	Zelal AVCI Prof. Dr. Ömer GÖK
		3	A STUDY OF THE GENERALIZED ABSOLUTE VALUE DISTANCE FUNCTION AND ITS GEOMETRIC PROPERTIES	DOĞUKAN AYLIKCI Prof. Dr. SÜHEYLA EKMEKÇİ
		4	Riesz Spaces Of Disjointness Preserving Operators	Ayşe Zeynep ÇETİN Prof. Dr. Ömer GÖK
		5	ON THE 3-NETS IN THE PROJECİVE PLANE OF ORDER 25	EMİN MENGİ Prof. Dr. ZİYA AKÇA
		6	ON THE ROLE OF CARTESIAN GROUP IN THE STRUCTURE AND EXISTENCE OF SUBPLANES OF PROJECTIVE PLANE OF ORDER 25	EMİN MENGİ Prof. Dr. ZİYA AKÇA
		7	A NOTE ON THE CHINESE CHECKERS HYPERSPHERES	MİNE HAM Prof. Dr. ZİYA AKÇA

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HALL / SALON 6	**Dr. Öğr. Üyesi HİLAL TUĞÇE LAPÇIN**	1	THE RELATIONSHIP BETWEEN TRANSFORMATIONAL LEADERSHIP AND INNOVATION IN NURSES: A REVIEW STUDY	Yüksek Lisans Öğrencisi Mustafa DOĞAN Doç.Dr. Esma Ülkü KAYA
		2	PERSPECTIVES OF DISADVANTAGED GROUPS ON ENTREPRENEURSHIP: A PRACTICE FOR VOCATIONAL AND TECHNICAL HIGH SCHOOL STUDENTS	Dr. Öğr. Üyesi HİLAL TUĞÇE LAPÇIN
		3	WHY BE A CREATIVE ORGANIZATINON?	Dr., OYA ÖNALAN
		4	The Effect of Person-Job Fit on Organizational Citizenship Behavior	Asst. Prof. Dr. NERİMAN ÇELİK

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HALL / SALON 7	**Assoc. Prof. Dr. Yakup ASLAN**	1	İŞLETMENİN SÜREKLİLİĞİ KAVRAMININ BAĞIMSIZ DENETİM STANDARDI 570 KAPSAMINDA DEĞERLENDİRİLMESİ	Dr. Öğr. Üyesi Mehtap BULUT DENİZ
		2	MÜŞAKERE FİNANSMANIN FAİZSİZ FİNANS MUHASEBE STANDARDI 4 (FFMS 4) KAPSAMINDA MUHASEBELEŞTİRİLMESİ	Dr. Öğr. Üyesi Mehtap BULUT DENİZ
		3	WHAT IS CLIMATE CHANGE ACCOUNTING?	Assoc. Prof. Dr. Yakup ASLAN
		4	DISPLAYING LEASING TRANSACTIONS IN FINANCIAL STATEMENTS WITHIN THE SCOPE OF TFRS 16	Assoc. Prof. Dr. Yakup ASLAN
		5	ESTIMATION OF DARDANELLES STRAIT SHIP CROSSINGS BY WEKA	Research Assistant, Şeyma ÖZEKİNCİ Assistant Professor, Hikmet ERBIYIK
		6	TÜRKİYE'DE ENFLASYON MUHASEBESİ SÜRECİ	Merve ŞENOCAK Doç. Dr. Bilal AKKAYNAK
		7	MUHASEBEDE E-DÖNÜŞÜM SÜRECİ	Merve ŞENOCAK Doç. Dr. Bilal AKKAYNAK

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HALL / SALON 8	**Dr. Arş. Gör. Elif ARSLAN DİNÇ**	1	SOSYAL MEDYA KULLANIM EĞİLİMLERİNİN REKLAM AJANSLARINA ETKİSİ: WE ARE SOCIAL DIGITAL 2023 VERİLERİ IŞIĞINDA BİR DEĞERLENDİRME	Yüksek Lisans Öğrencisi, BENGİSU TAŞDELEN
		2	YOUTUBE İÇERİKLERİNDEKİ MARKA YERLEŞTİRME STRATEJİLERİNİN İNCELENMESİ	Dr. Arş. Gör. Elif ARSLAN DİNÇ
		3	THE EFFECT OF PERSON-ORGANIZATION FIT ON QUIET QUITTING: AN EMPIRICAL STUDY	Doç. Dr. Gökhan KERSE Öğr. Gör. Dr. Vural DENİZ
		4	THE EFFECT OF SELF-ESTEEM ON BURNOUT: A RESEARCH ON TOURISM ACADEMICIANS	Yüksek Lisans Öğrencisi Sümeyra KESİCİ Doç. Dr. Erkan TAŞKIRAN
		5	ULUSLARARASI PAZARLAMA STRATEJİLERİ, ULUSLARARASI PAZARLAMADA KARŞILAŞILAN SORUNLAR, KAYSERİ ORGANİZE SANAYİ BÖLGESİNDEKİ İHRACATÇILARA DAİR BİR UYGULAMA	Dr. Öğr. Üyesi, SELMA BÜYÜKKANTARCI TOLGAY Öğrenci, SUDENUR BÜYÜKÖZTÜRK

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HALL / SALON 1	**Dr. Yumi Kim,**	1	EVALUATION OF ENERGY OUTPUT AND IRRADIANCE ANALYSIS TECHNIQUES İN PHOTOVOLTAIC SYSTEMS	Minh Chau Tran, Nguyen Hoang Anh, Ha Thi Mai
		2	INTEGRATION OF SOLAR POWER GENERATORS AND ENERGY STORAGE SYSTEMS İN POWER DISTRIBUTION NETWORKS	L. Tran, H. Nguyen, V. Pham, N. Hoang
		3	THE PROMISE OF HYBRID MICROGRIDS FOR ALLEVIATING POWER SHORTAGES İN LEBANON	T. Nguyen, H. Tran
		4	ANALYSIS OF VIBRATION SIGNALS İN SMALL VERTICAL AXIS WIND TURBINES	Mei Lin Zhang, Zhao Wei Chen, Haruto Nakamura
		5	INVESTIGATION OF LEAK EFFECTS ON THE DURABILITY OF SOLID OXIDE ELECTROLYSIS CELLS UNDER CO-ELECTROLYSIS CONDITIONS	Dr. Yumi Kim, Dr. Wei Zhang, Dr. Haruto Nakamura, Dr. Elena Costa
		6	A NOVEL THERMOCHEMICAL ENERGY STORAGE SOLUTION FOR TRANSPORTATION: DESIGN AND EVALUATION	Lin Cheng, Yulia Petrov
		7	ADVANCED CONSUMER LOAD PROFILING USING AN ENTROPY-ENHANCED K-MEANS APPROACH	Aisha Z. Jafari, Mei Ling Zhao
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HALL / SALON 2	**Prof. Dr. Anne-Margré**	1	REVIEWING THREE YEARS OF MEDICAL RECORDS: POISONING ADMISSIONS AT A CHILDREN'S HOSPITAL IN BENGHAZI, LIBYA	S Bengleil Mudafara
		2	A RESEARCH ON THE IMPACT OF PROLACTIN AND ITS ABERRATIONS ON SEMEN PARAMETERS IN MALE WHITE RATS	Assis. Prof. Hasan Rizvi
		3	DEXAMETHASONE: EFFECTS ON TESTICULAR FUNCTION	H. Guettaf, Bekkouche Hadj
		4	EXPLORING VMAT ALGORITHMS AND DOSIMETRY: AN INVESTIGATIVE APPROACH	Amone. Taqaddas
		5	ADDRESSING AUTISM SPECTRUM DISORDER: A KEY CHALLENGE IN THE KINGDOM OF SAUDI ARABIA	Rana Zeina, Laila Ayadhi, Bashir Shahid
		6	SEROLOGICAL IGG TESTING FOR DIAGNOSIS OF DIET-INDUCED CONDITIONS AND EFFICACY MONITORING IN CANINES	Prof. Dr. Anne-Margré Dr. Lec. C. Vink
		7	GENETIC VARIABILITY AND HAPLOTYPE ANALYSIS OF THE ORGANIC CATION TRANSPORTER 1 GENE IN THE ZULU POPULATION OF SOUTH AFRICA	N. Hoosain, Modela Du Plessis, Minao. Benjeddou
		8	EFFECTS OF LOWER BODY POSITIVE PRESSURE TRAINING ON BODY COMPOSITION IN OBESE CHILDREN	Basant Refay, Nabeel T. Faiad

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HALL / SALON 3	**Assoc. Prof. Dr. Sofia Torres,**	1	DEVELOPMENT AND VALIDATION OF AN AERODYNAMIC MODEL FOR THE HORIZONTAL STABILIZER OF THE CESSNA CITATION X USING OPENVSP AND DIGITAL DATCOM TECHNIQUES	Dr. Emilia Tanaka, Dr. Hiroshi Nakano, Dr. Samuel Okafor
		2	ENHANCING ADS-B SECURITY THROUGH HYBRID PAM-PSK MODULATION TECHNIQUES	S. Chen, R. Takahashi, L. Zhang, H. Nguyen, M. Kim, J. Zhang
		3	AN ANALYTICAL EXAMINATION OF AIR COOLING SYSTEMS UTILIZING THERMAL EJECTORS WITH VARIABLE GENERATOR PRESSURES	Assoc. Prof. Dr. Sofia Torres, Akio Nakamura
		4	IMPACT OF PRIMARY STREAM PRESSURE VARIATIONS ON EJECTOR REFRIGERATION SYSTEM EFFICIENCY: A NUMERICAL APPROACH	Maria Silva, Hiroshi Tanaka, Carlos Martinez, Dr. Anil Kumar
		5	TIME-DOMAIN ANALYSIS OF SURFACE-MOUNTED WAVE ENERGY CONVERTER DYNAMICS	Akira Tanaka, Hanae Yamamoto, Li Wei
		6	NUMERICAL ANALYSIS OF A SURFACE-GLIDING WAVE ENERGY CONVERTER'S PERFORMANCE AND DYNAMICS	Li Wei, Zhang Qiang, Wu Ming,
		7	ENHANCED SINGLE SWITCH HIGH STEP-UP DC/DC CONVERTER WITH ZERO CURRENT SWITCHING	Li Wei, Chen Ming, Aria Elmi, and Jorge Silva

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HALL / SALON 4	**Dr. Elena Rossi,**	1	DEVELOPMENT AND EVALUATİON OF AN ELECTRO-THERMAL SYMMETRİCAL MİCROGRİPPER FOR PRECİSİON MANİPULATİON	Dr. Emil Weber, Prof. Dr. Carla Rodriguez
		2	OPTİMAL PID CONTROL DESİGN FOR A 3-DOF HELİCOPTER USİNG LQR METHOD	Dr. Elena Rossi,
		3	ADAPTİVE FUZZY PID CONTROL FOR SHUNT ACTİVE POWER FİLTERS USİNG THE D-Q-O REFERENCE FRAME TECHNİQUE	Isabelle Dupont, Michael Sommer
		4	EYE-CONTROLLED WHEELCHAİR SYSTEM USİNG MİCROCONTROLLER TECHNOLOGY	Maria Gonzalez, Luca Bianchi, Sophie Dubois, Andreas Müller, Elena Schmidt
		5	AFFORDABLE SURFACE ELECTROMYOGRAPHİC SİGNAL AMPLİFİER USİNG ARDUİNO MİCROCONTROLLER	Anya Petrov, Viktor Ivanov, Elena Smirnova
		6	ADVANCED CONTROL OF SİNGLE-PHASE PWM INVERTERS WİTH M68HC11E MİCROCONTROLLER INTEGRATİON	Maria L. Santos,
		7	OPTİMAL PID CONTROLLER DESİGN FOR LOAD FREQUENCY CONTROL USİNG GENETİC ALGORİTHMS	A. Ribeiro, L. Silva
		1	DEVELOPMENT AND EVALUATİON OF AN ELECTRO-THERMAL SYMMETRİCAL MİCROGRİPPER FOR PRECİSİON MANİPULATİON	Dr. Emil Weber, Prof. Dr. Carla Rodriguez

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HALL / SALON 5	**Dr. Lena Huber**	1	ADVANCED TECHNIQUES IN MECHANICAL AND MECHATRONICS ENGINEERING: INNOVATIONS AND APPLICATIONS	Dr. Laura Klein Prof. Dr. Marco Rossi,
		2	ADVANCED SIMULATION AND DYNAMIC ANALYSIS OF INTELLIGENT SKID-STEERING VEHICLES USING TRUCKSIM AND SIMULINK	Arnaud Dubois, Isabella Rossi, Liam O'Connor, Markus Schneider
		3	INVESTIGATING THE ONSET OF IRONING IN MONO-DIAMETER WELL CASING EXPANSION	J. Müller, A. Smith, L. García, M. Bellamy
		4	ADVANCING INDOOR DRONE TECHNOLOGY FOR CREATIVE SECTOR APPLICATIONS	Dr. Lena Huber, Dr. Adam Turner
		5	EMOTION-AWARE ROBOTICS: ASSESSING AUTOMATIC EMOTION RECOGNITION TECHNIQUES ON A HUMANOID ROBOT FOR ENHANCED EMOTIONAL INTELLIGENCE	Elena Schmidt, Marco Russo
		6	ENHANCING EMOTIONAL INTELLIGENCE IN HUMANOID ROBOTS: A COMPARATIVE ANALYSIS OF AUTOMATIC EMOTION RECOGNITION TECHNIQUES	Matthias Weber, Clara Fischer, Lena Braun
		7	Automated Landmark Selection via Feature Clustering for Visual Navigation in Unmanned Aerial Vehicles	Ahmed Al-Mansoori, Elena Rodriguez
		8	EVALUATING LEAN MANUFACTURING IMPACTS: CREATION OF A STRUCTURAL MEASUREMENT MODEL	Maria Schmidt, Thomas Isabelle

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HALL / SALON 6	**Dr. Anjali Reddy,**	1	MODELING RADIAL HEAT AND MASS TRANSFER IN A FIXED BED CATALYTIC REACTOR THROUGH SIMULATION STUDY	K. Vakhshouri, M.M. Y. Motamed Hashemi
		2	BEHAVIOR OF CO2 AND CH4 HYDRATES IN POROUS MEDIA	Alexandra Petrov, Elena Ivanova, Dmitry Smirnov
		3	NOVEL MULTI-SOLID THERMODYNAMIC MODEL FOR WAX FORMATION PREDICTION	Mohammad Tabrizi, Leila Hosseini, Amir Zare
		4	APPLICATION OF NEURAL NETWORKS IN ESTIMATING KINETIC PARAMETERS	Dr. Maria Novak, Igor Petrenko
		5	PHASE EQUILIBRIUM STUDY IN AQUEOUS TWO-PHASE SYSTEMS USING POLY (ETHYLENE GLYCOL) AND POTASSIUM CITRATE AT VARIED pH LEVELS	Zeynab Rahmani, Reza Tavakkoli
		6	UTILIZATION OF MIXED AMINE SOLUTIONS FOR GAS SWEETENING PROCESSES	Dr. Fatima Al-Shahrani, Assoc. Prof. Khaled Mansour, Sara El-Gharbi
		7	INFLUENCE OF ANIONIC AND NON-IONIC SURFACTANTS ON OXYGEN UPTAKE RATES AND NITRIFICATION IN ACTIVATED SLUDGE	Nabila A. Abdalla, Ling Zhang, Bo Zhang
		8	PHYSICO-CHEMICAL TREATMENT OF TAR-LADEN WASTEWATER FROM BIOMASS GASIFICATION FACILITIES	Dr. Anjali Reddy, Dr. Sunil Kumar
		9	CONTINUOUS FERMENTATION OF CHEESE WHEY USING CANDIDA PSEUDOTROPICALIS	Elena Dmitrievna, Prof. Dr. Sami Al-Mansoori

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HALL / SALON 7	**Asst. Prof. Dr. Jonathan Lee Kim**	1	AN INTELLIGENT SYSTEM FOR REHABILITATING KNEE AND ANKLE	Dr. Dimitar Karastoyanov, Lec. Vladimir Monov
		2	REAL-TIME MONITORING OF PATHOGEN CONCENTRATION USING GRAPHENE-BASED BIOSENSOR	James K. Monroe, Helena C. Davies, Victor L. Ramirez
		3	DESIGNING AN ULTRA-WIDEBAND ANTENNA FOR CANCER DETECTION IN MICROWAVE IMAGING	Dr. Samuel D. Greene, Dr. Lin Wei-Hong
		4	DEVELOPMENT OF A SHAPE MEMORY ALLOY CLAMPING SYSTEM FOR MINIMALLY INVASIVE SURGERY	Amir Farshad, Jonathan P. Harris, Sima Mohammadi
		5	INVESTIGATING DIURNAL VARIATIONS IN HUMAN HEIGHT: A BIOMECHANICAL STUDY	Asst. Prof. Dr. Jonathan Lee Kim
		6	MICROORGANISM-BASED SENSOR FOR DETECTING ANTIOXIDANT ACTIVITY	Dr. Maria Fernandez, Isaac O. Delgado, Ethan L. Roberts, Sophia N. Clarke
		7	ANALYZING THE FRICTIONAL PROPERTIES OF MUCIN COATINGS ON MEDICAL DEVICES	Dr. Aisha M. Khan
		8	**IMPACT OF MICROSTRUCTURE ON THE TRIBOLOGICAL BEHAVIOR OF TITANIUM IMPLANTS**	Faizan M. Rehman, Dr. Sarah Q. Ahmed, Iqbal S. Rashid

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HALL / SALON 1	**Prof. Dr. Erol EĞRİOĞLU**	1	SEPSİS RİSKİNİN METABOLOMİK ANALİZ İLE ERKEN TESPİTİ	Burak Yagin Öğr. Gör. Abdulvahap Pinar Doç. Dr. Ahmet Selim Özkan Arş. Gör. Fatma Hilal Yagin Prof. Dr. Cemil Colak
		2	CONSTRUCTION OF MACHINE LEARNING-BASED PREDICTION MODEL FOR PREDICTING VOICE CHANGES ASSOCIATED WITH PARKINSON'S DISEASE	Öğr. Gör. Abdulvahap Pinar Burak Yagin Arş. Gör. Fatma Hilal Yagin, Prof. Dr. Cemil Colak
		3	DEEPDENT OTOMATİK ÖNGÖRÜ YÖNTEMİNİN AYLIK TUFE ÖNGÖRÜSÜ İÇİN PERFORMANSININ ARAŞTIRILMASI	Prof. Dr. Erol EĞRİOĞLU Prof. Dr. Eren Baş
		4	KLASİK VE BOOTSTRAP HİPOTEZ TESTLERİNİN PERFORMANSLARININ AUTODEEPDENT İÇİN KARŞILAŞTIRILMASI	Prof. Dr. Erol EĞRİOĞLU Prof. Dr. Eren Baş
		5	BULANIK REGRESYON FONKSİYONLARI YAKLAŞIMLARININ BORSA ÖNGÖRÜSÜ ÜZERİNDEN KARŞILAŞTIRILMASI	Öğr. Gör. Şeyda DEMİREL TATLI Prof. Dr. Erol EĞRİOĞLU Prof. Dr. Eren BAŞ
		6	OECD ÜLKELERİNDE MULTİDİSİPLİNER BİLİMSEL YAYINLARIN İNCELENMESİ	Doç. Dr. RAHİM ARSLAN Doç. Dr. GÜLAY DEMİR
		7	OECD ÜLKELERİNDE YENİLENEBİLİR ENERJİ ALANINDA YAPILAN BİLİMSEL YAYINLARIN İNCELENMESİ	Doç. Dr. RAHİM ARSLAN Doç. Dr. GÜLAY DEMİR

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HALL / SALON 2	**Prof. Dr. Hatice Karakuş Öztürk**	1	THE ETERNAL CHILD ARCHETYPE IN GÜZİDE SABRİ AYGÜN'S NOVEL CALLED HÜSRAN	Dr. Öğr. Üyesi, Ece SERRİCAN KABALCI
		2	THE NOVELS TRANSLATED FROM TURKISH TO GERMAN ACCORDING TO TEDA DATA	Dr. Öğr. Üyesi, Ece SERRİCAN KABALCI
		3	DIFFERENCES AND SIMILARITIES BETWEEN MAGICAL REALISM AND FANTASY	Gül Miray ÇELİK
		4	İSMAİL HAKKI BALTACIOĞLU ÇOCUKLARIN TERBİYESİ KİTAP ANALİZİ	Prof. Dr. Hatice Karakuş Öztürk
		5	KADINLAR ARASI REKABET WOMAN'S INHUMANİTY TO WOMAN KİTABI ÜZERİNE BİR ANALİZ	Prof. Dr. Hatice Karakuş Öztürk
		6	DIALECT ELEMENTS IN THE WORK TITLED HÜYÜKTEKİ NAR AĞACI	Doç. Dr. Serdal KARA
		7	PRESENCE OF CIMMERIAN - SCYTHIAN IN THE CENTRAL AND EASTERN BLACK SEA REGION	Arş. Gör. Dr. Burak BİNGÖL

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HALL / SALON 3	**Prof. Dr. Muammer CENGİL**	1	Translation of the Epitome of Al-Jami' Al-Kabir	Assist. Prof. Dr. Hasan Özket
		2	THE CRIME OF DEFALATION IN THE CONTEXT OF AN-NUR SURAH VERSE 11 IN TERMS OF ISLAMIC LAW	Dr. Öğr. Üyesi, TAHA YILMAZ
		3	THE VALUE OF THE SUNNAH AS A SOURCE OF ISLAMIC LAW ACCORDING TO IBN HAZM	Dr. Öğr. Üyesi, TAHA YILMAZ
		4	AİLEDE TEMEL MANEVİ İHTİYAÇLAR	Prof. Dr. Muammer CENGİL
		5	el-FIKHU'L-EKBER RİSÂLESİ ÜZERİNE YAZILAN ŞERHLERİN YAZIM AMAÇLARI	Hasan Fidan

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HALL / SALON 4	**HUKUK Dr. Gürkan KANAT**	1	JUDICIAL PROTECTION OF LABOUR RIGHTS IN THE BULGARIAN LAW	Assoc. prof. Ivaylo Staykov, DSc
		2	KAMULAŞTIRMADA BEDEL TESPİTİ VE TESCİLİ	Av. FATMANUR KUŞCU
		3	LIMITED ŞIRKETLERDE KAMU ALACAKLARINDAN SORUMLULUK	Avukat,Hatice Kübra NİTELİK ALÇİÇEK
		4	DEVLET MEMURUNUN ÖDEV VE YÜKÜMLÜLÜKLERİ	CEREN TUZCU
		5	KİRA İLİŞKİSİNDEN KAYNAKLI UYUŞMAZLIKLARIN ÇÖZÜMÜNDE DAVA ŞARTI OLARAK ARABULUCULUK	Dr. OĞUZ USTA
		6	TIBBİ MÜDAHALENİN HUKUKA UYGUNLUĞU	Av. SENA MUTLU
		7	STATE IDENTITY AND THE COUNTER TERRORISM: SOCIAL REFLECTIONS OF NATIONALIST DISCOURSE IN TURKEY	Dr. Gürkan KANAT

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HALL / SALON 5	**Doç. Dr., Mahmut EVLİ**	1	BAKIM VE MERHAMET	Doç. Dr., Mahmut EVLİ
		2	ERGENLİK VE TEKNOLOJİK BAĞIMLILIKLAR	Doç. Dr., Mahmut EVLİ
		3	DETERMINING THE RELATIONSHİP BETWEEN FAMILY ROLE PERFORMANCE, PERCEIVED SOCIAL SUPPORT LEVEL AND SURGICAL FEAR IN INDIVIDUALS OVER 18 YEARS OF AGE	Dr. Öğr. Üyesi ENES BULUT Doç. Dr. YALÇIN KANBAY Dr. Öğr. Üyesi Melek ERTÜRK YAVUZ
		4	Kenevir Tohum Yağı ve Sağlık Üzerine Etkileri	Dr. Öğr. Üyesi Hakan TEKELİ
		5	INEQUALITIES IN HEALTH AND MIDWIFERY APPROACHES	Dr. Öğr. Üyesi Gizem ÇITAK Prof. Dr. Özgür ALPARSLAN
		6	HEALTH POLICIES IN TURKEY AND THEIR EFFECTS ON MIDWIFERY	Dr. Öğr. Üyesi Gizem ÇITAK Prof. Dr. Özgür ALPARSLAN

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HALL / SALON 6	**Dr. Öğr. Üyesi Burak KARABABA**	1	BOKSÖRLERDE PSİKOLOJİK İYİ OLUŞ VE TÜKENMİŞLİK İLİŞKİSİNİN İNCELENMESİ	Dr. Öğr. Üyesi Burak KARABABA
		2	SPOR BİLİMLERİ FAKÜLTESİNDE AKTİF SPOR YAPAN TAKIM VE BİREYSEL SPORCULARIN MENTAL DAYANIKLILIKLARININ İNCELENMESİ	Bahattin DİKME Dr. Mesut BULUT Prof. Dr. Oğuzhan ALTUNGÜL Dr. Didem YAVUZ SÖYLER
		3	INVESTIGATION OF SOCIAL MEDIA ATTITUDES AND ANGER EXPRESSION STYLES OF SPORTS SCIENCE STUDENTS	Prof. Dr. Hakkı ULUCAN Prof. Dr. Ziya BAHADIR Sevim KIR
		4	SPOR LİSESİ VE İMAM HATİP LİSESİ ÖĞRENCİLERİNİN SPORA BAĞLILIK DÜZEYLERİNİN VE KARAR VERME TARZLARININ ARAŞTIRILMASINA YÖNELİK BİR ARAŞTIRMA.	Doç. Dr. Turhan MOÇ Yüksek Lisans Öğrencisi, Zeynep Gülşah BUZKAN
		5	OLİMPİK YÜZME HAVUZU KULLANAN EBEVEYNLERİN DERS DIŞI SPORTİF ETKİNLİKLERE KATILIM DÜZEYLERİNİN İNCELENMESİ	Mehmet Can DOĞAN Didem YAZAR Doç. Dr. Hulusi ALP

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HALL / SALON 7	**Yrd. Doç. Dr. CEMAL YORGANCIOĞLU**	1	GÖÇ VE YEMEK KÜLTÜRÜ: BALKANLAR VE TÜRKİYE ÖRNEĞİ	Dr. Öğr. Üyesi. BERRİN SARITUNÇ
		2	TARİH DERS KİTAPLARINDA TOPLUMSAL CİNSİYET EŞİTSİZLİĞİNİ BESLEYEN YAKLAŞIMLAR	Yüksek Lisans Öğrencisi: İlknur ÜNSAL
		3	TURKISH AND GREEK NATIONALISMS IN CYPRUS: HISTORICAL CONTEXT, IDEOLOGICAL DIFFERENCES AND CULTURAL CONFLICTS	Yrd. Doç. Dr. CEMAL YORGANCIOĞLU
		4	RETHINKING THE BEYŞEHİR OCCUPATION PERIOD WITH NEW FOSSIL POLLEN DATA: A CASE STUDY FROM WESTERN ANATOLIA	Arş. Gör. Dr. MUSTAFA DOĞAN

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HALL / SALON 1	**Dr. Ankita Rao, Prof. Dr. Vivek Mathur**	1	OPTIMAL CONTROL STRATEGIES FOR VELOCITY REGULATION OF PERMANENT-MAGNET SYNCHRONOUS MOTOR DRIVES	Dr. Roozbeh Molavi, Assis. Prof. Dr. Davood A. Khaburi
		2	GA-BASED VOLTAGE OPTIMIZATION IN DISTRIBUTION NETWORKS WITH DECENTRALIZED GENERATION	Dr. Amir Eslami, Assoc. Prof. Dr. Navid Ghaffari
		3	HANDWRITING RECOGNITION USING NEURAL NETWORKS AND SPEECH SPECTRAL ANALYSIS	Assoc. Prof. Dr. Sameer Khan
		4	ANALYSIS AND IMPROVEMENT OF THERMAL DESALINATION USING OCEAN THERMOCLINE AND WASTE HEAT	Dr. Aditi Verma, Dr. R. K. Sharma, P. K. Singh
		5	DEVELOPING A VISION-BASED MONITORING SYSTEM FOR OUTDOOR CHILD SAFETY	Dr. Sara Nouri, Prof. Dr. Hiroshi Takeda
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PLANT SELECTION IN LANDSCAPE DESIGN IN DESERT CLIMATE CONDITIONS CASE OF DUBAI

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ABSTRACT

Global warming leads to an increase in temperatures worldwide, radically changing climatic conditions. With this, there is an increase in temperature every day. This change has significant impacts on both natural ecosystems and man-made environments. Cities and rural areas have to develop various strategies to adapt to increasing temperature and drought conditions. In this context, in line with sustainability goals, designers and urban planners are looking for solutions that are more environmentally friendly and resilient to climate change. This now affects every decision taken in every design. Designers, urban planners, landscape architects, etc. many professional disciplines take measures for this. There is a gap in the literature on what plant choices should be. Within the scope of this study, it will be determined which plants are selected in landscape studies in Dubai, which has a desert climate. In line with these determinations, why these plants were chosen and the relationship between the general characteristics of the plants will be interpreted. Therefore, this study will make an important contribution in terms of determining the plants used in landscape works in regions with desert climate such as Dubai and examining the reasons for the selection of these plants.

Keywords : Landscape design, desert landscape, arid plants

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ÇÖL İKLİMİ KOŞULLARINDA PEYZAJ TASARIMINDA BİTKİ SEÇİMİ: DUBAİ ÖRNEĞİ

ÖZET

Küresel ısınma, dünya genelinde sıcaklıkların artmasına yol açarak iklim koşullarını köklü bir şekilde değiştirmektedir. Bunula birlikte her geçen gün sıcaklık artışı görülmektedir. Bu değişim, hem doğal ekosistemler hem de insan yapımı çevreler üzerinde önemli etkiler oluşturmaktadır. Şehirler ve kırsal alanlar, artan sıcaklık ve kuraklık koşullarına uyum sağlamak için çeşitli stratejiler geliştirmek zorundadır. Bu bağlamda, sürdürülebilirlik hedefleri doğrultusunda, tasarımcılar ve şehir plancıları daha çevre dostu ve iklim değişikliğine karşı dayanıklı çözümler aramaktadır. Bu artık yapılan her tasarımda alınan her kararı etkilemektedir. Tasarımcılar, şehir plancıları, peyzaj mimarları vb. birçok meslek disiplini bunu için önlem almaktadır. Bitki seçimlerinin ne olması gerektiğine dair ise literatürde bir boşluk bulunmaktadır. Yapılan bu çalışma kapsamında çöl iklimine sahip olan Dubai'de yapılan peyzaj çalışmalarında hangi bitkilerin seçildiği tespit edilecektir. Bu tespitler doğrultusunda neden bu bitkiler seçilmiş ve bitkilerin genel özellikleri arasındaki ilişki yorumlanacaktır. Bu nedenle, yapılan bu çalışma, Dubai gibi çöl iklimine sahip bölgelerde peyzaj çalışmalarında kullanılan bitkilerin tespit edilmesi ve bu bitkilerin seçilme nedenlerinin incelenmesi açısından önemli bir katkı sağlayacaktır.

Anahtar Kelimeler: Peyzaj tasarımı, çöl peyzajı, kurakçıl bitkiler

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THE EFFECT OF LANDSCAPE ON MUSEUM DESIGN: THE CASE OF LOUVRE MUSEUM ABU DHABI

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ABSTRACT

Louvre Abu Dhabi is an art and history museum in Abu Dhabi, United Arab Emirates. Opened on 11 November 2017, the museum was designed by the famous French architect Jean Nouvel. The museum is positioned quite differently in terms of landscape design. Water, one of the most important elements of the landscape, is the most effectively used tool in the museum. The museum has a remarkable dome weighing 7,500 tonnes. This dome creates a fascinating atmosphere in the space by combining light plays with landscape design. The museum is located between islets and waterways on the water's edge. Within the scope of this study, the Louvre Museum of Art and History was chosen as the study area. The main reason for this selection is that the combination of the museum with landscape elements is quite different and unique. The landscape design is not seen very effectively until you enter the study area from the entrance gate and even exit. Until the exit, the target is focussed inside the museum. A meeting point was designed at the exit point of the museum and this meeting point was organised with the effect of water. Within the scope of the study, the effect of water on this design was analysed and supported with visuals. As a result of the study, the effect of the elements of landscape design on the museum design was discussed.

Anahtar Kelimeler : landscape design, art museum landscape, museum landscape, water effect

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PEYZAJIN MÜZE TASARIMINA OLAN ETKİSİ:

LOUVRE MÜZESİ ABU DHABİ ÖRNEĞİ

ÖZET

Louvre Abu Dhabi, Birleşik Arap Emirlikleri'nin Abu Dhabi şehrinde yer alan sanat ve tarih müzesidir. 11 Kasım 2017 tarihinde açılan müze, ünlü Fransız mimar Jean Nouvel tarafından tasarlanmıştır. Müze peyzaj tasarımı açısından oldukça farklı konumlandırılmıştır. Peyzajon en önemli elamanlarından olan su ile müzede en etkin kullanılan araçtır. Müzenin dikkat çekici 7.500 ton ağırlığında kubbesi bulunmaktadır. Bu kubbe, ışık oyunlarıyla peyzaj tasarımını birleştirip mekânda büyüleyici bir atmosfer yaratmaktadır. Müze, su kenarındaki adacıklar ve suyolları arasında konumlanmıştır. Yapılan bu çalışma kapsamında çalışma alanı olaral Louvre sanat ve tarih müzesi seçilmiştir. Bu seçimin temel sebebi müzenin peyzaj öğeleri ile birleşiminin oldukça farklı ve özgün olmasıdır. Çalışma alanına giriş kapısından girilip hatta çıkana kadar peyzaj tasarımı çok etkin bir şekilde görülmemektedir. Çıkışa kadar hedef müze içerisine odaklıdır. Müzenin çıkış noktasında bir buluşma noktası tasarlanmış ve bu buluşma noktası su etkisi ile düzenlenmiştir. Çalışma kapsamında suyun bu tasarıma etkisi incelenmiş ve görseller ile desteklenmiştir. Çalışmanın sonucunda peyzaj tasarımının elemanlarının müze tasarımına etkisi tartışılmıştır.

Anahtar Kelimeler : peyzaj tasarımı, sanat müzesi peyzajı, müze peyzajı, su etkisi

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FARKLI YÖNTEMLERLE STERİL EDİLEN KATLAMA ORTAMLARINDA *Liatris spicata* (L.) 'ALBA' TOHUMLARININ FARKLI KATLAMA SÜRELERİNDE ÇİMLENME BAŞARISININ DEĞERLENDİRİLMESİ

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ÖZET

Tohumla üretimde bazı bitkiler neslini devam ettirmek için farklı ekoloik şartlara uyum sağlayarak tohumlarının çimlenmesinde farklı uyarı sistemleri geliştirmiştir. Bu uyarı sistemlerinin bulunduğu bitkilere çimlenme engeli olan bitkiler denilmektedir. Bitki üretiminin yüksek başarı getirmesi için çimlenme engelleri ortadan kaldırılması oldukça önemlidir. Bu sayede düşük maliyetle yüksek oranda bitki bireyi elde edilebilir. Çimlenme engeline örnek olarak; soğuk kış şartlarında çimlenerek tohumunun canlılığını yitirmesini engellemek için bazı bitki tohumları soğuk bir dönemde uykuda bekledikten sonra toprak sıcaklığı belirli bir sıcaklığa ulaşılınca tohum çimlenmesini başlatmaktadır. Bu tip bitkilerin tohumlarının çimlendirilebilmesi için, tohumların buzdolabı gibi belirli sıcaklıkta belirli bir süre bekletilmesi ile uyku döneminin atlatılmasına soğuk katlama yöntemi denilmektedir. Bu yöntemlerin uygulanmasında katlama sırasında kullanılan katlama ortamı materyalinin sterilizasyonuda çok önemlidir. *Liatris spicata* bitkisinin tohumla üretimi üzerine yürütülen bu çalışmada sterilizasyon açısından birbirinden farklı 3 katlama ortamında tohumlar 5 farklı zaman diliminde bekletilerek çalışma gerçekleşmiştir. Çalışmada katlama ortamları %50 Torf ve %50 Perlit karışımı olarak seçilmiştir. Tüm denemelerde katlama ortamı için aynı karışım kullanılmıştır. Katlama ortamı sterilizasyonunun tohum çimlenmesi üzerine etkisinin tespit edilebilmesi için kontrol, buhar uygulaması ve fırınlama ile steril edilen katlama ortamlarıyla 3 farklı deneme kurulmuştur. Bu çalışmanın sonuçları, katlama ortamlarına uygulanan farklı sterilizasyon işlemlerinin çimlenme sayıları üzerinde çeşitli etkilere sahip olduğunu göstermiştir.

Anahtar Kelimeler: Çimlenme, *Liatris spicata*, tohum üretimi.

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MALÇLAMANIN KURAKÇIL PEYZAJDAKİ ÖNEMİ, RİZE KENTİ ÖRNEĞİ

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ÖZET

Var olduğumuz zaman diliminde gün geçtikçe betonlaşan kentlerde su gereksinimi artmaktadır. Tüketim odaklı günümüz şartlarında her şeyde olduğu gibi suyun tüketiminin de düzensiz ve verimsiz kullanılması çevresel sorunların yanı sıra ekonomik açıdan da sorunlar oluşturmaktadır. Bilinçli su tüketimi mevcut temiz su kullanımının sürdürülebilirliği açısından büyük öneme sahiptir. Günümüzde su tüketimini en aza indirmek ve en ideal seviyelerde su tasarrufu sağlayabilmek adına birçok yöntem uygulanmaktadır. Açık yeşil alanlarda kullanılan bu yöntemlerden birisi de kurakçıl peyzaj çalışmalarıdır. Kurakçıl peyzaj çalışmalarının 7 temel ilkesi bulunmaktadır. Bu 7 temel ilkeden bir tanesi de malçlamadır. Kurakçıl peyzaj çalışmalarında malçlama önemli bir role sahiptir. Zemin üzerine serilen malzeme toprağın buharlaşmayı azaltarak zeminin nemli ve ideal sıcaklık dengesinde kalmasına olanak sağlamaktadır. Bu sayede su tasarrufu ile suyun etkin kullanımı sağlanırken sulama gereksinimi de azaltılarak iş gücünden tasarruf edilmiş olur. Malçlamanın katma değerleri bunlarla sınırlı değildir. Kullanılan malç malzemesinin yapısı ve özelliklerine göre sağladığı avantajlar artmaktadır. Bu çalışmada Rize ilinde kullanılan malçlama yöntemleri ve sağladıkları avantajlar ve dezavantajlar değerlendirilmiştir.

Anahtar Kelimeler: Malç, su tasarrufu, kurakçıl peyzaj, Rize, peyzaj tasarımı.

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SOCIO-ECOLOGICAL APPROACHES IN URBAN PLANNING AND DESIGN

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Abstract

The vulnerabilities and degradation observed in ecosystems under the pressure of urbanization and dense construction are topics of ongoing discussion. Within the framework of sustainable living, it is increasingly essential to enhance quality of life while supporting ecological approaches. In this context, the socio-ecological urban approach has been developed, a model that examines cities through the reciprocal interactions of ecosystems and social structures. This approach considers cities not only as physical structures and infrastructure but also as holistic systems involving humans, social relations, cultural dynamics, and the natural environment. The socio-ecological urban approach aims to build sustainable and resilient cities, prioritizing ecological balance, fulfillment of social needs, climate adaptation, and biodiversity preservation within urban life. This article aims to develop planning and design strategies to ensure urban development and resilience, examining existing research and diverse methodologies in this field. The article specifically details the methods by which landscape architects intervene in urban systems.It provides unique insights into understanding the evolving dynamics of cities and developing solution-oriented strategies.

Key words: Ecosystem, Social–Ecological Systems, Urban Design, Urban Resilience, Urban Landscape

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KENTSEL PLANLAMA VE TASARIMDA SOSYO- EKOLOJİK YAKLAŞIMLAR

Özet

Şehirleşme ve yoğun yapılaşma baskısı altında ekosistemde görülen kırılganlıklar ve bozulmalar gündemde tartışılan konular arasındadır. Sürdürülebilir yaşam çerçevesi içerisinde hem yaşam kalitesini artırmak hem de ekolojik yaklaşımları desteklemek önem kazanmaktadır. Bu çerçevede Sosyo-ekolojik kent yaklaşımı ile, şehirleri ekosistemlerin ve sosyal yapıların karşılıklı etkileşimi içinde ele alan bir şehircilik yaklaşımı geliştirilmiştir. Bu model, kentlerin yalnızca fiziksel yapıları ve altyapıları değil, aynı zamanda temelde insan ve toplumu, sosyal ilişkiler, kültürel dinamikler ve doğal çevre ile bir bütün olarak ele almaktadır. Sosyo-ekolojik kent yaklaşımı, sürdürülebilir ve dayanıklı şehirler oluşturmayı hedefler ve kent yaşamında ekolojik dengenin korunmasını, toplumsal ihtiyaçların karşılanmasını, iklim değişikliğine uyum ve biyolojik çeşitliliğin korunmasını ön planda tutar. Kentsel gelişme ve kentsel dayanıklılığı sağlayacak planlama ve tasarım stratejileri geliştirmeyi amaçlayan bu makale, bu konuda yapılan araştırmaları ve farklılaşan yöntemleri ele almaktadır. Makale özellikle, peyzaj mimarlarının kentsel sistemlere müdahale yöntemlerini detaylandırmaktadır. Kentlerin değişen dinamiklerini anlamak ve çözüm stratejilerinin geliştirilmesi konusunda özgün değerler taşımaktadır.

Anahtar kelimeler: Ekosistem, Sosyal-Ekolojik Sistemler, Kentsel Tasarım, Kentsel Dayanıklılık, Kentsel Peyzaj

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ON PURPOSE DESIGN SUGGESTIONS FOR ROOF GARDENS

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SUMMARY

Today's cities are developing day by day due to intense population growth. This development increases the amount of buildings and causes a decrease in green areas. Especially in cities that have lost their natural features, the quality of life of urban dwellers deteriorates. The search for creating green areas within the dense and losing quality urban texture leads urban planners to new searches. Roof gardens, one of the most important green infrastructure elements, have brought the use of building roofs to the forefront. Roof gardens are planting works with different features than the designs created in the earth's crust. The designs of these gardens are applied by considering elements such as intended use, planted surface area, soil amount, maintenance management. Considering these elements, roof gardens are applied in two different types: extensive and intensive. Intensive roof gardens are usually created with plants of different sizes and allow for uses such as sitting, resting and eating. Designing these gardens in accordance with the uses of the buildings in which they are located can meet the green space needs of the building users. However, roof garden studies have not developed sufficiently in our country where the construction has increased considerably. For this reason, in this study, roof garden designs suitable for 3 different uses were created in a building example. As a result of the study, it is emphasized that roof garden proposals offered in accordance with space diversity and different design styles can offer nature-friendly healthy environments to building users.

Keywords : Green Space, Roof Garden, Landscape Design

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CLIMBING PLANTS IN LANDSCAPE ARCHITECTURE

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SUMMARY

Plants, which serve as one of the most important links of the food chain in the natural life cycle, are the most important living materials of landscape designs. Plants are used in landscape designs with different aesthetic, functional and ecological functions. In today's densely built-up cities, in addition to the parks that form large green areas, green areas are small, fragmented and far from each other. It is impossible to use a wide variety of plant species in the planting of small green areas. From this point of view, climbing plants can be used on the walls and ceilings of spaces as well as in small areas. Climbing plants are one of the important plant groups that combine functionality and aesthetics in landscape designs. They offer many advantages such as providing privacy, microclimate regulation and increasing biodiversity. The correct selection of these plants and their appropriate positioning in space add sustainability and aesthetic value to landscape projects. In this study, aesthetic, functional and ecological features of climbing plants in landscape designs were investigated. In addition, the design potentials of the 30 most preferred climbing plant taxa in landscape designs were examined. It was determined that these plants attract attention with their leaf, flower, fruit and calligraphic features. It was also determined that they have the potential to be utilized for agricultural applications in today's cities, especially with their edible properties. As a result, it was emphasized that sustainable and aesthetically rich areas in harmony with nature can be created by using climbing plants in landscape projects.

