

# ABSTARCT BOOK



ANKARA  
29 EKİM 2023

# CUMHURİYET 10. ULUSLARARASI UYGULAMALI BİLİMLER KONGRESİ



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10TH INTERNATIONAL CONFERENCE ON APPLIED SCIENCES  
OCTOBER 29, 2023 – ANKARA

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*10TH INTERNATIONAL CONGRESS ON APPLIED SCIENCES*  
*OCTOBER 29, 2023*  
*ANKARA*

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# CONFERENCE ID

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OCTOBER 29, 2023  
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CUMHURİYET 10 <sup>th</sup> INTERNATIONAL CONFERENCE ON SOCIAL SCIENCES 10 <sup>th</sup> INTERNATIONAL CONFERENCE ON APPLIED SCIENCES 25 <sup>th</sup> INTERNATIONAL GROUP EXHIBITION OCTOBER 29, 2023 – ANKARA Meeting ID: 881 9370 7664 Passcode: 123456 29 Ekim/ October 29, 2023 / 13:00 – 15:00 Time zone in Turkey (GMT+3)				
Salon	Moderator		Bildiri No ve Başlığı / Paper ID and Title	Authors
SALON 1	Assoc. Prof. Dr. Nazile Abdullazade	1	XƏLİL RZA ULUTÜRKÜN MÜSTƏQİLLİK DÖVRÜ YARADICILIĞI HEYDƏR ƏLİYEVİN GÖRÜŞLƏRİNDƏ	Assoc. Prof. Dr. Nazile Abdullazade
		2	SOSYAL BİLGİLER ÖĞRETMENLERİNİN DİJİTAL ORTAM VE DİJİTAL MAHREMİYETE İLİŞKİN GÖRÜŞLERİ	Hande GÖRMEN ŞEN Prof. Dr. Zihni MEREY
		3	Investigation of the Relations of Teachers' Life Skills Between Their Self-efficacy Beliefs and Burnout Conditions at Work	Öğr. Gör, İlknur İlğar
		4	İLKOKUL ÖĞRENCİLERİNDE SAYGI DEĞERİNİN GELİŞİMİNE İLİŞKİN ÖĞRETMEN GÖRÜŞLERİ	Doktora Öğrencisi, Ümran Erkorkmaz Çoban
		5	MÜZİK BÖLÜMÜ LİSANS ÖĞRENCİLERİNİN KARİYER PLANLAMA DERSİ İLE İLGİLİ GÖRÜŞLERİ	Dr. Öğretim Üyesi, Demet AYDINLI GÜRLER
		6	THE EFFECT OF TECHNOSTRESS ON TEACHER WELL-BEING: AN EMPIRICAL STUDY	Doç. Dr. Gökhan KERSE Doç. Dr. Daimi KOÇAK
		7	Examining the Effect of Short-Term Basketball Training on Height and Weight	Nurkan Yılmaz
		8	Examining Jumping Performance Development With Training	Nurkan Yılmaz