Keywords : Climbers, Planting Design, Landscape Potential

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HARŞİT ÇAYI (TÜRKİYE)' DAN ÖRNEKLENEN *ALBURNUS DERJUGINI* VE *VIMBA VIMBA* (LEUCISCIDAE)'NIN OTOLİT MORFOMETRİSİ VE ŞEKIL ANALİZLERİ İLE AYRIMI

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ÖZET

Balık otolitleri kullanılarak tür tanımlaması, taksonomik amaçlar için değerli ve uygulanabilir bir araçtır; otolit morfoloji ve otolit şekil analizleri, türler arası ve tür içi varyasyonları tanımlamak için uygun maliyetli olan tekniklerdir. Bu bağlamda, Leuciscidae, Sazangiller içinde en fazla tür çeşitliliğine sahip ve sistematik konumları halen tartışmalı olan familyalardan biridir. Bu çalışmada, iki Leuciscid türü olan *Alburnus derjugini* ve *Vimba vimba*' nın otolit şekil indeksleri (form faktör, boy-yükseklik oranı, yuvarlaklık, dairesellik, dikdörtgensellik ve eliptiklik) ve şekil analiz yöntemleri (eliptik Fourier katsayıları ve dalgacık dönüşümü analizi) kullanılarak türler arası varyasyonlarının incelenmesi amaçlanmıştır. *Alburnus derjugini* (N=41) ve *Vimba vimba* (N=43) bireyleri Harşit Çayı (Türkiye)'ndan örneklenmiştir. Analizlerde sağ asteriskus ve sağ lapillus otolitler kullanılmıştır. Ayrım Analizi (CDA), asteriskus ve lapillus otolitleri için sırasıyla %70,2 ve %75 (şekil indeksleri), %85,7 ve %86,9 (eliptik Fourier katsayıları), %92,9 ve %86,9 (dalgacık analizi) genel sınıflandırma başarı oranlarını ortaya çıkarmıştır. Ayrıca, PERMANOVA analizi üç yöntemin de iki Leuciscid türünün ayrımları için önemli olduğunu saptamıştır (P=0,0001). Sonuç olarak tür ayrımında kullanılan morfometri tabanlı bu yöntemlerin, oldukça maliyetli bir yöntem olan moleküler yöntemlere ek olarak, türler arası ve tür içi farklılıkların belirlenmesinde güvenilir bir şekilde kullanılabileceği önerilmektedir.

Anahtar Kelimeler: Leuciscidae, şekil indeksleri, eliptik Fourier katsayıları, dalgacık analizi, Harşit Çayı

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DISCRIMINATION OF *ALBURNUS DERJUGINI* AND *VIMBA VIMBA* (LEUCISCIDAE) SAMPLED FROM HARŞİT STREAM (TÜRKİYE) WITH OTOLITH MORPHOMETRY AND SHAPE ANALYSIS

ABSTRACT

Species identification using fish otoliths is a valuable and applicable tool for taxonomic purposes; otolith morphology and shape analyses are cost-effective techniques for identifying inter- and intraspecific variations. In this context, Leuciscidae is one of the families with the highest species diversity within the Cyprinidae, and its systematic position is still controversial. This study aims to investigate the interspecific variations of two Leuciscid species, *Alburnus derjugini* and *Vimba vimba*, using otolith shape indices (form factor, aspect ratio, roundness, circularity, rectangularity, and ellipticity) and shape analysis methods (elliptic Fourier coefficients and wavelet analysis). Specimens of *Alburnus derjugini* (N=41) and *Vimba vimba* (N=43) were collected from the Harşit Stream (Türkiye). Right asteriskus and right lapillus otoliths were used in the analyses. Canonical Discriminant Analysis (CDA) revealed overall classification success rates of 70.2% and 75% based on shape indices; 85.7% and 86.9% based on elliptic Fourier coefficients; and 92.9% and 86.9% based on wavelet analysis for asteriscus and lapillus otoliths, respectively, Additionally, PERMANOVA analysis indicated that all three methods were significant for the discrimination of the two Leuciscid species (P=0.0001). As a result, it is quite clear that these morphometry-based methods used in species discrimination can be used reliably in determining both inter-species and intra-species differences in addition to molecular methods that are quite expensive.

Keywords: Leuciscidae, shape indices, elliptic Fourier coefficients, wavelet analysis, Harşit Stream

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DETERMİNATİON OF THE PHYLOGENETİC CHARACTERİSTİCS OF THE SPECİES *LUCİOBARBUS KERSİN* (HECKEL, 1843)

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Abstract

Luciobarbus kersin (Heckel, 1843), commonly known as the Kersin barbell, is a cyprinid fish found in freshwater habitats in Iran, Syria and southeastern Turkey. The main factors affecting the survival of this species are overfishing, habitat degradation, water pollution and human activities. For these reasons, this species has recently faced threats. Since the number of individuals is decreasing, conservation efforts should be initiated. For a good conservation program, genetic information should be determined. The aim of this study is to perform phylogenetic analyses based on sequences in the mtDNA cyt b gene region of this species. Muscle tissue was taken from fish samples purchased from local fishermen in Atatürk Dam Lake and DNA was isolated using a commercial kit. After DNA was obtained, mtDNA cyt b gene region was amplified by PCR. Sequence analysis was performed on the obtained PCR products with the 3500 XL Genetic Analyzer device. In order to perform the necessary analyses for the obtained sequences, a phylogenetic tree was created by comparing them with similar sequences in the NCBI gene bank.

Keywords: Cyprinidae, Kersin barbell, Conservation, Phylogeny, mtDNA cyt b,

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DETERMİNATİON OF THE PHYLOGENETİC CHARACTERİSTİCS OF THE SPECİES *LUCİOBARBUS XANTHOPTERUS* HECKEL, 1843

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Abstract

Luciobarbus xanthopterus Heckel, 1843, commonly known as the Yellowfin Barbel, is a cyprinid fish species endemic to the Tigris-Euphrates River System in Asia. The species is recognizable by its distinctive yellow fins and is found in freshwater habitats in this region. The conservation status of *Luciobarbus xanthopterus*, which has decreased significantly in these habitats, is currently listed as Vulnerable (VU) by the IUCN. The main factors affecting the survival of this species are overfishing, habitat degradation, water pollution and human activities. For these reasons, this species has recently faced threats. Since the number of individuals is decreasing, conservation efforts should be initiated. For a good conservation program, genetic information should be determined. The aim of this study is to perform phylogenetic analyses based on sequences in the mtDNA cyt b gene region of this species. Muscle tissue was taken from fish samples purchased from local fishermen in Atatürk Dam Lake and DNA was isolated using a commercial kit. After DNA was obtained, mtDNA cyt b gene region was amplified by PCR. Sequence analysis was performed on the obtained PCR products with the 3500 XL Genetic Analyzer device. In order to perform the necessary analyses for the obtained sequences, a phylogenetic tree was created by comparing them with similar sequences in the NCBI gene bank.

Keywords: Cyprinidae, Yellowfin barbell, Conservation, Phylogeny, mtDNA cyt b,

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DYE REMOVAL BY BACTERIA ISOLATED FROM SUGAR INDUSTRY WASTEWATER

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ABSTRACT

Synthetic dyes in industrial wastewater resist degradation, harming ecosystems and biodiversity. While chemical treatments are costly, microbial dye removal provides a sustainable, cost-effective solution.

In this study, wastewater samples from three locations within the sugar industry were analyzed to isolate bacteria capable of dye bioaccumulation. From 40 initial isolates, 10 effectively bioaccumulated dyes and were selected for further testing. Serially diluted samples were cultured on nutrient agar with 50 ppm of Rose Bengal, Burazol Navy Blue Ed, Burazol Red Ed, and Burazol Yellow Ed-26 to identify potential bioaccumulators.

The three most promising candidates were selected for further testing in liquid media containing a dye concentration of 50 ppm for each dye. Dye removal efficacy was assessed by measuring optical density at dye-specific absorbance peaks (571 nm, 390.9 nm, 498 nm, and 425.7 nm, respectively) at 18, 24, 48 and 60 hours. Results showed that Isolate 1 achieved the highest dye removal for Rose Bengal at 60 hours with 64.91% and for Navy Blue at 18 hours with 31.44%, followed by dye release. Isolate 2 removed Rose Bengal most effectively at 48 hours with 61.38%, followed by dye release, while Isolate 3 removed Navy Blue at 18 hours with 27.25%, also followed by dye release. No dye removal was observed for Burazol Red or Burazol Yellow across all isolates.

These findings underscore the potential of bacterial isolates in bioaccumulating specific dyes, suggesting their applicability for eco-friendly treatment of dye-laden industrial wastewater.

Keywords: Bioaccumulation, dye removal, bacterial isolation, sugar industry wastewater

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ISOLATION AND OPTIMIZATION OF A BROWN PIGMENT PRODUCED BY *BACILLUS ATROPHAEUS* JCM 9070 FROM PAPER INDUSTRY WASTEWATER

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ABSTRACT

Microbial pigments have gained considerable attention due to their potential applications in industries such as food, pharmaceuticals, textiles, and cosmetics. These naturally derived pigments offer advantages over synthetic dyes, including sustainability, biodegradability, and bioactivity. In this study, we isolated a pigment-producing bacterium which was identified as *Bacillus atrophaeus* JCM 9070 from paper industry wastewater treatment sludge. To investigate the properties of this pigment, we grew *Bacillus atrophaeus* in liquid culture until the culture turned dark brown. After centrifugation, the supernatant was used to measure the absorbance of the pigment, which was found to peak at 360 nm. We then optimized pigment production by testing different growth media, including LB, NB, and PGY, and by supplementing these media with 0.1 mM $CuSO_4$ or 2.5% molasses. Additionally, we evaluated the effect of different environmental conditions, including light and dark environments, shaking and static setups.

Among the conditions tested, light and shaking resulted in the fastest and highest pigment production, suggesting that both factors enhance pigment synthesis in *Bacillus atrophaeus* JCM 9070. Following the optimization experiments, we extracted the pigment using an acidification method and then lyophilized it for further analysis.

These findings provide valuable insights into the optimal conditions for producing this brown pigment. Future work will involve characterizing the pigment's structure and assessing its biological activities, including toxicity, anticancer, and antimicrobial properties. Overall, this brown pigment shows promising potential for industrial and biomedical applications, presenting a natural alternative to synthetic pigments.

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Keywords: Pigment Production, Green Synthesis of Pigment, Microbial Pigment, *Bacillus atrophaeus*, Brown Pigment

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ISOLATION AND CHARACTERIZATION OF BIOSURFACTANT-PRODUCING BACTERIA FROM OLIVE MILL WASTES

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ABSTRACT

The need for a sustainable environment for the continuity of life has revealed the necessity of replacing synthetic products with biological equivalents. Microbial biosurfactants, a secondary metabolite that fulfills the requirements of versatile applications in various industries such as bioremediation, pharmaceutical, and food industries, are biological counterparts of surface active agents (surfactants) mainly derived from petroleum via synthetic processes. Due to numerous superiorities over synthetic surfactants, not limited to biocompatibility, biodegradability, and less toxicity, biosurfactants are highly preferred.

Considering the potential of waste-derived microorganisms in the food industry, this study focused on isolating bacteria from the wastes of olive oil factories and screening these bacteria for biosurfactant production. A total of 28 bacteria were isolated from olive pomace and olive mill wastewater samples. Submerged fermentation was performed using bacterial isolates, and the cell-free supernatant (CFS) was further applied in various screening tests, including hemolysis, oil spreading, drop-collapse, and methylene blue agar plate tests. Quantitative analysis of the surface and interfacial activities of the relevant biosurfactants were assessed using a tensiometer and determining emulsification indexes against different hydrocarbons such as benzene, toluene, and diesel oil. 16S rDNA-based molecular identification revealed that biosurfactant-producing bacteria belong to the *Shimwellia*, *Pseudocitrobacter*, and *Micrococcus* genera. The best emulsification indexes, which were over %43 and comparable level to synthetic surfactant sodium dodecyl sulfate, were obtained for the CFS from *Pseudocitrobacter* sp. OLV-65 strain against cyclohexane, benzene, toluene, and xylenes. The highest surface tension reduction capacity, equal to 37.5 mN/m, was measured for the CFSs from *Shimwellia* sp. OLV-63 and *Micrococcus* sp. OLV-73 strains. All the findings above indicated that the biosurfactants produced by newly identified strains might be evaluated as an alternative to synthetic surfactants.

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Anahtar Kelimeler: Olive pomace, olive mill wastewater, biosurfactant, bacterial identification.

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POLLUTION CAUSED BY RECREATIONAL FISHING

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Summary

Recreational fishing is a widely practiced activity both in our country and around the world. While fishing was once done with simple tools, it now shows great variety due to the use of plastics. Studies on the use of these plastic waste materials and their potential harm to aquatic habitats have remained limited. Plastic waste and microplastics (<5 mm) in marine and freshwater environments have become a significant concern due to their harmful effects on aquatic ecosystems, the fishing and tourism industries, and human health. Therefore, it is necessary to prefer environmentally friendly fishing equipment that causes less harm to nature and to reduce the use of heavy metals like lead. However, data on pollution levels caused by recreational fishing in both marine and freshwater environments are both difficult to obtain and limited. Pollution caused by recreational fishing, which is often carried out away from public view, is not considered significant compared to general aquatic pollution. In conclusion, to minimize the environmental impacts of recreational fishing, it is important to raise awareness through education, promote the use of alternative natural materials, enforce legal regulations, and implement inspections.

Keywords: Recreational Fishing, Plastics, Pollution, Sustainable Fishing

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EVALUATİON OF THE INVASİVE *CARASSİUS GİBELİO* SPECİES IN TERMS OF RECREATİONAL FİSHİNG (KARAKAYA DAM LAKE - ELAZIĞ)

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Summary

Recreational fishing is defined as an important activity both economically and socially. In addition to commercial fishing, recreational fishing is also considered to play an important role in the removal of the *Carassius gibelio* species from inland waters. Eight field studies were conducted during the months of March, July, and August, when fishing is most common. Since March is the breeding season for the *Carassius gibelio* species, four field studies were conducted in that month, and two were conducted in July and August, making a total of eight. Hooks in sizes 2-4 and 5-7 were used, with dough and corn as bait. The highest number of fish were caught with a size 4 hook, and corn was the most successful bait. The CPUE (Catch Per Unit Effort) for the size 4 hook was calculated as 2.1, and the YPUE (Yield Per Unit Effort) as 6938.8 g. For corn bait, the CPUE was 1.375, and the YPUE was 477.5 g. The *Carassius gibelio* species is known to be highly invasive, negatively impacting other native species. It exerts pressure on native species, putting their populations at risk. For these reasons, it is necessary to reduce the *Carassius gibelio* population from inland waters through fishing pressure, both by commercial and recreational fishing. In addition to commercial fishing, recreational fishing is also considered important for removing the *Carassius gibelio* species from inland waters. It is recommended to use size 4 hooks and corn bait for controlling this invasive species.

Keywords: *Carassius gibelio*, Invasive Fish Species, CPUE, YPUE, Bait Preference

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KIYILARDA BİRİKEN MAKROALGLERİN KULLANIM OLANAKLARI ÜZERİNE BİR ARAŞTIRMA

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ÖZET

Kıyı ekosistemlerinin önemli canlı gruplarından biri olan makroalgler, deniz yaşamının devamlılığında önemli rol oynamaktadır. Oksijen üretmek, besin sağlamak, diğer organizmalar için yaşam ve üreme habitatları oluşturmak makroalglerin deniz ekosistemlerindeki işlevlerinden bazılarıdır. Ancak son yıllarda kirlilik ve iklimsel değişiklikler nedeniyle kıyılarda oluşan yoğun makroalg kütlelerinin çevresel sorunlara neden olduğu bilinmektedir. Kıyı makroalgleri, doğal ürünlerin elde edilebileceği kaynakların sağlanması açısından büyük bir potansiyele sahiptir. Bu nedenle kıyılarda biriken makroalglerin potansiyel kullanım alanlarının belirlenmesi, hem bu doğal kaynakların ekonomiye kazandırılması hem de kıyılarda makroalg birikiminin neden olduğu kirlilik sorununun giderilmesi açısından önemlidir. Bu çalışmada, kıyılarda biriken makroalgler ve farklı alanlarda kullanımları üzerine yapılan çalışmalar incelenmiş, işlevsel ve sürdürülebilir kullanım potansiyelleri tartışılmıştır.

Anahtar kelimeler: Kıyıda biriken makroalgler, biyokimyasal kompozisyon, fonksiyonel kullanım

A STUDY ON THE UTILIZATION POSSIBILITIES OF BEACH-CAST MACROALGAE

ABSTRACT

Macroalgae, one of the important living groups of coastal ecosystems, play an important role in the continuity of marine life. Producing oxygen, providing food, living and breeding habitats for other organisms are some of the functions of macroalgae in marine ecosystems. However, in recent years, it is known that dense masses of macroalgae formed on the coasts due to pollution and climatic changes have caused environmental problems. Coastal macroalgae have

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a great potential in terms of providing resources from which natural products can be obtained. Therefore, determining the potential utilization areas of macroalgae accumulated on the coasts is important in terms of both bringing these natural resources to the economy and eliminating the pollution problem caused by macroalgae accumulation on the coasts. In this study, studies on beach-cast macroalgae and their utilization in different areas were examined and their functional and sustainable utilization potentials were discussed**.**

Key words: Beach-cast macroalgae, biochemical composition, functional use

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DETERMINATION OF BIOCHEMICAL CONTENTS OF TWO RED MACROALGAE SPECIES (*LAURENCIA OBTUSA* AND *GANONEMA FARINOSUM*) DISTRIBUTED IN MERSİN COAST (NORTHEAST MEDITERRANEAN)

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ABSTRACT

In this study, the nutritional components of two macroalgae species distributed along the Mersin coast were investigated. Sampling was carried out from the Mersin coast and the nutritional content of two red algae species, *Laurencia obtusa* and *Ganonema farinosum* were analyzed. Crude ash, lipid and protein analyses were performed. Fatty acid composition was also determined. In the study, protein and lipid content of *L. obtusa* were higher, while ash content was higher in *G. farinosum*. The highest total SFA content was found in *G. farinosum*, and the highest total PUFA content was found in *L. obtusa*. The results revealed that *L. obtusa* was richer in protein and lipid content, while *G. farinosum* was richer in mineral content.

Key words: Macroalgae, Nutritional content, Fatty acids, Mersin, Mediterranean.

AHUDUDU (*Rubus* sp.)'NUN *IN VITRO* ÇOĞALTIMINDA EKSPLANT SEÇİMİNİN ÖNEMİ

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ÖZET

Ahududu, üzümsü meyveler grubuna giren, birçok farklı türü bulunan, oldukça lezzetli ve tatlı kırmızı, mor, siyah ve sarı renkli meyveler veren bir türdür. İnsan sağlığına yararlı bileşikler içermesi ve besin değerince zengin olması nedeniyle dünyada ve Türkiye'de yetiştiriciliği günden güne artmaktadır. Ahududunun, vejetatif çoğaltım yöntemleri oldukça sınırlıdır. *In vitro* koşullarda mikroçoğaltım yöntemi ise, az miktarda bitki materyalinden, yıl boyunca ve kısa sürede, milyonlarca sağlıklı yeni bitkinin elde edilmesine imkan vermektedir. *In vitro* çoğaltımda başarıyı etkileyen birçok faktör bulunmaktadır. Bunlardan en önemlisi bitki materyalinin seçimidir. Ahududu ile yapılan çalışmalarda farklı bitki kısımları kullanılarak mikroçoğaltım yapılmıştır. Bu çalışmada, ahududunun *in vitro* çoğaltımında kullanılan farklı eksplantların sürgün rejenerasyonuna etkileri, literatür araştırmaları ile belirlenmeye çalışılmıştır.

Anahtar Kelimeler: Ahududu, Eksplant, *In vitro* çoğaltım, Mikroçoğaltım

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IMPORTANCE OF EXPLANT SELECTION IN *IN VITRO* PROPAGATION OF RASPBERRY (*Rubus* sp.)

ABSTRACT

Raspberry is a type of fruit that is included in the berry fruit group. It has different species and produces tasty and sweet fruits, including red, purple, black, and yellow fruits. Its cultivation is increasing daily in the world and in Türkiye because it contains compounds beneficial to human health and is rich in nutritional value. Vegetative propagation methods for Raspberry are limited. The *in vitro* micropropagation method allows millions of healthy new plants to be obtained from a small amount of plant material throughout the year in a short time. There are many factors that affect successful *in vitro* propagation. The most important step is plant material selection. In studies using raspberry, micropropagation was performed using different plant parts. In this study, the effects of different explants used in the *in vitro* propagation of raspberry plants on shoot regeneration were examined using literature research.

Keywords: Raspberry, Explant, *In vitro* propagation, Micropropagation

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IN VITRO KOŞULLARDA ABİYOTİK STRES FAKTÖRLERİNİN BÖĞÜRTLEN (*Rubus* sp.) BİTKİ GELİŞİMİ ÜZERİNE ETKİLERİ

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ÖZET

Üzümsü meyveler tarımsal üretim açısından büyük potansiyele sahip olan ancak bu potansiyelinden tam olarak yararlanamadığımız önemli bir ürün grubunu oluşturmaktadır. Bu meyve grubuna giren birçok meyve türü (çilek, ahududu, böğürtlen, mavi yemiş, kuşburnu vb.) insan sağlığına olumlu etkileri ile fonksiyonel gıda olarak değerlendirilmektedir. Günümüzde etkisi altında olduğumuz küresel iklim değişikliği, bitkiler üzerinde birçok olumsuzluğu da beraberinde getirmektedir. Doğadaki birçok biyotik ve abiyotik çevre faktörleri bitkilerde strese neden olmaktadır. Stres faktörleri, bitkilerde önemli fizyolojik ve biyokimyasal değişimlere yol açmaktadır. Bu değişimler; bitkilerde büyüme ve gelişmeyi olumsuz etkilemekte ve üründe nitelik ve niceliğin azalmasına ve hatta bitkinin, bitki organlarının ölümüne neden olmaktadır. Doku kültürü yöntemi, hızlı bir şekilde bitki çoğaltımının yanı sıra bazı stres koşullarında bitki tolerans düzeylerinin belirlenmesi için de kullanılabilir. Özellikle meyve türlerinde strese dayanım çalışmaları uzun sürmekte ayrıca fazla maliyetli olduğu için son yıllarda bu tür çalışmalar *in vitro* ve/veya *in vivo* şartlarda yapılmaktadır. Bu çalışmada, *in vitro* koşullarda bazı abiyotik stres faktörlerinin böğürtlenin bitki gelişimine etkileri ve stres faktörlerine karşı alınan bazı önlemler literatür araştırması ile ortaya konulmaya çalışılmıştır.

Anahtar Kelimeler: Abiyotik stres, Böğürtlen, Mikroçoğaltım, Üzümsü Meyveler

EFFECTS OF ABIOTIC STRESS FACTORS ON BLACKBERRY (*Rubus* sp.) PLANT GROWTH UNDER *IN VITRO* CONDITIONS

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ABSTRACT

Berry fruits constitute an important product group with great potential in terms of agricultural production, but we cannot fully exploit this potential. Many fruit species in this fruit group (strawberry, raspberry, blackberry, blueberry, rosehip, etc.) are considered functional foods due to their positive effects on human health. Global climate change, which we are currently under the influence of, also has many negative effects on plants. Many biotic and abiotic environmental factors cause stress in plants. Stress factors lead to important physiological and biochemical changes in plants. These changes negatively affect the growth and development of plants and decrease the quality and quantity of plant and organ products, possibly even death. The tissue culture method can be used for rapid plant propagation and to determine plant tolerance under specific stress conditions. Stress resistance studies, especially in fruit species, are time-consuming and costly; thus, in recent years, such studies have been conducted under *in vitro* and/or *in vivo* conditions. In this study, the effects of some abiotic stress factors on the development of blackberry plants under *in vitro* conditions and the precautions taken against these stress factors were investigated through literature research.

Keywords : Abiotic stress, Blackberry, Micropropagation, Berry fruits

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ENHANCING FRUIT QUALITY THROUGH GOOD AGRICULTURAL PRACTICES (GAP): A SUSTAINABLE AND TECHNOLOGICAL PERSPECTIVE

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ABSTRACT

A complex interaction of agronomic, environmental, and genetic factors affects fruit quality, which together determine the sensory attributes, nutritional value, and postharvest characteristics of fruits. Genetic factors play a significant role in defining traits such as size, sweetness, acidity, and firmness, with different cultivars exhibiting wide variability. For example, apples, melons, and berries show distinct differences in aroma, texture, and nutrient concentration based on their genetic makeup. Environmental conditions, including temperature, light, and humidity, also have a profound impact on fruit quality. These factors influence the accumulation of sugars, development of color, and the levels of bioactive compounds, which are essential for the sensory and nutritional properties of fruits. Agronomic practices, such as irrigation, fertilization, and canopy management, are critical in optimizing fruit quality, affecting key attributes like sugar content, texture, and overall yield. Postharvest handling, including appropriate storage and transportation, further influences fruit quality by preventing mechanical damage and nutrient loss, ensuring fruits maintain their sensory and nutritional integrity. Good Agricultural Practices (GAPs) play a vital role in enhancing fruit quality by integrating sustainable environmental, economic, and social practices. GAP-certified farms focus on environmentally friendly methods, such as minimizing pesticide use and optimizing water management, which contribute to the production of safer and higher-quality fruits. The adoption of GAPs has been shown to improve factors such as fruit size, flavor, texture, and nutritional value, while providing farmers with access to premium markets. Furthermore, GAPs promote sustainable production systems that help reduce long-term costs, improve resource management, and enhance labor conditions. In the face of climate change, GAPs also encourage climate-resilient practices that help mitigate the effects of extreme weather, ensuring sustainable and high-quality fruit production. Ultimately, the implementation of GAPs is essential for producing fruits with superior sensory and nutritional attributes while promoting environmental sustainability and economic benefits for farmers.

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Keywords: Fruit Quality, Good Agriculture Practices, Resilience, Sustainable Agriculture, Standards

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GENE EXPRESSION AND METABOLIC PATHWAYS IN FRUIT QUALITY: FLAVOR, COLOR, AND NUTRITIONAL VALUE

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ABSTRACT

Gene expression and metabolic pathways play pivotal roles in determining the quality attributes of fruits, including flavor, color, and nutritional value. Recent advances in genomic, transcriptomic, and metabolomic technologies have shed light on the intricate biochemical processes underlying fruit ripening and quality formation. Flavor is influenced by the accumulation of sugars, organic acids, and volatile compounds, with key metabolic pathways like glycolysis and the TCA cycle playing critical roles. Color changes during ripening are largely driven by the degradation of chlorophyll and the synthesis of carotenoids and anthocyanins, regulated by genes involved in pigment biosynthesis. Nutritional value is enhanced by the accumulation of bioactive compounds such as phenolic acids, flavonoids, and carotenoids, which are regulated by specific biosynthetic genes. Ripening processes, which involve coordinated changes in gene expression and metabolic activity, are governed by hormonal signals and transcription factors that control carbohydrate metabolism, cell wall restructuring, and the production of volatile compounds. Understanding these molecular and biochemical mechanisms provides valuable insights for improving fruit quality through breeding and biotechnological interventions. This knowledge enables the selection of fruit varieties with enhanced sensory qualities, better nutritional content, and longer shelf life, contributing to both consumer satisfaction and agricultural sustainability.

Keywords: Fruit Quality, Gene Expression, Biochemicals, Molecular Mechanisms, Biological Pathways

TARIMSAL ATIK YEÖNETİMİNDE CEVİZ YEŞİL KABUĞU

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ÖZET

Artan nüfusun beslenme ve su ihtiyacının karşılanması ülkelerin en önemli konuları arasında başı çekmektedir. Bu ihtiyaçların karşılanması amacıyla birçok politika, tarım odaklı birçok bilimsel çalışma ve uygulama yapılmaktadır. Hepsinin merkezinde birim alanda daha fazla üretim ve azalan tarım topraklarına karşı artan nüfusun besin ihtiyaçlarının karşılanması vardır. 1970'te 3.7 milyar olan dünya nüfusunun bugünkü güncel nüfusu 8,2 milyardır. Bu nüfusun 2050 yılında 9 milyara ve 2100 yılında ise 11 milyara ulaşacağı tahmin edilmektedir. Artan nüfusun besin ihtiyaçları normal yöntemler işlediğinde artan tarım toprakları ve artan sulama imkanları ile karşılanması gerekmektedir ancak tam tersine 250 milyondan fazla insan çölleşme problemi ile yüz yüzedir. 1 milyar insan ise çölleşme riski altında bulunan bölgelerde yaşamlarını sürdürmektedir. Tarım alanları artmamakta ve aksine şehirleşme, sanayileşme gibi etkenlerle daha da azalmaktadır. Bunun en büyük sebeplerinden birisi ise sürdürülebilir olmayan yöntemler ve sonucunda ortaya çıkmış olan küresel ısınmadır.

Tarımsal üretimin giderek artması ile ortaya çıkan önemli konulardan ve sürdürülebilir bir yaşamın gereklerinden birisi de bu atıkların uygun şekillerde bertaraf edilmesi konusudur. Artan gıda talebi ile tarımsal faaliyetlerde önemli artış sağlanmış ve sonucunda tarımsal atık miktarı dramatik bir şekilde yükselmiştir. Ekonomik büyümelerini ve nüfuslarını hızlı bir şekilde artıran Çin, Hindistan ve Afrika gibi ülkeler tarımsal atık kapasitelerini de oldukça yükseltmişlerdir. Bu atıklar hem bahsi geçen ülkelerde hem diğer ülkelerde bir miktar geri dönüştürülüyor olsa da dünyada üretilen tarımsal atıkların önemli bir kısmının bertaraf edilme yöntemlerindeki yanlışlıklar bazı sera gazlarının salınımına yol açmakta dolayısıyla insan sağlığı ve doğaya zarar vermektedir. Tarımsal atık yönetimi için atıkların özelliklerinin iyi bilinmesi ve değerlendirilme şekillerinin bu özellikler ışığında planlanması önemlidir.

Ceviz yeşil kabuğu, sahip olduğu özellikler ile önemli bir tarımsal atık olmakla birlikte birçok farklı alanda değerlendirilme potansiyeli vardır. Bu çalışmada tarımsal atık yönetimi konusu ceviz yeşil kabuğu merkeze alınarak tartışılacaktır.

Anahtar Kelimeler: Ceviz, atık, yeşil kabuk, *Juglans regia*

THE GREEN WALNUT HUSK IN AGRICULTURAL WASTE MANAGEMENT

ISBN NR.: 978-625-6283-95-4

ABSTRACT

Providing for the nutritional and water needs of a growing population remains one of the top priorities for countries. To suppliying these needs, various policies, scientific studies, and agricultural practices are being implemented. At the core of all these efforts lies the goal of increasing production per unit area and meeting the food demands of an expanding population despite decreasing agricultural lands. In 1970, the world population was 3.7 billion, and today it has reached 8.2 billion. It is estimated that by 2050, the global population will reach 9 billion and, by 2100, approximately 11 billion. As the population grows, food requirements ideally would be met by expanding agricultural lands and irrigation capabilities. However, more than 250 million people face desertification, and around 1 billion live in areas at risk of desertification. Farmland is not increasing and, in fact, is shrinking due to factors like urbanization and industrialization. One of the major reasons for this decline is unsustainable practices, which have led to global warming.

With the increasing agricultural production, an essential issue and necessity for a sustainable life is the proper disposal of agricultural waste. Rising food demand has led to a significant increase in agricultural activities, resulting in a dramatic growth in the amount of agricultural waste. Countries like China, India, and those in Africa, which have experienced rapid economic and population growth, have also significantly raised their agricultural waste capacities. While some of this waste is recycled to an extent in these and other countries, improper disposal methods for agricultural waste worldwide contribute to greenhouse gas emissions, which harm human health and the environment. It is crucial to understand the characteristics of agricultural waste and to plan disposal methods accordingly.

The green walnut husk, with its specific properties, is an important type of agricultural waste and holds potential for various applications. In this study, agricultural waste management will be discussed with a focus on the green walnut husk.

Keywords: Walnut, waste, green husk, Juglans regia

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CEVİZ (*Juglans regia* L.) MİKROÇOĞALTIMI

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ÖZET

Tarımsal faaliyetler içinde bazı önemli özelliklere sahip bitkilerin genetik açılımlara maruz kalmadan çoğaltılması ve kullanılması istenen bir durumdur. Meyve iriliği, verim, hastalık veya zararlılara tolerans gibi bazı ayırt edici özellikler olabilir. Bu gibi bitkilerin çoğaltılması ve çoğaltılırken herhangi bir değişime uğramaması üretici için avantajlı bir durumdur. Bunu başarabilmek için vejetatif çoğaltım metotları başvurulabilecek tek yöntemdir.

Mikroçoğaltım veya doku kültürü vejetatif çoğaltım metodlarının en önemlilerindendir. Bu teknikle kısa sürede yüksek sayıda bitki üretimi sağlanabilir, kontrollü ve standart bir üretim yapılabilir ve en önemlisi diğer vejetatif yöntemlerle çoğaltımı zor olan türler genetik değişime uğramadan çoğaltılabilir.

Ceviz (*Juglans regia* L.), önemli bir sert kabuklu meyve türü olup kerestesi, meyvesi ve atıkları (yeşil kabuk) değerlidir. Tohum dormansisi sebebiyle çimlenmesi düzensizdir, aşılama gibi yöntemler ise uzun bir çoğaltma döngüsüne sebebiyet vermektedir. Çeliklerle köklenme başarısı ise çok düşük oranlardadır. Özellikle anaç ıslahı gibi konularda doku kültürü yöntemleri ile bitki parçacığından tam bir bitki eldesi zaruri bir ihtiyaçtır.

Juglans türlerinin doku kültürü ile çoğaltımı zor olarak kabul edilmektedir. 1980' lerin başında ilk başarılı doku kültürü çoğaltımı raporları yayımlanmış olsa da, ticari anlamda bunu yaygınlaştırabilen az sayıda laboratuvar bulunmaktadır. Doku kültüründe fenoliklerin salınımı ve mikrobiyal kontaminantlar Juglans türünde başarılı bir in vitro sürecini etkileyen en önemli faktörler arasındadır. Ceviz türleri için mikroçoğaltım metodlarının başarılı olması bazı amaçları önceleyen ıslah çalışmalarının hızlı bir şekilde sonuca ulaştırılması için ayrıca öneme sahiptir.

Bu çalışmada, ceviz türlerinde yapılmış doku kültürü çalışmaları ve sağlanmış ilerlemeler hakkında bilgiler verilecektir.

Anahtar Kelimeler: Ceviz, mikroçoğaltım, *Juglans regia*

MICROPROPOGATION OF WALNUT (*Juglans regia* L.)

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ABSTRACT

In agricultural activities, it is desirable to propagate and utilize certain plants with important characteristics without exposing them to genetic alterations. Traits such as fruit size, yield, and tolerance to diseases or pests are some distinctive features that may be sought after. Propagating these plants without inducing any changes is advantageous for producers. Vegetative propagation methods are the only approach to achieve this.

Micropropagation or tissue culture is one of the most important methods of vegetative propagation. This technique allows the production of a high number of plants in a short time, enables controlled and standardized production, and most importantly, permits the propagation of species that are otherwise difficult to propagate without genetic alteration through other vegetative methods.

Walnut (Juglans regia L.) is an important nut crop species with valuable timber, fruit, and by-products (such as the green husk). Due to seed dormancy, its germination is irregular, and methods like grafting lead to a lengthy propagation cycle. The success rate of rooting with cuttings is also very low. Tissue culture methods for obtaining a complete plant from plant fragments are essential, especially in areas such as rootstock breeding.

Juglans species are considered difficult to propagate through tissue culture. Although the first successful reports on tissue culture propagation were published in the early 1980s, few laboratories have managed to extend this commercially. The release of phenolics and microbial contaminants are among the most important factors affecting a successful in vitro process for Juglans species. Successful micropropagation methods for walnut species are particularly crucial for quickly achieving the objectives of breeding studies that prioritize certain traits.

This study provides information about tissue culture studies conducted on walnut species and the advancements achieved.

Keywords: Walnut, micropropogation, *Juglans regia*

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AK ZAMBAK (*Lilium candidum* L.) BİTKİSİNİN ÖNEMİ

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ÖZET

Soğanlı, rizomlu ve yumrulu bitkiler bakımından Türkiye zengin bir ülkedir. Halk arasında "Ak Zambak" olarak bilinen *Lilium candidum* L. da Türkiye'de doğal olarak yetişen, zambakgiller familyasına ait otsu, çok yıllık, soğanlı bir bitkidir. Akzambak (*Lilium candidum* L.) bitkisi özellikle hoş kokulu ve gösterişli çiçeklere sahip olduğu için tarih boyunca süs bitkisi amaçlı kullanılmıştır. Tıbbi aromatik değeri olan ak zambak, geleneksel tıbbi amaçlı kullanımının yanı sıra modern ilaç geliştirme alanında da önemli yere sahiptir. Ak zambak anti-inflamatuar ve antioksidan özellikleriyle de dikkat çekmektedir. İlaç sektöründe solunum yolu rahatsızlıkları, cilt hastalıkları ile mücadelede kullanılabilen bu takson, aynı zamanda kozmetik sektöründe de kullanılmaktadır. Kısaca ak zambak bitkisi gıda, ilaç, fitoterapi, gıda katkı maddesi, kozmetik, dekorasyon ve aromatik amaçlı kullanımları ile kendisine sektörlerde yer edinmiştir.

Anahtar Kelemeler: *Lilium candidum* L., Ak zambak, Süs bitkileri, Tıbbi kullanım, Fitoterapi

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THE IMPORTANCE OF WHİTE LILY (*Lilium candidum* L.) PLANT

ABSTRACT

Türkiye is rich in bulbous, rhizome and tuber plants. *Lilium candidum* L., popularly known as "Ak Zambak, White Lily", is a herbaceous, perennial, bulbous plant belonging to the Liliaceae family and grows naturally in Turkey. White Lily (*Lilium candidum* L.) plant has been used as an ornamental plant throughout history due to its fragrant and showy flowers. With its medicinal and aromatic value, the White Lily holds a significant place not only in traditional medicinal uses but also in the field of modern drug development. The White Lily is also notable for its anti-inflammatory and antioxidant properties. This taxon, which can be used in the pharmaceutical industry to combat respiratory ailments and skin diseases, is also utilized in the cosmetics sector. In short, the White Lily is utilized various industries with its uses in food, pharmaceuticals, phytotherapy, food additives, cosmetics, decoration, and aromatics.

Keywords: *Lilium candidum* L., White Lily, Ornamental flowers, Medical use, Phytotherapy

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SAFRAN (*Crocus sativus* L.) BİTKİSİNİN KULLANIM ALANLARI

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ÖZET

Eski çağlardan beri bilinen ve kullanılan, İridaceae familyası (Süsengiller) üyelerinden olan safran (*Crocus sativus* L.) önemli bir tarımsal ve tıbbi bitkidir. Üretim maliyetinden ve sahip olduğu özgün özelliklerinden dolayı dünya çapında en değerli baharat olarak adından söz ettirmektedir. Temel olarak stigması kullanılan safran gıdalarda lezzet ve renk verme amaçlı kullanımının yanı sıra, çay olarak da tüketilebilmektedir. Gıda amaçlı kullanımının yanı sıra ilaç sanayinde de kendisine yer bulan safran, potansiyel sağlık faydaları ve uygulama alanları ile yeni tedavi yöntemlerinin geliştirilmesine katkı sağlamaktadır. Krosin, picrocrosin, safranal gibi biyoaktif bileşenlere sahip safran, antioksidan, antidepresan, antiinflamatuar ve antikanser özellikler gösterebilmektedir. Kumaş ve iplik boyamada da kullanılabilen safran pahalı olması nedeni ile günümüzde yaygın olarak boyama amaçlı kullanımı azalmıştır. Sonuç olarak çok değerli çiçeklere sahip olan safran bitksinin çok çeşitli kullanım alanlarını boya sanayi, kozmetik sanayi, ilaç sanayi ve gıda sanayi olmak üzere dört ana başlık altında toplamak mümkündür. Ayrıca birçok ülkede yetiştiriciliği yapılan safranın kullanım alanları giderek yaygınlaşmaktadır.

Anahtar Kelemeler: Safran, *Crocus sativus* L., Baharat, süs bitkisi, Krosin

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USAGE AREAS OF SAFFRON (*Crocus sativus* L.) PLANT

ABSTRACT

Saffron (*Crocus* sativus L.), a member of the Iridaceae family, has been known and used since ancient times as an important agricultural and medicinal plant. Due to its cost and unique characteristics, it is recognized as the most valuable spice worldwide. The stigma of saffron is primarily used in food for flavor and coloring purposes; however, it can also be consumed as a tea. In addition to its application in the food industry, saffron finds a place in the pharmaceutical industry, contributing to the development of new treatment methods due to its potential health benefits and application areas. Containing bioactive components such as crocin, picrocrocin, and safranal, saffron can exhibit antioxidant, antidepressant, anti-inflammatory, and anticancer properties. Although saffron can also be used in dyeing fabrics and yarns, its expensive nature has reduced its use for dyeing purposes in modern times. In conclusion, the valuable flowers of the saffron plant have diverse applications that can be categorized under four main headings: the dye industry, the cosmetics industry, the pharmaceutical industry, and the food industry. Furthermore, the cultivation of saffron is becoming increasingly widespread in many countries.

Keywords: Saffron, *Crocus sativus* L., Spice, Ornamental plant, Crocin

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ANALYSİS OF PLANT STRESS RESPONSE MECHANİSMS USİNG RNA SEQUENCİNG

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ABSTRACT

RNA sequencing (RNA-seq) has revolutionized the study of plant stress responses by providing detailed insights into the molecular mechanisms that govern adaptation to biotic and abiotic stressors, such as drought, salinity, and pathogen attacks. This technique enables the identification of differentially expressed genes (DEGs) and regulatory pathways critical for stress tolerance. Key discoveries from RNA-seq studies include the activation of mitogen-activated protein kinases (MAPK), antioxidant systems, and osmotic regulation under stress conditions. Additionally, non-coding RNAs such as miRNAs and long non-coding RNAs (lncRNAs) have been shown to play essential roles in regulating gene expression during stress. For example, in salt-stressed chrysanthemum roots, RNA-seq revealed critical stress-responsive genes associated with signal transduction and cell membrane integrity, underscoring the potential of RNA-seq to inform strategies for developing stress-resistant crops and improving agricultural resilience.

Keywords: RNA sequencing, plant stress response, gene expression, miRNAs.

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TRANSCRİPTOME AND GENOMİC ANALYSİS OF ALMOND (*Prunus dulcis*)

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ABSTRACT

Almond (*Prunus dulcis*), an economically significant nut crop, has been the focus of extensive genomic and transcriptomic studies aimed at improving its resilience to environmental stresses, kernel quality, and breeding efficiency. Recent advances have led to the sequencing of the almond genome, revealing critical insights into traits such as bud dormancy, flowering time, and stress responses. Comparative genomic studies with related species like peach have highlighted the role of transposable elements in almond's diversification and the development of key traits like kernel sweetness. Transcriptomic analyses have further illuminated almond's responses to abiotic stresses, including drought and frost, identifying numerous differentially expressed genes (DEGs) involved in stress tolerance. These findings have facilitated the development of functional markers for breeding programs. In particular, research into genes associated with self-incompatibility, stress tolerance, and flowering regulation offers promising tools for marker-assisted selection (MAS) in breeding. As almond cultivation faces increasing challenges from climate change, integrating genomic and transcriptomic data is essential for developing resilient cultivars that maintain productivity under adverse conditions.

Keywords: Almond (*Prunus dulcis*), genomic analysis, transcriptomic analysis, stress tolerance.

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MONITORING AND EVALUATING LULC CHANGES IN MARMARA LAKE REGION USING AI-SUPPORTED SENTINEL-2 LAND COVER DATA (2017–2023)

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ABSTRACT

Land use and land cover change (LULC) is important for environmental sustainability and the management of natural resources. Remote sensing techniques enable long-term monitoring over large areas, providing decision-makers with fast and reliable information. This study examines land use and cover changes between 2017 and 2023 in Manisa province, especially around Lake Marmara. The study uses Sentinel-2 data with a 10-meter resolution obtained from ESRI's Living Atlas for the World platform. This platform is a powerful tool for land use analysis with its high-resolution and AI-assisted classification capabilities. The images were classified into nine categories: water, trees, submerged vegetation, agricultural areas, built-up areas, bare soil, snow/ice, clouds, and pasture, and were evaluated to observe changes in the land use of the region. According to the analysis results, agricultural areas increased from 32.38% in 2017 to 34.36% in 2023, and built-up areas increased from 3.43% to 4.09%. Water areas decreased from 0.72% to 0.33%, and rangeland areas decreased from 39.96% to 37.08%. The water area in Lake Marmara, which was 12% in 2017, completely disappeared after 2021. These findings show that agricultural pressure is increasing and water resources are decreasing. Land use changes threaten the sustainability of natural resources in the region and require local governments to take environmental measures. The results show that remote sensing analysis provides important environmental management and sustainable planning recommendations.

Keywords: ESRI Living Atlas, LULC, Sentinel-2, Sustainability, Remote Sensing, Artificial Intelligence-Assisted Classification

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BOĞAZLIYAN DERESİ HAVZASI'NDA YAŞANAN EROZYON PROBLEMİ (YOZGAT)

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Özet

Erozyon yeryüzünde gerçekleşen aşınma ve taşınma olaylarının tamamı olarak geniş şekilde tanımlanabilir. Erozyonun bir problem teşkil etmesi ise insanların sürece müdahale ederek mevcut erozyon şartlarını değiştirmesi ve süreci hızlandırması sonucu meydana gelmektedir. Bu çalışma Karasu Çayı havzası içerisinde yer alan idari olarak da Yozgat ili sınırları içerisindeki Boğazlıyan Deresi havzasında gerçekleştirilmiştir. İlk olarak sahanın eğim ve yükselti haritaları oluşturulmuştur. Daha sonra Türkiye il envanterleri verilerinden yararlanılarak sahanı erozyon haritası oluşturulmuştur. Harita üzerinde görülen problemli alanlar saha çalışmaları ile doğrulanmış ve sahada görülen erozyon tipleri fotoğraflanmıştır. Ayrıca riskli alanların doğrudan etkilediği yerler hakkında gözlemler yapılmış ve sahadaki su yapılarının durumları farklı mevsimlerde izlenerek değerlendirilmiştir. Boğazlıyan Deresi havzası yaklaşım alanı 690 km2'dir. Havzada az ya da hiç erozyon görülen sahalar yaklaşık 85 km2'dir. Orta Derecede erozyon olan sahalar yaklaşık 358 km2'lik alanla sahanın yarısından saha fazla bir alanda karşımıza çıkmaktadır. Şiddetli erozyon yaşanan sahalar 206 km2'lik bir alanda, çok şiddetli erozyon sahaları ise yaklaşık 40 km2'lik bir alanda görülmektedir. Mevcut duruma bakıldığında sahanın önemli bir kısmının orta ve şiddetli erozyona maruz kaldığı görülmektedir. Hiç şüphesiz yaşanan erozyon havza üzerindeki sulama yapılarını olumsuz etkilemektedir. Boğazlıyan barajı başta olmak üzere sahadaki bütün sulama yapıları için problem teşkil edebilecek bir erozyon mevcuttur. Boğazlıyan barajı burada önemli risk altında görülebilir. Barajın olduğu sahaya bakıldığında yukarı havzada şiddetli erozyon sahaları görülmektedir. Erozyon tehlikesinin yüksek olduğu alanlarda uygulamalı çözümler üretilmediği sürece başta toprak olmak üzere önemli kaynaklarımızın kaybolması kaçınılmazdır. Sahada eğim değerlerini yüksek olduğu yerlerde yapılan kesimlerden acilen vazgeçilmelidir. Tarım alanları ise toprak ve Arazi kullanım kabiliyetine uygun olarak ekilip biçilmelidir.

Anahtar Kelimeler: Toprak Erozyonu, Havza, Boğazlıyan.

Abstract

Erosion can be broadly defined as all of the erosion and transport events taking place on the earth. The problem with erosion is that people can intervene in the process. change the existing erosion conditions and accelerate the process comes first. This study was carried out in the Karasu Stream basin, which is also administratively located in the Karasu Stream basin. The study was carried out in the Boğazlıyan Stream basin within the borders of Yozgat province.

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Firstly, slope and elevation maps of the site were prepared. Then Turkey erosion map of the area by utilising data from provincial inventories was created. The problematic areas seen on the map were identified by field studies. verified and the erosion types observed in the field were photographed. Also risky observations were made about the areas directly affected by the areas and the water The conditions of the structures were monitored and evaluated in different seasons. Boğazlıyan The approach area of the river basin is 690 km2 . Little or no erosion is observed in the catchment. The areas are approximately 85 km2. Areas with moderate erosion are approximately 358 With an area of km2 , it appears in more than half of the area. The areas with severe erosion are located in an area of 206 km2 and very severe erosion The fields are observed in an area of approximately 40 km2. Considering the current situation, it is seen that a significant part of the area is exposed to moderate and severe erosion. Undoubtedly, erosion negatively affects the irrigation structures in the basin.There is an erosion that may pose a problem for all irrigation structures in the field, especially Boğazlıyan dam.Boğazlıyan dam can be seen under significant risk here.When the area where the dam is located is examined, severe erosion areas are observed in the upper basin.Unless practical solutions are produced in areas with high erosion hazard, it is inevitable that our important resources, especially soil, will be lost.The cuts made in the areas where the slope values are high in the field should be urgently abandoned.Agricultural areas should be cultivated and harvested in accordance with soil and land use capability.

Key Words: Soil Erosion, Watershed, Boğazlıyan.

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VOLKANİK MAĞARA KULLANIMINA KIRSAL BİR ÖRNEK, ANINKAYA MAĞARA KOMPLEKSİ (NEVŞEHİR)

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Özet

Mağaralar farklı tanımları yapılmış olsa da genel olarak bir insanın sığabileceği büyüklükteki yeraltı boşlukları olarak tanımlanmaktadır. Tarihsel süreçte farklı amaçlarla kullanılmış olan mağaralar insan medeniyeti içerisinde önemli yer kaplamaktadır. Bölge özelinde mağaralar ise yüzyıllardır insanların kullandığı önemli yaşam alanları olarak karşımıza çıkmaktadır. Bugünde mağaraların yörede önemi yadsınamaz büyüklüktedir. Turizm otelcilik ve depoculuk gibi önemli alanlarda mağaralardan faydalanılmaktadır. Bugünkü mağaraların bölgede doğal mağaralar olmaktan daha çok ticari kaygılar ile yapılmış mağaralar olduğu da açıktır. Öte yandan sahanın Kapadokya Volkanik alanı olarak nitelendirildiği düşünüldüğünde doğal yapıların da bolca bulunduğu gözardı edilmemelidir. Jeolojik miras olarak kabul edilebilecek volkanik sahalar bir bütün olarak değerlendirildiğinde jeoturizm faaliyetleri bakımından bir bütünün parçaları olarak değerlendirilmelidir. Bu sebeple sahada yer alan her bir jeomorfolojik şekil önem arz etmektedir. Makaleye konu olan Anınkaya mağara kompleksi de bu bütünün parçası olarak değerlendirilmiş, sahada ölçümler ve gözlem yapılarak mağaraların jeoturizm potansiyeli değerlendirilmiştir. Anınkaya mağarası kompleks yapısının çok boyutlu olduğu görülmüştür. Mağaranın yaklaşık 4 m bir girişi olduğu ve girişin her iki yanında fay yüzeylerinin açıkça izlenebildiği tespit edilmiştir. Bu çatlaklı sistemler kompleksin iç ve dış cephelerinde izlenebilmektedir. Ayrıca mağaranın yanındaki mağaralarda beşeri sebeplere bağlı bozulma ve tahribatlar yaşandığı görülmektedir. Mağaraların daha çok çobanlar tarafından kullanıldığı özellikle fırtınalı havalarda çokça faydalanıldığı tespit edilmiştir. Sahada doğal oluşumlu volkanik mağara olması açısından önem arz eden mağara kompleksi sahanın jeoturizm potansiyeli açısından bir bütünlük içerisinde değerlendirildiğinde, sahadaki diğer şekillerle birlikte jeosit potansiyeli yüksek bir alan olarak görülmektedir. Özellikle Çataltepe lav akıntısına çok yakın mesafede olması ve lav akıntıları üzerinde yer alıyor olması buranın eğitici ve öğretici niteliğini arttırmaktadır.

Anahtar Kelimeler: Volkanik Mağara, Jeoturizm, Suvermez, Nevşehir.

Abstract

Cave is generally defined as underground cavities large enough for a person to fit in, although different definitions have been made. Caves, which have been used for different purposes in the historical process, occupy an important place in human civilisation. In the region, caves appear as important living spaces used by people for centuries. Today, the importance of caves

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in the region is undeniable. Caves are utilised in important areas such as tourism, hotel management and warehousing. It is also clear that today's caves are caves built with commercial concerns rather than natural caves in the region. On the other hand, considering that the area is characterised as Cappadocia Volcanic area, it should not be ignored that natural structures are also abundant. When the volcanic sites that can be considered as geological heritage are evaluated as a whole, they should be considered as parts of a whole in terms of geotourism activities. For this reason, each geomorphological shape in the field is important. Anınkaya cave complex, which is the subject of the article, was also considered as a part of this whole, and the geotourism potential of the caves was evaluated by making measurements and observations in the field. It was observed that the complex structure of Anınkaya cave is multidimensional. It was determined that the cave has an entrance of approximately 4 m and fault surfaces can be clearly observed on both sides of the entrance. These fractured systems can be observed on the interior and exterior facades of the complex. It is also observed that the caves next to the cave have suffered deterioration and destruction due to human causes.It was determined that the caves were mostly used by shepherds, especially in stormy weather.When the cave complex, which is important in terms of being a naturally formed volcanic cave in the area, is evaluated as a whole in terms of the geotourism potential of the area, it is seen as an area with high geosite potential together with other shapes in the area.Especially being very close to Çataltepe lava flow and being located on lava flows increases the educational and instructive quality of this place.

Key Words: Volcanic Cave, Geotourism, Suvermez, Nevşehir.

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TRAFİK KAZALARININ ŞİDDET İNDEKSİNE DAYALI MEKANSAL ANALİZİ

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ÖZET

Trafik kazalarındaki kontrolsüz artış, geçmişten günümüze dünya ülkelerinin trafik güvenliğini sağlamada karşılaştığı bir engel ve önemli bir sorundur. Bu nedenle, trafik kazalarının azaltılması, temel ve acil bir ihtiyaçtır. Coğrafi Bilgi Sistemi (CBS) tabanlı mekansal kümeleme yöntemleri trafik kazası sıcak noktalarının belirlenmesi ile belirtilen ihtiyacı karşılamada önemli bir araç niteliğindedir. Ancak, trafik kazalarının ağırlıklandırılmış verileri olmadan, gözlemlenen kümelemenin doğru olup olmadığını belirlemek zordur. Bu nedenle, trafik güvenliği olmayan yerleri belirlemek için trafik kazalarının şiddetlerine göre ağırlıklandırılması önemlilik arz etmektedir.

Bu çalışmada, Konya ilinin merkezi pilot bölge olarak seçilmiş ve 2020 - 2021 yıllarına ait trafik kaza verileri kullanılarak CBS tabanlı mekansal kümeleme analizleri gerçekleştirilmiştir. Bu bağlamda öncelikle, Karayolları Genel Müdürlüğü'nün trafik kaza şiddeti indeks hesabına göre elde edilen kaza verilerinin ağırlıkları belirlenmiş, ardından mekansal kümeleme yöntemlerinden Getis Ord Gi* analizi kullanılarak her iki yıla ait analizler ArcGIS Pro 3.3 programında yürütülmüştür. Elde edilen sonuçlar, birbirleri ile kıyaslanarak yıllar içinde trafik kaza sıcak noktalarının artış eğiliminde olduğu alanlar irdelenmiştir. Analiz sonuçları, 2022 yılındaki trafik kaza sıcak noktalarının 2021 yılına göre benzer noktalarda olmakla birlikte farklı alanlarda da arttığını göstermiş, dolayısıyla bu noktalarda ivedilikle trafik güvenliği sağlayacak çalışmaların yürütülmesi gerekliliğini ortaya koymuştur.

Anahtar Kelimeler : Trafik kaza, trafik kaza şiddet indeksi, Getis Ord Gi*, GIS, Konya.

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SPATIAL ANALYSIS OF TRAFFIC ACCIDENTS BASED ON SEVERITY INDEX

ABSTRACT

The uncontrolled increase in traffic accidents has posed a significant challenge for countries worldwide in ensuring traffic safety. As a result, reducing traffic accidents has become a fundamental and urgent necessity. Geographic Information System (GIS)-based spatial clustering methods are vital tools for identifying traffic accident hotspots to address this need. However, without weighted data on traffic accidents, assessing the accuracy of the observed clustering can be difficult. Thus, it is essential to weight traffic accidents according to their severity to identify locations lacking traffic safety.

In this study, the central region of Konya was selected as a pilot area, and GIS-based spatial clustering analyses were conducted using traffic accident data from the years 2020-2021. Initially, the weights of the accident data were calculated according to the traffic accident severity index provided by the General Directorate of Highways. Subsequently, spatial clustering analyses for both years were performed using the Getis Ord Gi* method in ArcGIS Pro 3.3. The results were compared to identify areas where the trend of traffic accident hotspots increased over the years. The analysis indicated that while traffic accident hotspots in 2022 appeared in similar locations as in 2021, there were also new areas of concern, highlighting the urgent need for implementing traffic safety measures in these locations.

Keywords: Traffic accident, traffic accident severity index, Getis Ord Gi*, GIS, Konya.

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YENİLENEBİLİR ENERJİ KAYNAĞI OLARAK ODUN PELETİ ÜRETİMİ: TÜRKİYE'NİN KÜRESEL SEKTÖRDEKİ ROLÜ VE POTANSİYELİ

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ÖZET

İnsanlığın varoluşundan bu yana, ihtiyaçların karşılanmasında enerji en önemli faktörlerden biri olmuştur. Enerji arzının karşılanmasında ise odun peleti üretimi son yıllarda gittikçe önem kazanmıştır. Bu çalışmada, Türkiye'deki odun peleti üretimi ve ihracatı genel hatlarıyla ele alınmış; odun peletlerinin biyokütle enerjisi içindeki yeri ve sektörün potansiyeli vurgulanmıştır. Araştırmada, odun peleti üretim süreçleri, hammaddeleri ve özellikleri detaylı incelenmiş; yenilenebilir enerji talebindeki artışla birlikte odun peleti üretimi ve ihracatındaki küresel artışa dikkat çekilmiştir. FAO verilerine göre, odun peleti üretimi pandemi öncesi dönemde sürekli artmış, pandemi sürecinde stabil seyretmiş ve sonrasında tekrar artışa geçmiştir. FAO'nun 2022 verilerine göre odun peleti üretiminde, 9.544.000 ton üretimle ABD ilk sırada yer alırken, Türkiye 84.000 ton üretimle 44. sıradadır. İhracatta da ABD 8.977.160 tonla önde iken Türkiye 138.815 ton ile 28. sıradadır. Türkiye'nin odun peleti sektöründeki mevcut durumu analiz edilerek sektörün gelişimine katkıda bulunan ve engel oluşturan faktörler de çalışmada ayrıca değerlendirilmiştir. Bunlara ek olarak, odun peleti üretimini etkileyen faktörler incelenirken, hammaddelerin parçacık boyutu, nem oranı, tutkal kullanımı ve hammaddenin karışım miktarı gibi önemli unsurlara da odaklanılmıştır. Ayrıca, odun peletlerinin fiziksel ve kimyasal özelliklerinin üretim ve yanma süreçlerini nasıl etkilediği üzerinde de durulmuştur.

Çalışma sonucunda, odun peleti endüstrisinin küresel ve yerel boyuttaki önemi belirtilmiş, odun peleti üretimi ve ihracatının analizi sunulmuştur. Bu araştırma, odun peleti endüstrisinin sürdürülebilir enerji sağlama potansiyelini ve bu alandaki gelecek yönelimlerini anlamak için değerli bir kaynak olarak görülmektedir.

Anahtar Kelimeler : Odun Peleti, Odun Pelet Üretimi, Odun Pelet İhracatı, Türkiye Örneği

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WOOD PELLET PRODUCTION AS A RENEWABLE ENERGY SOURCE: TURKIYE'S ROLE AND POTENTIAL IN THE GLOBAL SECTOR

Abstract

Since the dawn of humanity, energy has been a crucial factor in meeting basic needs. In recent years, wood pellet production has gained significant importance in addressing energy demands. This study provides an overview of wood pellet production and export in Turkiye, highlighting the role of wood pellets within biomass energy and the sector's overall potential. The research delves into the production processes, raw materials, and characteristics of wood pellets in detail, while drawing attention to the global increase in wood pellet production and export in response to rising demand for renewable energy. According to FAO data, wood pellet production showed consistent growth prior to the COVID-19 pandemic, remained stable during the pandemic, and resumed its upward trend afterward. As of 2022 FAO data, the United States ranks first in wood pellet production with 9.544.000 tons, while Turkiye ranks 44th with 84.000 tons. Similarly, in terms of exports, the United States leads with 8.977.160 tons, whereas Turkiye is positioned 28th with 138,815 tons. This study also analyzes Turkiye's current standing in the wood pellet sector, examining both the factors that contribute to and hinder the sector's development. Additionally, the research considers key elements impacting wood pellet production, including particle size, moisture content, adhesive use, and the mixture ratios of raw materials. The influence of the physical and chemical properties of wood pellets on production and combustion processes is also explored.

In conclusion, the study underscores the importance of the wood pellet industry on both global and local scales, providing an analysis of wood pellet production and export. This research is regarded as a valuable resource for understanding the potential of the wood pellet industry in supplying sustainable energy and future trends in this sector.

Keywords: Wood Pellet, Wood Pellet Production, Wood Pellet Export, Turkiye

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ECONOMETRIC ANALYSIS OF EDUCATIONAL EXPENDITURES IN TURKEY

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ABSTRACT

A direct relation exists between educational expenditures and the amount and quality of education. From this point of view, the determination of the factors affecting educational expenditures of households carries much significance. In this research, the factors affecting the educational expenditures of households in Turkey were attempted to be ascertained. In this way, it is aimed to produce policy recommendations through the factors affecting education expenditures.

The data obtained by the household budget surveys conducted on 11000 households by Turkish Statistical Institute (TSI) in 2017 were utilized. Household Budget Surveys are one of the most important resources used to test the validity of the socio-economic policies implemented, giving information about the socio-economic structures, living levels and consumption patterns of the households. The data were analyzed with Log-Heckman's Sample Selection Model (SSM).

According to the obtained results, the monthly average educational expenditures of household were determined to be 55.03 TRY. The factors such as the household head's age, position in the workplace, condition of being retired, existence of an enterprise income, family's reception of financial aid, the habited house being rental, the heating of the house by a central heating boiler of a stove, presence of internet connection, the family having multiple children, different age groups of the children, car ownership, monthly total expenditure amount of the household and the monthly income level were determined to be statistically affecting the possibility of educational expense.

The research contributes to the literature in terms of researching education expenditures, which is one of the important indicators of the value given to education today. In addition, the use of the Log-Heckman's Sample Selection Model (SSM) method within the scope of education expenditures reveals the originality of the research.

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In the research, it has been determined that families with high living standards attach more importance to education. For this reason, every policy implemented to raise the living standards of the society will lead the society to give more importance to education.

Keywords: Log-Heckman's SSM, educational expenditure, household, Turkey

GELENEKSEL ALIŞVERİŞTE EN ÇOK KARŞILAŞILAN SORUNLARIN KARAR AĞACI MODELİ İLE DEĞERLENDİRİLMESİ

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ÖZET

Günümüzde geleneksel (fiziksel) alışveriş halen çok büyük miktarda kullanılmaktadır. Fakat tüketiciler alışveriş yaparken bazı problemlerle karşılaşabilmektedirler. Bu sorunlar çok çeşitlidir. Bu sorunlardan bazıları kalabalık ortam, ürün bulunurluğu, ürün kalitesi, indirimlerin yetersizliği ve kasada uzun bekleme süresi olabilmektedir.

Bu çalışmada, geleneksel alışveriş esnasında tüketicilerin karşılaştıkları sorunlar bir karar ağacı modeli kullanılarak analiz edilmiştir. Bu amaçla, öncelikle 18 yaş ve üzerindeki tüketicilerden bilgi toplamak amacıyla 11 sorudan oluşan kapsamlı bir soru formu hazırlanmıştır. Bu ankette, alışveriş sürecindeki memnuniyeti etkileyebilecek çeşitli faktörler sorgulanarak, tüketici deneyimlerinin detaylı bir şekilde incelenmesi hedeflenmiştir. Soru formu ile toplanan veriler, geleneksel alışverişte hangi faktörlerin daha belirleyici olduğunu görmek adına analiz edilmiş ve sonuçları daha anlaşılır hale getirmek için karar ağacı modeline başvurulmuştur. Karar ağacı modelinin uygulanabilmesi için RapidMiner programından yararlanılmıştır. RapidMiner yazılımı verilerin kolay ve etkili bir şekilde analiz edilmesini sağlamaktadır.

Çalışmadan elde edilen verilerin değerlendirildiğinde, karar ağacı modeli %73.91 doğruluk ile verilerin doğru tahmin edilmesini sağlamıştır. Bu oran, modelin güvenilirliğini ve kullanılabilirliğini göstermektedir. Yine yapılan çalışma kullanılan karar ağacı modeli oluşturulurken en önemli faktörün 0.260 ile mağazada geçirilen süre olduğu tespit edilmiştir.

Sonuç olarak, bu çalışmada kullanılan karar ağacı modeli ile geleneksel alışverişte karşılaşılan sorunların daha iyi anlaşılmasına yönelik önemli bir adım atılmıştır. Çalışmanın, geleneksel alışveriş süreçlerinin iyileştirilmesi için iş dünyasına ve mağaza düzenlemelerine katkı sağlayabileceği düşünülmektedir.

Anahtar Kelimeler : Geleneksel Mağaza, Sorun, Soru Formu, Karar Ağacı

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EVALUATION OF THE MOST COMMON PROBLEMS IN TRADITIONAL SHOPPING WITH THE DECISION TREE MODEL

ABSTRACT

Today, traditional (physical) shopping is still used to a great extent. However, consumers may encounter some problems while shopping. These problems are very diverse. Some of these problems can be crowded environment, product availability, product quality, insufficient discounts and long waiting times at the checkout.

In this study, the problems encountered by consumers during traditional shopping were analyzed using a decision tree model. For this purpose, a comprehensive questionnaire consisting of 11 questions was prepared to collect information primarily from consumers aged 18 and over. This survey aimed to examine consumer experiences in detail by questioning various factors that may affect satisfaction during the shopping process. The data collected with the questionnaire was analyzed to see which factors were more decisive in traditional shopping and the decision tree model was used to make the results more understandable. RapidMiner program was used to implement the decision tree model. RapidMiner software enables easy and effective analysis of data.

When the data obtained from the study were evaluated, the decision tree model provided correct prediction of the data with 73.91% accuracy. This ratio shows the reliability and usability of the model. Again, while creating the decision tree model used in the study, it was determined that the most important factor was the time spent in the store with 0.260.

As a result, the decision tree model used in this study has taken an important step towards a better understanding of the problems encountered in traditional shopping. It is thought that the study may contribute to the business world and store arrangements to improve traditional shopping processes.

Keywords : Traditional Store, Problem, Question Form, Decision Tree

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TÜKETİCİLERİN GELENEKSEL VE/VEYA ONLINE ALIŞVERİŞ TERCİH SEBEPLERİNİN BİRLİKTELİK ANALİZİ İLE DEĞERLENDİRİLMESİ

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ÖZET

Son yıllarda, teknoloji ve dijital platformların gelişmesiyle birlikte tüketiciler hem geleneksel (fiziksel) hem de online alışveriş seçeneklerini sıklıkla tercih edebilmektedir. Geleneksel alışveriş, fiziksel mağazalarda ürünleri doğrudan görme ve deneme imkanı sunarken, online alışveriş ise kullanıcıya zaman tasarrufu, fiyat karşılaştırması yapabilme ve ürün yorumlarını inceleyebilme gibi avantajlar sunmaktadır. Tüketicilerin bu alışveriş yöntemlerini tercih etmelerini birçok faktör etkileyebilmektedir. Bunlar arasında cinsiyet, yaş, meslek, eğitim durumu, ürün kalitesi, fiyat, zaman, kullanıcı yorumları gibi birçok faktör sayılabilmektedir.

Bu çalışmada, tüketicilerin geleneksel ve/veya online alışveriş tercihlerini belirleyen unsurların detaylı bir şekilde incelenmesi amaçlanmıştır. Tüketici davranışlarını daha iyi analiz edebilmek için birliktelik analizlerinden biri olan FP-Growth algoritması kullanılmıştır. FP-Growth analizi, büyük veri setlerindeki sık rastlanan öğe gruplarını bulmak ve bu gruplar arasında anlamlı birliktelikler çıkarmak için etkili bir yöntem olarak bilinir. Analizde kullanılacak veriler 12 sorudan oluşan soru formu ile elde edilmiştir. Bu soru formu 18 yaş ve üzeri 151 kişiye uygulanmıştır. Analizin gerçekleştirilebilmesi için RapidMiner yazılımından faydalanılmıştır. Bu yazılım çeşitli görevleri üstlenen operatörler sayesinde çalışmaktadır.

FP-Growth analizi sonucunda %70 üstü güvenirliliğe sahip 134 birliktelik kuralı belirlenmiştir. Bu kurallar, tüketicilerin alışveriş tercihlerini etkileyen faktörlerin hangi durumlarda bir araya geldiğini ve belirli özelliklerin hangi alışveriş türüyle daha fazla ilişkilendirildiğini göstermektedir. Birliktelik analizinde en düşük güven seviyesi 0.702 en yüksek güven seviyesi ise 1 olarak belirlenmiştir.

Tüketicilerin birliktelik analizi kullanılarak geleneksek ve/veya online alışveriş tercih sebeplerini inceleyen çalışmalar sınır sayıdadır. Bu alanda çalışmalar arttırılarak tüketicilerin alışveriş davranışları hakkında daha çok bilgi sahibi olunabilir. Bu durumda geleneksel veya online olarak ürün satan şirketlerin karlılıklarının arttırmasını sağlayabilmektedir.

Anahtar Kelimeler : Geleneksel Alışveriş, Online Alışveriş, Birliktelik Analizi, FP-Growth Analizi

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EVALUATION OF CONSUMERS' TRADITIONAL AND/OR ONLINE SHOPPING PREFERENCE REASONS WITH COLLABORATION ANALYSIS

ABSTRACT

In recent years, with the development of technology and digital platforms, consumers can often choose both traditional (physical) and online shopping options. While traditional shopping offers the opportunity to see and try products directly in physical stores, online shopping offers the user advantages such as saving time, comparing prices and reviewing product reviews. Many factors can influence consumers' preference for these shopping methods. These include many factors such as gender, age, profession, educational status, product quality, price, time, and user comments.

The aim of this study is to examine in detail the factors that determine consumers' traditional and/or online shopping preferences. In order to better analyze consumer behavior, the FP-Growth algorithm, one of the association analyses, was used. FP-Growth analysis is known as an effective method to find frequent groups of items in large data sets and to extract meaningful associations between these groups. The data to be used in the analysis was obtained with a questionnaire consisting of 12 questions. This questionnaire was applied to 151 people aged 18 and over. RapidMiner software was used to perform the analysis. This software works with operators who undertake various tasks.

As a result of FP-Growth analysis, 134 association rules with 70% above reliability were determined. These rules show in which situations the factors that affect consumers' shopping preferences come together and which shopping type certain features are more associated with. In the association analysis, the lowest confidence level was determined as 0.702 and the highest confidence level was determined as 1.

Studies examining the reasons for consumers' preference for traditional and/or online shopping using association analysis are limited in number. By increasing studies in this area, more information can be obtained about the shopping behavior of consumers. In this case, it can increase the profitability of companies that sell products traditionally or online.

Keywords : Traditional Shopping, Online Shopping, Association Analysis, FP-Growth Analysis

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DEĞİŞTİRİLMİŞ Pİ-SİGMA YAPAY SİNİR AĞI İLE BORSA ÖNGÖRÜSÜ

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ÖZET

Pi-Sigma yapay sinir ağları birçok yapay sinir ağı yönteminden farklı olarak hem toplamsal hem de çarpımsal birleştirme fonksiyonuna sahiptir. Pi-Sigma yapay sinir ağlarında ağın girdi tabakası ile gizli tabakası arasında ağırlık ve yan değerleri var iken gizli ve çıktı tabakası arasındaki ağırlıklar sabit alınmaktadır. Pi-Sigma yapay sinir ağlarının aksine, Değiştirilmiş Pi-Sigma yapay sinir ağında ise gizli ve çıktı tabakası arasındaki ağırlık ve yan değerleri de optimizasyon sürecine dahil edilmiş ve böylece öngörü performansı Pi-Sigma yapay sinir ağından daha yüksek bir yapay sinir ağı olan değiştirilmiş Pi-Sigma yöntemi önerilmiştir. Değiştirilmiş Pi-Sigma yapay sinir ağının eğitimi de parçacık sürü optimizasyonu ile gerçekleştirilmiştir. Bu çalışmada değiştirilmiş Pi-Sigma yapay sinir ağı yöntemi kullanılarak Euro/Dolar paritesi zaman serisi analiz edilmiş ve değiştirilmiş Pi-Sigma yapay sinir ağı yöntemi çeşitli yapay sinir ağı yöntemleri ile karşılaştırılmıştır.

Anahtar Kelimeler: Değiştirilmiş Pi-Sigma Yapay Sinir Ağları, Parçacık Sürü Optimizasyonu, Öngörü.

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DAYANIKLI RESİM BULANIK REGRESYON FONKSİYONLARI YAKLAŞIMI İLE BORSA ÖNGÖRÜSÜ

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ÖZET

Resim bulanık regresyonları fonksiyonları yaklaşımı en küçük kareler regresyon yöntemi ve resim bulanık kümeleme yöntemine dayalı olarak çalışan bir bulanık çıkarım sistemi yöntemidir. Bir resim bulanık regresyon fonksiyonları yaklaşımında girdiler; zaman serisinin gecikmeli değişkenleri ile resim bulanık kümeleme yöntemleri ile elde edilen pozitif, nötral ve negatif üyelik değerleridir. Bu özellikleri ile bir resim bulanık regresyon fonksiyonları yaklaşımının bir sezgici bulanık regresyon fonksiyonları yaklaşımının bir genellemesi olduğu söylenebilir. Resim bulanık regresyon fonksiyonları yaklaşımının da girdilerinin birinin zaman serisinin gecikmeli değişkenleri olması sebebi ile tıpkı sezgici bulanık regresyon fonksiyonları yaklaşımı gibi resim bulanık regresyon fonksiyonları yaklaşımı da zaman serisinde bulunan aykırı değerlerden olumsuz etkilenmektedir. Bu çalışmada aykırı değer varlığında dahi üstün öngörü performansına sahip dayanıklı bir resim bulanık regresyon fonksiyonları yaklaşımı önerilmiştir. Önerilen yöntemde, resim bulanık regresyon fonksiyonu yaklaşımı için parametre tahmini Andrews fonksiyonuna dayalı dayanıklı regresyon ile gerçekleştirilmektedir. Önerilen bu dayanıklı resim bulanık regresyon fonksiyonları yaklaşımının öngörü performansı Amerikan Doları/Japon Yeni paritesi zaman serisi üzerinden değerlendirilmiş ve ilgili yöntem çeşitli bulanık çıkarım sistemi yöntemleri ile karşılaştırılmıştır.

Anahtar Kelimeler: Resim Bulanık Regresyonları Fonksiyonları, Aykırı Değer, Öngörü.

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COEFFICIENT BOUND ESTIMATES FOR THE PSEUO-STARLIKE FUNCTION CLASS OF COMPLEX ORDER

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ÖZET

Bu çalışmada, biz yıldızıl ve ünivalent fonksiyonların psevdo-yıldızıl altsınıfı olarak adlandırılan kompleks mertebeden bir sınıfını tanımladık. Burada, biz bu tanımlanan sınıfa ait olan fonksiyonların ilk iki katsayısı için üst sınır değerlendirmesi verdik. Ayrıca, tanımlanan sınıf için Fekete-Szegö problemini de çözdük.

Anahtar Kelimeler: Yıldızıl fonksiyon, ünivalent fonksiyon, psevdo-konveks fonksiyon, kompleks mertebe

ASTRACT

ISBN NR.: 978-625-6283-95-4

In this study, we defined a new subclass of starlike and univalent functions, which called pseudo-starlike function class of complex order. Here, we gave bound estimates for initial two coefficients of the functions belonging to this defined function class. The Fekete-Szegö problem for the defined class is also solved.

Keywords: Starlie function, univalent function, pseudo-starlike function, complex order

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COEFFICIENT BOUND ESTIMATES FOR THE PSEUDO-CONVEX FUNCTION CLASS OF COMPLEX ORDER

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ÖZET

Bu çalışmada, biz konveks ve ünivalent fonksiyonların psevdo-konveks altsınıfı olarak adlandırılan kompleks mertebeden bir sınıfını tanımladık. Burada, biz bu tanımlanan sınıfa ait olan fonksiyonların ilk iki katsayısı için üst sınır değerlendirmesi verdik. Ayrıca, tanımlanan bu sınıf için Fekete-Szegö problemini de çözdük.
Anahtar Kelimeler: Konveks fonksiyon, ünivalent fonksiyon, psevdo-konveks fonksiyon, kompleks mertebe

ASTRACT

In this study, we defined a new subclass of convex and univalent functions, which called pseudo-convex function class of complex order. Here, we gave bound estimates for initial two coefficients of the functions belonging to this defined function class. The Fekete-Szegö problem for the defined class is also solved.
Keywords: Convex function, univalent function, pseudo-convex function, complex order

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COEFFICIENT PROBLEM FOR THE PSEUDO-CONVEX BI-UNIVALENT FUNCTION CLASS

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ÖZET
Bu çalışmada, biz konveks ve bi-ünivalent fonksiyonların psevdo-konveks altsınıfı olarak adlandırılan bir sınıfını tanımladık. Burada, biz bu sınıf için bazı katsayı değerlendirmesi verdik ve Fkete-Szegö problemini çözdük.
Anahtar Kelimeler: Konveks fonksiyon, bi-ünivalent fonksiyon, psevdo-konveks fonksiyon

ASTRACT
In this study, we defined a new subclass of convex and bi-univalent functions, which called pseudo-convex function class. Here, we gave some coefficient estimates and solve Fekete-Szegö problem for this class.
Keywords: Convex function, bi-univalent function, pseudo-convex function

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COEFFICIENT BOUND ESTIMATES FOR THE PSEUDO-STARLIKE BI-UNIVALENT FUNCTION CLASS

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ÖZET

Bu çalışmada, biz yıldızıl ve bi-ünivalent fonksiyonların psevdo-yıldızıl altsınıfı olarak adlandırılan bir sınıfını tanımladık. Burada, biz tanımlanan bu sınıfa ait olan fonksiyonların ilk iki katsayısı için üst sınır değerlendirmeleri verdik. Tanımlanan sınıf için Fekete-Szegö problemini de çözdük.
Anahtar Kelimeler: Yıldızıl fonksiyon, bi-ünivalent fonksiyon, psevdo-yıldızıl fonksiyon

ASTRACT

In this study, we defined a new subclass of starlike and bi-univalent functions, which called pseudo-starlike function class. Here, we gave bound estimates for initial two coefficient of the functions belonging to the defined class. The Fekete-Szegö problem for the defined class is also solved.
Keywords: Starlike function, bi-univalent function, pseudo-starlike function

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COEFFICIENT BOUND ESTIMATES AND FEKETE-SZEGÖ PROBLEM FOR THE PSEUDO-CONVEX FUNCTION CLASS

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ÖZET

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Anahtar Kelimeler: Konveks fonksiyon, ünivalent fonksiyon, psevdo-konveks fonksiyon

ASTRACT

In this study, we defined a new subclass of convex and univalent functions, which called pseudo-convex function class. Here, we gave bound estimates for initial two coefficients of the functions belonging to this defined function class. The Fekete-Szegö problem for the defined class is also solved.

Keywords: Convex function, univalent function, pseudo-convex function

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COEFFICIENT ESTIMATES AND FEKETE-SZEGÖ PROBLEM FOR THE PSEUDO-STARLIKE UNIVALENT FUNCTION CLASS

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ÖZET

Bu çalışmada, biz yıldızıl ve ünivalent fonksiyonların psevdo-yıldızıl altsınıfı olarak adlandırılan bir sınıfını tanımladık. Burada, biz bu tanımlanan sınıfa ait olan fonksiyonların ilk iki katsayısı için üst sınır değerlendirmeleri verdik. Ayrıca, tanımlanan bu sınıf için Fekete-Szegö problemi de çözdük.

Anahtar Kelimeler: Yıldızıl fonksiyon, ünivalent fonksiyon, psevdo-yıldızıl fonksiyon

ASTRACT

In this study, we defined a new subclass of starlike and univalent functions, which called pseudo-starlike function class. Here, we gave bound estimates for initial two coefficients of the functions belonging to this defined function class. The Fekete-Szegö problem for the defined class is also solved.

Keywords: Starlike function, univalent function, pseudo-stalike function

LARGE CLASSES IN A KÖTHE-TOEPLITZ DUAL OF A DIFFERENCE SEQUENCE SPACE AND THEIR FIXED POINT PROPERTY FOR NONEXPANSIVE MAPPINGS

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ABSTRACT

In 2000, Et and Esi introduced new type of generalized difference sequences by using the structure of Çolak's work from 1989 where he defined new types of sequence spaces while Çolak was also inspired by Kızmaz's idea about the difference operator he studied in 1981. In this study, we consider Et and Esi's work and study a Köthe-Toeplitz dual of their generalized difference sequence spaces. We take their study in terms of fixed point theory and find large classes of closed, bounded and convex subsets in that dual with fixed point property for nonexpansive mappings. The Banach space we consider is given by the following:

$$D_1^2 = \left\{ a = (a_n)_n \subset \mathbb{R}: \quad \|a\|^{(2)} = \sum_{k=1}^{\infty} \frac{k^2 |a_k|}{|v_k|} < \infty \right\}.$$

Key Words : Nonexpansive Mapping, Fixed Point Property, Closed Bounded Convex Set, Difference Sequences, Köthe-Toeplitz duals.

FIXED POINT PROPERTY FOR NONEXPANSIVE MAPPINGS ON LARGE CLASSES IN A KÖTHE-TOEPLITZ DUAL OF A DIFFERENCE SEQUENCE SPACE

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$$D_1^3 = \left\{ a = (a_n)_n \subset \mathbb{R}: \quad \|a\|^{(3)} = \sum_{k=1}^{\infty} \frac{k^2 |a_k|}{|v_k|} < \infty \right\}.$$

Key Words : Nonexpansive Mapping, Fixed Point Property, Closed Bounded Convex Set, Difference Sequences, Köthe-Toeplitz duals.

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LARGE CLASSES IN A BANACH SPACES IN CLOSE RELATION TO AN α-DUAL OF A DIFFERENCE SEQUENCE SPACE AND THEIR FIXED POINT PROPERTIES FOR NONEXPANSIVE MAPPINGS

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ABSTRACT

In 2000, Et and Esi introduced new type of generalized difference sequences by using the structure of Çolak's work from 1989 where he defined new types of sequence spaces while Çolak was also inspired by Kızmaz's idea about the difference operator he studied in 1981. Then, using Et and Esi's structure, Ansari and Chaudhry, in 2012, introduced a new type of generalized difference sequence spaces. Changing Ansari and Chaudhry's construction slightly, Et and Işık, in 2012, obtained new type of generalized difference sequence spaces which have equivalent norm to that of Ansari and Chaudhry's type Banach spaces. Then, Et and Işık found α-duals of the Banach spaces they got and investigated geometric properties for them. In this study, we consider α-duals of Et and Işık's generalized difference sequence spaces but we study a Banach space closely related with those such that it is a degenerate Lorentz-Marcinkiewicz space. We take that Banach space related with an α-dual of Et and Işık's generalized difference sequence space in terms of fixed point theory and find large classes of closed, bounded and convex subsets in those with fixed point property for nonexpansive mappings. The Banach space we consider is given by the following for any $r \in \mathbb{R}$:

$$W_1^2 = \left\{ a = (a_k)_k \subset \mathbb{R} : \quad \|a\|_{(2)}^{\sim} = \sum_{k=1}^{\infty} \frac{|a_k|}{k^{2-r}|v_k|} < \infty \right\}.$$

Key Words : Nonexpansive Mapping, Fixed Point Property, Closed Bounded Convex Set, Difference Sequences, α-duals.

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FIXED POINT PROPERTY FOR NONEXPANSIVE MAPPINGS ON LARGE CLASSES IN AN α-DUAL OF A DIFFERENCE SEQUENCE SPACE

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$$U_1^3 = \left\{a = (a_n)_n \subset \mathbb{R}: \quad \|a\|_{\sim}^{(3)} = \sum_{k=1}^{\infty} \frac{k^{3-r}|a_k|}{|v_k|} < \infty\right\}$$

Key Words : Nonexpansive Mapping, Fixed Point Property, Closed Bounded Convex Set, Difference Sequences, α-duals.

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LARGE CLASSES IN α-DUAL OF A DIFFERENCE SEQUENCE SPACE AND THEIR FIXED POINT PROPERTIES FOR NONEXPANSIVE MAPPINGS

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$$U_1^2 = \left\{a = (a_n)_n \subset \mathbb{R}: \quad \|a\|_{\sim}^{(2)} = \sum_{k=1}^{\infty} \frac{k^{2-r}|a_k|}{|v_k|} < \infty\right\}$$

Key Words : Nonexpansive Mapping, Fixed Point Property, Closed Bounded Convex Set, Difference Sequences, α-duals.

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MATERNAL KANDA SERBEST FETAL DNA VE RNA: PRENATAL TESTLER ARASINDAKİ YERİ

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ÖZET

Gebelikte anne kanında bulunan serbest fetal DNA (ve RNA), belirli genetik özelliklerin invaziv olmayan doğum öncesi tanısı için kullanılabilir. Potansiyel uygulamalar arasında fetal cinsiyetin belirlenmesi, belirli tek gen bozukluklarının teşhisi, fetal kan genotiplemesi ve Down sendromu taraması yer alır. Yüksek riskli gebelikler için invaziv olmayan fetal cinsiyet belirleme ve Rh faktörü belirlemeyi sunmaktadır ve bu teknik kısa bir süre içerisinde diğer endikasyonlar için yaygın olarak kullanılabilir hale geleceği tahmin edilmektedir.

Bu teknoloji, mevcut standart uygulamadan daha güvenli, daha erken ve daha kolay doğum öncesi test imkânı sunmaktadır. Ancak bilgilendirilmiş onam ve erişim eşitliği, maliyet de dahil olmak üzere etik, yasal ve sosyal endişeleri gündeme getirmektedir.

Non-invaziv doğum öncesi tanı ile ilgili araştırmalar devam etmektedir. Kamuoyu ve sağlık profesyonelleri bu teknolojinin ilerlemesi ve sınırlamaları hakkında bilgilendirilmelidir. Serbest fetal DNA'nın gebelik sırasında anne kanında dolaştığına dair çığır açıcı keşif, obstetrik bakımda birçok potansiyel uygulama konusunda dünya çapında araştırmaları teşvik etmiştir. Moleküler genetik teknolojisindeki gelişmeler, serbest fetal DNA testinin bazı genetik özelliklerinin erken non-invaziv doğum öncesi sorunları tanımlanması için klinik uygulamaya aktarılmasını sağlamıştır. Ancak, teknolojiyle ilişkili karmaşık, daha geniş etik, yasal ve sosyal sorunlar ve klinik/laboratuvar hizmetleri için çıkarımlar ele alınmalıdır.

Anahtar Kelimeler: Serbest Fetal DNA, RNA, Prenatal test, Maternal kan

FREE FETAL DNA AND RNA IN MATERNAL BLOOD: THEIR PLACE AMONG PRENATAL TESTS

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ABSTRACT

Free fetal DNA (and RNA) found in maternal blood during pregnancy can be used for noninvasive prenatal diagnosis of certain genetic traits. Potential applications include fetal sex determination, diagnosis of certain single-gene disorders, fetal blood genotyping, and screening for Down syndrome. It offers noninvasive fetal sex determination and Rh factor determination for high-risk pregnancies, and it is anticipated that this technique will soon become widely available for other indications.

This technology offers safer, earlier, and easier prenatal testing than current standard practice. However, informed consent and access equity raise ethical, legal, and social concerns, including cost.

Research into noninvasive prenatal diagnosis is ongoing. The public and health professionals should be informed about the progress and limitations of this technology. The groundbreaking discovery that free fetal DNA circulates in the maternal blood during pregnancy has stimulated worldwide research into many potential applications in obstetric care. Advances in molecular genetic technology have enabled the translation of some of the genetic features of free fetal DNA testing into clinical practice for early noninvasive prenatal diagnosis. However, the complex broader ethical, legal and social issues associated with the technology and the implications for clinical/laboratory services must be addressed.

Keywords: Free Fetal DNA, RNA, Prenatal testing, Maternal blood

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FETAL MONİTÖRİZASYON İZLEM TÜRLERİ VE EBELİK YAKLAŞIMLARI

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ÖZET

Doğum sırasındaki dönem hem anne hem de fetüs için en kritik aşamalardan biridir. Doğum süreci sırasında, fetüsün durumunda bozulmaya yol açan ve hayatını tehdit eden komplikasyonlar gelişebilir. Bu nedenle, doğumun sonucu fetal izlemenin etkinliğine bağlıdır. Doğum ve doğum ünitelerinde kardiyotokografi ile sürekli doğum içi Elektronik Fetal Monitörizasyon (EFM) kullanımı istisna değil kural haline gelmiştir. Bu tür bir teknolojinin kullanımı çoğu doğumhanede kolayca yapılabilir çünkü doktorlar ve ebeler Fetal Kalp Hızı (FKH) ve kontraksiyon modellerinin sürekli kağıt veya elektronik kayıtlarını takip eder ve neredeyse tüm hastalar doğum ve doğuma bakımlarında bu aracın kullanılacağını bekleyerek gelirler. Artık her yerde kullanılmasına rağmen, sürekli elektronik izleme ve ilişkili riskleri ve faydaları dikkate alınmaya değerdir.

Sürekli elektronik fetal izleme, doğum sırasında hipoksik-iskemik ensefalopati, serebral palsi ve yaklaşan fetal ölüm belirtilerini taramak için geliştirilmiştir. Bu olayların yaygınlığı düşük olduğundan, sürekli elektronik fetal izleme %99'luk yanlış pozitif orana sahiptir. Sürekli elektronik fetal izlemenin yaygın kullanımı, neonatal sonuçları iyileştirmeden operatif ve sezaryen doğum oranlarını artırmıştır, ancak kullanımı yüksek riskli doğumlarda uygundur. Yapılandırılmış aralıklı oskültasyon, yeterince kullanılmayan bir fetal izleme biçimidir. Düşük riskli doğum sırasında kullanıldığında, sürekli elektronik fetal izlemeninkine benzer neonatal sonuçlarla operatif ve sezaryen doğum oranlarını düşürebilir. Ancak, ebe ve hekim gözetimindeki engeller nedeniyle yapılandırılmış aralıklı oskültasyonun uygulanması hala zordur.

Anahtar Kelimeler: Fetal monitörizasyon, Ebelik, İzlem

FETAL MONITORING TYPES AND MIDWIFERY APPROACHES

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ABSTRACT

The peripartum period is one of the most critical stages for both mother and fetus. During the labor process, complications that may lead to deterioration in the condition of the fetus and threaten its life may develop. Therefore, the outcome of the labor depends on the effectiveness of fetal monitoring. In labor and delivery units, the use of continuous intrapartum Electronic Fetal Monitoring (EFM) with cardiotocography has become the rule rather than the exception. The use of such technology is easily implemented in most delivery rooms because doctors and midwives follow continuous paper or electronic records of Fetal Heart Rate (FHR) and contraction patterns, and almost all patients come to labor and delivery expecting this tool to be used in their care. Although it is now used everywhere, continuous electronic monitoring and its associated risks and benefits are worth considering.

Continuous electronic fetal monitoring was developed to screen for hypoxic-ischemic encephalopathy, cerebral palsy, and signs of impending fetal death during labor. Because the prevalence of these events is low, continuous electronic fetal monitoring has a false-positive rate of 99%. The widespread use of continuous electronic fetal monitoring has increased operative and cesarean delivery rates without improving neonatal outcomes, but its use is appropriate in high-risk deliveries. Structured intermittent auscultation is an underutilized form of fetal monitoring. When used during low-risk deliveries, it can reduce operative and cesarean delivery rates with neonatal outcomes similar to those of continuous electronic fetal monitoring. However, structured intermittent auscultation remains difficult to implement because of barriers to midwife and physician supervision.

Keywords: Fetal monitoring, Midwifery, Monitoring

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PREPARİNG A UNİFİED CODE FOR NUCLEAR DATA TABLES

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ABSTRACT

There are articles that include data tables obtained from experimental and theoretical studies that used in nuclear reaction calculations. The data in these tables, such as mass excess, binding energy, deformation parameters, Q values and etc. are utilized in various nuclear models and semi-empirical formulas. The aim of this study is to compose a Python code to facilitate quicker and more efficient use of the aforementioned data. The current code contains one data table and a few semi-emprical formulae. In the future, the code will be improved to include all relevant data tables. Additionally, as models and semi-empirical formulas that utilize this data are integrated into the code, the calculations will be advanced further. Once the study is completed, the code will be shared as open source. In the calculations Python 3.13 programming language has been used.

Anahtar Kelimeler: Data Tables, Python, Nuclear Reactions

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TÜRKİYE'DEKİ SAĞLIK POLİTİKALARI VE EBELİĞE ETKİLERİ

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ÖZET

Politika, belirli bir grup politik aktörün çeşitli konulara yönelik amaçların belirlenmesi ve bu amaçların gerçekleşmesinde kullanılacak olan araçlar yönünde vermiş oldukları kararlardır. Sağlık politikası ise; sağlık sisteminin kurumlarını, hizmetlerini ve finansman düzenlemelerini etkileyen tüm eylemleri içerir ve sağlık hizmetlerinin ötesinde, sağlık üzerinde etkisi olan tüm kamu, özel ve gönüllü örgütlerin eylemlerini kapsamaktadır. Bir ülkede uygulanan resmi sağlık politikası o ülkenin sağlıkla ilgili göstergelerinin en önemli belirleyicisidir. Sağlık politikalarının esas amacı, sağlık risklerinden birey ve toplumu korumak, sağlığı geliştirmek, sağlığı erişilebilir hale getirmek, insan merkezli ve bütüncül yaklaşımla sağlık gereksinimlerine cevap vermektir. Ülkemizde pek çok sağlık politikaları ve kampanyaları yürütülmektedir. Özellikle ebelik mesleğinin odak noktası olan anne ve yenidoğan sağlığı hizmetleri ile ilgili fazlasıyla politika mevcuttur. Ebelerin bu politikaları bilerek sağlık hizmeti sunması önemlidir. Özellikle toplum eğitimi, bilinçlendirilmesi, toplumun sağlık inançlarının değerlendirilip sağlığa zararlı uygulamaların risklerinin anlatılması konularında primer sorumludur. Politika, ebeleri ve onların uygulamalarını etkileyen en önemli faktörlerden birisidir. Bu nedenle, ebelerin kendi uygulamalarını yönlendirmek ve topluma daha nitelikli hizmet sunmak için politik kararları bilmek ve politik güçlerini arttırmaları gerekir.

Anahtar Kelimeler: Sağlık, Sağlık Politikaları, Ebelik.

HEALTH POLICIES IN TURKEY AND THEIR EFFECTS ON MIDWIFERY

ABSTRACT

Policy is the decision of a group of political actors to set objectives for various issues and the means to be used to achieve those objectives. Health policy, on the other hand, includes all actions that affect the institutions, services and financing arrangements of the health system and goes beyond health services to include the actions of all public, private and voluntary organizations that have an impact on health. The official health policy implemented in a country is the most important determinant of its health indicators. The main purpose of health policies is to protect individuals and society from health risks, to improve health, to make health accessible, and to respond to health needs with a human-centered and holistic approach.

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Many health policies and campaigns are carried out in our country. In particular, there are many policies related to maternal and newborn health services, which are the focus of the midwifery profession. It is important for midwives to provide health services by knowing these policies. They have primary responsibility for community education, awareness raising, assessing the health beliefs of the community and explaining the risks of practices that are harmful to health. Policy is one of the most important factors affecting midwives and their practice. Therefore, midwives need to know about political decisions and increase their political power in order to direct their own practice and provide better quality services to the community.

Keywords: Health, Health Policies, Midwifery.

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SAĞLIKTA EŞİTSİZLİKLER VE EBELİK YAKLAŞIMLARI

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ÖZET

Sağlık eşitsizlikleri küresel bir halk sağlığı sorunudur. Sağlıkta eşitsizlik; temelde gelir, sosyal sınıf, etnik köken, coğrafi koşullar, yoksunluk gibi değişkenlerden oluşan sosyal belirleyicilerden ve bireyin işinin olup olmaması, bekâr bir ebeveyn olup olmaması, sosyal entegrasyon, meslek, gelir düzeyi gibi belirleyicilerden etkilenen bir kavramdır. Sağlık eşitsizliklerinin ana nedeni kapitalizm ve sınıflı toplum yapısıdır. Sağlıkta eşitsizlikler, toplumda çoğunlukla dezavantajlı gruplar olarak ifade edilen kesimleri daha çok etkilemektedir. Bu kesimler kadınlar/çocuklar, göçmenler, işsizler, evsizler, azınlıklar ve mahkumlar olarak sınıflandırılabilir. Dünyada özellikle gelişmekte olan ülkelerde bebek ve çocuk ölümlerinin nedenleri önlenebilir sorunlardır. Bu sorunlardan kaynaklanan eşitsizlikleri azaltmak için ebeler çalıştıkları bölgelerde en uç kırsal yerleşim alanlarına ulaşarak hizmet vermektedirler. Hizmet ettiği bölgedeki yoksulları belirlemeli, yoksulların sağlık hizmetine ulaşmasını ve eldeki kaynakları uygun kullanmasını sağlamada rehberlik ve danışmanlık hizmeti vermeli, yoksul annelere/kadınlara ev ziyaretleri yaparak anne sağlığı, doğum öncesi ve erken çocukluk evrelerinde sağlık ve refahı arttırmak üzere çalışmalı, sağlık eğitimleri planlamalıdır. Böylece kırsal alanda yaşayan ailelere sağlık hizmetlerinin ulaştırılması sağlanarak sağlıkta eşitsizliklerin azaltılması sağlanmış olacaktır.

Anahtar Kelimeler: Sağlık Eşitsizlikler, Ebelik, Kadın.

INEQUALITIES IN HEALTH AND MIDWIFERY APPROACHES

ABSTRACT

Health inequalities are a global public health problem. Health inequalities are influenced by social determinants such as income, social class, ethnicity, geographical conditions, deprivation and other determinants such as whether an individual has a job, is a single parent, social integration, occupation and income level. The main cause of health inequalities is capitalism and the class structure of society. Inequalities in health affect segments of society that are often referred to as disadvantaged groups. These groups can be categorized as women/children, migrants, unemployed, homeless, minorities and prisoners. The causes of infant and child mortality in the world, especially in developing countries, are preventable problems. In order to reduce inequalities arising from these problems, midwives provide services by reaching the most extreme rural settlements in the regions where they work. They

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should identify the poor in the region they serve, provide guidance and counseling services to ensure that the poor access health services and use the available resources appropriately, work to increase health and welfare in maternal health, prenatal and early childhood stages by making home visits to poor mothers/women, and plan health trainings. In this way, health services will be provided to families living in rural areas and inequalities in health will be reduced.

Keywords: Health Inequalities, Midwifery, Women.

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BODY LANGUAGE IN ONCOLOGY PATIENTS; WHAT DO THE EYES TELL?

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Introduction/purpose: Our emotions speak before our words. They are nonverbal expressions of words and body language, regardless of culture. Since people's body movements are typically controlled by the subconscious, they are often unaware of the messages they send through their body language. Therefore, the true expression of emotions is hidden in body language. This study aims to emphasize the importance of what the eyes tell as a way of silent expression of emotions that cannot be expressed by speaking.

Method: In the study, portrait photographs were taken during the outpatient clinic controls of the patients who applied to our clinic while taking the anamnesis of the patients who gave consent for the study. The patients whose portrait photographs were taken were grouped into 4 groups according to their diagnosis and treatment status. The first group included patients whose treatment was completed with cure (Group I), the second group included patients whose radiotherapy and chemotherapy were ongoing (Group II), the third group included newly diagnosed patients who presented to the outpatient clinic for the first time (Group III), and the fourth group included patients who were lost to follow-up or progressed despite treatment (Group IV). The eye expressions of the patients in the study were interpreted with reference to basic eye expressions shown in a professionally prepared table.

Results: Group I are patients in remission and the main eye expression is pupil dilatation and gaze avoidance. In Group II, we see averted gaze expressions, trying to avoid eye-to-eye contact. Group III patients, who are newly diagnosed or referred for radiotherapy for the first time, are characterized by defiance and gaze away. In group IV patients with progression, eye expressions include eye blocking, gazing away and staring.

Conclusion: Body language adds depth and nuance to the message. Today, body language is considered important by professional groups such as intelligence organizations, lawyers, marketers and politicians. This group should undoubtedly include health professionals. This study will contribute to the development of health professionals in understanding body language by drawing attention to the emotions conveyed by the eyes.

Keywords: Oncology patients, body language, nonverbal expressions, what the eyes tell.

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PROSTAT KANSERİNDE PSMA-PET FÜZYON İLE HİPOFRAKSİYONE İNTRAPROSTATİK BOOST RADYOTERAPİ UYGULANMASI

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Giriş /Amaç: Son zamanlarda yapılan çalışmalarda, prostat kanserinde MR'da görülen gross tumor volümüne fokal intraprostatik boost (İPB) radyoterapi (RT) uygulanması, prostat kanseri hastalarında tosisiteyi arturmadan, hastalıksız sağkalımı ve bölgesel/uzak metastazsız sağkalımı iyileştirdiğini iddia etmektedir. Bu çalışmanın amacı, prostat radyoterapis isırasında PSMA PET füzyon ile RT planlanan hastalarda fokal İPB etkinliğini değerlendirmektir.

Gereç Yöntem: Çalışmamızda 2021 ve 2024 yılları arasında RT planlamsı PSMA PET ile füzyon yapılarak hipofraksiyone RT alan, prostat kanseri tanısı olan 40 hasta değerlendirildi. Çalışmaya standart PSMA PET füzyon kullanılarak hipofraksiyone RT planlanmış hastalar alındı. Tüm prostata 2,5 Gy günlük/toplam 28 fraksiyon 70 Gy RT uygulanan hastalar (HİPO grup) ile PSMA PET füzyonda prostatta görülelebilen lezyona tek fraksiyon fokal İPB yapılarak toplam 72,5 Gy RT uygulanan hastalar (İPB grup) iki grup oluşturuldu. Risk altındaki organ doz limitleri kontrol edilerek, PSMA PET de fokal tutulum olması durumunda boost yapılmıştır. Çalışmamızın birincil sonlanım noktası erken PSA yanıtı, ikincil sonlanım noktaları toksisite ve çevre organların maruz kaldığı radyasyon dozları idi.

İstatistiksel Değerlendirme: Araştırmadan elde edilen veriler kodlandıktan sonra analizler için SPSS (Statistical Package for Social Sciences) (Version 22 for Windows, SPSS Inc, Chicago, IL, USA) paket programında bilgisayara aktarıldı ve değerlendirildi. Sürekli değişkenler ortalama ± standart sapma ve ortanca (en küçük değer - en büyük değer) ile ifade edilirken, kategorik değişkenler sayı (%) kullanılarak tanımlandı. İstatistiksel analizlerde sürekli değişkenlerin normal dağılıma uygunluğu "Shapiro Wilk Testi" ile değerlendirildi. Normal dağılıma uymadığı belirlenen verilerin iki grup arasında karşılaştırılmasında "Mann-Whitney U Testi" kullanıldı. PSA değerlerinin zamana göre değişimleri Friedman Test ile değerlendirildi ve ileri analizler için Bonferroni düzeltmesi uygulandı. Tüm karşılaştırmalarda istatistiksel anlamlılık düzeyi $p<0,05$ olarak kabul edildi.

Bulgular:Çalışmaya 20 hata dahil edilmiştir. HİPO ve IPB gruplarında PSA ve yaş özellikleri bakımından anlamlı fark yoktu. Tablo 1.

Tablo 1. Hastaların PSA ve yaş özellikleri.

	HİPO	İPB	p

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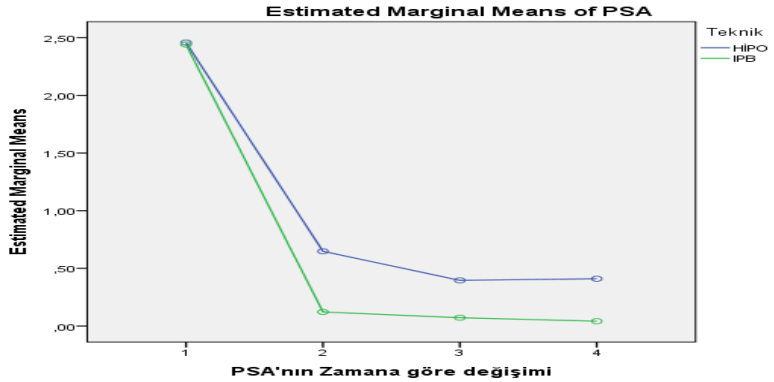
Değişkenler	mean ±SD	Median(min-max)	mean ±SD	Median (min-max)	
YAŞ	64,8±6,36	64,5 (53-74)	69,4±4,48	68,5 (64-79)	0,11
PSA	22,04±27,59	14,17 (5,48-99)	12,97±8,31	11,24 (3,0-33,0)	0,36

Her iki gruptada RT sonrası zamana göre PSA değerinde azalma, istatistiksel düzeyde anlamlıydı (sırasıyla p=0,002 ve p<0,001). IPB grubunda PSA düşüş oranı daha fazla idi (Grafik 1).



Grafik 1. RT sonrası her iki gruptaki PSA düşüş grafiği.

Ancak her bir zamanda gruplar arasındaki PSA değerleri ortancaları açısından anlamlı farklılık olmadığı belirlendi (tüm karşılaştırmalarda p>0,05) (Tablo 2).

Tablo 2. RT sonrası PSA takibi.

PSA	HİPO		IPB		P value*
	mean ±SD	Median (min-max)	mean ±SD	Median (min-max)	
RT öncesi	2,45±2,99	1,41 (0,02-9,3)	2,44±2,85	0,73 (0,32-8,72)	0,81
RTsonrası ilk kontrol 1hf-1ay	0,64±1,11	0,16 (0,03-3,57)	0,12±0,09	0,09 (0,04-0,34)	0,54
RT sonrası 3 ay	0,39±0,93	0,04 (0,01-3,03)	0,07±0,07	0,06 (0,01-0,24)	1,00
Son kontrol	0,41±0,93	0,05 (0,02-3,03)	0,04±0,05	0,03 (0,01-0,18)	0,07
P value**		**0,002**		**<0,001**	

*Mann Whitney U test; **Friedman Test (with Bonferroni correction).

Her iki grupta ışınlanan hedef ve çevre organ dozlarında (rektum, penil bulp ve vucut dozu) istatiksel anlamlı fark tespit edilmedi. Fakat özellikle lokal kontrolde başarısızlık ile sonuçlanabilecek prostattaki minimum dozlar (min doz), boost yapılan IPB grubunda HİPO grubuna göre daha iyi idi. (91,1 karşın 94,3).

Tablo 3. RT planlarında hedef organ prostat ve çevre riskli organ dozları.

Radyasyon dozu	HİPO Median (min-max) %	IPB Median (min-max) %	P value*
Prostat-min doz	**97,2 (91,1-98,0)**	**97,3 (94,2-98,3)**	0,97
Prostat-mean doz	101,0 (99,6-101,2)	100,7 (98,9-105,5)	0,65
Rektum max doz	103,7 (101,9-105,6)	104,1 (102,4-106,7)	0,97
Rektum-mean doz	28,1 (19,0-33,2)	28,9 (23,3-42,7)	0,43
Penil bulb-mean doz	36,2 (16,6-64,6)	31,5 (25,2-43,7)	0,50
Vucut-max doz	106,5 (103,6-108,5)	106,6 (103,6-108,0)	0,73

Sonuç: Prostat kanserinde PSMA PET ile füzton yapılarak gross tümörün konturlanması ve intraprostatik lezyona fokal bir boost eklenmesi, lokalize prostat kanseri olan hastalarda

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toksisite ve yaşam kalitesini olumsuz etkilemeden, erken PSA düşüşü sayesinde hastalıksız sağkalımı iyileştireceğini düşünüyoruz. Uzun vadeli yan etki takibi sonrası boost dozu ablatif daha yüksek dozlara çıkılabilir, böylece gelecekte yapılacak çalışmalar ile "organ risk doz" kısıtlamalarına bağlı kalarak tümör kontrolünü iyileştirtirecek yüksek fokal boost uygulamaları etkili ve güvenli bir şekilde uygulanabileceği düşünülmektedir.

Anahtar kelimeler: Prostat kanseri, PSMA-PET füzyon, hipofraksinasyon, intraprostatik fokal boost.

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EXPERİMENTAL INVESTIGATION OF MECHANICAL PERFORMANCE OF SİLİCA FUME-BASED GEOPOLYMER CONCRETE CONTAINING MİCRO SYNTHETİC FİBER EXPOSED TO HİGH TEMPERATURE

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ABSTRACT

Geopolymer concrete (GPC) is a type of concrete with higher high temperature resistance compared to traditional Portland cement. For this reason, it is more ideal for industrial and fire risk structures exposed to high temperatures because it contains aluminosilicate-based materials and alkali activators. Another important feature of GPC is that it can maintain its mechanical properties at high temperatures. Therefore, the aim of this study is to investigate the compressive and flexural strength of silica fume-based GPC produced using two different ratios (0.5% and 1%) of microsynthetic fibers when exposed to different high temperatures (20 °C, 200 °C, 400 °C and 600 °C). It was determined that the compressive strength of GPC increased with the increase of the temperature by 200 °C and 400 °C. However, increasing the temperature by 600 °C caused a significant decrease in the compressive strength. However, increasing the fiber ratio (from 0,5% to 1%) in the mixture caused a decrease in the compressive strength. The increase in temperature decreased the bending strength of samples. Also, the increase in fiber ratio decreased the bending strength.

Keywords: Geopolymer concrete, High temperature, Microsynthetic fibers

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DEVELOPMENT OF DRYING CRACKS IN CLAYEY SOILS ADDED WITH RESIDUAL LIGNITE DUST UNDER WETTING-DRYING CYCLES

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ABSTRACT

Clayey soils develop cracks in their structures when they dry due to their high swelling and shrinkage potential. This cyclic swelling and shrinkage can cause cracks and deformations in engineering structures. This cycle can also affect expanding soils' compressibility and hydraulic conductivity properties. The solution to this problem, commonly seen in clayey soils, is possible by improving the clayey soil using natural, chemical, or synthetic additives. Due to the frequent occurrence of global climate changes today, this study was conducted to investigate the usability of residual lignite dust added to clayey soil at different rates as an improvement material in reducing the development of drying cracks frequently seen in clayey soils. For this study, five samples were prepared by adding residual lignite dust to clayey soil (5%, 10%, 15%, and 20% of dry weight) and subjected to three consecutive wetting-drying cycles. Observational results have shown that the addition of residual lignite dust to clayey soil can reduce the development of drying cracks in such mixtures.

Keywords: Clay, lignite, stabilization, wetting-drying

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EFFECT OF DISTANCE METRICS ON DIABETES PREDICTION USING K-NEAREST NEIGHBOR ALGORITHM

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ABSTRACT

Diabetes is the name given to the chronic disease in which the body is unable to balance blood sugar levels effectively. Diabetes has negative effects on human health in many different ways. Diabetes also predisposes to many different diseases. If diabetes is not controlled, it damages many different organs. Diabetes continues to be an important health problem, increasing rapidly all over the world. Today, artificial intelligence and its applications are frequently used in many fields and studies. One of the areas where artificial intelligence is used is the field of health. With the developing sensor technology, obtaining biomedical data has become both easier and faster. K-Nearest Neighbor (K-NN) algorithm is an artificial intelligence model that can be used for classification problems. In this study, a diabetes dataset created by the National Institute of Diabetes and Digestive and Kidney Diseases is tried to be classified with the K-NN algorithm. The dataset contains a total of 768 person data. The dataset contains features such as Body Mass Index (BMI), pregnancies, glucose, diabetes pedigree function, skin thickness, insulin, blood pressure, age. In the study, 10 different distance metrics such as euclidean, hamming, chebyshev, city block, mahalanobis, cosine, minkowski, jaccard correlation, and spearman are used and their effect on prediction performance is analyzed. The results are evaluated with accuracy and F1score performance metrics.

Anahtar Kelimeler: Diabetes, Distance metrics, K-nearest neighbor algorithm.

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DIODE PERFORMANCE OF MGO MATERIAL

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ABSTRACT

MgO material is a material with electrical conductivity in liquid state. Especially acidic solutions are frequently prepared. Due to these properties, it has become a preferred material in semiconductor technology. In this study, MgO material was dissolved in 5% HCl acid and used as an interface material in diode production. Morphological analyses of this solution were performed using SEM and TEM imaging techniques. p-Si material was used as the base material and Au metal was used for the upper contact and Al metal was used for the back contact. Current-voltage (I-V) measurements of the Au/MgO/p-Si/Al diode obtained as a result of these processes were carried out. From these measurements, some electrical diode parameters (ideality factor, series resistance and barrier height) were calculated. These calculated values were compared with the parameters of the reference diode (Au/p-Si/Al). It was observed that there were significant improvements in the electrical parameters of the target diode compared to the reference diode. In particular, it was determined that the ideality factor value approached 1, which is the ideal value. Additionally, capacitance-voltage (C-V) measurements were performed for different frequency values of the target diode. From these measurements, electrical parameters such as average barrier height (Φ_b), diffusion potential (V_d), carrier concentration (N_a) and Fermi energy level (E_f) were calculated. The variation of these values against frequency change was analyzed.

Key Words: MgO, Schottky Diode, Thermionic Emission, Current-Voltage, Capacitance-Voltage

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EFFECTS OF TEMPERATURE AND RADIATION ON ELECTRICAL PARAMETERS OF Au/MgO/p-Si/Al DIODE

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ABSTRACT

Due to the electrical conductivity properties of aqueous solutions of MgO material, it has begun to be used frequently in semiconductor technology. In this study, Au/MgO/p-Si/Al diode was produced by coating MgO aqueous solution onto p-Si by spin coating method. Current-voltage (I-V) measurements of this diode were carried out at different temperatures. From these measurements, ideality factor (n), barrier height (Φ_b) and series resistance (R_s) values were calculated for each temperature value. It was determined that with increasing temperature value, ideality factor and series resistance values decreased while the barrier height value increased. This was attributed to the inhomogeneous structure of the potential barrier at the diode interface and the increase in the number of ionized electrons as the temperature increases. It was determined that the diode parameters were strongly dependent on the temperature gradient.
One of the important parameters affecting the performance of semiconductor circuit elements is the radiation effect. For this reason, different doses of X-Ray radiation were applied to the diode. As a result of each application, I-V measurements of the diode were performed and diode parameters were calculated. It was determined that as the radiation dose increased, the n and R_s values increased and the Φ_b value decreased. It was determined that radiation was quite effective on the diode parameters. This is attributed to the destructive nature of the radiation and the defects it creates at the diode interface.

Key Words: MgO, Schottky Diode, Thermionic Emission, Cheng Fuctions, Radiation.

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INVESTIGATION OF THE EFFECTS OF STATCOM IN STEADY STATE OPERATION IN GRID-CONNECTED DFIG-BASED WIND TURBINES

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ABSTRACT

Due to the increase in the prices of fossil fuels and their future depletion, renewable energy sources have started to be used in recent years. One of the most popular renewable energy sources is wind energy. A Doubly Fed Induction Generator (DFIG) with good torque and power control is used in wind turbines preferred in the conversion of wind energy to electrical energy. Due to the system dynamics in DFIG connected to the grid, the use of Static Synchronous Generator (STATCOM) from Flexible AC Transmission System (FACTS) devices is common to ensure stability. In this study, the effects of STATCOM during the modeling of a Fuzzy Logic Controller (FLC) in a 3-bus power system were analyzed. The 3-bus system consists of the grid, the DFIG-based wind turbine, and the load bus. In AC and DC voltage modeling of the STATCOM, Proportional-Integral (PI), Fuzzy-PI, and Fuzzy-Fuzzy were used. In steady state analysis, during the modeling of STATCOM, its voltage, DC link voltage, reactive power, d-q axis currents, and load bus were analyzed. PI-PI, Fuzzy-PI, and Fuzzy-Fuzzy time responses are presented in tabular form separately for the parameters. According to the results of FLC modeling in STATCOM, it was seen that FLC modeling makes the system stable in a very short time.

Keywords: DFIG, STATCOM, FLC, PI,

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2D $MOSE_2$ BASED SELF-POWERED SCHOTTKY PHOTODIODE DESIGN FOR VISIBLE AND NEAR INFRARED DETECTION

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ABSTRACT

$MoSe_2$ is a two-dimensional transition metal dichalcogenides material and a favourable candidate for broad-range photodetection and optoelectronic applications due to its unique properties, such as composition-dependant optics and electronics properties. Schottky junction-based photodetectors are ultrafast light sensing devices that do not require complex fabrication processes. In this study, a p-type $MoSe_2$-based Schottky photodiode is designed, and its performance is simulated at different physical conditions using the 1D-SCAPS program. It is found that the photodiode's responsivity depends on the $MoSe_2$ thickness and back contact material, whereas it is independent of the incident light intensity, wavelength, and temperature. On the other hand, it is observed that the thickness, back contact, light intensity, wavelength, and temperature affect the device's current density (J)- voltage (V) properties, significantly. The ideal $MoSe_2$ thickness was found to be 1 micrometre (µm), whereas, the best back contact materials were observed to be Nickel (Ni) and Molybdenum (Mo) materials. The proposed device displays a responsivity of about 0.8 A/W at 800 nm, showing that p-$MoSe_2$ has a promising future as an alternative light-sensing material for detecting near-infrared and visible electromagnetic spectrum.

Keywords: $MoSe_2$, Schottky junction, photodetector

GÖRÜNÜR VE YAKIN KIZILÖTESİ ALGILAMA İÇİN İKİ BOYUTLU $MoSe_2$ TABANLI KENDİNDEN GÜÇALABİLEN SCHOTTKY FOTODİYOT TASARIMI

ÖZET

$MoSe_2$, iki boyutlu bir geçiş metali dikalkogenit malzemesidir ve içeriğe bağlı optik ve elektronik özellikleri gibi benzersiz özellikleri nedeniyle geniş bandda foto algılama ve optoelektronik uygulamalar için ideal bir malzeme adayıdır. Schottky bağlantı tabanlı fotodetektörler, karmaşık üretim süreçleri gerektirmeyen ultra hızlı ışık algılama cihazlarıdır. Bu çalışmada p tipi $MoSe_2$ tabanlı Schottky fotodiyot tasarlanmış ve SCAPS programı kullanılarak farklı fiziksel koşullardaki performansı simüle edilmiştir. Fotodiyot duyarlılığı $MoSe_2$ kalınlığına ve arka kontak malzemesine bağlı olduğu, ancak gelen ışık yoğunluğundan, dalga boyundan ve sıcaklıktan bağımsız olduğu bulunmuştur. Öte yandan kalınlık, arka temas malzemesi, gelen ışık şiddeti, ışığın dalga boyu ve sıcaklık gibi parametrelerin cihazın akım yoğunluğu (J)-gerilim (V) özelliklerini önemli ölçüde etkilediği görülmektedir. İdeal $MoSe_2$

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kalınlığı 1 mikrometre (µm) olarak bulunurken, en iyi geri temas malzemelerinin Nikel (Ni) ve Molibden (Mo) malzemeleri olduğu görüldü. Önerilen cihaz, 800 nm'de yaklaşık 0,8 A/W'lik bir duyarlılık sergiliyor; bu, p-$MoSe_2$'nin yakın kızılötesi ve görünür elektromanyetik spektrumu tespit etmek için alternatif bir ışık algılama malzemesi olarak umut verici bir geleceğe sahip olduğunu göstermektedir.

Anahtar Kelimeler: $MoSe_2$, Schottky jonksiyonu, fotodetektör

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ÜÇ FAZLI ÇİFT AKTİF KÖPRÜLÜ DA-DA DÖNÜŞTÜRÜCÜNÜN METASEZGİSEL ALGORİTMA TABANLI PI DENETLEYİCİ İLE KONTROLÜ

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ÖZET

Üç fazlı çift aktif köprülü (DAB, Dual Active Bridge) DA-DA dönüştürücüsü, çift yönlü enerji akışını sağlayarak yüksek verimlilik, geniş voltaj aralığı ve galvanik izolasyon özellikleri ile güç elektroniği uygulamalarında yaygın olarak tercih edilmektedir. Dönüştürücünün çıkış geriliminin istenilen değerde tutulması ve ani gerilim dalgalanmalarına karşı kararlı bir performans sergilemesi için etkin bir denetleyici tasarımı gerekmektedir. Bu çalışma, DAB dönüştürücüsünün metasezgisel algoritma tabanlı PI denetleyici ile kontrolünü ele almaktadır. PSO, BEES ve ACO algoritmaları kullanılarak dönüştürücünün ITAE, IAE ve ISE gibi performans ölçütleri üzerinden analizleri yapılmıştır. Yapılan analizlerde, PSO algoritması ile elde edilen kontrolcü parametreleri ile ITAE değeri 0,007425, IAE değeri 0,2129 ve ISE değeri 10,5100 olarak elde edilmiş ve diğer algoritmalara göre daha iyi sonuçlar verdiği görülmüştür. Denetleyicinin referans gerilimi değişimi sonrası performansı incelenmiştir. 400V referans gerilimi ile başlayan simülasyon, 0,15 sn de referans gerilimi 500V a yükseltilmiştir. Yük gerilimi yükselme süresi 0,9175 msn, oturma süresi 1,3244 msn, tepe süresi 2,5058 msn ve üst aşım oranı %0,1141 olarak gözlemlenmiştir. Ayrıca, giriş geriliminde ani düşüşlerin etkisi analiz edilmiştir. Bu amaçla, giriş gerilimi 800V'tan 700V'ta düşürülerek çıkış üzerindeki etkiler PI kontrol altında değerlendirilmiştir. Bu analizler, DAB dönüştürücünün giriş dalgalanmalarına ve referans gerilim değişimlerine karşı kararlı çıkış sağlama kabiliyetini göstermektedir.

Anahtar Kelimeler: Üç Fazlı Çift Aktif Köprülü (DAB) Dönüştürücü, Metasezgisel Algoritmalar, PI Denetleyici, PSO Algoritması, Amaç Fonksiyonları, ITAE

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PARÇACIK SÜRÜ OPTİMİZASYONU YÖNTEMİ İLE DENKLEŞTİRİCİ KAT SAYILARININ BULUNMASI

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ÖZET

Bu çalışmada, Parçacık Sürü Optimizasyonu (PSO) algoritması kullanılarak çok yollu bir haberleşme kanalındaki bozucu etkilerin minimuma indirgenmesi gerçeklenmiştir. PSO algoritması, doğadaki sürü davranışlarından ilham alarak, karmaşık problemlerin çözümlerine ulaşmak için uyarlanabilir ve verimli bir yaklaşım sunmaktadır. Çalışma kapsamında, denkleştirici katsayılarının optimizasyonu sağlanarak kanaldan geçen bozulmuş sinyalin asıl veriye en yakın haliyle geri elde edilmesi amaçlanmıştır. Rastgele üretilmiş veriler çok yollu kanal ve denkleştiriciden geçirilmiş, ardından ortalama karesel hata değeri minimize edilmiştir. PSO algoritması ile her bir parçacık, çözüm uzayında tanımlanan sınırlar dahilinde en iyi konumu arayarak ilerlerken, komşu parçacıkların deneyimlerinden de faydalanmıştır. Sonuçlar, PSO algoritmasının haberleşme sistemlerinin optimizasyon süreçlerinde sunduğu hız, esneklik ve yüksek çözüm kalitesi ile sistem performansını artırmada güçlü bir katkı sağladığını göstermektedir.

Anahtar Kelimeler : Parçacık Sürü Optimizasyonu (PSO), Meta-Sezgisel Algoritmalar, Denkleştirici Katsayıları, Haberleşme Kanalı, Ortalama Karesel Hata

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MODELING OF STRAIN AGING EFFECTS IN AISI 304 AUSTENITIC STAINLESS STEEL WITH ARTIFICIAL NEURAL NETWORKS

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ABSTRACT

This study investigated the changes in the mechanical properties of AISI 304 austenitic stainless steel after static strain aging heat treatment to model these changes using artificial neural networks (ANN). In the experiments, pre-strains of 5%, 10%, and 15% were applied to the specimens, followed by annealing at temperatures of 200°C, 400°C, and 600°C for 30, 60, and 90 minutes. The experimental results indicated that the highest tensile strength (782 MPa) and yield strength (556 MPa) were achieved in specimens pre-strained by 15% and annealed at 200°C for 60 minutes. An ANN model was developed in the MATLAB environment and trained using the Levenberg-Marquardt algorithm to predict the relationship between process parameters (pre-strain rate, temperature, and time) and mechanical properties (tensile and yield strength). The model's predictions closely matched the experimental results, achieving an accuracy of R = 0.99. Without extensive experimental testing, this approach predicts material strength changes under various process parameters. The study demonstrates that artificial neural networks can effectively model the outcomes of heat treatment processes, offering a valuable tool for optimizing industrial processes.

Keywords: AISI 304, strain aging, artificial neural networks, Matlab

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A SIMULATIONAL COMPARISON OF EQUAL AND OPTIMUM POWER ALLOCATION CASES IN AN SDF COOPERATIVE TRANSMISSION SCENARIO FOR SMART VEHICLES

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ABSTRACT

One of the advantages of cooperative communication is that power can be allocated separately for the source and relay. Because the source power and relay power do not have to be equal. Increasing the total transmission power with equal allocation will bring the BER closer to zero. However, since the power cannot be increased infinitely, it is possible to minimize the BER at the receiver by allocating power unequally. In this study, a simulational comparison of equal and optimum power allocation cases is presented in the scenario of cooperative data transmission from a source/base station and a relay/traffic sign to a vehicle with constant speed using OTFS modulation and SDF protocol. According to this comparison, it is shown that optimum power allocation provides a better BER performance than equal power allocation.

Keywords : Equal power allocation, optimum power allocation OTFS; SDF; BER analysis; cooperative communications; smart vehicles; V2X

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EV TİPİ TAMBURLU ÇAMAŞIR KURUTMA MAKİNELERİNDE MİKROPLASTİK FİLTRELEME SİSTEMİ

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ÖZET

Son yıllarda, sentetik giysilerin çamaşır makinelerinde yıkanması ve kurutma makinelerinde kurutulması sırasında ortaya çıkan mikroplastiklerin atık sulara karışması çevresel açıdan önemli bir tehdit olarak kabul edilmektedir. Özellikle bu kıyafetler yıkandığında salınan mikroplastikler, su kaynaklarına karışarak çevre kirliliğine yol açmaktadır. Mikroplastik kirliliğinin ciddi sonuçları göz önünde bulundurulduğunda, bu sorunu önlemek için çeşitli teknolojik çözümler geliştirilmeye başlanmıştır. Çalışmamızda, firmamız bünyesinde üretilen kurutma ve çamaşır makineleri kullanarak bu konuya yönelik bir araştırma gerçekleştirilmiştir. Temel amacımız, özel olarak tasarladığımız bir mikroplastik yakalama sisteminin etkinliğini test etmek ve bu sistemin kıyafet yıkama işlemleri sırasında atık suya mikroplastik salınımını ne ölçüde azalttığını incelemektir. Bu araştırmada, kurutma sırasında oluşan su ve bu yolla atık suya karışan mikroplastikler, DLS (Dinamik Işık Saçılımı) ve SEM (Taramalı Elektron Mikroskobu) gibi ileri teknoloji cihazlar kullanılarak analiz edilmiştir. DLS cihazı ile mikroplastiklerin boyut dağılımı ölçülmüş, SEM cihazı ile mikroplastiklerin yapısal özellikleri detaylı bir şekilde incelenmiştir. Analiz sonuçları, tasarladığımız mikroplastik yakalama sisteminin giysi yıkama sırasında atık suya salınan mikroplastik miktarını kayda değer ölçüde azalttığını göstermiştir. Bu bulgular, mikroplastik salınımını azaltmaya yönelik çözümlerin hem etkili hem de sürdürülebilir bir geleceğe katkı sağladığını ortaya koymaktadır. Mikroplastik yakalama sistemlerinin yaygın kullanımı, çevresel etkiyi azaltmada hem bireyler hem de sanayi için önemli bir adım olabilir. Teknolojinin daha da geliştirilmesi, ekosistemleri korumada büyük bir fark yaratabilir. Sonuç olarak, çalışmamız, mikroplastik kirliliğiyle mücadelede yenilikçi bir çözüm sunarak, bilimsel ve teknolojik ilerlemelerin çevre koruma açısından

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önemini vurgulamaktadır.

Anahtar Kelimeler: Mikroplastik, Çamaşır Kurutma Makinesi, Çevre Kirliliği

MİCROPLASTİC FİLTRATİON SYSTEM İN DOMESTİC DRUM- TYPE CLOTHES DRYERS

Abstract

In recent years, the release of microplastics during the washing of synthetic garments in washing machines and their drying in tumble dryers has been recognized as a significant environmental threat. Microplastics released during the washing process can contaminate water sources, contributing to pollution. Given the serious consequences of microplastic pollution, various technological solutions have begun to be developed to address this issue. In our study, we conducted research using washing and drying machines manufactured by our company to investigate this matter. Our primary objective was to test the effectiveness of a specially designed microplastic capture system and to examine the extent to which it reduces microplastic discharge into wastewater during clothing wash cycles. During this investigation, microplastics released into wastewater during drying were analyzed using advanced technological instruments such as Dynamic Light Scattering (DLS) and Scanning Electron Microscopy (SEM). The DLS device measured the size distribution of microplastics, while the SEM provided detailed insights into their structural characteristics. The analysis results demonstrated that the microplastic capture system we designed significantly reduced the amount of microplastics released into wastewater during the washing process. These findings indicate that solutions aimed at reducing microplastic emissions are effective and contribute to a more sustainable future. The widespread use of microplastic capture systems can be a crucial step for both individuals and industries in mitigating environmental impact. Continued technological development in this area can make a significant difference in protecting ecosystems. In conclusion, our study highlights the importance of scientific and technological advancements in environmental conservation by presenting an innovative solution to combat microplastic pollution.

Keywords: Microplastics, Tumble Dryer, Environmental Pollution

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Tİ ESASLI ALAŞIMLARDA ANTİBAKTERİYEL ÖZELLİKLERİN GELİŞTİRİLMESİ: AG İLAVESİNİN ROLÜ

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ÖZET

Ti esaslı alaşımlar üstün mekanik özellikleri ve mükemmel biyouyumlulukları nedeniyle biyomedikal uygulamalarda en çok tercih edilen malzemelerden biri haline gelmiştir. Ancak söz konusu malzemelerin antibakteriyel özellikleri yetersiz kalmaktadır. Bu durum yıkıcı komplikasyonlara neden olan bakteri kolonilerinin gelişmesine yol açabilmektedir. Dolayısıyla geliştirilmiş antibakteriyel özelliklere sahip Ti esaslı biyomalzemelere sürekli ihtiyaç duyulmaktadır. Bu noktada Ti esaslı alaşımların antibakteriyel özelliklerinin geliştirilmesinde yüzey işlemleri ve alaşım elementi ilavesi ilgi odağı olmaktadır. Diğer yandan yüzey işlemleri başarısızlıkla sonuçlandığında enfeksiyon riski artabilmektedir. Literatür çalışmaları incelendiğinde Ti esaslı alaşımlara Ag ilave edilerek antibakteriyel özelliklerin iyileştiği görülmektedir. Bu çalışmada Ag ilavesinin Ti alaşımlarının antibakteriyel ve mekanik özelliklere etkisi incelenmiş ve ilgili güncel çalışmalar tartışılmıştır.

Anahtar Kelimeler: Antibakteriyel Özellikler, Ti Esaslı Biyomalzemeler, Gümüş.

IMPROVEMENT OF ANTIBACTERIAL PROPERTIES IN Ti BASED ALLOYS: THE ROLE OF Ag ADDITION

ABSTRACT

Ti-based alloys have become one of the most preferred materials in biomedical applications due to their excellent mechanical properties and outstanding biocompatibility. However, these materials often lack sufficient antibacterial properties, which can lead to post-surgical infections due to the development of bacterial colonies, causing severe complications. This has created a demand for metallic alloys with inherent antibacterial properties. In response, there has been growing interest in enhancing the antibacterial properties of Ti-based alloys through surface treatments and the addition of alloying elements. Nevertheless, surface treatments can sometimes be ineffective, increasing the risk of infection. Consequently, developing inherently antibacterial metallic materials is a promising approach. Literature reviews indicate that the addition of Ag to Ti-based alloys improves antibacterial properties. This study examines the impact of Ag addition on the antibacterial and mechanical properties of Ti alloys, discussing recent findings and advancements in this area.

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Tİ ALAŞIMLARINDA GERİLME KALKANI ETKİSİ: B -TİPİ ALAŞIMLAR VE ÜRETİM YÖNTEMLERİNİN KARŞILAŞTIRILMASI

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ÖZET

Günümüzde biyomedikal implantların performansını iyileştirmeyi hedefleyen araştırmalarda sürekli artış görülmektedir. Bu araştırmalar kapsamında metalik biyomalzemeler mükemmel biyolojik ve mekanik özellikleri nedeniyle diğer malzemelere göre oldukça fazla dikkat çekmektedir. Bununla birlikte bu malzemeler arasında düşük yoğunlukları, üstün korozyon dirençleri ve mükemmel biyouyumlulukları nedeniyle Ti alaşımları diğer alaşımlara göre önemli avantajlar sunmaktadır. Özellikle Ti6Al4V alaşımı dental ve ortopedik uygulamalarda sıklıkla tercih edilmektedir. Ancak sahip olduğu (110 GPa) elastik modül değeri diğer metalik biyomalzemelere göre düşük olsa da kemiğe göre oldukça yüksektir. Dolayısıyla bu durum kemik rezorpsiyonu gibi olumsuz etkilere yol açacak gerilme kalkanı etkisine neden olmaktadır. Bu nedenle düşük elastik modülleri ve yüksek mukavemetleri nedeniyle β tipi Ti alaşımları biyomedikal uygulamalarda ilgi odağı olmaktadır. Bu çalışmada β-stabilizatör elementlerin ve farklı üretim yöntemlerinin β tipi Ti alaşımlarının mekanik özelliklerine etkileri incelenmiştir.

Anahtar Kelimeler: Ti esaslı biyomalzemeler, Beta Ti, Gerilme kalkanı, Elastik modül.

THE EFFECT OF STRESS SHIELDING IN Ti ALLOYS: A COMPARISON OF β - TYPE ALLOYS AND PRODUCTION METHODS

ABSTRACT

There has been a continuous increase in research aimed at improving the performance of biomedical implants today. In this context, metallic biomaterials are attracting significant attention due to their excellent biological and mechanical properties compared to other materials. Among these materials, titanium alloys offer important advantages over other alloys due to their low densities, superior corrosion resistance, and excellent biocompatibility. In particular, the Ti6Al4V alloy is frequently preferred in dental and orthopedic applications. However, although its elastic modulus (110 GPa) is lower than that of other metallic biomaterials, it is still quite high compared to bone. Consequently, this situation leads to a stress shielding effect that can cause adverse effects such as bone resorption. Therefore, β-type titanium alloys are becoming the focus of interest in biomedical applications due to their low

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elastic moduli and high strengths. This study investigates the effects of β-stabilizing elements and different production methods on the mechanical properties of β-type Ti alloys.

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ARK ERGİTME YÖNTEMİ İLE İMALATIN AL-17Sİ VE AL-17Sİ-0,2Tİ ALAŞIMLARININ İÇYAPI VE MEKANİK ÖZELLİKLERİNE ETKİLERİNİN İNCELENMESİ

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ÖZET

Bu çalışmada ark ergitme yöntemiyle imal edilen Al-17Si ve Al-17Si-0,2Ti hafif alaşımlarının yapısal ve mekanik özellikleri araştırılarak indüksiyonla ergitilip kokil kalıba döküm yöntemi ile üretilen aynı alaşımlardan elde edilen veriler ile karşılaştırıldı. Söz konusu alaşımların içyapıları, sertlikleri, akma ve çekme dayanımları ile süneklikleri incelendi. İçyapı araştırmaları uygun yöntemler ile zımparalandıktan sonra parlatılan numunelerin optik mikroskopta incelenmesi suretiyle gerçekleştirildi. Alaşımların sertliği Brinell ölçüm yöntemiyle belirlendi. Akma ve çekme dayanımları ile kopma uzaması değerleri talaşlı imalat yöntemi ile hazırlanan uygun boyutlardaki numuneler üzerinde gerçekleştirilen çekme deneyleri ile belirlendi. Alaşımların içyapılarının α-Al dendiritleri, ötektik alüminyum (Al)-silisyum (Si), primer silisyum parçacıkları ve β fazından oluştuğu gözlendi. Ark ergitme yönteminin ve %0,2Ti ilavesinin α dendiritleri ve ötektik silisyum parçacıklarının boyutlarının önemli ölçüde incelmesine yol açtığı görüldü. Ark ergitme yöntemi ile imalatın Al-17Si ve Al-17Si-0,2Ti alaşımının sertlik ve dayanım değerlerini artırdığı belirlendi. İncelenen alaşımlar içerisinde en yüksek sertlik, akma ve çekme dayanımı değerleri ark ergitme yöntemi ile üretilen Al-17Si-0,2Ti alaşımından elde edildi. Üretim yönteminin alaşımların sertlik ve mukavemet değerlerinde yol açtığı artış içyapılarındaki değişime dayandırılarak irdelendi.

Anahtar Kelimeler : Al-Si alaşımları, İçyapı, Sertlik, Mekanik özellikler

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SÜRÜNME GERİLMESİNİN ENJEKSİYONLA KALIPLANAN POLİPROPİLEN BLOK KOPOLİMER MALZEDE SÜRÜNME HIZINA ETKİSİ

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ÖZET

Polipropilen blok kopolimer (PPB) malzemesi, yüksek sürünme dayanımı ve çevresel yüklemelere karşı çatlak direnciyle bilinmektedir. Bu çalışmada, PPB malzemede sürünme gerilmesinin sürünme hızına olan etkisi incelenmiştir. Ayrıca, sürünme gerilmesinin sürünme ömrü üzerindeki olası etkilerini de yansıttığı tespit edilmiştir.

Çalışma kapsamında plastik enjeksiyon yöntemiyle üretilen PPB numunelere; 0.0003 1/s genleme hızında, farklı sürünme gerilmesi değerlerinde (8, 11, 16 ve 18 MPa) ve 1800 s sürünme süreli testler uygulanmıştır. Ek olarak, aynı genleme hızında çekme testiyle PPB malzemenin kalıcı şekil değişimi olmadan depo edebileceği şekil değiştirme enerjisi hesaplanmıştır.

Deney sonuçları, sürünme gerilmesinin yükselme, birincil ve ikincil sürünme bölgelerinde bölgesel genleme ve sürelerde artışa yol açtığını göstermiştir. Tüm bölgelerde sürünme gerilmesinin artması, bölgesel genlemeyi ve buna bağlı olarak sürünme hızını artırmaktadır. Bundan başka, yüksek sürünme gerilmesi altında malzeme ömrünü kısalttığı belirlenmiştir.

Sonuç olarak, gerilme değeri lineer artsa da genleme oranının geometrik olarak arttığı belirlenmiştir.

Anahtar Kelimeler: Polipropilen Blok Kopolimer, Sürünme Gerilmesi, Sürünme Hızı

THE EFFECT OF CREEP STRESS ON THE CREEP RATE OF INJECTION MOULDED POLYPROPYLENE BLOCK COPOLYMER MATERIAL

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ABSTRACT

Polypropylene block copolymer (PPB) material is known for its high creep resistance and crack resistance under environmental loading. In this study, the effect of creep stress on the creep rate of PPB material was examined. It was also determined that creep stress reflects its potential effects on creep lifespan.

Within the scope of the study, PPB samples produced by plastic injection molding were subjected to creep tests at a strain rate of 0.0003 1/s, at different creep stress levels (8, 11, 16, and 18 MPa), and for a duration of 1800 seconds. In addition, a tensile test at the same strain rate was performed to calculate the deformation energy that PPB material is able to wtih stand without undergoing permanent deformation.

The experimental results showed that creep stress leads to increase in regional strain and time in the initial, primary, and secondary creep regions. In all regions, an increase in creep stress corresponded to an increase in regional strain and, consequently, in creep rate. Furthermore, it was found that higher creep stress shortens the material's lifespan.

As a result, it was determined that although the stress value increases linearly, the strain ratio geometrically increases.

Keywords: Polypropylene Block Copolymer, Creep Stress, Creep Rate

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ORTOPEDİK İMPLANT UYGULAMALARI İÇİN AZ31 MG ALAŞIMININ Tİ MİKRO ALAŞIMLANDIRMA İLE SİTOTOKSİSİTE ÖZELLİKLERİNİN İNCELENMESİ

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ÖZET

Biyoinert metalik implantlar genellikle iyileşme süreci tamamlandıktan sonra, özellikle küçük çocuklarda, ikinci bir operasyon gerektirebilir. Biyobozunur Mg alaşımlarının kullanımı durumunda ise implantın çıkarılması için ikinci bir operasyonuna gerek duyulmaz. Saf Mg'un mekanik özelliklerinin zayıf olması ve vücut sıvısı gibi klor içeren solüsyonlarda korozyona uğraması sonucu, dokuda yeterince iyileşme gerçekleşmeden mekanik bütünlüğünü kaybetmesi ve korozyon süresinde hidrojen (H_2) gazı birikimi nedeniyle kullanımını sınırlıdır. Diğer taraftan, ticari olarak temin edilebilen Mg alaşımları ise (örn. AZ, AM, AS serileri) otomotiv, elektronik vb. endüstrileri için tasarlandığından, insan vücuduna uygun bileşimde veya bozunma hızına sahip değillerdir. Dolayısıyla, potansiyel biyomedikal uygulamalar için Mg alaşımlarının yeniden tasarlanması gerekmektedir. Bu çalışmanın amacı, ortopedik implant uygulamaları için AZ31 Mg alaşımının Ti mikro alaşımlandırma ile kontrollü biyobozunur özelliğinin geliştirilmesidir. Çalışma kapsamında, Ti mikro alaşımlandırılmış AZ31 Mg alaşımının in vitro biyokorozyona bağlı bozunma süreçleri ile biyouyumluluk ve hücre tutunma potansiyeli çalışılmıştır. AZ31 ve AZ31Ti Mg alaşımlarının dökümü ve hadde işlemleri gerçekleştirilerek in vitro korozyon deneyleri için pimler üretilmiştir. İn vitro korozyon

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deneyleri, numunelerin 1, 3, 7 ve 21 gün boyunca 37,5 °C sıcaklıktaki yapay vücut sıvısı (SBF) çözeltisine daldırılmasıyla gerçekleştirilmiştir. Mikroyapı karakterizasyonları optik (OM), taramalı elektron mikroskobu (SEM) ve X-Işını Kırınımı (XRD) ile yapılmıştır. Hücre çoğalması ve biyouyumluluk değerlendirmesi için, MC3T3-E1 (CRL-2593) osteoblast hücreleri model olarak kullanılmıştır. Sonuçlar, Ti mikro alaşımlandırmanın AZ31 alaşımının biyokorozyon dayanımlarını kayda değer oranda arttırdığını göstermiştir. SEM görüntüleri değerlendirildiğinde AZ31 alaşımında hücre tutunması gözlenmemiş, AZ31Ti alaşımı üzerine ise çok yoğun olmamakla birlikte hücre tutunması gözlenmiştir.

Anahtar Kelimeler: AZ31 alaşımı, Biyouyumluluk, Biyobozunma, Ti mikro alaşımlandırma.

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THE EFFECT OF FANCY YARN TYPES ON THE STRENGTH OF KNITTED FABRICS

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ABSTRACT

Fabric designers have realized that yarn defects can create a surface effect and that the effects resulting from these defects give fabrics a different appearance, leading to the commercial production of such yarn. These yarns, defined as fancy yarns, have some intentionally planned irregularities in color and/or structure and enable the design and production of various and innovative products with visually striking features due to these effects. However, these yarn irregularities not only enhance the visual aspects of the fabric but also affect the physical properties of both the yarns and the fabrics produced from these yarns. Having sufficient strength is one of the most important parameters in terms of the performance of textile products. In this study, the strength properties of fancy yarns produced in different types and using different raw materials and the fabrics obtained from these yarns were investigated. In the study, four types of fancy yarns—bouclé, loop, knot, and slub—were produced using three different raw materials: 100% PAC, 100% wool, and a blend of 50% PAC and 50% wool. Fabrics were then knitted in a plain weave structure using the same production parameters. The bursting strength properties of the fabrics were compared based on the type of fancy yarn and the raw materials used. The findings showed a significant effect of yarn type on fabric strength at a 95% confidence interval. Fabrics knitted from 100% PAC yarns exhibited higher bursting strength values, whereas those made from 100% wool yarns had lower bursting strength values. When the effect of yarn types on fabric strength was evaluated, it was determined that fabrics knitted from slub yarns had the highest bursting strength values whereas fabrics from bouclé yarns had the lowest.

Key Words: Fancy yarn, bouclé yarn, knot yarn, slub yarn, loop yarn, knitted fabric strength.

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FANTAZİ İPLİK TÜRÜNÜN ÖRME KUMAŞ MUKAVEMETİNE ETKİSİ

ÖZET

Kumaş tasarımcılarının iplik kusurlarının bir yüzey efekti oluşturabileceğini ve bu hatalardan kaynaklanan efektlerin kumaşlara farklı bir görünüm kazandırdığını fark etmeleri, bu tarz ipliklerin ticari olarak üretilmelerine yol açmıştır. Fantazi iplikler olarak tanımlanan bu iplikler, renk ve/veya yapı açısından bazı planlı düzensizliklere sahiptirler ve içerdikleri efektlerle görsel özelliği ön planda olan, çeşitli ve yenilikçi ürünlerin tasarlanıp üretilebilmesine imkân sağlamaktadır. Ancak bu iplik düzensizlikleri, kumaş yüzeyinde oluşturdukları görsel etkilerin yanı sıra ipliklerin ve dolayısıyla bu ipliklerden üretilen kumaşların fiziksel özelliklerinde farklılaşmaya neden olmaktadır. Yeterli mukavemete sahip olmak tekstil ürünlerinin kullanım performansı açısından en önemli parametrelerden birisidir. Bu çalışmada farklı tiplerde ve farklı hammaddeler kullanılarak üretilen fantazi ipliklerin ve bu ipliklerden elde edilen kumaşların mukavemet özellikleri incelenmiştir. Çalışmada Nm 12 numarada %100 PAC, %100 Yün ve %50 PAC- %50 Yün olmak üzere üç farklı hammaddeden bukleli, halkalı, düğümlü ve balıklı dört tip fantazi iplik üretilmiştir. Bu ipliklerden aynı üretim parametreleri kullanılarak düz örgü yapısında kumaşlar örülmüştür. Elde edilen kumaşların patlama mukavemet özellikleri fantazi iplik ve hammadde türüne göre kıyaslamalı olarak incelenmiştir. İplik tipinin kumaş mukavemeti üzerine etkisi %95 güven aralığında anlamlı bulunmuştur. Hammadde açısından incelendiğinde %100 PAC ipliklerden örülen kumaşlardan yüksek, %100 yün kumaşlardan ise düşük patlama mukavemeti değerleri elde edilmiştir. İplik tiplerinin kumaş mukavemetine etkisi değerlendirildiğinde balıklı ipliklerden örülen kumaşların en yüksek, bukleli ipliklerden örülen kumaşların ise en düşük patlama mukavemeti değerlerine sahip olduğu tespit edilmiştir.

Anahtar Kelimeler: Fantazi iplik, bukleli iplik, düğümlü iplik, balıklı iplik, halkalı iplik, örme kumaş mukavemeti

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SEPARATION EFFICIENCY OF C_{18} STATIONARY PHASE FOR THE CO–ELUTED PEAKS OF TOCOPHEROLS: OPTIMIZATION AND MODELLING WITH CHEMOMETRICS

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ABSTRACT

This study aims to optimize the separation performance of reversed phase (C_{18} stationary phase)–high performance liquid chromatography (HPLC) method for co-eluted tocopherol (T) isomers (*δ–T, γ–T, β–T* and *α–T*) by central composite design (CCD). The impact of three experimental factors (*flow rate*, *temperature* and *%B in mobile phase composition*) on 5 level (*–1.68, –1, 0, +1, +1.68*) were determined. The results of CCD were evaluated by Design Expert–12 software according to response surface methodology (RSM). The effect of selected experimental parameters on the separation of β–/γ–T and α–T isomers were evaluated based on four different response value (R_s, α, N_{ort} and k_{ort}). Optimum performance was founded at a flow rate of 0.37 mL.min^{-1}, a temperature of 13.69°C, and %B content (*methyl tert–butyl ether: methanol: water, 80:18:2, v/v/v*) in the mobile phase of 38.04%.

Keywords: Tocopherol, Reverse–phase HPLC, Optimization, Chemometrics

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SERBEST DÜZGÜN TAM VEKTÖR ÖRGÜLERİ

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ÖZET

Bu çalışmada Fonsiyonel Analiz alanına ait olan serbest düzgün tam vektör örgü konusu incelenecektir. Bunun için öncelikle örgü kavramını açıklayıp serbest banach örgü ve serbest vektör örgü tanımlarını açıkladık.Ve bu açıkladığımız tanımlar ile daha sonra serbest düzgün tam vektör örgünün sağladığı özellikler hakkında bilgiler verdik.

Anahtar Kelimeler : Riesz Uzayı, Serbest Banach Örgü, Serbest Vektör Örgü

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ÖZET

Bu konuşmada fonksiyonel analiz ve operatör teorisinin temel konularından biri olan, Banach örgü uzaylarına etki eden, yeni bir operatör sınıfı olan hemen hemen sıralı yarı-Fredholm operatörlerini derinlemesine inceleyeceğiz. Bu bağlamda hemen hemen sıralı sınırlı üst ve alt yarı-Fredholm sınıflarını inceleyeceğiz. Hemen hemen sıralı yarı-Fredholm operatörlerinin temel özelliklerini inceleyerek hemen hemen sıralı yarı-Fredholm operatörleri ile yarı-Fredholm operatörlerinin benzerliklerini vereceğiz. Bunları yaparken hemen hemen sıralı sınırlı kümeler ve yarı kompakt operatörlerden de faydalanarak hemen hemen sıralı yarı-Fredholm operatörlerini tanıtacağız. Ayrıca, üst yarı Fredholm operatörleri sınıfı ile hemen hemen sıralı üst yarı-Fredholm operatörler sınıfını karşılaştıracağız. Özel Banach örgü uzaylarında hemen hemen sıralı yarı-Fredholm operatörlerinin nasıl davrandığını ve ne gibi özelliklerinin olduğuna da değineceğiz.

Anahtar Kelimeler : hemen hemen sıralı üst yarı-Fredholm operatörleri, üst yarı-Fredholm operatörleri, alt yarı-Fredholm operatörleri, Banach örgü uzayları.

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A STUDY OF THE GENERALIZED ABSOLUTE VALUE DISTANCE FUNCTION AND ITS GEOMETRIC PROPERTIES

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ABSTRACT

This study presents some fundamental geometric properties in the resulting non-Euclidean plane by focusing on the generalized absolute value distance function. The concept of the generalized absolute value distance introduces a family of distance functions in the analytical plane by including traditional metrics. Defined by two parameters, a and b, this metric unifies several well-known distances, such as the taxicab, maximum, and Chinese Checkers distances, depending on the values assigned to these constants. This defined distance influences the geometric sets determined by the distance function and their shapes.

Firstly, the relationship between the generalized absolute value distance and Euclidean distance is given through a series of properties, including conditions under which they maintain proportionality across collinear points. This makes the generalized absolute value distance a valuable tool for various applications in non-Euclidean geometries. Then, the minimum distance sets are examined. It has been investigated how the given points being on the same coordinate axis, on the horizontal line, on the vertical line, on the gradual line, on the steep line affect the minimum distance set. Additionally, the concept of the circle is mentioned in the generalized absolute value plane. Also, the distance between a point and a line is determined by the minimal generalized absolute value distance between the point and each point on the line. Finally, the midsets in the generalized absolute value plane are defined, and results obtained from analysis under different conditions are presented along with examples.

Anahtar Kelimeler: Generalized absolute value distance, minimum distance set, midset

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RİESZ SPACES OF DİSJOİNTNESS PRESERVİNG OPERATORS

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ABSTRACT

In this talk, we introduce disjointness preserving operators between Riesz spaces and order bounded operators on Archimedean Riesz spaces. It will also examine spaces containing disjointness preserving operators, referred to as Lamperti Riesz subspaces.

Keyword: Riesz space, Archimedean Riesz space, Lamperti Riesz space, disjointness preserving operators

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ON THE ROLE OF CARTESIAN GROUP IN THE STRUCTURE AND EXISTENCE OF SUBPLANES OF PROJECTIVE PLANE OF ORDER 25

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ABSTRACT

In this study, we consider the projective plane, which is coordinatized by elements of the smallest Cartesian group. Depending on the choice of a regular quadrangle, it is shown that, in some cases, there does not exist a projective subplane of order 3, whereas a projective subplane of order 5 is found to exist. This analysis provides new insights into the structural properties of projective planes and their subplanes, contributing to a deeper understanding of finite geometries.

Key Words: Cartesian group, Projective plane, Subplanes
Ams Subject Classification: 51E20, 51E30

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ON THE 3-NETS IN THE PROJECİVE PLANE P_2S OF ORDER 25

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ABSTRACT

A projective plane is a geometric structure defined by a set of points and a set of lines, and it satisfies the following axioms:

1. Any two distinct points from the points set lie on exactly one line from the line set.
2. Any two distinct lines from the line set intersect at exactly one point from the points set.
3. There exist at least four points in the points set such that no three are collinear, meaning they do not all lie on the same line from the line set.

Finite projective planes, particularly those derived from finite fields, are a fundamental structure in finite geometry and combinatorial mathematics. These planes exhibit rich algebraic and geometric properties, making them an important subject of study. One of the intriguing features of finite projective planes is the presence of 3-nets, which provide a powerful geometric tool for understanding the interplay between points and lines within these planes.

A projective plane obtained from a field is called a field projective plane, often denoted as PG(2,K), where K is a field.

A 3-net in a projective plane obtained from a field is a pair (A, X) where A is a finite set of lines of projective plane partitioned into 3 subsets $A = A_1 \cup A_2 \cup A_3$ and X is a finite set of points of projective plane subject to the following conditions:

1- Any two lines from distinct families are concurrent with exactly one line from each component.
2- 2-For every point $x \in X$ and every i ($i \in \{1, 2, 3\}$) there exists a unique line $\ell \in$ Ai passing through the point x.

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In this paper, we provide some examples of 3-nets in a projective plane of order 25, where the underlying algebraic structure is a smallest Cartesian group.

A NOTE ON THE CHINESE CHECKERS HYPERSPHERES

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ABSTRACT

The Chinese Checkers distance between the given points $P = (P_1, P_2)$ and $Q = (Q_1, Q_2)$ is defined as $d_C(P,Q) = max\{|P_1 - Q_1|, |P_2 - Q_2|\} + (\sqrt{2} - 1)\, min\{|P_1 - Q_1|, |P_2 - Q_2|\}$.

The geometric location of points in the Chinese Checker plane that are at a fixed Chinese Checker distance from a fixed point is called a Chinese Checker circle. The Chinese Checker sphere is defined as the geometric location of all points $P = (P_1, P_2, P_3)$ equidistant from a given point, called the centre, in a three-dimensional space.

In this study, we have examined the structural properties of Chinese Checker hyperspheres by exploring the relationships between their vertices, edges, and faces within different dimensions.

Chart 1. The properties of circle, sphere and hyper-sphere in Chinese Checkers are as follows:

Number of dimensions	Number of vertices	Number of edges at any vertex	Total number of edges
2	8	2	8
3	10	9	45
4	12	11	66

Utilizing the Chinese Checker distance, we derived formulations for the Chinese Checker circle, sphere and hypersphere highlighting the distinct geometry that emerges from this metric.These structures, particularly the C_3-sphere and C_4-hypersphere, present unique non-Euclidean characteristics, such as deltoidal icositetrahedral and polyhedral configurations with 24 faces. Furthermore, the dimensional cross-sections within these hyperspheres offer a novel perspective on symmetry and distance in non-Euclidean spaces, which may contribute valuable insights into mathematical applications involving alternative distance metrics.

Keywords Chinese Checker distance, Chinese Checker space, C-sphere.

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SEPSİS RİSKİNİN METABOLOMİK ANALİZ İLE ERKEN TESPİTİ

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ÖZET

Amaç: Sepsise bağlı küresel mortalite, yoğun bakım ünitelerinde kabul edilemeyecek kadar yüksek olmaya devam ediyor. Septik hastalarda hayatta kalma ve ölüm arasındaki çeşitli moleküler süreçlerin belirlenmesi daha iyi tedaviye yardımcı olabilir. Sepsisin doğru prognostik değerlendirmesi esasen karşılanmamış bir ihtiyaçtır. Bu çalışmanın amacı gelişmiş makine öğrenimi tekniği aracılığıyla metabolomik profillemeyi kullanarak sepsis riskinin erken tespiti için öngörücü bir model geliştirmektir.

Yöntem: Çalışmada sepsis tanısı alan hastalardan ve sağlıklı kontrollerden alınan kan örneklerinden elde edilen metabolomik veriler kullanıldı. Bu profillere göre sepsis riskini sınıflandırmak için AdaBoost algoritması kullanıldı. AdaBoost modelinin performansı, doğruluk, duyarlılık, F1-skor, negatif tahmin değeri, pozitif tahmin değeri ve seçicilik ölçütleri kullanılarak değerlendirildi.

Bulgular: AdaBoost modeli, sepsis tahmininde 0.900 doğruluk, 0.867 duyarlılık, 0.867 F1-skor, 0.920 negatif tahmin değeri, 0.867 pozitif tahmin değeri ve 0.920 seçicilik ile sağlam bir performans sergiledi. Bu sonuçlar, modelin sağlıklı ve risk altındaki hastalar arasında etkili bir şekilde ayrım yapma konusunda yüksek kapasitesi olduğunu göstermektedir.

Sonuç: Sonuç olarak, bu çalışmanın sepsisin erken teşhisinde klinisyenlere önemli ölçüde destek sağlayacağı düşünülmektedir.

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Anahtar Kelimeler: Sepsis, erken teşhis, metabolomik, AdaBoost.

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CONSTRUCTION OF MACHINE LEARNING-BASED PREDICTION MODEL FOR PREDICTING VOICE CHANGES ASSOCIATED WITH PARKINSON'S DISEASE

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ABSTRACT

Objective: The objective of this study was to use machine learning (ML) techniques to categorize and predict voice changes related to Parkinson's disease (PD).

Method: The study uses a dataset of audio recordings from individuals with and without Parkinson's disease (PD). This dataset consists of 31 individuals, 23 of whom have Parkinson's disease. Each column is a specific sound measure and each row consists of 195 voice recordings of these individuals. The dataset was obtained from 23 individuals with PD and 184 rows by using the autocoder method, which is one of the data dimensionality reduction methods. 5-fold cross validation based on ML method was used using 20 variables found significant by applying variable selection with the Least Absolute Shrinkage and Selection Operator (LASSO) regression method to the dimensionally reduced dataset. The Extreme Gradient Boosting (XGBoost) model was evaluated for PD classification using various performance measures such as accuracy, balanced accuracy, sensitivity, specificity, positive predictive value, negative predictive value, and F1-score.

Results: The accuracy, balanced accuracy, sensitivity, specificity, positive predictive value, negative predictive value, and F1-score obtained from the XGBoost algorithm were calculated as 0.923, 0.965, 0.993, 0.698, 0.914, 0.968, and 0.952 respectively.

Conclusion: The XGBoost model achieved a correct classification rate of 92.3% on the biomedical voice measurement dataset for PD. This high accuracy indicates that voice recordings are a valuable and non-invasive diagnostic tool for PD, underscoring their clinical significance.

Keywords: Parkinson disease, voice measure, machine learning, XGBoost

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DEEPDENT OTOMATİK ÖNGÖRÜ YÖNTEMİNİN AYLIK TUFE ÖNGÖRÜSÜ İÇİN PERFORMANSININ ARAŞTIRILMASI

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ÖZET

Derin yapay sinir ağları öngörü probleminin çözümünde sıklıkla kullanılmaktadır. Fiyat endekslerinin tahmininde makine öğrenmesi yöntemlerinin başarılı sonuçlar üretmesi, derin yapay sinir ağlarının da bu alanda öngörü performansı üzerinde merak uyandırmaktadır. Bu çalışmada aylık tüketici fiyat endeksi zaman serisinin derin yapay sinir ağı olan DeepDenT'e dayalı otomatik öngörü yönteminin performansı klasik zaman serisi yöntemleri ile karşılaştırılmıştır.

Anahtar Kelimeler: Derin Öğrenme, Yapay Sinir Ağı, Tüketici Fiyat Endeksi, Öngörü

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KLASİK VE BOOTSTRAP HİPOTEZ TESTLERİNİN PERFORMANSLARININ AUTODEEPDENT İÇİN KARŞILAŞTIRILMASI

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ÖZET

Zaman serileri için otomatik öngörü elde edilmesi, araştırmacıların öznel kararlar verme gerekliliğini ortadan kaldırmaktadır. Bu nedenle literatürde otomatik öngörü yöntemlerine olan ilgi gün geçtikçe artmaktadır. Bu çalışmada derin dentritik geri beslemeli yapay sinir ağına ve bootstrap girdi anlamlılık testlerine dayalı bir otomatik öngörü yöntemi ortaya koyularak, yöntemin performansı klasik girdi anlamlılık testlerine dayalı algoritma ile karşılaştırılmıştır. Uygulamada M4 yarışmasında verilen zaman serileri kullanılmıştır.

Anahtar Kelimeler: Derin Öğrenme, Yapay Sinir Ağı, Girdi anlamlılık Testleri, M4 Yarışması.

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BULANIK REGRESYON FONKSİYONLARI YAKLAŞIMLARININ BORSA ÖNGÖRÜSÜ ÜZERİNDEN KARŞILAŞTIRILMASI

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ÖZET

Zaman serisi öngörü probleminin çözümünde bir alternatif olarak bulanık regresyon fonksiyonları yaklaşımları tercih edilebilmektedir. Bulanık regresyon fonksiyonları yaklaşımları öğrenme örneklerinin kümelenmesi sayesinde elde edilen üyeliklerin yeni açıklayıcı değişkenler olarak kullanıldığı bir kombine model yaklaşımı sunmaktadır. Son zamanlarda klasik bulanık küme kullanılarak önerilen bulanık regresyon fonksiyonları yaklaşımları, sezgisel ve resim bulanık kümeler içinde uygulanabilir hale getirilerek yeni öngörü yöntemleri ortaya koyulmuştur. Bu çalışmada bulanık regresyon fonksiyonları, sezgisel bulanık regresyon fonksiyonları ve resim bulanık regresyon fonksiyonları öngörü yöntemleri, İngiliz sterlini ve dolar paritesi zaman serisi kullanılarak öngörü performansı açısından karşılaştırılmıştır.

Anahtar Kelimeler: Bulanık Küme, Sezgisel Bulanık Küme, Resim Bulanık Küme, Bulanık Regresyon Fonksiyonları, Öngörü

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REVIEW OF SCIENTIFIC PUBLICATIONS MADE IN 11 LEADING COUNTRIES IN THE FIELD OF RENEWABLE ENERGY

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Abstract

It is critical to meet energy needs with sustainable and environmentally friendly resources in combating environmental problems such as global warming and climate change. The environmental damage caused by fossil fuels and their limited reserves have increased the interest in renewable energy sources. Renewable energy sources include various options such as solar, wind, hydroelectric, biomass and geothermal energy. Each of these sources has low carbon emissions during energy production and contributes to environmental sustainability.

The Organization for Economic Co-operation and Development, or OECD for short, was created as part of the system of Western organizations created after World War II. OECD is an organization where 38 countries with democratic structures and market economies work together to solve economic, social and management problems and benefit from the opportunities of this process. The "Convention on the Organization for Economic Co-operation and Development", signed in Paris on 14 December 1960, constitutes the founding agreement of the OECD. In accordance with the principles included in the founding purposes of the OECD, scientific publications are shared, as in every field, and these are recorded in a common database. One of these is the work done in the field of renewable energy resources.

Turkey is among the leading states in the world in renewable energy investments, and according to the International Renewable Energy Agency's 2023 statistics, Turkey ranks 11th in the installed capacity ranking. It also ranks 5th in Europe. In this study, scientific publications in the field of renewable energy were examined along with investments and technological developments in this field. For this purpose, the development of scientific publications in the field of renewable energy made by the countries in the top 11 in the world ranking from the OECD database between 2013 and 2022 was examined, and Turkey's ranking among these countries was evaluated on a yearly basis. In the study, annual development rankings were integrated with the Borda Count method and turned into a single ranking.

Keywords: OECD, Renewable Energy, Borda Count Method.

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YENİLENEBİLİR ENERJİ ALANINDA ÖNDE GELEN 11 ÜLKEDE YAPILAN BİLİMSEL YAYINLARIN İNCELENMESİ

ÖZET

Küresel ısınma ve iklim değişikliği gibi çevre sorunlarıyla mücadelede enerji ihtiyacının sürdürülebilir ve çevre dostu kaynaklarla karşılanması kritik öneme sahiptir. Fosil yakıtların çevreye verdikleri zararlar ve sınırlı rezerve sahip olmaları, yenilenebilir enerji kaynaklarına olan ilgiyi artırmıştır. Yenilenebilir enerji kaynakları arasında güneş, rüzgar, hidroelektrik, biyokütle ve jeotermal enerji gibi çeşitli seçenekler yer almaktadır. Bu kaynakların her biri enerji üretimi sırasında düşük karbon emisyonuna sahiptir ve çevresel sürdürülebilirliğe katkı sağlamaktadır.

Ekonomik İşbirliği ve Kalkınma Örgütü veya kısaca OECD, İkinci Dünya Savaşından sonra oluşturulan Batı kuruluşları sisteminin bir parçası olarak ihdas edilmiştir. OECD, demokratik yapılara ve piyasa ekonomisine sahip 38 ülkenin ekonomik, sosyal ve yönetim sorunlarını çözmek ve bu sürecin fırsatlarından faydalanmak üzere müştereken çalıştıkları bir örgüttür. 14 Aralık 1960 yılında Paris'te imzalanan "Convention on the Organisation for Economic Co-operation and Development", OECD'nin kurucu anlaşmasını teşkil etmektedir. OECD içerisinde kuruluş amaçlarının içerisinde yer alan ilkeleri gereği her alanda olduğu gibi bilimsel yayınlar açısından da paylaşımlar yapılmakta, bunlar ortak veri tabanında kaydedilmektedir. Bunlardan birisi de yenilenebilir enerji kaynakları alanında yapılan çalışmalardır.

Türkiye de yenilenebilir enerji yatırımlarında dünya da önde gelen devletler içerisinde olup, Uluslararası Yenilenebilir Enerji Ajansı, 2023 yılı istatistiklerine göre Türkiye, kurulu güç sıralamasında 11'inci sıradadır. Ayrıca Avrupa'da 5'nci sırada yer almaktadır. Bu çalışmada da bu alandaki yatırım ve teknolojik gelişmelerle birlikte yenilenebilir enerji alanında yapılan bilimsel yayınlar incelenmiştir. Bu amaçla 2013-2022 yılları arasında OECD veri bankasından Dünya sıralamasında ilk 11'de yer alan ülkelerin yapılan yenilenebilir enerji alanındaki bilimsel yayınların gelişimi incelenmiş, Türkiye'nin bu ülkeler arasındaki sıralaması yıl bazında değerlendirilmiştir. Çalışmada yıllık gelişim sıralamaları Borda Sayım yöntemi ile bütünleştirilip tek sıralama haline getirilmiştir.

Anahtar Kelimeler: OECD, Yenilenebilir Enerji, Borda Sayım Yöntemi.

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REVIEW OF MULTIDISCIPLINARY SCIENTIFIC PUBLICATIONS IN OECD COUNTRIES

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ÖZET

Yazının icat edilmesiyle bilginin üretilmesi mümkün olmuş, kayıt altına alınan bilgi nesilden nesile aktarılır hale gelmiştir. Kayda geçirilen bu bilgilerin paylaşılması diğer araştırmacılar tarafından temel olarak alınmış ve üzerine konularak yeni bilgiler elde edilmiştir. Günümüzde bilimsel araştırma sonucu elde edilen birikimler yazılı ya da online ortamlarda olarak tüm dünyaya duyurulmaktadır. Özellikle bilimsel dergi sayısının artması, alanına özgü kongrelerin dünya genelinde yapılıyor olması bilim insanlarının bilimsel iletişimini oldukça geliştirmiştir.

Günümüzde kalkınmanın temelini bilimsel bilgi oluşturmaktadır. Bilimsel bilginin en önemli özelliği elde edilirken bilimsel ilkelere dikkat edilmesidir. Elde edilen bilgiler, sonuçlar kitap, dergi, bildiri, makale gibi formlarla bilim dünyasına yayınlanır ve kazandırılır. Bir ülkede bilimin gelişimini gösteren en önemli etmenlerden birisi de bilimsel alanda yapılan çalışmalardır. Türkiye'de de her geçen gün bilim sayısı artmakta, bu yayınların niceliksel ve niteliksel özellikleri de tartışılır hale gelmiştir. Bilimsel yayınların niteliği bir ülkedeki araştırmaların sağlıklı bir şekilde yapılıp yapılmadığının somut göstergelerindendir.

Günümüzde yapılan araştırmalarda disiplinler arası yapılan çalışmaların sayısı da artmaktadır. Multidisipliner olarak adlandırılan bu çalışmaların sayısı bilimin gelişmesini gösteren en önemli etmenlerdendir. Bir çalışmanın niteliğini arttıran en önemli göstergelerinden birisi de uluslararası düzeyde kabul edilebilirliğidir.

Ülkeler ekonomik sosyal ve birçok alanda kıyaslandığı gibi bilimsel çalışmaların sayısı açısından da sınıflandırılmaktadır. Bu çalışmada da OECD ülkelerine ait multidisipliner alanında yapılmış çalışmalar incelenmiştir. 2013-2022 yılları arasında yapılan multidisipliner çalışmaların sayıları kıyaslanmış, yıllara göre Türkiye'de yapılan multidisipliner çalışmalarının gelişimi incelenmiştir. Çalışmada, yıllara göre çalışmaların sıralaması Borda Sayım prosedürü ile bütünleştirilmiş, Türkiye'nin hem sıralamadaki yeri hem de gelişim süreci incelenmiştir.

Anahtar Kelimeler: OECD, Multidisipliner Yayın, Borda Sayım.

OECD ÜLKELERİNDE MULTİDİSİPLİNER BİLİMSEL YAYINLARIN İNCELENMESİ

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Abstract

With the invention of writing, it became possible to produce information, and recorded information became transferable from generation to generation. Sharing this recorded information was taken as a basis by other researchers and new information was obtained by building on it. Today, the knowledge gained as a result of scientific research is announced to the whole world in written or online media. Especially the increase in the number of scientific journals and the fact that field-specific congresses are held around the world have greatly improved the scientific communication of scientists.

Today, scientific knowledge forms the basis of development. The most important feature of scientific knowledge is to pay attention to scientific principles while obtaining it. The information and results obtained are published and brought to the scientific world in forms such as books, journals, papers and articles. One of the most important factors that show the development of science in a country is the studies carried out in the scientific field. In Turkey, the number of scientific studies is increasing day by day, and the quantitative and qualitative characteristics of these publications have become debatable. The quality of scientific publications is a concrete indicator of whether research in a country is carried out in a healthy way.

In today's research, the number of interdisciplinary studies is also increasing. The number of these studies, called multidisciplinary, is one of the most important factors that show the development of science. One of the most important indicators that increase the quality of a study is its acceptability at the international level.

Countries are classified in terms of the number of scientific studies as well as comparisons in economic, social and many areas. In this study, studies conducted in the multidisciplinary field of OECD countries were examined. The numbers of multidisciplinary studies conducted between 2013 and 2022 were compared, and the development of multidisciplinary studies conducted in Turkey was examined over the years. In the study, the ranking of studies by year was integrated with the Borda Census procedure, and both Turkey's place in the ranking and its development process were examined.

Keywords: OECD, Multidisciplinary Publication, Borda Count.

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BAKIM VE MERHAMET

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ÖZET

İnsanoğlu ağrı ve acıdan uzak bir yaşam sürdürmesi için yapılan bütün müdahaleler bakım olarak tanımlanabilir. Bakımla özdeşleşmiş olan hemşirelik mesleğindeki bakımda ise bireyi tanımak, bakım gereksinimlerini tanımlamak; bireyin sorunları ile etkin baş edebilir ve gereksinimlerini karşılayabilir hale gelmesine ek olarak topluma ve hastaya bilgi vermek ve bakımını sağlamak amaçlanmaktadır. Hemşire bu hizmeti sunarken bireyin duygu, düşünce ve gereksinimlerine yönelik, içten sevgi ve şefkat vererek, destek sağlayarak, bireye uygun bir bakım planlamalıdır. Şefkat içinde merhameti barındıran bir boyuttur. Hemşirelik bakım planlarına merhamet duygusunu katmak hem hemşireleri daha fazla motive eder, hem de hastaları cesaretlendirir. Bu da hemşirelik bakımının kalitesini artırır. Ayrıca merhametli bakım, bakım verilen bireyin yaşadığı biyopsiko-sosyal zorlukların farkına vararak anlamayı ve bakım verilen bireyin gereksinimlerini karşılamayı da içermektedir. Hasta ve ailenin bakıma dahil edilmesi de merhametli bakımın en önemli unsurlarından olduğu unutulmamalıdır. Merhametli bakımla birlikte bireyler kendi sağlığına yönelik verilen kararlara aktif katılım sağlayabilecektir. Ancak hemşirelik bakım süreci açısından oldukça önem arzeden merhamet duygusunun hemşireler açısından merhamet yorgunluğu gibi bazı istenmedik durumların ortaya çıkmasına neden olduğu bilinmektedir. Diğer tükenmişlik şekillerinden farklı olan merhamet yorgunluğu, hastalardan kaynaklı duygusal, ruhsal, fiziksel ve sosyal bir tükenmenin bakım hizmeti sunan sağlık profesyonellerinde görülen şeklidir. Bu durumun oluşması için empatik yetenek, endişe ve acı çeken bireylere istekli ve direkt maruziyet gereklidir. Merhamet yorgunluğunun pek çok biyo-psikososyal olumsuzluklara neden olmaktadır. Bu olumsuzluklardan etkilenmemek için bireylerin farkındalık düzeylerini artırma, kişisel düzenleme, amaçlar doğrultusunda yaşama, kendini doğrulama, sosyal destek ağları ile kısa sürede iyileşme, bütüncül ve kişisel bir özbakım disiplini geliştirme, psikolojik sağlamlığı destekleme hedefleyen uygulamalar yapılmalıdır.

Anahtar Kelimeler: Bakım, Hemşirelik, Merhamet

ABSTRACT

Human interventions aimed at ensuring a life free from pain and suffering can be classified as care. In nursing, which is closely associated with care, the goals are to understand the individual, identify their care needs, effectively address their issues, meet their needs, and provide information and care to both the community and the patient. Nurses must develop a care plan tailored to the individual, offering genuine love, compassion, and support in response to the person’s emotions, thoughts, and needs. Compassion encompasses mercy and is an integral part of nursing care plans. Including compassion in care not only motivates nurses but

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also encourages patients, thus improving the quality of care. Furthermore, compassionate care involves recognizing and understanding the biopsychosocial challenges faced by individuals and addressing their needs. Involving patients and their families in the care process is also a crucial element of compassionate care. However, it is known that compassion, while crucial, can lead to undesired situations such as compassion fatigue among nurses. Unlike other forms of burnout, compassion fatigue is a form of emotional, mental, physical, and social exhaustion seen in healthcare professionals due to their exposure to patients' suffering. This condition requires empathetic skills, concern, and a willingness to engage directly with suffering individuals. Compassion fatigue leads to various bio-psychosocial negative impacts, which can be mitigated through awareness, personal regulation, living according to goals, self-affirmation, social support, quick recovery strategies, holistic and personal self-care practices, and psychological resilience support.

Keywords: Care, Nursing, Compassion

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ERGENLİK VE TEKNOLOJİK BAĞIMLILIKLAR

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ÖZET

Teknolojideki hızlı ilerlemeler teknolojik cihazların yaygın halde kullanımına neden olmuştur. İnternet kullanımın artması ile birlikte diğer sosyal medya ağ kullanımının da arttığı bilinmektedir. Teknoloji kullanımındaki bu çeşitlilik ve artış kullanıcı açısından pek çok yarar sağladığı gibi psikolojik ve fizyolojik pek çok olumsuzluğa da neden olmaktadır. Bu olumsuzlukların temel nedeni olarak görülen teknoloji bağımlılığı ise, teknoloji ve internetin bilinçli olmayan, kontrolsüz bir şekilde kullanımına bağlı olarak ortaya çıkan davranışsal bağımlılıklar olarak tanımlanmaktadır. Davranışsal bağımlılıkların temelinde enerjiyi boşaltma, kendini ifade etme ya da bir gruba ait olma ve sosyalleşme olmak üç temel ihtiyaç yatmakta ve ergenlerde görülme sıklığı artmaktadır. Ergenlerdeki bu durumun sıklığı ise biyo-psikososyal değişimlere ek olarak heyecan arama davranışının baskınlığı ve duyguları anlamlandırmaktaki zorlanmalar olduğu bildirilmektedir. Teknoloji bağımlılığının belirtileri, bireyin teknolojik cihazlara aşırı bağımlı hale gelmesi ve bu bağımlılığın günlük yaşamını olumsuz etkilemeye başlaması ile birlikte ortaya çıkmaktadır. Teknoloji bağımlılığı olan bireyler günün büyük bir kısmını teknolojik cihazlarla geçirmekte ve bu cihazlara sürekli olarak bağlı kalmaktadır. Bu bağlanma belirli bir süreden sonra ihtiyaç halini almakta ve birey bu ihtiyacı kontrol edemez hale gelmektedir. Ayrıca teknolojik cihazlara ulaşamadığı zamanlarda kendini huzursuz, eksik ve endişeli hissetmektedir. Bu durum, sosyal izolasyona ve gerçek hayattaki ilişkilerin zayıflamasına neden olmaktadır. Bu durumun altında nöroanatomik/nörobiyolojik değişiklikler, genetik etkenler ve psikososyal pek çok faktörün yer aldığı bildirilmektedir. Teknoloji bağımlılıklarının tedavisinde genel olarak hem farmakoterapi hem de psikoterapi yöntemleri önerilmektedir.

Anahtar Kelimeler: Ergenlik, Teknoloji, Bağımlılık

ABSTRACT

Rapid advancements in technology have led to the widespread use of technological devices. Alongside the increased use of the internet, there has been a rise in the use of other social media networks. While this diversity and increase in technology use offer many benefits, they also lead to several psychological and physiological drawbacks. One primary issue is technology addiction, which is characterized by behavioral dependencies resulting from uncontrolled and unconscious use of technology and the internet. The root causes of these behavioral dependencies often include the need to release energy, self-expression, group belonging, and socialization, and their prevalence is increasing among adolescents. This rise in adolescents is attributed to bio-psychosocial changes, a tendency for thrill-seeking behavior, and difficulties in understanding emotions. Symptoms of technology addiction emerge when an individual

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becomes excessively dependent on technological devices, negatively impacting their daily life. People with technology addiction spend a large portion of their day engaged with these devices and feel a continuous need to stay connected. This dependency eventually becomes uncontrollable and leads to feelings of restlessness, inadequacy, and anxiety when access to these devices is unavailable. Such conditions can result in social isolation and weakened real-life relationships. Underlying this situation are neuroanatomical/neurobiological changes, genetic factors, and various psychosocial elements. Treatment for technology addiction generally involves both pharmacotherapy and psychotherapy approaches.

Keywords: Adolescence, Technology, Addiction

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DETERMINING THE RELATIONSHİP BETWEEN FAMILY ROLE PERFORMANCE, PERCEIVED SOCIAL SUPPORT LEVEL AND SURGICAL FEAR IN INDIVIDUALS OVER 18 YEARS OF AGE

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ÖZET

Giriş: Cerrahi korku, ameliyat geçiren bireylerin deneyimlediği hoş olmayan bir durumdur. Cerrahi korkunun varlığı olumsuz sonuçlara yol açabilir. Aile rolleri ve sosyal destek de dahil olmak üzere çeşitli faktörler korku seviyesini etkiler. Ancak bu faktörler genel olarak ameliyat geçiren hastaların değerlendirilmesinde dikkate alınmamaktadır.

Amaç: Bu çalışma, 18 yaş ve üzeri bireylerde aile rolü performansı, algılanan sosyal destek ve cerrahi korku seviyeleri arasındaki ilişkiyi incelemeyi amaçlamaktadır.

Çalışmanın dizaynı: Çalışmada tanımlayıcı ve kesitsel bir tasarım kullanıldı. Çalışmaya 662 kişi katıldı. Katılımcılara kişisel bilgi formu, cerrahi korku ölçeği, aile rolü performans ölçeği ve algılanan sosyal destek ölçeği çevrimiçi olarak uygulandı. Veriler ortalama, frekans ve yüzdelik kullanılarak analiz edildi. Bağımsız değişkenleri karşılaştırmak için uygun istatistiksel testler uygulandı.

Bulgular: Cerrahi korku ölçeği (CKÖ) ile aile rolü performans ölçeği (ARPÖ) puan ortalamaları (r:.238, p<.001) ve CKÖ ile algılanan sosyal destek ölçeği (ASDÖ) puan ortalamaları (r:.158, p<.001) arasında pozitif korelasyonlar bulundu. Katılımcılar arasında ARPÖ puanı ile ASDÖ puanı arasında da pozitif ve anlamlı bir korelasyon bulundu (r:.386, p<.001).

Sonuçlar: Aile rolü performansı ve algılanan sosyal destek arttıkça cerrahi korkunun anlamlı şekilde arttığı belirlendi.

Anahtar Kelimeler: Aile rol performansı, algılanan sosyal destek, cerrahi korku

ABSTRACT

Background: Surgical fear is an unpleasant experienced by individuals undergo surgery. The existence of surgical fear can lead to negative outcomes. Various factors, including family roles and social support, influence the level of fear. However, these factors aren't not considered in the assessment of patients undergoing surgery generally.

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Aim: This study aimed to examine the relationship between levels of family role performance, perceived social support and surgical fear in individuals aged 18 and above.

Study design: A descriptive and cross-sectional design was employed in the study. 662 people participated to the study. Personal information form, surgical fear scale, family role performance scale and perceived social support scale were administered to participants online. Data were analyzed using mean, frequency, and percentage. Appropriate statistical tests were applied to compare independent variables.

Findings: Positive correlations were found between the surgical fear questionnaire (SFQ) and the family role performance scale (FRPS) score averages (r:.238, p<.001), and between the SFQ and perceived social support scale (PSSS) score averages (r:.158, p<.001). A positive significant correlation was also found between FRPS score and PSSS score among participants (r:.386, p<.001).

Conclusions: It was determined that as family role performance and perceived social support increase, surgical fear significantly increases.

Keywords: family role performance, perceived social support, surgical fear

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KENEVİR TOHUM YAĞI VE SAĞLIK ÜZERİNE ETKİLERİ

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ÖZET

Kenevir, *Cannabaceae* familyasına ait, zengin lifli ve tohumlarında yüksek yağ içeren tek yıllık bir bitkidir. Dünya genelinde elliden fazla ülkede kenevir üretimi yapılmakta, kenevirden üretilen ürünler endüstriyel ve tıbbi amaçlarla kullanılmaktadır. Son yıllarda kenevir bitkisi; antidiyabetik, anksiyolitik, antikonvülsan, anti-inflamatuar, antioksidan ve antikarsinojenik etkilerinden dolayı çeşitli patolojiler için destekleyici tedavi olarak kullanılmaktadır. Kenevir tohum yağı, yüksek yağ içeriği ve yapısındaki esansiyel bileşenleriyle dikkat çekmektedir. Kenevir tohum yağında bulunan terpenoidler, steroller ve PUFA'lar farklı terapötik etkilere sahiptir. Kenevir tohumları, %30-35 oranında yağ içerir, bu yağın büyük kısmını linoleik asit, α-linolenik asit ve γ-linolenik asit (GLA) gibi doymamış yağ asitleri oluşturur. Günümüzde kenevir tohum yağı; çeşitli sağlık takviyelerinde, kozmetik ve tedavi edici ürünlerde yaygın olarak kullanılmaktadır. Kenevir tohum yağının topikal ve oral kullanımının; cilt bariyerini güçlendirmesi, nem tutulumunu artırması ve iltihaplanmayı azaltıcı etkileri sayesinde akne, atopik dermatit, egzama, sedef hastalığı ve pruritus gibi cilt rahatsızlıklarında olumlu sonuçlar verdiği düşünülmektedir. Kenevir tohum yağının sağlık üzerindeki potansiyel etkileri, araştırmacılar ve klinik uygulamalar için yeni fırsatlar sunmaktadır. Bu derlemede farklı sekonder metabolitlere sahip olan kenevir tohum yağının potansiyel faydaları incelenmiş ve özetlenmeye çalışılmıştır.

Anahtar Kelimeler: Kenevir tohum yağı, Aktif bileşenler, Tedavi

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EVALUATION OF ENERGY OUTPUT AND IRRADIANCE ANALYSIS TECHNIQUES IN PHOTOVOLTAIC SYSTEMS

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Abstract:

The deployment of solar photovoltaic (PV) systems has seen substantial growth over recent years. Consequently, accurate monitoring of meteorological parameters, including solar irradiance, air temperature, and wind speed, is crucial for assessing the solar energy potential of specific locations. This study evaluates two computational approaches for estimating photovoltaic system energy output by analyzing solar radiation data: the PVsyst software and a MATLAB-based algorithm utilizing the PVlib package. To achieve this, solar radiation data—both measured and sourced from a solarimetric database—was analyzed to decompose global solar irradiance into direct normal and horizontal diffuse components. Additionally, the modeling of photovoltaic system components, such as solar panels and inverters, was assessed for energy production calculations. The simulated outcomes were compared against experimental data to determine the accuracy of the methodologies. The MATLAB algorithm exhibited energy production estimation errors of less than 30%, while the PVsyst software demonstrated errors of less than 20%.

Keywords: Energy production, meteorological parameters, irradiance decomposition, photovoltaic systems.

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INTEGRATION OF SOLAR POWER GENERATORS AND ENERGY STORAGE SYSTEMS IN POWER DISTRIBUTION NETWORKS

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Abstract:

The deployment of micro-generators utilizing renewable energy sources has seen substantial growth in recent years, with solar and wind power being predominant. Given the intermittent nature of these renewable sources, such micro-generators often produce variable energy that does not always align with peak demand periods for end-users. Consequently, incorporating energy storage systems alongside the grid plays a crucial role in stabilizing busbar voltage levels in accordance with energy quality standards. This study examines the impact of integrating a photovoltaic solar generator and an energy storage system on the voltage stability of busbars within an electrical distribution network. The consumption profile is modeled based on typical hourly usage patterns in residential settings, while the generation profile reflects local solar irradiance. The power summation approach is validated through analytical methods and applied to compute the voltage modules and angles in the busbars of the electrical system, following IEEE standards, for each hour of the day, with specified load and generation profiles. Results indicate that Bus 5 experiences the lowest voltage levels during peak consumption times but achieves stabilization within acceptable limits with the addition of energy storage during nighttime. The solar generator contributes to maintaining improved voltage levels during daylight hours, with production peaks around noon, without exceeding optimal voltage thresholds.

Keywords: Energy storage, power distribution system, solar generator, voltage stability.

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THE PROMİSE OF HYBRİD MİCROGRİDS FOR ALLEVİATİNG POWER SHORTAGES İN LEBANON

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Abstract:

Lebanon's ongoing electricity crisis has reached critical levels, with power rationing varying across the nation. Beirut experiences a 3-hour daily power cut, while other regions face shortages ranging from 9 to 14 hours. In response, private diesel generators, often installed illegally, are used to fill the energy void. These generators are widespread in urban areas and numerous villages, forming fragmented and poorly managed microgrids (MGs). However, there is potential to evolve these MGs into more efficient, renewable energy-based systems operating in either island or grid-connected modes. This paper explores the feasibility of integrating hybrid microgrids as a solution to Lebanon's energy challenges. It examines the benefits of enhancing existing MGs with renewable technologies, such as photovoltaic (PV) arrays, and the impact of these advancements on various stakeholders, including developers, consumers, utilities, and communities. A case study involving a distribution feeder in a rural area, analyzed using HOMER software, will illustrate the advantages of combining PV systems with current diesel generators. The paper will also provide policy recommendations based on the lessons learned from private generation practices and the current legal framework for privatization and public-private partnerships in Lebanon.

Keywords: Hybrid microgrids, renewable energy, decentralized power systems, distributed generation.

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ANALYSIS OF VIBRATION SIGNALS IN SMALL VERTICAL AXIS WIND TURBINES

Mei Lin Zhang, Zhao Wei Chen, Haruto Nakamura
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Abstract:

Recent advancements in renewable energy have notably enhanced the role of wind power in the energy sector. This study examines the impact of blade count and wind speed on the vibration signals of vertical axis Savonius wind turbines. Experimental tests were conducted on turbines with two, three, and four blades to analyze their vibration amplitudes in response to varying wind speeds. Results indicate that an increase in the number of blades reduces the vibration magnitude. Additionally, the effect of wind speed on vibration levels diminishes as the blade count increases.

Keywords: Savonius wind turbine, blade count, vibration analysis, wind energy.

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INVESTIGATION OF LEAK EFFECTS ON THE DURABILITY OF SOLID OXIDE ELECTROLYSIS CELLS UNDER CO-ELECTROLYSIS CONDITIONS

Dr. Yumi Kim, Dr. Wei Zhang, Dr. Haruto Nakamura, Dr. Elena Costa
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Abstract:

Solid oxide electrolysis cells (SOECs) exhibit significant potential for converting CO2 and H2O into syngas through co-electrolysis, with subsequent conversion of syngas into hydrocarbons. This technology, known as power-to-gas or power-to-liquid, faces challenges in cell durability that must be addressed to optimize performance. This study investigates various configurations, including nickel-yttria stabilized zirconia (Ni-YSZ) fuel electrode-supported cells, YSZ electrolyte-supported cells, cerium gadolinium oxide (CGO) barrier layers, and oxygen electrodes, assessing their durability under co-electrolysis conditions in both galvanostatic and potentiostatic modes. Impedance spectroscopy revealed changes in the gas concentration arc upon varying the gas composition at the oxygen electrode while maintaining a constant fuel electrode gas composition. Open circuit potential measurements indicated leaks in the setup, with concentration impedance changes possibly linked to these leaks. Additionally, cells were tested under pressurized conditions to explore the relationship between leak rates and pressure. The study includes mathematical modeling supported by electrochemical and microscopy analyses.

Keywords: Co-electrolysis, solid oxide electrolysis cells, leaks, durability, gas concentration.

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A NOVEL THERMOCHEMİCAL ENERGY STORAGE SOLUTİON FOR TRANSPORTATİON: DESİGN AND EVALUATİON

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Abstract:

Thermochemical energy storage (TCES) presents a promising approach for long-term and efficient energy storage, which can significantly reduce greenhouse gas emissions in transportation applications, including internal combustion engine vehicles. This study introduces a prototype TCES system developed through reversible sorption reactions involving LiBr composite and methanol, designed at Zhejiang University in China. The paper examines the selection of reactive and inert materials, as well as the design of essential components such as heat exchangers (reactor vessel and evaporator-condenser). It also evaluates the system's cycle stability under practical operating conditions. The performance of the TCES system is highly influenced by the environmental temperatures affecting the reactor vessel and evaporator-condenser during thermal conversion phases. The prototype's functionality was validated through multiple test cycles, demonstrating reliable performance without any negative reactions, thereby confirming its suitability for integration into mobile applications.

Keywords: Thermochemical energy storage, LiBr composite, methanol, transportation applications, system performance

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REVIEWING THREE YEARS OF MEDICAL RECORDS: POISONING ADMISSIONS AT A CHILDREN'S HOSPITAL IN BENGHAZI, LIBYA

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Abstract:

Estimation of the magnitude and causes of poisoning was the objective of the current study. A retrospective study of medical records of all poisoning children admitted to Benghazi Children Hospital in Libya from January 2008 up to December 2010. Number of children admitted was 244; the age ranged from less than one to 13 years old. Most of cases were admitted with mild symptom and the majority of them were boys. Only few cases admitted to intensive care unit and there was no mortality recorded through the period of study. Age group 1 to 3 years (50.8%) had the highest frequency of admission and the peak of admission was during summer. The most common cause of admission was due to ingestion of medication (53.69%), House hold product exposure (26.64%) was the second causes of admission while, 19.67% of admissions were due to Food poisoning. Almost all admitted cases were accidental and medicines were the most consumed substances in addition, improper storage of toxic agents were the first risk factor of poisoning. Present results indicated that, children poisoning seems to be a common pediatric care problem which need to control and prevent.

Keywords: Children, hospital, poisoning.

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A RESEARCH ON THE IMPACT OF PROLACTIN AND ITS ABERRATIONS ON SEMEN PARAMETERS IN MALE WHITE RATS

Hasan Rizvi

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Abstract:

Male factor infertility due to endocrine disturbances such as abnormalities in prolactin levels are encountered in a significant proportion. This case control study was carried out to determine the effects of prolactin on the male reproductive tract, using 200 male white rats. The rats were maintained as the control group (G1), hypoprolactinaemic group (G2), 3 hyperprolactinaemic groups induced using oral largactil (G3), low dose fluphenazine (G4) and high dose fluphenazine (G5). After 100 days, rats were subjected to serum prolactin (PRL) level measurements and for basic seminal fluid analysis (BSA). The difference between serum PRL concentrations of rats in G2, G3, G4 and G5 as compared to the control group were highly significant by Student's t-test ($p<0.001$). There were statistically significant differences in seminal fluid characteristics of rats with induced prolactin abnormalities when compared with those of control group (p value <0.05), effects were more marked as the PRL levels rise.

Keywords: Male factor infertility, Prolactin, Seminal fluid analysis, animal studies.

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DEXAMETHASONE: EFFECTS ON TESTICULAR FUNCTION

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Abstract:

Dexamethasone (Dex) is a synthetic glucocorticoid that is used in therapy. However prolonged treatments with high doses are often required. This causes side effects that interfere with the activity of several endocrine systems, including the gonadotropic axis. The aim of our study is to determine the effect of Dex on testicular function in prepubertal Wistar rats. Newborn Wistar rats are submitted to intraperitoneal injection of Dex (1µg of Dex dissolved in NaCl 0.9% / 5g bw) for 20 days and then sacrificed at the age of 40days. A control group received NaCl 0.9%. The rat is weighed daily. The plasmatic levels of testosterone, LH and FSH were measured by radioimmunoassay. A histomorphometric study was performed on sections of testis. Treated groups showed a significant decrease in body weight ($p < 0.05$), testis weight ($p < 0.05$) and plasma levels of testosterone ($p < 0.05$), of LH ($P < .05$) and FSH ($p > 0.05$). There is a reduction of seminiferous tubules average diameter and also of the seminiferous epithelium thickness with an increasing of lumen tubular. The diameter of the Leydig cells and Sertoli cell nucleus is also significantly reduced. Spermatogenesis is blocked at the stage round spermatid unlike witnesses or elongated spermatid stage is found. These results suggest that Dex administered during neonatal life influences testicular activity in the long term.

Keywords: Dexamethasone, FSH, LH, rat, testis, testosterone.

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EXPLORING VMAT ALGORITHMS AND DOSIMETRY: AN INVESTIGATIVE APPROACH

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Abstract:

Purpose: Planning and dosimetry of different VMAT algorithms (SmartArc, Ergo++, Autobeam) is compared with IMRT for Head and Neck Cancer patients. Modelling was performed to rule out the causes of discrepancies between planned and delivered dose. Methods: Five HNC patients previously treated with IMRT were re-planned with SmartArc (SA), Ergo++ and Autobeam. Plans were compared with each other and against IMRT and evaluated using DVHs for PTVs and OARs, delivery time, monitor units (MU) and dosimetric accuracy. Modelling of control point (CP) spacing, Leaf-end Separation and MLC/Aperture shape was performed to rule out causes of discrepancies between planned and delivered doses. Additionally estimated arc delivery times, overall plan generation times and effect of CP spacing and number of arcs on plan generation times were recorded. Results: Single arc SmartArc plans (SA4d) were generally better than IMRT and double arc plans (SA2Arcs) in terms of homogeneity and target coverage. Double arc plans seemed to have a positive role in achieving improved Conformity Index (CI) and better sparing of some Organs at Risk (OARs) compared to Step and Shoot IMRT (ss-IMRT) and SA4d. Overall Ergo++ plans achieved best CI for both PTVs. Dosimetric validation of all VMAT plans without modelling was found to be lower than ss-IMRT. Total MUs required for delivery were on average 19%, 30%, 10.6% and 6.5% lower than ss-IMRT for SA4d, SA2d (Single arc with 2^0 Gantry Spacing), SA2Arcs and Autobeam plans respectively. Autobeam was most efficient in terms of actual treatment delivery times whereas Ergo++ plans took longest to deliver. Conclusion: Overall SA single arc plans on average achieved best target coverage and homogeneity for both PTVs. SA2Arc plans showed improved CI and some OARs sparing. Very good dosimetric results were achieved with modelling. Ergo++ plans achieved best CI. Autobeam resulted in fastest treatment delivery times.

Keywords: Dosimetry, Intensity Modulated Radiotherapy, Optimization Algorithms, Volumetric Modulated Arc Therapy.

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ADDRESSING AUTISM SPECTRUM DISORDER: A KEY CHALLENGE IN THE KINGDOM OF SAUDI ARABIA

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Abstract:

Autism Spectrum Disorders (ASDs) are characterized by abnormalities in social interaction and communication, as well as repetitive and stereotyped behaviors. Although various studies have been conducted in ASDs etiology across the world, it seems that they are still unknown in Middle East. Some scientific researches have been conducted on ASDs in Middle East (ME) especially in Kingdom of Saudi Arabia (KSA). A systematic literature review was performed to identify the ASDs studies in KSA. Accordingly, PubMed, ISI web of Science and Google were searched to find KSA and ME studies in ASDs. The main focus of this review work is to outline an improved understanding of the underpinnings of ASD in order to achieve therapeutic interventions and we will discuss the main problem we waiting for solution with reference with role of Transcranial Magnetic Stimulation (TMS) to modulate cortical activity improve understanding ASD.

Keywords: Autism, Neurodevelopmental disorder

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SEROLOGICAL IGG TESTING FOR DIAGNOSIS OF DIET-INDUCED CONDITIONS AND EFFICACY MONITORING IN CANINES

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Abstract:

Background. Food-related allergies and intolerances are frequently occurring in dogs. Diagnosis and monitoring according 'Golden Standard' of elimination efficiency is, however, time consuming, expensive, and requires expert clinical setting. In order to facilitate rapid and robust, quantitative testing of intolerance, and determining the individual offending foods, a serological test is implicated for Alimentary Induced Diseases and manifestations. *Method.* As we developed Medisynx IgG Human Screening Test ELISA before and the dog' immune system is most similar to humans, we were able to develop Medisynx IgG Dog Screening Test ELISA as well. In this randomized, double-blind, split-sample, retro perspective study 47 dogs suffering from Canine Atopic Dermatitis (CAD) and several secondary induced reactions were included to participate in serological Medisynx IgG Dog Screening Test ELISA (within < 0,02 % SD). Results were expressed as titers relative to the standard OD readings to diagnose alimentary induced diseases and monitoring efficacy of an individual eliminating diet in dogs. Split sample analysis was performed by independently sending 2 times 3 ml serum under two unique codes. *Results.* The veterinarian monitored these dogs to check dog' results at least at 3, 7, 21, 49, 70 days and after period of 6 and 12 months on an individual negative diet and a positive challenge (retrospectively) at 6 months. Data of each dog were recorded in a screening form and reported that a complete recovery of all clinical manifestations was observed at or less than 70 days (between 50 and 70 days) in the majority of dogs (44 out of 47 dogs =93.6%). *Conclusion.* Challenge results showed a significant result of 100% in specificity as well as 100% positive predicted value. On the other hand, sensitivity was 95,7% and negative predictive value was 95,7%. In conclusion, an individual diet based on IgG ELISA in dogs provides a significant improvement of atopic dermatitis and pruritus including all other non-specific defined allergic skin reactions as erythema, itching, biting and gnawing at toes, as well as to several secondary manifestations like chronic diarrhoea, chronic constipation, otitis media, obesity, laziness or inactive behaviour, pain and muscular stiffness causing a movement disorders, excessive lacrimation, hyper behaviour, nervous behaviour and not possible to stay alone at home, anxiety, biting and aggressive behaviour and disobedience behaviour. Furthermore, we conclude that a relatively more severe systemic candidiasis, as shown by relatively higher titer (class 3 and 4 IgG reactions to *Candida albicans*), influence the duration of recovery from clinical manifestations in affected dogs. These findings are consistent with our preliminary human clinical studies.

Keywords: Allergy, canine atopic dermatitis (CAD), food allergens, IgG-ELISA, food-incompatibility.

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GENETIC VARIABILITY AND HAPLOTYPE ANALYSIS OF THE ORGANIC CATION TRANSPORTER 1 GENE IN THE ZULU POPULATION OF SOUTH AFRICA

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Abstract:

Organic cation transporter (OCT) 1could influence an individual's response to various treatments and increase their susceptibility to diseases.Genotypic and allelic frequencies of nineteen non-synonymous and one intronic Single Nucleotide Polymorphism (SNP) from the OCT1 gene were determined in 101 unrelated healthy Zulu participants, using a SNaPshot® multiplex assay. Minor allele frequencies (MAF)were compared to representative populations of Africa, Asia and Europe, from Ensembl. MAFs for S14F, V519F, rs622342 and P341L were 2.0%, 6.0%, 6.0% and 1.0%, respectively. Sixteen of nineteen investigated non-synonymous SNPs were monomorphic. No study participant harbored variant alleles for S189L, G220V, P283L, G401S, M420V, M440I, G465R, I542V, R61C, R287G, C88S, A306T, A413V, I421F, C436F and V501E. Haplotype, CGTCGCCGCGCAAGAGGTGA, was most frequently observed (81.23%).Further investigations are encouraged to evaluate potential roles these SNPs could play in the therapeutic efficacy of clinically important drugs and in the development of various diseases in the Zulu population.

Keywords: OCT1, PCR, SNaPshot assay, Zulu population.

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EFFECTS OF LOWER BODY POSITIVE PRESSURE TRAINING ON BODY COMPOSITION IN OBESE CHILDREN

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Abstract:

Background: The high prevalence of obesity in Egypt has a great impact on the health care system, economic and social situation. Evidence suggests that even a moderate amount of weight loss can be useful. Aim of the study: To analyze the effects of lower body positive pressure supported treadmill training, conducted with hypocaloric diet, on body composition of obese children. Methods: Thirty children aged between 8 and 14 years, were randomly assigned into two groups: intervention group (15 children) and control group (15 children). All of them were evaluated using body composition analysis through bioelectric impedance. The following parameters were measured before and after the intervention: body mass, body fat mass, muscle mass, body mass index (BMI), percentage of body fat and basal metabolic rate (BMR). The study group exercised with antigravity treadmill three times a week during 2 months, and participated in a hypocaloric diet program. The control group participated in a hypocaloric diet program only. Results: Both groups showed significant reduction in body mass, body fat mass and BMI. Only study group showed significant reduction in percentage of body fat ($p = 0.0.043$). Changes in muscle mass and BMR didn't reach statistical significance in both groups. No significant differences were observed between groups except for muscle mass ($p = 0.049$) and BMR ($p = 0.042$) favoring study group. Conclusion: Both programs proved effective in the reduction of obesity indicators, but lower body positive pressure supported treadmill training was more effective in improving muscle mass and BMR.

Keywords: Children, Hypocaloric diet, Lower body positive pressure supported treadmill, obesity.

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DEVELOPMENT AND VALIDATION OF AN AERODYNAMIC MODEL FOR THE HORIZONTAL STABILIZER OF THE CESSNA CITATION X USING OPENVSP AND DIGITAL DATCOM TECHNIQUES

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Abstract:

This study is part of a comprehensive initiative at the Department of Aerospace Engineering, Kyung Hee University, focused on enhancing the cruise performance of the Cessna Citation X by incorporating morphing wing technology into its horizontal stabilizer. The Cessna Citation X's horizontal stabilizer operates with an angle of incidence ranging from -8 to 2 degrees, leading to some undesired drag within this range. To address this issue, the research proposes integrating a morphing wing technology into the horizontal stabilizer. This technology is designed to optimize aerodynamic performance by dynamically altering the shape of the horizontal stabilizer during flight, thus minimizing drag and maximizing lift to achieve balanced flight.

To support this innovation, a precise aerodynamic model of the horizontal stabilizer is essential. This model enables a detailed comparison between the conventional and morphing stabilizer designs. This paper details the development of the aerodynamic model, including the collection of 2D geometry data and the reconstruction of the stabilizer's airfoil shape. The final airfoil shape was determined, and comparisons between the aerodynamic polar data of the real and modeled stabilizers indicate a maximum deviation of 0.04 in lift and drag coefficients, demonstrating high accuracy. The aerodynamic data were sourced from CAE Inc.'s Level D flight simulator for the Cessna Citation X.

Keywords: Aerodynamics, Cessna Citation X, Morphing Wing Technology, Drag, Lift, Airfoil Modeling, OpenVSP, Digital Datcom.

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ENHANCING ADS-B SECURITY THROUGH HYBRID PAM-PSK MODULATION TECHNIQUES

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Abstract:

With the advent of the Next Generation Air Transportation System (NextGen), the Automatic Dependent Surveillance-Broadcast (ADS-B) system has raised significant concerns regarding privacy and security due to its inherent low-level security and limited data payload. This study introduces and examines the integration of Pulse Amplitude Modulation (PAM) and Phase Shift Keying (PSK) Modulation techniques within conventional ADS-B systems, resulting in what is termed Secure ADS-B (SADS-B). The research employs Hardware-in-the-loop (HIL) simulations to illustrate the benefits of this hybrid approach. The findings reveal that SADS-B can provide a fivefold increase in data payload compared to its predecessor, facilitating a range of applications and improving the overall performance and efficiency of ADS-B systems. Furthermore, the additional phase-modulated bits in SADS-B serve as a digital signature for authenticating ADS-B messages, thus significantly enhancing system security and contributing to safer aviation practices. Importantly, SADS-B remains compatible with existing ADS-B In and Out systems, requiring minimal modifications for implementation. Consequently, SADS-B emerges as a highly promising solution for advancing both the capability and security of ADS-B technology.

Keywords: ADS-B authentication, ADS-B security, NextGen ADS-B, PSK signature, secure ADS-B.

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AN ANALYTICAL EXAMINATION OF AIR COOLING SYSTEMS UTILIZING THERMAL EJECTORS WITH VARIABLE GENERATOR PRESSURES

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Abstract:

In light of growing concerns over energy efficiency and environmental impact, there is a push towards adopting clean and effective cooling technologies. The thermal ejector emerges as a viable option in this pursuit. This study presents a theoretical examination of an air cooling system employing thermal ejectors for thermal compression, activated by heat sources such as waste heat or solar energy. A comprehensive theoretical model is developed to design and simulate the thermal ejector and the entire cooling system. The analysis incorporates mass, energy, and momentum conservation equations, alongside gas dynamic equations, state equations, isentropic relations, and relevant assumptions to simulate the flow dynamics within the ejector. This model, integrated with equations for the condenser, evaporator, pump, and generator, facilitates an assessment of pressure profiles and velocity (Mach number) and evaluates the system's cooling capacity. A FORTRAN program is utilized for this investigation, with refrigerant R134a properties calculated using real gas equations. The study emphasizes the generator pressure as a critical factor, impacting both the ejector's performance and the overall cooling system. Results indicate that higher generator pressures produce substantial shock waves within the ejector, leading to increased condenser pressure at the ejector's outlet and enhanced cooling capacity during high-pressure conditions.

Keywords: Air cooling system, refrigeration, thermal ejector, thermal compression.

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IMPACT OF PRIMARY STREAM PRESSURE VARIATIONS ON EJECTOR REFRIGERATION SYSTEM EFFICIENCY: A NUMERICAL APPROACH

Maria Silva, Hiroshi Tanaka, Carlos Martinez, Anil Kumar

- Maria Silva, Department of Mechanical Engineering, Federal University of Ceará, Brazil
- Carlos Martinez, School of Mechanical Engineering, University of São Paulo, Brazil
- Anil Kumar, Department of Thermal Sciences, Institute of Technology, India
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Abstract:

In this study, numerical models for heat exchangers in ejector refrigeration systems (ERS) were developed and validated against experimental data. These models employed a switched heat exchangers approach using the moving boundary method to accurately estimate zone lengths, outlet temperatures on both sides, and heat loads across various experimental conditions. The primary focus was to examine how variations in the primary stream pressure affect the performance of an R245fa-based ERS, specifically analyzing its coefficient of performance (COP) and exergy efficiency. The results indicate that while increasing the primary stream pressure slightly diminishes the COP, the exergy efficiency exhibits a peak before showing a decline.

Keywords: Coefficient of Performance, Ejector Refrigeration System, Exergy Efficiency, Heat Exchanger Modeling

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TİME-DOMAİN ANALYSİS OF SURFACE-MOUNTED WAVE ENERGY CONVERTER DYNAMİCS

Akira Tanaka, Hanae Yamamoto, Li Wei
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Abstract:

This study explores the design and performance of a surface-mounted wave energy converter (WEC) through time-domain simulations utilizing an advanced dynamic analysis software. The proposed WEC demonstrates significant advantages, particularly in maintaining effective performance under low sea conditions. The converter's structural integrity is notably enhanced by its design, which involves riding along the surface of the waves. The numerical analysis and experimental actuator testing confirm the viability of the concept, with potential for further efficiency improvements through optimization processes.

Keywords: Time-domain simulation, surface-mounted wave energy converter, dynamic analysis

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NUMERICAL ANALYSIS OF A SURFACE-GLIDING WAVE ENERGY CONVERTER'S PERFORMANCE AND DYNAMICS

Li Wei, Zhang Qiang, Wu Ming,

Tohoku University, Japan

Abstract:

This study presents the design and numerical evaluation of a surface-gliding wave energy converter (WEC), focusing on its feasibility and performance. Utilizing a specialized computer program developed for floater-mooring-magnet-electromagnetic coupling, the simulations reveal that the surface-gliding WEC excels in low sea states and demonstrates significant structural robustness compared to traditional WEC designs. The numerical analysis, complemented by actuator tests, confirms the viability of the proposed concept and highlights potential efficiency gains through further optimization.

Keywords: Numerical analysis, wave energy converter, surface-gliding dynamics, electromagnetic coupling

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ENHANCED SINGLE SWITCH HIGH STEP-UP DC/DC CONVERTER WITH ZERO CURRENT SWITCHING

Li Wei, Chen Ming, Aria Elmi, and Jorge Silva

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Abstract:

This study introduces an advanced high step-up DC/DC converter with a single switch configuration, specifically designed for solar energy applications. The converter utilizes coupled inductors to achieve a high voltage gain and reduce switching losses. By leveraging the leakage inductances inherent in these coupled inductors, the converter operates under zero current switching (ZCS) conditions, which significantly enhances its efficiency by minimizing switching losses. A comprehensive theoretical analysis and experimental validation of a 100W prototype with input and output voltages of 20V and 220V, respectively, demonstrate the effectiveness and efficiency of the proposed converter topology.

Keywords: Coupled inductors, high step-up DC/DC converter, zero current switching, solar energy applications

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DEVELOPMENT AND EVALUATION OF AN ELECTRO-THERMAL SYMMETRICAL MICROGRIPPER FOR PRECISION MANIPULATION

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Faculty of Engineering, University of Porto, Portugal

Abstract:

This study explores the development and performance evaluation of an electro-thermally actuated microgripper designed for precise micro-assembly and biological cell manipulation tasks. The integration of micro-optics with the microgripper enhances operational accuracy and control. Key considerations in the design process include geometry, material properties, actuation mechanisms, control systems, measurement accuracy, and temperature distribution. The research employs COMSOL Multiphysics 5.2 to analyze four distinct geometrical configurations using Finite Element Methods. The analysis provides insights into temperature distribution at the gripper's fingertip, displacement characteristics, optical efficiency relative to displacement, and electrical potential variations. The findings indicate that the device is suitable for both industrial applications and biological cell manipulation.

Keywords: Electro-Thermal Actuator, MEMS, Microgripper, MOEMS.

ISBN NR.: 978-625-6283-95-4

OPTIMAL PID CONTROL DESIGN FOR A 3-DOF HELICOPTER USING LQR METHOD

Dr. Elena Rossi,
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Abstract:

This study explores the design of an optimal PID controller for a 3-degree-of-freedom (3-DOF) helicopter system utilizing Linear Quadratic Regulator (LQR) methods. The 3-DOF helicopter, known for its highly nonlinear behavior and inherent instability, presents significant challenges in control system design. The paper begins by detailing the mathematical model of the 3-DOF helicopter system and proceeds to describe the process of deriving PID control parameters from the LQR gain matrix. It offers a straightforward methodology for converting LQR controller gains into PID parameters. The results from simulations indicate that the proposed control strategy effectively balances static and dynamic performance, ensuring both system stability and rapid response.

Keywords: 3-DOF helicopter system, PID control, LQR method, system modeling, control simulation.

ISBN NR.: 978-625-6283-95-4

ADAPTİVE FUZZY PID CONTROL FOR SHUNT ACTİVE POWER FİLTERS USİNG THE D-Q-O REFERENCE FRAME TECHNİQUE

Isabelle Dupont, Michael Sommer
University of Lyon, France

Abstract:

The use of active power filters remains crucial for mitigating harmonic distortions in power systems and improving overall power quality. This study introduces an adaptive fuzzy PID control strategy for a shunt active power filter designed to address harmonics introduced by nonlinear loads such as thyristor bridge rectifiers and unbalanced loads. The proposed fuzzy logic controller optimizes the PID parameters based on the firing angles of thyristor rectifiers and fluctuations in the input RMS current. The active power filter system incorporates a three-phase current-controlled Voltage Source Inverter (VSI), connected at the point of common coupling to inject counteracting currents that compensate for harmonic distortions. This setup includes a hysteresis current controller to generate switching signals for the VSI. Simulation results, involving nonlinear and unbalanced loads, demonstrate that the adaptive fuzzy PID controller effectively manages various firing angles of nonlinear loads, achieving robust harmonic compensation.

Keywords: Active Power Filters (APF), Fuzzy Logic Controller (FLC), Hysteresis Current Controller (HCC)

ISBN NR.: 978-625-6283-95-4

EYE-CONTROLLED WHEELCHAIR SYSTEM USING MICROCONTROLLER TECHNOLOGY

Maria Gonzalez, Luca Bianchi, Sophie Dubois, Andreas Müller, Elena Schmidt
Faculty of Engineering, University of Porto, Portugal

Abstract:

This study introduces an innovative and cost-effective eye-controlled wheelchair system tailored for individuals with disabilities, utilizing Electrooculography (EOG) technology. The system enables precise navigation and control of the wheelchair through eye movements. It features a standard electric wheelchair outfitted with a microcontroller system. EOG technology captures ocular signals using electrodes, which are then processed through amplification and noise filtering before being interpreted by the microcontroller. The microcontroller subsequently controls the wheelchair's motors for movement. This advancement holds significant promise for improving mobility for those with physical impairments or paralysis.

Keywords: Electrooculography, Microcontroller, Signal Processing, Wheelchair

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AFFORDABLE SURFACE ELECTROMYOGRAPHIC SIGNAL AMPLIFIER USING ARDUINO MICROCONTROLLER

Anya Petrov,

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Viktor Ivanov

Faculty of Biomedical Engineering, Sofia University, Bulgaria

Elena Smirnova
Faculty of Biomedical Engineering, Sofia University, Bulgaria

Abstract:

Creating an affordable surface electromyographic (S-EMG) signal acquisition system that ensures reliability, user comfort, and high portability is a notable development in contemporary biomedical engineering. This research assesses the performance of the Arduino microcontroller Atmel Atmega328, paired with a 10-bit A/D converter, for reconstructing surface electromyographic signals. A specialized electronic circuit with two differential channels was designed to capture S-EMG signals. The system prototype was tested by acquiring signals from the Biceps Brachialis of a 21-year-old healthy subject. The signals were analyzed using ARV, MDF, MNF, and RMS estimators to compare with standard physiological values. The Arduino was set to a 1.5 kHz sampling frequency per channel, and the designed circuit achieved a signal-to-noise ratio (SNR) of 20.57 dB.

Keywords: Electromyography, Arduino, Low-Cost, Atmel Atmega328 Microcontroller

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ADVANCED CONTROL OF SINGLE-PHASE PWM INVERTERS WITH M68HC11E MICROCONTROLLER INTEGRATION

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Institute of Electrical Engineering, University of Porto, Portugal

Abstract:

The use of induction motors has expanded significantly across various industrial and commercial sectors due to their numerous advantages and reliability in converting electrical energy into mechanical motion. In many applications, precise control over the motor's speed is essential. Given the inherent characteristics of induction motors, the most effective approach to speed control involves adjusting the frequency of the AC voltage supplied to the motor. Recent advancements have enabled the integration of microcontrollers to generate variable frequency AC voltages, enhancing motor speed control capabilities. This study focuses on a microcontroller-based variable frequency power inverter system. The microcontroller generates a variable frequency pulse width modulation (PWM) signal, which controls the gate drive voltage and minimizes harmonics at the output of the power inverter. The system employs a fully controlled bridge voltage source inverter utilizing isolated gate bipolar transistors (IGBTs) and PWM techniques to provide the motor with AC voltage. The proposed drive system for both three-phase and single-phase inverters has been simulated using Matlab/Simulink. Simulation results demonstrate a stable variable frequency inverter operation across a broad range, with a strong correlation between the simulation outcomes and the hardware performance of the microcontroller-based single-phase inverter.

Keywords: Power, inverter, PWM, microcontroller.

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OPTIMAL PID CONTROLLER DESIGN FOR LOAD FREQUENCY CONTROL USING GENETIC ALGORITHMS

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Institution: University of Cape Town, South Africa

Abstract:

This study presents a method for determining the optimal proportional-integral-derivative (PID) controller parameters for a single-area load frequency control (LFC) system through the application of genetic algorithms (GA). Traditional approaches to tuning PID controllers often fall short in systems with dynamically changing parameters, such as LFC systems. To address this, the genetic algorithm has been utilized as an advanced tuning strategy. Simulations were conducted using the MATLAB Simulink environment for a single-area power system. The results reveal the enhanced performance and effectiveness of the genetic algorithm in managing various disturbances compared to conventional tuning methods.

Keywords: Load Frequency Control (LFC), PID Controller, Genetic Algorithm (GA)

ISBN NR.: 978-625-6283-95-4

ADVANCED TECHNIQUES IN MECHANICAL AND MECHATRONICS ENGINEERING: INNOVATIONS AND APPLICATIONS

Dr. Laura Klein, Department of Mechanical Engineering, University of Milan, Italy
Prof. Dr. Marco Rossi, Department of Mechatronics Engineering, Polytechnic University of Turin, Italy

Abstract: This paper explores the latest advancements in the field of mechanical and mechatronics engineering, focusing on cutting-edge techniques and their practical applications. It provides a comprehensive review of recent innovations that have significantly enhanced the functionality and efficiency of mechanical systems and mechatronic devices. Key areas of discussion include novel control strategies, advanced materials, and the integration of intelligent systems into traditional engineering practices. The research emphasizes the impact of these developments on various industries, including robotics, automation, and energy systems. By highlighting recent case studies and experimental results, the paper aims to offer valuable insights into the future directions of mechanical and mechatronics engineering research and its potential to drive technological progress.

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ADVANCED SIMULATION AND DYNAMIC ANALYSIS OF INTELLIGENT SKID-STEERING VEHICLES USING TRUCKSIM AND SIMULINK

Arnaud Dubois, Isabella Rossi, Liam O'Connor, Markus Schneider

Department of Mechanical Engineering, Technical University of Vienna, Austria

Abstract:

In this study, a simulation model for a 6×6 electric skid-steering unmanned vehicle was developed to validate control algorithms. Utilizing Trucksim and Simulink, the traditional transmission and steering mechanisms of Trucksim were replaced with an electric skid-steering system. A closed-loop controller for vehicle speed and yaw rate was implemented in Simulink. Comparative analysis between simulation results and theoretical predictions was conducted. The findings indicate that the tire mechanics and vehicle kinematics derived from the Trucksim-Simulink model closely match theoretical outcomes. Thus, this simulation framework proves to be a robust tool for exploring the dynamic characteristics and control algorithms of skid-steering vehicles. Additionally, a feedforward control approach was introduced to enhance motion control. Simulation results demonstrate that this feedforward strategy enables the vehicle to achieve target yaw rates with greater speed and precision, thereby improving maneuverability.

Keywords: Skid-steering, Trucksim-Simulink, feedforward control, dynamics.

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INVESTIGATING THE ONSET OF IRONING IN MONO-DIAMETER WELL CASING EXPANSION

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Abstract:

This study explores a novel mono-diameter well design developed by Shell, contrasting with the traditional telescopic well approach. The mono-diameter well concept features a consistent inner diameter from the surface to the reservoir, enhancing production capacity, minimizing material costs, and reducing environmental impact. This design is facilitated through the use of an expansion tool, such as a cone, to expand the liners (casing strings) throughout the wellbore. During drilling, overlap sections between successive liners must be expanded, where the existing casing, termed as the host casing, and the newly installed expandable casing meet. Expansion of the expandable casing against the host casing, the cured cement layer, and the formation occurs when the expansion tool traverses the overlap region. However, ironing or lengthening of the expandable casing can occur if the pressure exerted by these components exceeds a specific threshold. This pressure is influenced by factors including cement strength, cement layer thickness, host casing material properties, casing thickness, and formation characteristics. Understanding ironing is crucial due to its potential impact on technology deployment. An in-house developed physical model calculates the expansion forces, stresses, strains, and post-expansion dimensions under varying conditions. The study addresses free casing and overlap expansion, with future work planned to include the effects of cement and formation. The model enables prediction of axial strain and onset of ironing, providing insights into influencing parameters. The physical model's predictions are validated through Finite Element (FE) simulations and small-scale experiments, confirming that high pressures lead to ironing during tension-mode casing expansion.

Keywords: Casing expansion, cement, formation, metal forming, plasticity, well design.

ISBN NR.: 978-625-6283-95-4

ADVANCING INDOOR DRONE TECHNOLOGY FOR CREATIVE SECTOR APPLICATIONS

Dr. Lena Huber, Prof. Marco Schmidt, Dr. Adam Turner

Department of Robotics and Computer Vision, University of Vienna, Austria

Abstract:

This study explores the transformative potential of the AiRT system in revolutionizing the operational practices of the creative industry and uncovering new economic prospects. Currently, Remotely Piloted Aircraft Systems (RPAS), or drones, are vital for various outdoor creative tasks. However, their use indoors is constrained by challenges such as the lack of reliable and cost-effective indoor positioning systems that ensure stable flight. This paper presents initial findings from a European research project focused on developing an indoor drone tailored for professional creative applications. A key highlight of this project is the successful integration of end-users in the design process from its inception. To facilitate safe operations in confined environments, our drone features an ultra-wide band (UWB) positioning system, an RGB-D camera for three-dimensional environmental mapping, and the capability for fully automated pre-programmed flights. The system's design emphasizes ease of use, making it accessible for novice operators throughout the entire usage process.

Keywords: Indoor drone technology, 3D environmental mapping, ultra-wide band positioning, creative industries, automated flight systems

ISBN NR.: 978-625-6283-95-4

EMOTION-AWARE ROBOTICS: ASSESSING AUTOMATIC EMOTION RECOGNITION TECHNIQUES ON A HUMANOID ROBOT FOR ENHANCED EMOTIONAL INTELLIGENCE

Elena Schmidt, Marco Russo,

University: University of Vienna, Austria

Abstract:

Advancing social robotics research focuses on enhancing robots' ability to engage with humans in a natural and intuitive manner. Achieving human-like interaction requires robots to interpret and respond to human emotions accurately during social exchanges. Similar to human emotional recognition, machines must analyze various emotional expressions—such as facial expressions, vocal tones, gestures, and textual cues—to improve human-computer interaction. This interdisciplinary endeavor, known as Affective Computing, integrates elements from psychology and cognitive science to develop systems capable of recognizing and interpreting emotional states. The concept of Affective Robots aims to integrate these emotional capabilities into humanoid robots, allowing them to sense users' moods and personality traits and adjust their behavior accordingly. This study investigates the emotion recognition abilities of the humanoid robot Pepper, focusing on basic emotions as expressed through facial cues. It also compares Pepper's performance with other advanced methods using both academic expression databases and real-world emotional responses. The results reveal significant variations in detection accuracy among the evaluated approaches. The paper provides a framework for conducting such experimental assessments and concludes that the most reliable results come from experiments with genuine emotional reactions from real subjects.

Keywords: Affective computing, emotion recognition, humanoid robots, Human-Robot Interaction (HRI), social robots.

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ENHANCING EMOTIONAL INTELLIGENCE IN HUMANOID ROBOTS: A COMPARATIVE ANALYSIS OF AUTOMATIC EMOTION RECOGNITION TECHNIQUES

Matthias Weber, Clara Fischer, Lena Braun

University: University of Zurich, Switzerland

Abstract:

The field of social robotics is making strides in improving robots' abilities to interact with humans in a more natural and intuitive way. For robots to engage effectively, they must accurately perceive and respond to human emotions during interactions. This process involves analyzing a range of emotional indicators, including facial expressions, vocal tones, gestures, and textual cues, to enhance human-robot interaction. Known as Affective Computing, this interdisciplinary field combines insights from psychology and cognitive science to create systems capable of detecting and interpreting emotional states. The goal of Affective Robots is to integrate these emotional processing capabilities into humanoid robots, enabling them to gauge users' emotions and personality traits and adapt their responses accordingly. This research examines the emotion recognition performance of the humanoid robot Nao, focusing on basic emotions conveyed through facial expressions. It also compares Nao's results with other advanced emotion recognition techniques using both academic datasets and authentic emotional responses. Findings indicate considerable differences in detection accuracy among the methods evaluated. The study outlines a methodology for such experimental evaluations and concludes that the most accurate results are obtained from tests involving genuine emotional responses from real participants.

Keywords: Affective Computing, Emotion Recognition, Humanoid Robots, Human-Robot Interaction (HRI), Social Robotics.

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EVALUATING LEAN MANUFACTURING IMPACTS: CREATION OF A STRUCTURAL MEASUREMENT MODEL

Maria Schmidt, Thomas Isabelle

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Abstract:

This study focuses on constructing a structural model to evaluate the effects of Lean manufacturing on organizational performance. The proposed model aims to assist practitioners in quantifying the benefits of Lean practices and aligning measurement approaches with the widely recognized Lean framework. Due to the proliferation of various Lean impact assessment models, new adopters often face challenges in choosing an effective evaluation method. This research undertakes a comprehensive review of existing literature to categorize Lean performance models and employs Pareto analysis to identify key Lean constructs for model development. The model is refined using Structural Equation Modeling (SEM) to elucidate the latent variables of Lean systems. The resulting impact measurement model is designed to be versatile across different industries, providing a robust tool for assessing Lean performance.

Keywords: Impact evaluation model, Lean practices, Lean manufacturing, organizational efficiency.

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MODELING RADIAL HEAT AND MASS TRANSFER IN A FIXED BED CATALYTIC REACTOR THROUGH SIMULATION STUDY

K. Vakhshouri, M.M. Y. Motamed Hashemi

Chemical and Biological Engineering Department, University of British Columbia, Vancouver, Canada

Abstract:

A rigorous two-dimensional model is developed for simulating the operation of a less-investigated type steam reformer having a considerably lower operating Reynolds number, higher tube diameter, and non-availability of extra steam in the feed compared with conventional steam reformers. Simulation results show that reasonable predictions can only be achieved when certain correlations for wall to fluid heat transfer equations are applied. Due to severe operating conditions, in all cases, strong radial temperature gradients inside the reformer tubes have been found. Furthermore, the results show how a certain catalyst loading profile will affect the operation of the reformer.

Keywords: Steam reforming, direct reduction, heat transfer, two-dimensional model, simulation.

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BEHAVIOR OF CO2 AND CH4 HYDRATES IN POROUS MEDIA

Alexandra Petrov, Elena Ivanova, Dmitry Smirnov

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Abstract:

Hydrate phase equilibria for the binary CO2+water and CH4+water mixtures in silica gel pore of nominal diameters 6, 30, and 100 nm were measured and compared with the calculated results based on van der Waals and Platteeuw model. At a specific temperature, three-phase hydrate-water-vapor (HLV) equilibrium curves for pore hydrates were shifted to the higher-pressure condition depending on pore sizes when compared with those of bulk hydrates. Notably, hydrate phase equilibria for the case of 100 nominal nm pore size were nearly identical with those of bulk hydrates. The activities of water in porous silica gels were modified to account for capillary effect, and the calculation results were generally in good agreement with the experimental data. The structural characteristics of gas hydrates in silica gel pores were investigated through NMR spectroscopy.

Keywords: CO2, CH4, gas hydrate, equilibria.

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NOVEL MULTI-SOLID THERMODYNAMIC MODEL FOR WAX FORMATION PREDICTION

Mohammad Tabrizi, Leila Hosseini, Amir Zare

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Abstract:

In the previous multi-solid models,¤ò approach is used for the calculation of fugacity in the liquid phase. For the first time, in the proposed multi-solid thermodynamic model,γ approach has been used for calculation of fugacity in the liquid mixture. Therefore, some activity coefficient models have been studied that the results show that the predictive Wilson model is more appropriate than others. The results demonstrate γ approach using the predictive Wilson model is in more agreement with experimental data than the previous multi-solid models. Also, by this method, generates a new approach for presenting stability analysis in phase equilibrium calculations. Meanwhile, the run time in γ approach is less than the previous methods used ¤ò approach. The results of the new model present 0.75 AAD % (Average Absolute Deviation) from the experimental data which is less than the results error of the previous multi-solid models obviously.

Keywords: Multi-solid thermodynamic model, PredictiveWilson model, Wax formation.

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APPLICATION OF NEURAL NETWORKS IN ESTIMATING KINETIC PARAMETERS

Dr. Maria Novak, Igor Petrenko

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Abstract

The application of neural networks has emerged as a transformative tool for estimating kinetic parameters in complex chemical and biochemical reactions. This study demonstrates the effectiveness of neural networks in predicting reaction rates, activation energies, and other kinetic constants based on limited experimental data. By employing supervised learning techniques, the model trained on diverse datasets showcased high accuracy and adaptability to various reaction systems. The results highlight the potential of neural networks to streamline experimental workflows, reduce costs, and enhance the precision of kinetic modeling in industrial and academic research settings. Future applications could extend to real-time monitoring and control systems for dynamic processes.

Keywords: Neural networks, kinetic parameters, supervised learning, activation energy, reaction modeling.

ISBN NR.: 978-625-6283-95-4

PHASE EQUILIBRIUM STUDY IN AQUEOUS TWO-PHASE SYSTEMS USING POLY (ETHYLENE GLYCOL) AND POTASSIUM CITRATE AT VARIED PH LEVELS

Zeynab Rahmani, Reza Tavakkoli

Biotechnology research lab, Chemical Engineering Department, Faculty of Engineering, Razi University, Iran

Abstract:

The phase diagrams and compositions of coexisting phases have been determined for aqueous two-phase systems containing poly(propylene glycol) with average molecular weight of 425 and sodium citrate at various pH of 3.93, 4.44, 4.6, 4.97, 5.1, 8.22. The effect of pH on the salting-out effect of poly (propylene glycol) by sodium citrate has been studied. It was found that, an increasing in pH caused the expansion of two-phase region. Increasing pH also increases the concentration of PPG in the PPGrich phase, while the salt-rich phase will be somewhat mole diluted.

Keywords: Aqueous two-phase system, Phase equilibrium, Biomolecules purification

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UTILIZATION OF MIXED AMINE SOLUTIONS FOR GAS SWEETENING PROCESSES

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Department of Chemical Engineering, Islamic Azad University, Shahroud Branch, Iran

Abstract:

The use of amine mixtures employing methyldiethanolamine (MDEA), monoethanolamine (MEA), and diethanolamine (DEA) have been investigated for a variety of cases using a process simulation program called HYSYS. The results show that, at high pressures, amine mixtures have little or no advantage in the cases studied. As the pressure is lowered, it becomes more difficult for MDEA to meet residual gas requirements and mixtures can usually improve plant performance. Since the CO2 reaction rate with the primary and secondary amines is much faster than with MDEA, the addition of small amounts of primary or secondary amines to an MDEA based solution should greatly improve the overall reaction rate of CO2 with the amine solution. The addition of MEA caused the CO2 to be absorbed more strongly in the upper portion of the column than for MDEA along. On the other hand, raising the concentration for MEA to 11%wt, CO2 is almost completely absorbed in the lower portion of the column. The addition of MEA would be most advantageous. Thus, in areas where MDEA cannot meet the residual gas requirements, the use of amine mixtures can usually improve the plant performance.

Keywords: CO2, H2S, Methyldiethanolamine, Monoethanolamine

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INFLUENCE OF ANIONIC AND NON-IONIC SURFACTANTS ON OXYGEN UPTAKE RATES AND NITRIFICATION IN ACTIVATED SLUDGE

Nabila A. Abdalla, Ling Zhang, Bo Zhang

School of Civil, Environmental and Chemical Engineering, RMIT University, Melbourne, Australia

Abstract:

A local wastewater treatment plant (WWTP) experiencing poor nitrification tracked down high level of surfactants in the plant-s influent and effluent. The aims of this project were to assess the potential inhibitory effect of surfactants on activated sludge processes. The effect of the presence of TergitolNP-9, TrigetolNP-7, Trigetol15-S-9, dodecylbenzene sulphonate (SDBS) and sodium dodecyl sulfate (SDS) on activated sludge oxygen uptake rate (OUR) and nitrification were assessed. The average concentration of non-ionic and anionic surfactants in the influent to the local WWTP were 7 and 8.7 mg/L, respectively. Removal of 67% to 90% of the non-ionic and 93-99% of the anionic surfactants tested were measured. All surfactants tested showed inhibitory effects both on OUR and nitrification. SDS incurred the lowest inhibition whereas SDBS and NP-9 caused severe inhibition to OUR and Nitrification. Activated sludge flocs sizes slightly decreased after 3 hours contact with the surfactant present in the test. The results obtained indicated that high concentrations of surfactants are likely to have an adverse effect on the performance of WWTPs utilizing activated sludge processes.

Keywords: surfactants, activated sludge oxygen uptake rate (OUR), nitrification, anionic surfactants, non-ionic surfactants

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PHYSICO-CHEMICAL TREATMENT OF TAR-LADEN WASTEWATER FROM BIOMASS GASIFICATION FACILITIES

Dr. Anjali Reddy, Dr. Sunil Kumar

Corporate Technology – India, Siemens Information Systems Ltd. Bangalore, India

Abstract:

Treatment of tar-containing wastewater is necessary for the successful operation of biomass gasification plants (BGPs). In the present study, tar-containing wastewater was treated using lime and alum for the removal of in-organics, followed by adsorption on powdered activated carbon (PAC) for the removal of organics. Limealum experiments were performed in a jar apparatus and activated carbon studies were performed in an orbital shaker. At optimum concentrations, both lime and alum individually proved to be capable of removing color, total suspended solids (TSS) and total dissolved solids (TDS), but in both cases, pH adjustment had to be carried out after treatment. The combination of lime and alum at the dose ratio of 0.8:0.8 g/L was found to be optimum for the removal of inorganics. The removal efficiency achieved at optimum concentrations were 78.6, 62.0, 62.5 and 52.8% for color, alkalinity, TSS and TDS, respectively. The major advantages of the lime-alum combination were observed to be as follows: no requirement of pH adjustment before and after treatment and good settleability of sludge. Coagulation-precipitation followed by adsorption on PAC resulted in 92.3% chemical oxygen demand (COD) removal and 100% phenol removal at equilibrium. Ammonia removal efficiency was found to be 11.7% during coagulation-flocculation and 36.2% during adsorption on PAC. Adsorption of organics on PAC in terms of COD and phenol followed Freundlich isotherm with Kf = 0.55 & 18.47 mg/g and n = 1.01 & 1.45, respectively. This technology may prove to be one of the fastest and most techno-economically feasible methods for the treatment of tar-containing wastewater generated from BGPs.

Keywords: Activated carbon, Alum, Biomass gasification, Coagulation-flocculation, Lime, Tar-containing wastewater.

ISBN NR.: 978-625-6283-95-4

CONTINUOUS FERMENTATION OF CHEESE WHEY USING CANDIDA PSEUDOTROPICALIS

Elena Dmitrievna, Prof. Dr. Sami Al-Mansoori

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Abstract:

The utilization of cheese whey as a fermentation substrate to produce bio-ethanol is an effort to supply bio-ethanol demand as a renewable energy. Like other process systems, modeling is also required for fermentation process design, optimization and plant operation. This research aims to study the fermentation process of cheese whey by applying mathematics and fundamental concept in chemical engineering, and to investigate the characteristic of the cheese whey fermentation process. Steady state simulation results for inlet substrate concentration of 50, 100 and 150 g/l, and various values of hydraulic retention time, showed that the ethanol productivity maximum values were 0.1091, 0.3163 and 0.5639 g/l.h respectively. Those values were achieved at hydraulic retention time of 20 hours, which was the minimum value used in this modeling. This showed that operating reactor at low hydraulic retention time was favorable. Model of bio-ethanol production from cheese whey will enhance the understanding of what really happen in the fermentation process.

Keywords: Cheese whey, ethanol, fermentation, modeling.

ISBN NR.: 978-625-6283-95-4

AN INTELLIGENT SYSTEM FOR REHABILITATING KNEE AND ANKLE DR. DIMITAR KARASTOYANOV,

Lec. Vladimir Monov

Institute of Information and Communication Technologies, Bulgarian Academy of Sciences, Bulgaria

Abstract:

The paper is concerned with the state examination as well as the problems during the post surgical (orthopedic) rehabilitation of the knee and ankle joint. An observation of the current appliances for a passive rehabilitation devices is presented. The major necessary and basic features of the intelligent rehabilitation devices are considered. An approach for a new intelligent appliance is suggested. The main advantages of the device are: both active as well as passive rehabilitation of the patient based on the human - patient reactions and a real time feedback. The basic components: controller; electrical motor; encoder, force – torque sensor are discussed in details. The main modes of operation of the device are considered.

Keywords: Ankle, knee, rehabilitation, computer control.

ISBN NR.: 978-625-6283-95-4

REAL-TIME MONITORING OF PATHOGEN CONCENTRATION USING GRAPHENE-BASED BIOSENSOR

James K. Monroe, Helena C. Davies, Victor L. Ramirez

National Institute of Standards and Technology , Taiwan

Abstract:

Aptamers are useful tools in microorganism researches, diagnoses, and treatment. Aptamers are specific target molecules formed by oligonucleic acid molecules, and are not decomposed by alcohol. Aptamers used to detect Mycobacterium tuberculosis (MTB) have been proved to have specific affinity to the outer membrane proteins of MTB. This article presents a biosensor chip set with aptamers for early detection of MTB with high specificity and sensitivity, even in very low concentration. Meanwhile, we have already made a modified hydrophobic facial mask module with internal rendering hydrophobic for effectively collecting M. tuberculosis.

Keywords: Aptamers, CNTFET, Mycobacterium tuberculosis, early detection.

ISBN NR.: 978-625-6283-95-4

DESIGNING AN ULTRA-WIDEBAND ANTENNA FOR CANCER DETECTION IN MICROWAVE IMAGING

Dr. Samuel D. Greene, Dr. Lin Wei-Hong

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Abstract:

Early breast cancer detection is an emerging field of research as it can save the women infected by malignant tumors. Microwave breast imaging is based on the electrical property contrast between healthy and malignant tumor. This contrast can be detected by use of microwave energy with an array of antennas that illuminate the breast through coupling medium and by measuring the scattered fields. In this paper, author has been presented the design and simulation results of the bowtie antenna. This bowtie antenna is designed for the detection of breast cancer detection.

Keywords: Breast cancer detection, Microwave Imaging, Tomography.

ISBN NR.: 978-625-6283-95-4

DEVELOPMENT OF A SHAPE MEMORY ALLOY CLAMPING SYSTEM FOR MINIMALLY INVASIVE SURGERY

Amir Farshad, Jonathan P. Harris, Sima Mohammadi

Electrical and Computer Engineering Department, Kettering University, USA.

Abstract:

The blood ducts must be occluded to avoid loss of blood from vessels in laparoscopic surgeries. This paper presents a locking mechanism to be used in a ligation laparoscopic procedure (LigLAP I), as an alternative solution for a stapling procedure. Currently, stapling devices are being used to occlude vessels. Using these devices may result in some problems, including injury of bile duct, taking up a great deal of space behind the vessel, and bile leak. In this new procedure, a two-layer suture occludes a vessel. A locking mechanism is also required to hold the suture. Since there is a limited space at the device tip, a Shape Memory Alloy (SMA) actuator is used in this mechanism. Suitability for cleanroom applications, small size, and silent performance are among the advantages of SMA actuators in biomedical applications. An experimental study is conducted to examine the function of the locking mechanism. To set up the experiment, a prototype of a locking mechanism is built using nitinol, which is a nickel-titanium shape memory alloy. The locking mechanism successfully locks a polymer suture for all runs of the experiment. In addition, the effects of various surface materials on the applied pulling forces are studied. Various materials are mounted at the mechanism tip to compare the maximum pulling forces applied to the suture for each material. The results show that the various surface materials on the device tip provide large differences in the applied pulling forces.

Keywords: Laparoscopic surgery, ligation process, locking mechanism, Shape Memory Alloy (SMA) actuator.

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INVESTIGATING DIURNAL VARIATIONS IN HUMAN HEIGHT: A BIOMECHANICAL STUDY

Asst. Prof. Dr. Jonathan Lee Kim

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Abstract
Diurnal variations in human height are a result of biomechanical processes influenced by daily activities and gravitational forces. This study examines the extent and mechanisms of height fluctuations throughout the day, focusing on spinal compression and decompression, hydration of intervertebral discs, and postural dynamics. A cohort of 50 individuals was observed under controlled conditions to measure height changes at specified intervals. Results indicate significant height variations, with a maximum decrease of up to 2 centimeters occurring during daytime hours, predominantly influenced by physical activity and prolonged upright posture. The findings provide insights into the biomechanical adaptations of the human body and their implications for clinical assessments and ergonomic practices.

Keywords: diurnal height variation, spinal biomechanics, intervertebral discs, postural dynamics, human height fluctuation

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MICROORGANISM-BASED SENSOR FOR DETECTING ANTIOXIDANT ACTIVITY

Dr. Maria Fernandez, Isaac O. Delgado, Ethan L. Roberts, Sophia N. Clarke

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Abstract

This study introduces a microorganism-based sensor designed to detect antioxidant activity with high sensitivity and specificity. The innovative sensor leverages the metabolic reactions of engineered microorganisms, providing a rapid and eco-friendly alternative to conventional chemical methods. By employing advanced bioengineering techniques, microorganisms are programmed to respond to antioxidant compounds through measurable optical or electrochemical signals. The sensor demonstrates exceptional accuracy in quantifying antioxidant activity across diverse samples, including pharmaceuticals, food products, and biological fluids. Preliminary results indicate significant potential for this approach in clinical diagnostics and quality control industries. This microorganism-based technology represents a sustainable advancement in antioxidant detection methodologies.

Keywords: Antioxidant detection, microorganism-based sensor, bioengineering, optical signals, eco-friendly technology

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ANALYZING THE FRICTIONAL PROPERTIES OF MUCIN COATINGS ON MEDICAL DEVICES

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Abstract

The frictional properties of mucin coatings have garnered significant interest in the biomedical field due to their potential to improve the performance and biocompatibility of medical devices. This study investigates the tribological behavior of mucin-coated surfaces under varying conditions to understand their efficacy in reducing friction and wear in biomedical applications. The research involved comprehensive surface characterization, friction testing, and analyses of the adhesion properties of mucin layers. The findings reveal that mucin coatings significantly decrease friction coefficients on medical device surfaces while exhibiting remarkable stability under simulated physiological conditions. These results underscore the potential of mucin as a bio-lubricant, paving the way for advancements in medical device technologies.

Keywords: mucin coatings, frictional properties, medical devices, tribological analysis, bio-lubrication

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IMPACT OF MICROSTRUCTURE ON THE TRIBOLOGICAL BEHAVIOR OF TITANIUM IMPLANTS

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Abstract

The microstructure of titanium implants plays a critical role in determining their tribological performance, especially under dynamic loading conditions in biomedical applications. This study investigates the relationship between the microstructural characteristics of titanium alloys and their wear resistance, friction coefficient, and surface damage behavior. Using advanced analytical techniques such as scanning electron microscopy (SEM) and X-ray diffraction (XRD), the impact of grain size, phase composition, and surface roughness on the implants' tribological performance was thoroughly examined. Results reveal that finer microstructures with homogenous phase distributions significantly enhance wear resistance and reduce frictional losses. The findings provide insights into optimizing titanium implants' performance for improved durability and biocompatibility.

Keywords: microstructure, titanium implants, tribological behavior, wear resistance, surface roughness

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OPTIMAL CONTROL STRATEGIES FOR VELOCITY REGULATION OF PERMANENT-MAGNET SYNCHRONOUS MOTOR DRIVES

Dr. Roozbeh Molavi,

Assis. Prof. Dr. Davood A. Khaburi

Tehran University – Iran

Abstract:

This paper presents a comprehensive analysis of optimal control strategies for velocity regulation in Permanent-Magnet Synchronous Motor (PMSM) drives. The performance and efficiency of PMSM drives significantly depend on precise speed control, especially in high-performance applications. The study explores advanced control techniques, including model predictive control (MPC), sliding mode control (SMC), and adaptive control mechanisms. These methods are evaluated for their ability to address challenges such as parameter variations, external disturbances, and nonlinearities inherent in PMSM systems. A simulation framework is employed to benchmark the proposed strategies, assessing their dynamic response, steady-state accuracy, and robustness under various operating conditions. Experimental validations demonstrate the practical applicability of these control approaches in industrial and automotive systems. The findings provide valuable insights for designing reliable and efficient PMSM velocity control systems.

Keywords: Optimal Control, Permanent-Magnet Synchronous Motor (PMSM), Velocity Regulation, Model Predictive Control, Sliding Mode Control, Adaptive Control.

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GA-BASED VOLTAGE OPTIMIZATION IN DISTRIBUTION NETWORKS WITH DECENTRALIZED GENERATION

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Abstract:

The integration of decentralized generation (DG) in distribution networks presents significant challenges in maintaining voltage stability and minimizing power losses. This study proposes a Genetic Algorithm (GA)-based approach for optimizing voltage profiles in distribution networks with high DG penetration. The GA effectively identifies optimal voltage control settings for distributed generators and network elements, ensuring improved power quality and system reliability. The simulation results demonstrate the efficiency of the proposed method in mitigating voltage deviations and reducing overall network losses under varying load and generation conditions. This research highlights the potential of GA for real-time voltage optimization in modern smart grids.

Keywords: Genetic Algorithm (GA), voltage optimization, distribution networks, decentralized generation (DG), power quality, smart grids.

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HANDWRITING RECOGNITION USING NEURAL NETWORKS AND SPEECH SPECTRAL ANALYSIS

Assoc. Prof. Dr. Sameer Khan

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Abstract:

There are two common methodologies to verify signatures: the functional approach and the parametric approach. This paper presents a new approach for dynamic handwritten signature verification (HSV) using the Neural Network with verification by the Conjugate Gradient Neural Network (NN). It is yet another avenue in the approach to HSV that is found to produce excellent results when compared with other methods of dynamic. Experimental results show the system is insensitive to the order of base-classifiers and gets a high verification ratio.

Keywords: Signature Verification, MATLAB Software, Conjugate Gradient, Segmentation, Skilled Forgery, and Genuine.

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ANALYSIS AND IMPROVEMENT OF THERMAL DESALINATION USING OCEAN THERMOCLINE AND WASTE HEAT

Dr. Aditi Verma, Dr. R. K. Sharma, P. K. Singh

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Abstract:

Thermal desalination is a vital technology for addressing global water scarcity, but its energy-intensive nature often limits widespread adoption. This study investigates the integration of ocean thermocline energy and waste heat utilization to enhance the efficiency of thermal desalination systems. A comprehensive analysis is conducted to assess the thermodynamic performance of utilizing naturally occurring ocean temperature gradients and industrial waste heat as supplemental energy sources. Simulation models are developed to evaluate heat transfer, system stability, and freshwater output under varying operational conditions. The results demonstrate a significant reduction in energy consumption while maintaining or improving water production rates. Additionally, this approach supports sustainable water management by leveraging renewable and low-grade energy sources. Future applications could contribute to cost-effective and eco-friendly desalination solutions in coastal and industrial areas.

Keywords: thermal desalination, ocean thermocline, waste heat utilization, sustainable water management, energy efficiency

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DEVELOPING A VISION-BASED MONITORING SYSTEM FOR OUTDOOR CHILD SAFETY

Dr. Sara Nouri, Prof. Dr. Hiroshi Takeda

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Abstract:

In this paper application of artificial intelligence for baby and children caring is studied. Then a new idea for injury prevention and safety announcement is presented by using digital image processing. The paper presents the structure of the proposed system. The system determines the possibility of the dangers for children and babies in yards, gardens and swimming pools or etc. In the presented idea, multi camera System is used and receiver videos are processed to find the hazardous areas then the entrance of children and babies in the determined hazardous areas are analyzed. In this condition the system does the programmed action capture, produce alarm or tone or send message.

Keywords: Baby and children Care and Nursing, Intelligent Control Systems for Nursing, Electronic Care and Nursing, Dangers and safety for children and babies, Motion detection, Expert danger alarm systems.

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NETWORK DEVICE DETECTION FOR ADVANCED MANAGEMENT SYSTEMS USING SNMP PROTOCOL

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Abstract:

Virtually all existing networked system management tools use a Manager/Agent paradigm. That is, distributed agents are deployed on managed devices to collect local information and report it back to some management unit. Even those that use standard protocols such as SNMP fall into this model. Using standard protocol has the advantage of interoperability among devices from different vendors. However, it may not be able to provide customized information that is of interest to satisfy specific management needs. In this dissertation work, different approaches are used to collect information regarding the devices attached to a Local Area Network. An SNMP aware application is being developed that will manage the discovery procedure and will be used as data collector.
Keywords: ICMP Scanner, Network Discovery, NetworkManagement, SNMP Scanner.

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THEMATIC ROLE EXTRACTION THROUGH LIGHTWEIGHT SEMANTIC PARSING TECHNIQUES

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Researcher at NLP lab, Shahid Beheshti University and also M.Sc. Student at Azad University, Qazvin, Iran

Abstract:

Extracting thematic (semantic) roles is one of the major steps in representing text meaning. It refers to finding the semantic relations between a predicate and syntactic constituents in a sentence. In this paper we present a rule-based approach to extract semantic roles from Persian sentences. The system exploits a twophase architecture to (1) identify the arguments and (2) label them for each predicate. For the first phase we developed a rule based shallow parser to chunk Persian sentences and for the second phase we developed a knowledge-based system to assign 16 selected thematic roles to the chunks. The experimental results of testing each phase are shown at the end of the paper.
Keywords: Natural Language Processing, Semantic RoleLabeling, Shallow parsing, Thematic Roles.

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A CRITICAL ANALYSIS OF CHITOSAN UTILIZATION AS A NATURAL ANTIMICROBIAL

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Abstract

Chitosan, a biopolymer derived from chitin, has garnered significant attention for its potential as a natural antimicrobial agent. Its unique properties, including biocompatibility, biodegradability, and non-toxic nature, make it an ideal candidate for diverse applications in medicine, agriculture, and food preservation. This study critically analyzes the antimicrobial mechanisms of chitosan, focusing on its interactions with microbial cell membranes, its inhibitory effects on microbial growth, and factors influencing its efficacy, such as molecular weight, degree of deacetylation, and environmental pH. Additionally, the potential challenges associated with its large-scale application, including cost and stability, are discussed. This analysis aims to provide insights into optimizing chitosan's utilization for sustainable antimicrobial solutions.

Keywords: Chitosan, natural antimicrobial, biopolymer, microbial inhibition, sustainability

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INVESTIGATING THE COGNITIVE-ENHANCING POTENTIAL OF BACOPA MONNIERI EXTRACT IN NEUROGENESIS

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Abstract

Bacopa monnieri, a traditional medicinal herb, has garnered attention for its potential neuroprotective and cognitive-enhancing effects. This study explores the role of Bacopa monnieri extract in promoting neurogenesis and cognitive function. Employing an in vivo model, the research evaluates its influence on hippocampal neurogenesis, memory retention, and synaptic plasticity. The biochemical pathways modulated by Bacopa monnieri, including its impact on neurotrophic factors, oxidative stress markers, and neurotransmitter balance, are also analyzed. Findings indicate significant improvements in neurogenesis and cognitive markers, highlighting the therapeutic potential of Bacopa monnieri in neurodegenerative conditions and age-related cognitive decline.

Keywords: Bacopa monnieri, neurogenesis, cognitive enhancement, hippocampus, neurodegenerative disorders

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FORMULATION AND EVALUATION OF PROBIOTIC VAGINAL SUPPOSITORIES INCORPORATING LACTOBACILLUS STRAINS

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Abstract:

The objective of this study was to develop vaginal suppository containing lactobacillus. Four kinds of vaginal suppositories containing Lactobacillus paracasei HL32 were formulated: 1) a conventional suppository with Witepsol H-15 as a base, 2) a conventional suppository with mixed polyethylene glycols (PEGs) as a base, 3) a hollow-type suppository with Witepsol H-15 as a base and 4) a hollow-type suppository with mixed PEGs as a base. The release studies demonstrated that the hollow-type suppository with mixed PEGs as the base gave the highest release of L. paracasei HL32 and was microbiological stable after storage at 2- 8°C over the period of 3 months.

Keywords: Lactobacillus paracasei HL32, vaginal suppository, release study, hollow-type, viability.

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ISOLATION OF STIGMASTEROL GLYCOSIDE FROM THE ROOTS OF CURCUMA LONGA

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Abstract

Stigmasterol glycoside, a bioactive compound with significant therapeutic potential, was successfully isolated from the roots of *Curcuma longa* (turmeric) using advanced chromatographic techniques. The extraction and purification process involved methanol extraction, followed by partitioning and column chromatography. The structural elucidation was conducted through spectroscopic methods, including NMR and mass spectrometry, confirming the presence of stigmasterol glycoside. This study highlights the compound's potential applications in pharmacological and nutraceutical fields due to its anti-inflammatory and anticancer properties. Future research aims to explore its bioactivity in vitro and in vivo, contributing to drug development based on natural compounds.

Keywords: Stigmasterol glycoside, *Curcuma longa*, isolation, bioactive compound, spectroscopy

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UTILIZING MACHINE LEARNING TECHNIQUES IN PHARMACEUTICAL COMPOUND DISCOVERY

Dr. Emma Novak, Dr. Jonathan Blume

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Abstract:

The discovery of new pharmaceutical compounds has been revolutionized by the integration of machine learning (ML) techniques. These methods enable the analysis of vast datasets, uncovering hidden patterns and relationships that expedite the identification of potential drug candidates. This study explores various ML algorithms, such as supervised learning, unsupervised clustering, and deep neural networks, in predicting compound efficacy and toxicity. Case studies demonstrate how ML optimizes lead identification and accelerates the drug discovery process, minimizing cost and time. The results underscore the transformative potential of ML in addressing complex challenges in pharmaceutical research, paving the way for personalized medicine and innovative therapeutics.

Keywords: Machine learning, pharmaceutical discovery, drug development, compound efficacy, personalized medicine

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PHARMACOKINETIC MODELING OF THEOPHYLLINE MICROCAPSULES USING A DECONVOLUTION APPROACH

Assoc. Prof. Emily Nguyen, Dr. Farah Ibrahim

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Abstract

Pharmacokinetic modeling is a crucial tool in understanding drug absorption, distribution, metabolism, and excretion. This study focuses on the pharmacokinetics of theophylline microcapsules using a deconvolution approach to elucidate their release profile and systemic availability. The study employed a population pharmacokinetic model to analyze drug release kinetics from microcapsules, providing insights into bioavailability and in vivo drug behavior. A deconvolution-based methodology was applied to correlate in vitro dissolution data with in vivo absorption profiles. The results demonstrated a strong correlation, highlighting the potential for optimizing drug delivery systems for improved therapeutic outcomes. This research offers a significant advancement in pharmacokinetics by enhancing the predictive accuracy of drug release and absorption for microcapsulated formulations.

Keywords: pharmacokinetics, theophylline, microcapsules, deconvolution, drug release

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ASSESSING THE ANTIBACTERIAL ACTIVITY OF METHANOL EXTRACTS FROM INDONESIAN HERBS AGAINST E. COLI

Dr. Siti Aisyah, Dr. Rizky Ardiansyah

Faculty of Pharmacy, Universitas Gadjah Mada, Yogyakarta, Indonesia

Abstract

The increasing prevalence of antibiotic-resistant bacteria necessitates the exploration of natural compounds with potential antibacterial properties. This study evaluates the antibacterial activity of methanol extracts derived from selected Indonesian herbs against *Escherichia coli*. A comprehensive screening was conducted to identify the most effective herbs, using the agar diffusion method to determine inhibition zones. Results demonstrated that several extracts exhibited significant antibacterial activity, with inhibition zones ranging from 12 mm to 20 mm. Phytochemical analysis revealed the presence of alkaloids, flavonoids, and tannins as key bioactive compounds. These findings highlight the potential of Indonesian herbal extracts as a source of novel antibacterial agents, providing a foundation for further research into their application in treating bacterial infections.

Keywords: antibacterial activity, methanol extracts, Indonesian herbs, *Escherichia coli*, phytochemicals

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DEDUCING THE DYNAMICS OF "CONCEALED" NEURONS FROM ELECTROPHYSIOLOGICAL RECORDINGS

Valeri A. Makarov,Nazareth P. Castellanos

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Abstract:

Statistical analysis of electrophysiological recordings obtained under, e.g. tactile, stimulation frequently suggests participation in the network dynamics of experimentally unobserved “hidden" neurons. Such interneurons making synapses to experimentally recorded neurons may strongly alter their dynamical responses to the stimuli. We propose a mathematical method that formalizes this possibility and provides an algorithm for inferring on the presence and dynamics of hidden neurons based on fitting of the experimental data to spike trains generated by the network model. The model makes use of Integrate and Fire neurons “chemically" coupled through exponentially decaying synaptic currents. We test the method on simulated data and also provide an example of its application to the experimental recording from the Dorsal Column Nuclei neurons of the rat under tactile stimulation of a hind limb.

Keywords: Integrate and fire neuron, neural network models, spike trains.

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CLASSIFYING GENOMIC STRUCTURES AND REARRANGEMENT IN COMPUTATIONAL BIOLOGY: A UNIFIED APPROACH

Dr. Eliza Gorton,Samir Patel,Thomas Wright

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Abstract:

Bioinformatics and computational biology involve the use of techniques including applied mathematics, informatics, statistics, computer science, artificial intelligence, chemistry, and biochemistry to solve biological problems usually on the molecular level. Research in computational biology often overlaps with systems biology. Major research efforts in the field include sequence alignment, gene finding, genome assembly, protein structure alignment, protein structure prediction, prediction of gene expression and proteinprotein interactions, and the modeling of evolution. Various global rearrangements of permutations, such as reversals and transpositions,have recently become of interest because of their applications in computational molecular biology. A reversal is an operation that reverses the order of a substring of a permutation. A transposition is an operation that swaps two adjacent substrings of a permutation. The problem of determining the smallest number of reversals required to transform a given permutation into the identity permutation is called sorting by reversals. Similar problems can be defined for transpositions and other global rearrangements. In this work we perform a study about some genome rearrangement primitives. We show how a genome is modelled by a permutation, introduce some of the existing primitives and the lower and upper bounds on them. We then provide a comparison of the introduced primitives.

Keywords: Sorting Primitives, Genome Rearrangements, Transpositions, Block Interchanges, Strip Exchanges.

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UNVEILING DISTANT PROTEIN EVOLUTIONARY LINKS USING SEQUENCE ALIGNMENT TECHNIQUES

Prof. Amanda Griffin, Dr. Thomas Allard

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Abstract:

The amount of the information being churned out by the field of biology has jumped manifold and now requires the extensive use of computer techniques for the management of this information. The predominance of biological information such as protein sequence similarity in the biological information sea is key information for detecting protein evolutionary relationship. Protein sequence similarity typically implies homology, which in turn may imply structural and functional similarities. In this work, we propose, a learning method for detecting remote protein homology. The proposed method uses a transformation that converts protein sequence into fixed-dimensional representative feature vectors. Each feature vector records the sensitivity of a protein sequence to a set of amino acids substrings generated from the protein sequences of interest. These features are then used in conjunction with support vector machines for the detection of the protein remote homology. The proposed method is tested and evaluated on two different benchmark protein datasets and it-s able to deliver improvements over most of the existing homology detection methods.

Keywords: Protein homology detection; support vectormachine; string kernel.

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PARENTAL COEFFICIENTS IN AGRICULTURAL HYBRIDIZATION ANALYSIS

Rajesh Sharma, Poonam Kapoor, Harinder Singh Dhillon

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Abstract:

Hybridization refers to the crossing breeding of two plants. Coefficient of Parentage (COP) is used by the plant breeders to determine the genetic diversity across various varieties so as to incorporate the useful characters of the two varieties to develop a new crop variety with particular useful characters. Genetic Diversity is the prerequisite for any cultivar development program. Genetic Diversity depends upon the pedigree information of the varieties based on particular levels. Pedigree refers to the parents of a particular variety at various levels. This paper discusses the searching and analyses of different possible pairs of varieties selected on the basis of morphological characters, Climatic conditions and Nutrients so as to obtain the most optimal pair that can produce the required crossbreed variety. An algorithm was developed to determine the coefficient of parentage (COP) between the selected wheat varieties. Dummy values were used wherever actual data was not available.

Keywords: Coefficient of Parentage, Morphological characters, Pedigree, Genetic Diversity.

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A PARSIMONY-BASED MODEL FOR PHYLOGENETIC TREE RECONSTRUCTION IN INSECT EVOLUTION

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Abstract:

Phylogenies ; The evolutionary histories of groups of species are one of the most widely used tools throughout the life sciences, as well as objects of research with in systematic, evolutionary biology. In every phylogenetic analysis reconstruction produces trees. These trees represent the evolutionary histories of many groups of organisms, bacteria due to horizontal gene transfer and plants due to process of hybridization. The process of gene transfer in bacteria and hybridization in plants lead to reticulate networks, therefore, the methods of constructing trees fail in constructing reticulate networks. In this paper a model has been employed to reconstruct phylogenetic network in honey bee. This network represents reticulate evolution in honey bee. The maximum parsimony approach has been used to obtain this reticulate network.

Keywords: Hybridization, HGT, Reticulate networks, Recombination, Species, Parsimony.

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PRELIMINARY ASSESSMENT OF SINGLE-GENE DISRUPTIONS ON GENETIC NETWORK INFERENCE

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Abstract:

This study explores the impact of single-gene disruptions on the inference of genetic networks, aiming to better understand the role of individual genes in regulating cellular functions. By systematically disrupting specific genes in model organisms, we assessed how these alterations affect the connectivity and stability of gene networks. Using computational tools for network inference, we analyzed the alterations in gene expression profiles and their influence on network topology. The results suggest that single-gene disruptions lead to significant shifts in network architecture, highlighting potential biomarkers for disease mechanisms and therapeutic targets. These findings have implications for systems biology and personalized medicine, as understanding the consequences of gene perturbations is crucial for advancing gene-based therapies.

Keywords: single-gene disruptions, genetic networks, network inference, gene expression, systems biology.

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EVALUATING FEATURE SELECTION TECHNIQUES FOR CLASSIFYING DIFFUSE LARGE B-CELL LYMPHOMA

Helena Sanchez, Pedro Carvalho

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Abstract:

Diffuse Large B-Cell Lymphoma (DLBCL) is a highly aggressive type of non-Hodgkin lymphoma that requires accurate and timely classification for optimal treatment. Feature selection plays a crucial role in enhancing classification models by identifying the most relevant attributes from clinical and genetic datasets. This study evaluates various feature selection techniques, including filter, wrapper, and embedded methods, to assess their effectiveness in classifying DLBCL. The performance of each technique is measured in terms of classification accuracy, precision, recall, and computational efficiency, using a dataset of DLBCL patient samples. The results demonstrate that some feature selection methods significantly improve the classification performance compared to traditional models, offering valuable insights for future research in lymphoma diagnosis and treatment. This paper also explores the potential of integrating multiple techniques to further refine classification accuracy and clinical applicability.

Keywords: Diffuse Large B-Cell Lymphoma, Feature Selection, Classification, Non-Hodgkin Lymphoma, Machine Learning

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IMPACT OF GUANIDINE HYDROCHLORIDE ON PHASE SEPARATION IN PEG-SALT AQUEOUS TWO-PHASE SYSTEMS

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Abstract:

The study investigates the impact of guanidine hydrochloride (GdHCl) on phase separation in poly(ethylene glycol) (PEG)-salt aqueous two-phase systems (ATPS). The addition of GdHCl is shown to significantly influence the phase behavior, altering the critical concentrations required for phase formation and enhancing the partitioning of biomolecules in the system. By systematically varying the concentration of GdHCl and analyzing its effect on phase separation, the research provides valuable insights into the molecular interactions governing the formation and stability of PEG-salt ATPS, with implications for applications in biomolecular separation and purification processes. The findings suggest that GdHCl can be used as a modulator to fine-tune phase behavior in complex aqueous systems.

Keywords: Guanidine hydrochloride, Phase separation, Aqueous two-phase systems, PEG-salt, Biomolecular partitioning

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ANALYSIS OF CLUSTER MECHANISM OF ANTI-GREENHOUSE EFFECT USING COMPUTER TECHNOLOGY

A. Galashev
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Abstract:

The study focuses on the analysis of cluster mechanisms in combating the greenhouse effect through the application of computer technology. Utilizing advanced computational models, the research examines how clusters—groups of related technological and environmental systems—can contribute to reducing the impact of the greenhouse effect. The findings highlight the efficiency of computational simulations in identifying the most effective cluster configurations for greenhouse gas reduction. This paper emphasizes the role of computer technology in optimizing environmental protection strategies, providing insights into the dynamic interactions between different components of the climate system. The results offer practical recommendations for the integration of cluster-based solutions in climate change mitigation efforts.

Keywords: greenhouse effect, cluster mechanism, computer technology, environmental protection, climate change mitigation

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APPLICATION OF ADVANCED NANOFILTERS FOR SUSTAINABLE WATER SUPPLY IN THE CASPIAN SEA BASIN

Olga Petrova, Dmitry Ivanov, Maria Sorokina

Water University of Tehran

Abstract:

In a world worried about water resources with the shadow of drought and famine looming all around, the quality of water is as important as its quantity. The source of all concerns is the constant reduction of per capita quality water for different uses. Iran With an average annual precipitation of 250 mm compared to the 800 mm world average, Iran is considered a water scarce country and the disparity in the rainfall distribution, the limitations of renewable resources and the population concentration in the margins of desert and water scarce areas have intensified the problem. The shortage of per capita renewable freshwater and its poor quality in large areas of the country, which have saline, brackish or hard water resources, and the profusion of natural and artificial pollutant have caused the deterioration of water quality. Among methods of treatment and use of these waters one can refer to the application of membrane technologies, which have come into focus in recent years due to their great advantages. This process is quite efficient in eliminating multi-capacity ions; and due to the possibilities of production at different capacities, application as treatment process in points of use, and the need for less energy in comparison to Reverse Osmosis processes, it can revolutionize the water and wastewater sector in years to come. The article studied the different capacities of water resources in the Persian Gulf and Oman Sea watershed basins, and processes the possibility of using nanofiltration process to treat brackish and non-conventional waters in these basins.

Keywords: Membrane processes, saline waters, brackish waters, hard waters, zoning water quality in the Persian Gulf and the Oman Sea Watershed area, nanofiltration.

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CRITICAL ANALYSIS OF EIA REPORTS EFFECTIVENESS: A CASE STUDY FROM INDIA

Dr. Aakash Sharma, Assis. Prof. Dr. Neha Rao

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Abstract:

The preparation of good-quality Environmental Impact Assessment (EIA) reports contribute to enhancing overall effectiveness of EIA. This component of the EIA process becomes more important in situation where public participation is weak and there is lack of expertise on the part of the competent authority. In Pakistan, EIA became mandatory for every project likely to cause adverse environmental impacts from July 1994. The competent authority also formulated guidelines for preparation and review of EIA reports in 1997. However, EIA is yet to prove as a successful decision support tool to help in environmental protection. One of the several reasons of this ineffectiveness is the generally poor quality of EIA reports. This paper critically reviews EIA reports of some randomly selected projects. Interviews of EIA consultants, project proponents and concerned government officials have also been conducted to underpin the root causes of poor quality of EIA reports. The analysis reveals several inadequacies particularly in areas relating to identification, evaluation and mitigation of key impacts and consideration of alternatives. The paper identifies some opportunities and suggests measures for improving the quality of EIA reports and hence making EIA an effective tool to help in environmental protection.

Keywords: Environmental Impact Assessment, EIA Guidelines, EIA Reports, Pakistan.

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ASSESSMENT OF GROUNDWATER QUALITY AND POLLUTION IDENTIFICATION IN THE KARUN RIVER WATERSHED, IRAN

Hassan Rahimi, Fatemeh Jalali

Islamic Azad University, Iran

Abstract:

The protection of groundwater resources is the great important many semiarid and arid environments. Baghan watershed is located in the north of Kangan in the Boshehr province in Iran. The groundwater resources have a vital role in supplying agricultural, drinking, domestic and industrial water demand in Baghan watershed. For our investigation into the water quality we collected 30 samples to chemical and physical analysis. The result showed the marl and evaporation deposits that contain anhydrite and gypsum is the main source of groundwater pollution, and one part of the groundwater was polluted by oil and gas industrial. Another part of the groundwater was contaminated by urban waste water. The electrical conductivity and captions and anions increased around of towns and gas refinery. Although the negative impact of untreated domestic wastewater is relatively low but the results showed strongly the negative impact of wastewater refinery is very considerable. This negative impact increased in downstream due to shallow aquifer. Additionally, the agents that adversely affect the quality of groundwater come from a variety of sources, including geology, domestic wastewater and the Jam refinery in Baghan watershed.

Keywords: Baghan watershed, Chemical quality, Groundwater, Pollution sources.

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EVALUATION OF AIR POLLUTION MITIGATION STRATEGIES

Prof. Dr. Marta Kowalczyk

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Abstract:

Environmental investments, including ecological projects, relating to the protection of atmosphere are today a need. However, investing in the environment should be based on rational management rules. This comes across a problem of selecting a method to assess substances reduced during projects. Therefore, a method allowing for the assessment of decision rationality has to be found. The purpose of this article is to present and systematise pollution reduction assessment methods and illustrate theoretical analyses with empirical data. Empirical results confirm theoretical considerations, which proved that the only method for judging pollution reduction, free of apparent disadvantages, is the Eco 99-ratio method. To make decisions on environmental projects, financing institutions should take into account a rationality rule. Therefore the Eco 99-ratio method could be applied to make decisions relating to environmental investments in the area of air protection.

Keywords: Assessment of pollution reduction, costs of environmental protection, efficiency of environmental investments.

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DEVELOPMENT OF A COST-EFFECTIVE HYDROGEN PRODUCTION SYSTEM USING BIOMASS RESOURCES IN SOUTH KOREA

Yuki Matsumoto, Takeshi Ogawa, Ryoichi Nakamura

The University of Tokyo

Abstract:

It was determined that woody biomass and livestock excreta can be utilized as hydrogen resources and hydrogen produced from such sources can be used to fill fuel cell vehicles (FCVs) at hydrogen stations. It was shown that the biomass transport costs for hydrogen production may be reduced the costs for co-generation. In the Tokyo Metropolitan Area, there are only a few sites capable of producing hydrogen from woody biomass in amounts greater than 200 m3/h-the scale required for a hydrogen station to be operationally practical. However, in the case of livestock excreta, it was shown that 15% of the municipalities in this area are capable of securing sufficient biomass to be operationally practical for hydrogen production. The differences in feasibility of practical operation depend on the type of biomass.

Keywords: Biomass Resources, Hydrogen Production, Hydrogen Station, Transport Cost.

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EFFECT OF MICROBIAL ACTIVATORS ON THE DECOMPOSITION OF INDUSTRIAL WASTE COMPOST

Dr. Niran Phasuk, Dr. Araya Chaiwat

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Abstract:

In this research, an aerobic composting method is studied to reuse organic waste from rubber factory waste as soil fertilizer and to study the effect of cellulolytic microbial activator (CMA) as the activator in the rubber factory waste composting. The performance of the composting process was monitored as a function of carbon and organic matter decomposition rate, temperature and moisture content. The results indicate that the rubber factory waste is best composted with water hyacinth and sludge than composted alone. In addition, the CMA is more affective when mixed with the rubber factory waste, water hyacinth and sludge since a good fertilizer is achieved. When adding CMA into the rubber factory waste composted alone, the finished product does not achieve a standard of fertilizer, especially the C/N ratio. Finally, the finished products of composting rubber factory waste and water hyacinth and sludge (both CMA and without CMA), can be an environmental friendly alternative to solve the disposal problems of rubber factory waste. Since the C/N ratio, pH, moisture content, temperature, and nutrients of the finished products are acceptable for agriculture use.

Keywords: composting, rubber waste, C/N ratio, sludge, cellulolytic microbial activator

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EXPLORING ENERGY-EFFICIENT COOLING SOLUTIONS FOR SUSTAINABLE BUILDINGS

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Abstract:

The top-heavy demographic of low birth-rate and longer lifespan is a growing social problem, and one of its expected effects will be a shortage of young workers and a growing reliance on a workforce of middle-aged and older people. However, the environment of today's industrial workplace is not particularly suited to middle-aged and older workers, one notable problem being temperature control. Higher temperatures can cause health problems such as heat stroke, and the number of cases increases sharply in people over 65. Moreover, in conditions above 33°C, older people can develop circulatory system disorders, and also have a higher chance of suffering a fatal heart attack. We therefore propose a new method for controlling temperature in the indoor workplace. In this study two different verification experiments were conducted, with the proposed temperature control method being tested in cargo containers and conventional houses. The method's effectiveness was apparent in measurements of temperature and electricity consumption

Keywords: CO2 reduction, Energy saving, Temperature control

ISBN NR.: 978-625-6283-95-4

ANALYZING THE IMPACT OF URBAN AIR POLLUTION ON PROPERTY VALUES IN ST. PETERSBURG

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Abstract:

The main purpose of this research is the calculation of implicit prices of the environmental level of air quality in the city of Moscow on the basis of housing property prices. The database used contains records of approximately 20 thousand apartments and has been provided by a leading real estate agency operating in Russia. The explanatory variables include physical characteristics of the houses, environmental (industry emissions), neighbourhood sociodemographic and geographic data: GPS coordinates of each house. The hedonic regression results for ecological variables show «negative» prices while increasing the level of air contamination from such substances as carbon monoxide, nitrogen dioxide, sulphur dioxide, and particles (CO, NO2, SO2, TSP). The marginal willingness to pay for higher environmental quality is presented for linear and log-log models.

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PALLADIUM-CATALYZED DECHLORINATION FOR WATER REMEDIATION: CATALYST INACTIVATION AND RENEWAL

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Abstract:

Palladium-catalyzed hydrodechlorination is a promising alternative for the treatment of environmentally relevant water bodies, such as groundwater, contaminated with chlorinated organic compounds (COCs). In the aqueous phase hydrodechlorination of COCs, Pd-based catalysts were found to have a very high catalytic activity. However, the full utilization of the catalyst-s potential is impeded by the sensitivity of the catalyst to poisoning and deactivation induced by reduced sulfur compounds (e.g. sulfides). Several regenerants have been tested before to recover the performance of sulfide-fouled Pd catalyst. But these only delivered partial success with respect to re-establishment of the catalyst activity. In this study, the deactivation behaviour of Pd/Al2O3 in the presence of sulfide was investigated. Subsequent to total deactivation the catalyst was regenerated in the aqueous phase using potassium permanganate. Under neutral pH condition, oxidative regeneration with permanganate delivered a slow recovery of catalyst activity. However, changing the pH of the bulk solution to acidic resulted in the complete recovery of catalyst activity within a regeneration time of about half an hour. These findings suggest the superiority of permanganate as regenerant in re-activating Pd/Al2O3 by oxidizing Pd-bound sulfide.

Keywords: Deactivation, hydrodechlorination, Pd catalyst, regeneration.

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OPTICAL PROPERTIES OF PURE AND DOPED ZINC OXIDE: FROM NANOCOATINGS TO BULK CRYSTALS

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Abstract:

Films of pure tin oxide SnO2 and in presence of antimony atoms (SnO2-Sb) deposited onto glass substrates have shown a sufficiently high energy gap to be transparent in the visible region, a high electrical mobility and a carrier concentration which displays a good electrical conductivity [1]. In this work, the effects of polycrystalline silicon substrate on the optical properties of pure and Sb doped tin oxide is investigated. We used the APCVD (atmospheric pressure chemical vapour deposition) technique, which is a low-cost and simple technique, under nitrogen ambient, for growing this material. A series of SnO2 and SnO2-Sb have been deposited onto polycrystalline silicon substrates with different contents of antimony atoms at the same conditions of deposition (substrate temperature, flow oxygen, duration and nitrogen atmosphere of the reactor). The effect of the substrate in terms of morphology and nonlinear optical properties, mainly the reflectance, was studied. The reflectance intensity of the device, compared to the reflectance of tin oxide films deposited directly on glass substrate, is clearly reduced on the overall wavelength range. It is obvious that the roughness of the poly-c silicon plays an important role by improving the reflectance and hence the optical parameters. A clear shift in the minimum of the reflectance upon doping level is observed. This minimum corresponds to strong free carrier absorption, resulting in different plasma frequency. This effect is followed by an increase in the reflectance depending of the antimony doping. Applying the extended Drude theory to the combining optical and electrical obtained results these effects are discussed.

Keywords: Doping, oxide, reflectance.

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METHANE AND VOLATILE ORGANIC EMISSIONS FROM OIL REFINERIES IN SAUDI ARABIA

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Kuwait Universit

Abstract:

Air pollution is a major environmental health problem, affecting developed and developing countries around the world. Increasing amounts of potentially harmful gases and particulate matter are being emitted into the atmosphere on a global scale, resulting in damage to human health and the environment. Petroleum-related air pollutants can have a wide variety of adverse environmental impacts. In the crude oil production sectors, there is a strong need for a thorough knowledge of gaseous emissions resulting from the flaring of associated gas of known composition on daily basis through combustion activities under several operating conditions. This can help in the control of gaseous emission from flares and thus in the protection of their immediate and distant surrounding against environmental degradation. The impacts of methane and non-methane hydrocarbons emissions from flaring activities at oil production facilities at Kuwait Oilfields have been assessed through a screening study using records of flaring operations taken at the gas and oil production sites, and by analyzing available meteorological and air quality data measured at stations located near anthropogenic sources. In the present study the Industrial Source Complex (ISCST3) Dispersion Model is used to calculate the ground level concentrations of methane and nonmethane hydrocarbons emitted due to flaring in all over Kuwait Oilfields. The simulation of real hourly air quality in and around oil production facilities in the State of Kuwait for the year 2006, inserting the respective source emission data into the ISCST3 software indicates that the levels of non-methane hydrocarbons from the flaring activities exceed the allowable ambient air standard set by Kuwait EPA. So, there is a strong need to address this acute problem to minimize the impact of methane and non-methane hydrocarbons released from flaring activities over the urban area of Kuwait.

Keywords: Kuwait Oilfields, ISCST3 model, flaring, Airpollution, Methane and Non-methane.

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ADSORPTION KINETICS AND THERMODYNAMIC STUDIES OF LEAD (II) IONS USING COCONUT SHELL ACTIVATED CARBON

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Abstract:

Palm shell obtained from coastal part of southern India was studied for the removal for the adsorption of Hg (II) ions. Batch adsorption experiments were carried out as a function of pH, concentration of Hg (II) ions, time, temperature and adsorbent dose. Maximum removal was seen in the range pH 4.0- pH 7.0. The palm shell powder used as adsorbent was characterized for its surface area, SEM, PXRD, FTIR, ion exchange capacity, moisture content, and bulk density, soluble content in water and acid and pH. The experimental results were analyzed using Langmuir I, II, III, IV and Freundlich adsorption isotherms. The batch sorption kinetics was studied for the first order reversible reaction, pseudo first order; pseudo second order reaction and the intra-particle diffusion reaction. The biomass was successfully used for removal Hg (II) from synthetic and industrial effluents and the technique appears industrially applicable and viable.

Keywords: Biosorbent, mercury removal, borassus flabellifer, isotherms, kinetics, palm shell.

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KINETIC ANALYSIS OF SILVER NANOPARTICLE INCORPORATION INTO ORGANIC MATRICES

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Abstract:

The Kinetics formation of labile Complex Ag (I) tetra (p-carboxyphenyl) porphyrin, was investigated at 25oC and I=0.1M (NaNO3). By spectrophotometric titration, the composition ratio of the complex was established to be 2:1 (Ag : H2TCPP). The equilibrium constant, K, was found to be log 10-6.53. Binding of the first Ag (I) was found to be rate determining step with rate constant, k1= 4.67×102 . A plausible mechanism is discussed. We discus theoretically why Ag(I)2TCPP is unstable.

Keywords: Kinetics, Silver, TCPP, Sitting-atop, Theoretical study

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INVESTIGATION OF THE ELECTRICAL CHARACTERISTICS OF AU/POLYANILINE/AG SCHOTTKY DIODE VIA I-V MEASUREMENTS

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Abstract:

In this paper, fabrication and study of electronic properties of Au/methyl-red/Ag surface type Schottky diode by current-voltage (I-V) method has been reported. The I-V characteristics of the Schottky diode showed the good rectifying behavior. The values of ideality factor n and barrier height b of Au/methyl-red/Ag Schottky diode were calculated from the semi-log I-V characteristics and by using the Cheung functions. From semi-log current-voltage characteristics the values of n and b were found 1.93 and 0.254 eV, respectively, while by using Cheung functions their values were calculated 1.89 and 0.26 eV, respectively. The effect of series resistance was also analyzed by Cheung functions. The series resistance RS values were determined from dV/d(lnI)–I and H(I)–I graphs and were found to be 1.1 k and 1.3 k, respectively.

Keywords: Surface type Schottky diodes, Methyl-red, Currentvoltage method

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SEPARATION OF WATER-SOLUBLE VITAMINS USING HPTLC PLATES IMPREGNATED WITH OXALIC ACID

Dr. Jamal Al-Hassani, PhD. Reza Mansouri, Afsaneh Shirin

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Abstract:

The separation of water-soluble vitamins plays a crucial role in their analysis and quantification for various applications in food, pharmaceuticals, and biotechnology. In this study, a novel method was developed for the separation of water-soluble vitamins using High-Performance Thin Layer Chromatography (HPTLC) plates impregnated with oxalic acid. The introduction of oxalic acid as an impregnating agent enhances the separation efficiency of the vitamins by modifying the surface properties of the HPTLC plates. The method was optimized for several vitamins, including Vitamin C, B1, B2, and folic acid, using different mobile phase compositions. The technique demonstrates improved resolution, sensitivity, and reproducibility compared to traditional methods. This approach offers a promising tool for the rapid and efficient separation of water-soluble vitamins, facilitating their detection and quantification in complex matrices.

Keywords: High-Performance Thin Layer Chromatography (HPTLC), water-soluble vitamins, oxalic acid, separation technique, analytical method.

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INFLUENCE OF PRESSURE DROP ON THE EXERGY EFFICIENCY IN C2+ FRACTIONATION REFRIGERATION CYCLES

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Abstract:

This paper provides an exergy analysis of the multistage refrigeration cycle used for C2+ recovery plant. The behavior of an industrial refrigeration cycle with refrigerant propane has been investigated by the exergy method. A computational model based on the exergy analysis is presented for the investigation of the effects of the valves on the exergy losses, the second law of efficiency, and the coefficient of performance (COP) of a vapor compression refrigeration cycle. The equations of exergy destruction and exergetic efficiency for the main cycle components such as evaporators, condensers, compressors, and expansion valves are developed. The relations for the total exergy destruction in the cycle and the cycle exergetic efficiency are obtained. An ethane recovery unit with its refrigeration cycle has been simulated to prepare the exergy analysis. Using a typical actual work input value; the exergetic efficiency of the refrigeration cycle is determined to be 39.90% indicating a great potential for improvements. The simulation results reveal that the exergetic efficiencies of the heat exchanger and expansion sections get the lowest rank among the other compartments of refrigeration cycle. Refrigeration calculations have been carried out through the analysis of T–S and P–H diagrams where coefficient of performance (COP) was obtained as 1.85. The novelty of this article includes the effect and sensitivity analysis of molar flow, pressure drops and temperature on the exergy efficiency and coefficient of performance of the cycle.

Keywords: exergy; Valve; CRP; refrigeration cycle; propane refrigerant; C2+ Recovery; Ethane Recovery;.

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FINITE ELEMENT PREDICTION AND EXPERIMENTAL VERIFICATION OF THE FAILURE PATTERN OF PROXIMAL FEMUR USING QUANTITATIVE COMPUTED TOMOGRAPHY IMAGES

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Abstract:

This paper presents a novel method for prediction of the mechanical behavior of proximal femur using the general framework of the quantitative computed tomography (QCT)-based finite element Analysis (FEA). A systematic imaging and modeling procedure was developed for reliable correspondence between the QCT-based FEA and the in-vitro mechanical testing. A speciallydesigned holding frame was used to define and maintain a unique geometrical reference system during the analysis and testing. The QCT images were directly converted into voxel-based 3D finite element models for linear and nonlinear analyses. The equivalent plastic strain and the strain energy density measures were used to identify the critical elements and predict the failure patterns. The samples were destructively tested using a specially-designed gripping fixture (with five degrees of freedom) mounted within a universal mechanical testing machine. Very good agreements were found between the experimental and the predicted failure patterns and the associated load levels.
Keywords: Bone, Osteoporosis, Noninvasive methods, Failure Analysis

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OPTIMIZED TEMPERATURE CONTROL IN HIGH-INTENSITY ULTRASOUND THERAPY

Alexei Petrov, Elena Volkov, Viktor Sokolov, Sergey Mikhailov

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Abstract:

The focal spot of a high intensity focused ultrasound transducer is small. To heat a large target volume, multiple treatment spots are required. If the power of each treatment spot is fixed, it could results in insufficient heating of initial spots and over-heating of later ones, which is caused by the thermal diffusion. Hence, to produce a uniform heated volume, the delivered energy of each treatment spot should be properly adjusted. In this study, we proposed an iterative, extrapolation technique to adjust the required ultrasound energy of each treatment spot. Three different scanning pathways were used to evaluate the performance of this technique. Results indicate that by using the proposed technique, uniform heating volume could be obtained.
Keywords: focused ultrasound, thermal therapy, uniform eating, iteration, extrapolation, scan

ISBN NR.: 978-625-6283-95-4

ADVANCED METHODS TO DIFFERENTIATE MICRO-RETINAL BLEEDS FROM DUST ARTIFACTS USING COLOR SPACE ANALYSIS

Dr. Luis Fernández

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Abstract:

To distinguish small retinal hemorrhages in early diabetic retinopathy from dust artifacts, we analyzed hue, lightness, and saturation (HLS) color spaces. The fundus of 5 patients with diabetic retinopathy was photographed. For the initial experiment, we placed 4 different colored papers on the ceiling of a darkroom. Using each color, 10 fragments of house dust particles on a magnifier were photographed. The colored papers were removed, and 3 different colored light bulbs were suspended from the ceiling. Ten fragments of house dust particles on the camera-s object lens were photographed. We then constructed an experimental device that can photograph artificial eyes. Five fragments of house dust particles under the ocher fundus of the artificial eye were photographed. On analyzing HLS color space of the dust artifact, lightness and saturation were found to be highly sensitive. However, hue was not highly sensitive.
Keywords: Dust artifact, HLS color space, Retinal hemorrhage, and Diabetic retinopathy

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ROBUST ALIGNMENT OF OBJECT PAIRS USING HYBRID RIGID AND FLEXIBLE REGISTRATION MODELS

Julia Thompson, Richard Miller

Abstract:

This paper presents the application of a signal intensity independent similarity criterion for rigid and non-rigid body registration of binary objects. The criterion is defined as the weighted ratio image of two images. The ratio is computed on a voxel per voxel basis and weighting is performed by setting the raios between signal and background voxels to a standard high value. The mean squared value of the weighted ratio is computed over the union of the signal areas of the two images and it is minimized using the Chebyshev polynomial approximation.
Keywords: rigid and non-rigid body registration, binary objects

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APPLICATIONS OF FUZZY LOGIC IN AUTOMATED BREAST CANCER CLASSIFICATION THROUGH SPECTRAL ANALYSIS

Dr. Meera Sharma, Christopher Roberts

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Abstract:

Breast cancer is one of the most frequent occurring cancers in women throughout the world including U.K. The grading of this cancer plays a vital role in the prognosis of the disease. In this paper we present an overview of the use of advanced computational method of fuzzy inference system as a tool for the automation of breast cancer grading. A new spectral data set obtained from Fourier Transform Infrared Spectroscopy (FTIR) of cancer patients has been used for this study. The future work outlines the potential areas of fuzzy systems that can be used for the automation of breast cancer grading.

Keywords: Breast cancer, FTIR, fuzzy inference system , principal component analysis

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IMPACT OF RAPID VARIATIONS IN MEAN FLOW STABILITY DURING BOUNDARY-LAYER TRANSITION

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Abstract:

The scenario of bypass transition is generally described as follows: the low-frequency disturbances in the free-stream may generate long stream-wise streaks in the boundary layer, which later may trigger secondary instability, leading to rapid increase of high-frequency disturbances. Then possibly turbulent spots emerge, and through their merging, lead to fully developed turbulence. This description, however, is insufficient in the sense that it does not provide the inherent mechanism of transition that during the transition, a large number of waves with different frequencies and wave numbers appear almost simultaneously, producing sufficiently large Reynolds stress, so the mean flow profile can change rapidly from laminar to turbulent. In this paper, such a mechanism will be figured out from analyzing DNS data of transition.

Keywords: boundary layer, breakdown, bypass transition, stability, streak.

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USING MOBILE DEVICES FOR REMOTE DIAGNOSIS IN TELEMEDICINE SYSTEMS

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Abstract:

Many contemporary telemedical applications rely on regular consultations over the phone or video conferencing which consumes valuable resources such as the time of the doctors. Some applications or treatments allow automated diagnostics on the patient side which only notifies the doctors in case a significant worsening of patient's condition is measured. Such programs can save valuable resources but an important implementation issue is how to ensure effective and cheap diagnostics on the patient side. First, specific diagnostic devices on patient side are expensive and second, they need to be user-˜friendly to encourage patient's cooperation and reduce errors in usage which may cause noise in diagnostic data. This article proposes the use of modern smartphones and various build-in or attachable sensors as universal diagnostic devices applicable in a wider range of telemedical programs and demonstrates their application on a case-study – a program for schizophrenic relapse prevention.
Keywords: Smartphones, Actigraphy, Telemedicine, In-home Diagnostics

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REDUCING IMPULSE NOISE IN MRI USING ADVANCED FUZZY FILTERING TECHNIQUES

Dr. Catherine Li, Dr. Michael Wang

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Abstract:

Noise contamination in a magnetic resonance (MR) image could occur during acquisition, storage, and transmission in which effective filtering is required to avoid repeating the MR procedure. In this paper, an iterative asymmetrical triangle fuzzy filter with moving average center (ATMAVi filter) is used to reduce different levels of salt and pepper noise in a brain MR image. Besides visual inspection on filtered images, the mean squared error (MSE) is used as an objective measurement. When compared with the median filter, simulation results indicate that the ATMAVi filter is effective especially for filtering a higher level noise (such as noise density = 0.45) using a smaller window size (such as 3x3) when operated iteratively or using a larger window size (such as 5x5) when operated non-iteratively.

Keywords: Brain images, Fuzzy filters, Magnetic resonance imaging, Salt and pepper noise reduction.

ISBN NR.: 978-625-6283-95-4

IMPLEMENTATION OF GENERALIZED PLASTICITY IN LOAD-DEFORMATION BEHAVIOR OF FOUNDATION WITH EMPHASIS ON LOCALIZATION PROBLEM

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Abstract:

Nonlinear finite element method with eight noded isoparametric quadrilateral element is used for prediction of loaddeformation behavior including bearing capacity of foundations. Modified generalized plasticity model with non-associated flow rule is applied for analysis of soil-footing system. Also Von Mises and Tresca criterions are used for simulation of soil behavior. Modified generalized plasticity model is able to simulate load-deformation including softening behavior. Localization phenomena are considered by different meshes. Localization phenomena have not been seen in the examples. Predictions by modified generalized plasticity model show good agreement with laboratory data and theoretical prediction in comparison the other models.

Keywords: Localization phenomena, Generalized plasticity, Non-associated Flow Rule

ISBN NR.: 978-625-6283-95-4

LATERAL ELASTIC CHARACTERISTICS OF A NEW COMPOSITE FIBER REINFORCED GYPSUM WALL

Dr. Elena Markov, Dr. Ivan Petrov

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Abstract:

GFRG(Glass Fiber Reinforced Gypsum) wall is a green product which can erect a building fast in prefabricated method, but its application to high-rise residential buildings is limited for its poor lateral stiffness. This paper has proposed a modification to GFRG walls structure to increase its lateral stiffness, which aiming to erect small high-rise residential buildings as load-bearing walls. The elastic finite element analysis to it has shown the lateral deformation feature and the distributions of the axial force and the shear force. The analysis results show that the new GFRG reinforced concrete wall can be used for small high-rise residential buildings.

Keywords: GFRG wall, lateral features, elastic analysis, residential building.

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WIND LOAD PATTERNS IN COASTAL MEDITERRANEAN REGIONS

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Abstract

This study investigates wind load patterns in coastal Mediterranean regions, focusing on the impact of complex topographical and climatic factors. The research employs advanced numerical simulations and field data to analyze wind behavior and its effects on structural integrity. Key parameters such as wind speed, directionality, and turbulence intensity are modeled to establish region-specific load profiles. The findings provide critical insights into optimizing structural designs and enhancing resilience against wind-induced forces. Additionally, the study highlights regional variations in wind characteristics, offering a comprehensive framework for engineers and policymakers to adopt sustainable and climate-responsive construction practices.

Keywords: Wind load patterns, Mediterranean regions, structural resilience, wind turbulence, coastal climate

ISBN NR.: 978-625-6283-95-4

CHEMICAL PROPERTIES OF SOIL STABILIZED WITH SULFURIC ACID

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Abstract:
Soil stabilization plays a critical role in improving the mechanical and chemical properties of soils for construction and agricultural purposes. This study investigates the chemical properties of soil treated with varying concentrations of sulfuric acid (H_2SO_4). Laboratory experiments were conducted to assess changes in pH, organic matter content, cation exchange capacity, and sulfate crystallization within the stabilized soil. The results indicate that sulfuric acid effectively reduces soil alkalinity, enhancing its suitability for specific construction applications. Furthermore, a noticeable improvement in soil's structural integrity and resistance to erosion was observed. These findings contribute to the development of cost-effective and efficient soil stabilization methods utilizing sulfuric acid.

Keywords: soil stabilization, sulfuric acid, chemical properties, soil pH, erosion resistance

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APPLICATION OF GENERALIZED PLASTICITY IN FOUNDATION LOAD-DEFORMATION ANALYSIS: A STUDY ON LOCALIZATION

Dr. Nikolai Zaitsev

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Abstract:

Nonlinear finite element method with eight noded isoparametric quadrilateral element is used for prediction of loaddeformation behavior including bearing capacity of foundations. Modified generalized plasticity model with non-associated flow rule is applied for analysis of soil-footing system. Also Von Mises and Tresca criterions are used for simulation of soil behavior. Modified generalized plasticity model is able to simulate load-deformation including softening behavior. Localization phenomena are considered by different meshes. Localization phenomena have not been seen in the examples. Predictions by modified generalized plasticity model show good agreement with laboratory data and theoretical prediction in comparison the other models.

Keywords: Localization phenomena, Generalized plasticity, Non-associated Flow Rule

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ANALYSIS OF PUBLIC INFRASTRUCTURE DISBURSEMENT PROCESSES IN VIETNAM

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Abstract:

This paper analysis performance of disbursement procedure of public works project in Thailand. The results of research were summarised based on contracts, submitted invoice, inspection dated, copies of disbursement dated between client and their main contractor and interviewed with persons involved in central and local government projects during 1994-2008 in Thailand. The data collection was to investigate the disbursement procedure related to performance in disbursement during construction period (Planned duration of contract against Actual execution date in each month). A graphical presentation of a duration analysis of the projects illustrated significant disbursement formation in each project. It was established that the shortage of staff, the financial stability of clients, bureaucratic, method of disbursement and economics situation has play major role on performance of disbursement to their main contractors.

Keywords: Construction disbursement, Payment procedure, Public works

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METHODS FOR ENHANCING SUSTAINABILITY IN REINFORCED CONCRETE SKYSCRAPERS

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Abstract:

Over the early years of the 21st century, cities throughout the Middle East, particularly in the Gulf region have expanded more rapidly than ever before. Given the presence of a large volume of high-rise buildings allover the region, the local authority aims to set a new standard for sustainable development; with an integrated approach to maintain a balance between economy, quality, environmental protection and safety of life. In the very near future, as mandatory requirements, sustainability will be the criteria that should be included in all building projects. It is well known in the building sustainability topics that structural design engineers do not have a key role in this matter. In addition, the LEED (Leadership in Energy and Environmental Design) has looked almost exclusively on the environmental components and materials specifications. The objective of this paper is to focus and establish groundwork for sustainability techniques and applications related to the RC high-rise buildings design, from the structural point of view. A set of recommendations related to local conditions, structural modeling and analysis is given, and some helpful suggestions for structural design team work are addressed. This paper attempts to help structural engineers in identifying the building sustainability design, in order to meet local needs and achieve alternative solutions at an early stage of project design.

Keywords: Building, Design, High-rise, Middle East, Structural, Sustainability.

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LINKING EXTREME HYDROLOGICAL EVENTS TO GLOBAL CLIMATE PATTERNS

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Abstract:

Large scale climate signals and their teleconnections can influence hydro-meteorological variables on a local scale. Several extreme flow and timing measures, including high flow and low flow measures, from 62 hydrometric stations in Canada are investigated to detect possible linkages with several large scale climate indices. The streamflow data used in this study are derived from the Canadian Reference Hydrometric Basin Network and are characterized by relatively pristine and stable land-use conditions with a minimum of 40 years of record. A composite analysis approach was used to identify linkages between extreme flow and timing measures and climate indices. The approach involves determining the 10 highest and 10 lowest values of various climate indices from the data record. Extreme flow and timing measures for each station were examined for the years associated with the 10 largest values and the years associated with the 10 smallest values. In each case, a re-sampling approach was applied to determine if the 10 values of extreme flow measures differed significantly from the series mean. Results indicate that several stations are impacted by the large scale climate indices considered in this study. The results allow the determination of any relationship between stations that exhibit a statistically significant trend and stations for which the extreme measures exhibit a linkage with the climate indices.

Keywords: flood analysis, low-flow events, climate change, trend analysis, Canada

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ANTI-VACCINATON PROVISIONS IN PERSONAL AND SCIENTIFIC CASES

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Abstract

The most cost-effective protection against preventable diseases in the world can only be provided by vaccines. Vaccination can prevent disease, disability and death. In this respect, vaccines are one of the most important preventive health practices to improve the health of the society and one of the most successful health practices. As stated by international centers, the incidence of infectious diseases has decreased through vaccines, and some e-diseases such as smallpox are no longer seen in the world. It is known that immunization success is directly linked to vaccination rates. Vaccination success rates are significantly lowered by anti-vaccination sentiment and control of vaccine-preventable diseases becomes more difficult. While vaccination has been a reliable method for many years, the fact that the concept of vaccination has been viewed with skepticism from time to time and that vaccines have been held responsible for some diseases of unknown cause has led to the questioning of the safety and necessity of vaccines and thus to opposition to vaccination. Those who argue that vaccines can cause serious adverse effects to have brought opposition to vaccines in today's world where information is spreading rapidly, and public health has been put at risk accordingly. Opposition to vaccination is not a new phenomenon that has emerged today. The opposition started with the introduction of vaccines in human health. In some periods, it was assumed that vaccination was an act of defiance against God, while at other times opposition was fueled by blunders such as the publication of poorly researched scientific study results. At the end of the eighteen hundreds, there were serious anti-vaccine protests in the UK, and afterwards, with the request of the royalty, it was requested that the anti-vaccine rhetoric and the evidence in favor of the scientific benefits of the vaccine be investigated and put forward. Today, in order to cope with the anti-vaccine rhetoric and to protect public health, our scientists again share scientific facts and benefits in favor of the vaccine in the face of the rhetoric spread against the vaccine and present them to the society with evidence. In this review, the allegations of anti-vaccination, which is defined as the behavior of members of society in various dimensions up to the rejection of a single vaccine or all vaccines, and the scientific facts that exist against these allegations will be discussed.

Keywords: *Anti-vaccination, Scientific facts, Immunization, Childhood*

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ÇOCUKLUK DÖNEMİNDE AŞI KARŞITLIĞI İDDİALARI VE BİLİMSEL GERÇEKLER

Özet

Dünyada önlenebilir hastalıklara karşı insanları maliyet etkinliği en yüksek koruma ancak aşılarla sağlanabilmektedir. Aşılama ile hastalık, sakatlık ve ölüm engellenebilmektedir. Aşılar, bu yönü ile toplumun sağlığını geliştirmek için koruyucu sağlık uygulamalarının en önemlilerinden ve sağlık uygulamalarını da en başarılı uygulamalarından biridir. Uluslararası merkezlerin belirttiği gibi aşılar vasıtasıyla enfeksiyon hastalıklarının görülme sıklığı azalmış, Çiçek hastalığı gibi bazı e hastalıklarının dünya üzerinde artık görülmez olmuştur. Bağışıklama başarısının aşılama hızlarıyla doğrudan bağlantılı olduğu bilinmektedir. Aşılama başarı oranlarını aşı karşıtlığı önemli derecede düşürmekte ve aşı ile önlenebilir hastalıkların kontrolü zorlaşmaktadır. Aşılama uzun yıllar boyunca güvenilir yöntemlerden olarak devam ederken zaman zaman aşı kavramına şüpheyle bakılması, nedeni bilinmeyen bazı hastalıklardan aşıların sorumlu tutulması aşıların güvenliği ve gerekliliğinin sorgulanmasına dolayısı ile aşılanmaya karşı çıkılmasına yol açmıştır. Ciddi olumsuzluklara neden olabileceğini savunanlar bilginin hızlı yayıldığı günümüzde aşılara karşıtlığı getirmiş toplum sağlığı buna bağlı risk altına girmiştir. Aşı karşıtlığı günümüzde ortaya çıkan yeni bir olgu bir kavram değildir. Karşıtlık aşıların insan sağlığında kullanıma girmesi ile başlamıştır. Bazı dönemlerde aşılamanın tanrıya karşı gelmek olduğu varsayılırken, bazı zamanlarda da bilimsel iyi araştırılmamış çalışma sonuçlarının yayınlanması gibi gaflarla karşıtlık beslenmiştir. Bin sekizyüzlü yılların sonunda İngiltere'de ciddi bir oranda aşı karşıtlığı eylemleri yapılmış ve sonrasında kraliyetin isteği ile aşı karşıtı söylemlerin ve de aşının bilimsel olarak yaralarının lehine olacak kanıtların araştırılması, ortaya konması istenmiştir. Günümüzde de aşı karşıtlığı ile baş etmek ve toplum sağlığını koruyabilmek için yine bilim insanlarımız tarafından aşı aleyhine yayılan söylemlerin karşısında aşı lehine bilimsel gerçekleri ve yaraları paylaşılmakta, kanıtları ile topluma sunulmaktadır. Bu derlemede toplum üyelerinin tek bir aşı veya tüm aşıları reddetmeye kadar uzanan çeşitli boyutlardaki davranış biçimi olarak tanımlanan aşı karşıtlığı iddiaları ve bu iddialara karşı var olan bilimsel gerçekler tartışılacaktır.

Anahtar Kelimeler*: Aşı karşıtlığı, Bilimsel gerçekler, Bağışıklama, Çocukluk dönemi.*

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TOUCH THERAPY AND BABY MASSAGE IN NEONATES: THE EVIDENCE

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Abstract

Touch in newborns, a practice that refers to contact between objects, is an important practice that nourishes the baby's sense of touch. Massage therapy is an ancient practice that has been a science for centuries, and the word “massage” means touching, squeezing. The beginning of massage is as old as the history of mankind, and it is a practice with proven multiple benefits for mother and baby. Touching, patting and rubbing movements are used by many cultures for therapeutic purposes. While massage is given as a touch stimulus in newborns, it is an application that positively affects the growth and development of babies. When the literature is examined, it is reported that infant massage and touching decreases cortisol levels in premature infants, strengthens the immune system, decreases the duration of hospitalization, increases motor development, increases serum insulin and IGF-1 levels, decreases pain and improves physiological parameters. Massage and touch stimulate receptors in the baby's body, localize pain in a narrow area, and help relieve discomfort such as gas and colic. This review aims to analyze the benefits, drawbacks and possible mechanisms of massage therapy in newborn infants.

Keywords: Touch Therapy, Baby Massage, Neonates, Evidence.

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Yenidoğanlarda Dokunma Terapisi ve Bebek Masajı: Kanıtlar

Özet

Nesneler arasındaki teması ifade eden bir uygulama olan yenidoğanlarda dokunma bebeğin dokunma duyusunu besleyen önemli bir uygulamadır. Masaj terapisi ise yüzyıllardır bir bilime dönüşmüş olan eski bir uygulamadır ve "Masaj" kelimesi de dokunmak, sıkmak anlamına gelmektedir. Masajın başlangıcı insanlık tarihi kadar eski olmakla birlikte anne ile bebek için çoklu yaraları ispatlanmış bir uygulamadır. Tedavi amacıyla dokunma, sıvazlama ve ovma hareketleri birçok kültür tarafından kullanılmaktadır. Yenidoğanlarda masaj, dokunma uyarısı olarak verilirken, bebeklerin büyüme ile gelişilmesini olumlu yönde etkileyen bir uygulamadır. Literatür incelendiğinde bebek masajının ve dokunmanın prematüre bebeklerin kortizol seviyelerini düşürdüğü, immün sistemi güçlendirdiği, hastanede kalış süresini azalttığı, motor gelişimi arttırdığı, serum insülin düzeylerini artırdığı, ağrılarını azalttığı, fizyolojik parametrelerde düzelme yönünde birçok olumlu katkılar verdiği bildirilmektedir. Masajla ve dokunma bebek vücudunda reseptörleri uyararak ağrıyı dar bir alanda lokalize etmekte, gaz ve kolik gibi rahatsızlıkları gidermeye de yardımcı olmaktadır. Prematüre bebeklere uygulanan masajın etkinliğinin incelendiği bir sistematik derlemede on sekiz adet araştırma makalesinin on beşinde masajın kilo alımı üzerine olumlu etkisinin olduğu bildirilmiştir. Term yenidoğanlar ve anneleri ile yapılan bir çalışmada, masaj grubundaki annelerin, annelik rollerine daha iyi uyum gösterdiği, anne ile bebek arasındaki bağlanmanın daha güçlü olduğu bildirilmiştir. Bu derleme, yenidoğan bebeklerde masaj terapisinin faydalarını, sakıncalarını ve olası mekanizmasını analiz etmeyi amaçlamaktadır.

***Anahtar Kelimeler**: Dokunma terapisi, Bebek masajı, Yenidoğan, Kanıt.*

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NUMERICAL ANALYSIS OF FLOW CHARACTERISTICS OF A WATER-PARTICLE MIXTURE IN A MANIFOLD USING ANSYS CFX PROGRAM

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ABRASCT

This study investigates the behavior of two-phase flow in systems with different port diameters and water velocities using the Ansys CFX computational fluid dynamics (CFD) software. Various simulation models were created to analyze in detail the flow characteristics of a mixture consisting of water and polystyrene particles.

A homogeneous flow model was preferred for modeling the two-phase flow. In this model, the two-phase flow is treated as a single homogeneous fluid. The solid phase, polystyrene particles, was defined as a dispersed solid. The water phase was defined as the primary fluid and its volume fraction was taken as 0.90. The remaining volume was allocated to air and polystyrene particles.

As a result of the analyses carried out for different simulation scenarios, the effects of port diameter and water velocity on the behavior of two-phase flow were determined. The study results revealed that two-phase flow exhibits a homogeneous distribution in port diameters up to 10 mm. In these diameters, the volumetric ratios at the inlet and outlet points were found to be equal. However, when the port diameter was reduced to 5 mm, the particle volume fraction at the outlet decreased significantly compared to the inlet value. This situation indicates that particles cannot be homogeneously distributed in the flow direction in smaller diameter ports and some accumulation or separation occurs. According to the obtained data, it was concluded that the optimal port diameter for ensuring the homogeneous distribution of two-phase flow is between 5 mm and 10 mm. This result was obtained similarly for different flow velocities (4 m/s and 5 m/s).

The results of the study show that the port diameter has a significant effect on the homogeneity of the mixture in two-phase flow systems. Especially in small diameter ports, since the tendency of particles to separate is higher, this situation should be considered when designing the system. This study makes a significant contribution to the optimization and efficiency of two-phase flow systems.

In future studies, the effects of different particle sizes, densities, and shapes on system behavior can be investigated. Additionally, studies can be conducted on different flow regimes (laminar, turbulent) and systems with more complex geometries, and the findings of this study can be placed in a more general framework.

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Ansys CFX Programı ile Bir Manifoldda Su-Parçacık Karışımının Akış Özelliklerinin Sayısal Analizi

ÖZET

Bu çalışma, Ansys CFX sayısal akışkanlar dinamiği (SAD) yazılımı kullanılarak, farklı port çapları ve su hızlarına sahip sistemlerde iki fazlı akımın davranışının incelenmesine yöneliktir. Çeşitli simülasyon modelleri oluşturularak, su ve polistiren parçacıklarından oluşan bir karışımın akış özellikleri detaylı bir şekilde analiz edilmiştir. İki fazlı akışın modellenmesi için homojen akış modeli tercih edilmiştir. Bu modelde, iki fazlı akım tek bir homojen akışkan gibi ele alınır. Katı faz olan polistiren parçacıkları ise, dağılmış katı (dispersed solid) olarak tanımlanmıştır. Su fazı, ana akışkan olarak belirlenmiş ve hacimsel oranı 0,90 olarak alınmıştır. Kalan hacim ise hava ve polistiren parçacıklarına ayrılmıştır.

Farklı simülasyon senaryoları için gerçekleştirilen çözümlemeler sonucunda, port çapı ve su hızının iki fazlı akımın davranışı üzerindeki etkileri belirlenmiştir. Çalışma sonuçları, 10 mm'ye kadar olan port çaplarında iki fazlı akımın homojen bir dağılım gösterdiğini ortaya koymuştur. Bu çaplarda, giriş ve çıkış noktalarındaki hacimsel oranlar birbirine eşit bulunmuştur. Ancak, port çapı 5 mm'ye düşürüldüğünde, çıkıştaki parçacık hacimsel oranı giriş değerine göre belirgin bir şekilde azalmıştır. Bu durum, daha küçük çaplı portlarda parçacıkların akış yönünde homojen dağılamadığını ve bir miktar birikme veya ayrışma yaşandığını göstermektedir. Elde edilen verilere göre, iki fazlı akımın homojen dağılımını sağlamak için en uygun port çapının 5 mm ile 10 mm arasında olması gerektiği sonucuna varılmıştır. Bu sonuç, farklı akış hızları (4 m/s ve 5 m/s) için de benzer şekilde elde edilmiştir.

Çalışmanın sonuçları, iki fazlı akım sistemlerinde port çapının, karışımın homojenliği üzerinde önemli bir etkiye sahip olduğunu göstermektedir. Özellikle küçük çaplı portlarda, parçacıkların ayrışma eğilimi daha yüksek olduğu için, sistem tasarımı yapılırken bu durumun dikkate alınması gerekmektedir. Bu çalışma, iki fazlı akım sistemlerinin optimizasyonu ve verimliliği açısından önemli bir katkı sağlamaktadır.

Gelecekte yapılacak çalışmalarda, farklı parçacık boyutları, yoğunlukları ve şekillerinin sistem davranışı üzerindeki etkileri incelenebilir. Ayrıca, farklı akış rejimleri (laminer, türbülanslı) ve daha karmaşık geometrili sistemler üzerinde çalışmalar yapılarak, bu çalışmanın bulguları daha genel bir çerçeveye oturtulmaya çalışılabilir.