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Salon	Moderator		Bildiri No ve Başlığı / Paper ID and Title	Authors
SALON 2	Prof. Dr. Beyhan ZABUN	1	THE PROBLEM OF INTERACTIVE METHODS AND ACTIVE LEARNING METHODS IN EDUCATION	Assoc. Prof. Dr. Gafarova Parvin Muhamad
		2	TÜSİAD Felsefe Ders Kitabında Din Kurumu: Alternatif Yaklaşım	Prof. Dr. Beyhan ZABUN
		3	Alternatif Lise Sosyoloji Ders Kitabında Siyaset Kurumu	Prof. Dr. Beyhan ZABUN
		4	AÇIK ÖĞRETİM ORTAOKULU TÜRKÇE DERS KİTAPLARINDA YER ALAN METİNLERDEKİ İMLÂ VE NOKTALAMA HATALARI	Yüksek Lisans Öğrencisi Furkan CAN Doç. Dr. Mehmet Nuri KARDAŞ Yüksek Lisans Öğrencisi Ece CAN
		5	İKİ DİLLİLİK KONUSUNDA HAZIRLANMIŞ YÜKSEK LİSANS TEZLERİNİN BAŞLIK VE ÖZET BÖLÜMLERİNİN AKADEMİK METİN HAZIRLAMA İLKELERİNE UYGUNLUĞU	Yüksek Lisans Öğrencisi Furkan CAN Doç. Dr. Mehmet Nuri KARDAŞ Yüksek Lisans Öğrencisi Ece CAN
		6	UNIVERSITY STUDENTS' OPINIONS AND EXPECTATIONS REGARDING STATISTICS COURSE	Assoc. Prof. Özge ALTINTAŞ Assoc. Prof. H. Deniz GÜLLEROĞLU Prof. Dr. Ömay ÇOKLUK BÖKEOĞLU
		7	EXAMINATION OF THE OPINIONS OF MEASUREMENT AND EVALUATION SPECIALISTS ON SIMULATION STUDIES IN THE FIELD	Assoc. Prof. Özge ALTINTAŞ Assoc. Prof. H. Deniz GÜLLEROĞLU Prof. Dr. Ömay ÇOKLUK BÖKEOĞLU
		8	DISTANCE EDUCATION AND EQUAL OPPORTUNITY IN SOCIAL STUDIES COURSE: AN INSIGHT INTO STUDENT EXPERIENCES	Master's Student, Muhammed Mustafa ALPSAR Assoc. Dr. Nilüfer KÖŞKER

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Salon	Moderator		Bildiri No ve Başlığı / Paper ID and Title	Authors
SALON 3	Doç. Dr. Gökçe CANARSLAN	1	Türkiye's Physical Border Security Practices on the Syrian Borders in Combating Irregular Migration and Examples From The World	Muhammet Emin Soylu
		2	FİKİR VE SANAT ESERLERİ KANUNU KAPSAMINDA DEEPFAKE TEKNOLOJİSİNİN ESER NİTELİĞİNİN DEĞERLENDİRİLMESİ	Doç. Dr. Gökçe CANARSLAN
		3	MERKEZİ YÖNETİM BÜTÇE KANUNU'NUN GELİR KAYNAKLARININ GÖSTERİLMESİNDE İ) FIKRASININ GÖRÜNÜMÜ	Dr. Öğr. Üyesi Sevil ŞİN
		4	MANAGEMENT STYLE İN PUBLIC ADMINISTRATION: REFLECTIONS OF CULTURAL INTERACTION ON PUBLIC ADMINISTRATORS	Yüksek Lisans Öğrencisi, Burak NAR Prof. Dr. Ali ŞAHİN
		5	İSLÂM TOPLUMUNDA DEVLET BAŞKANININ BELİRLENME YÖNTEMİ	Dr. Binali KOÇOĞLU

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SALON 4	Doç. Dr. Rıza Bakış	1	FREEDOM OF THE OTHER IN LEVINAS	Pınar KARADAL Prof. Dr. Mevlüt ALBAYRAK
		2	Three Concepts at Focus of Nurettin Topçu's Thought: Will-Rebellion-Movement	Doç. Dr. Rıza Bakış
		3	HOWARD BECKER'DA NORM VE TOPLUMSAL DENETİM İLİŞKİSİ	Araştırma Görevlisi, Sakine Yağmur GÜNEŞ
		4	SİGMUND FREUD'DA UYGARLIK, NORM VE TOPLUMSAL DENETİM İLİŞKİSİ	Araştırma Görevlisi, Sakine Yağmur GÜNEŞ
		5	A STUDY INTO THE FILM "PK" IN THE CONTEXT OF BASIC CONCEPTS OF RELIGION PHILOSOPHY	Doç. Dr., Ekrem Ziya DUMAN Yüksek Lisans Öğrencisi, Rahim YILDIZ
		6	REICHENBACH OLASILIK MANTIĞI'NIN DOĞRULUK TABLOLARI	Yüksek Lisans Öğrencisi, Safiye OLGUN Doç. Dr., Ekrem Ziya DUMAN
		7	THE TEST OF SOCIETIES WITH NATURE: EARTHQUAKE CULTURE	Doç. Dr. Murat ŞAHİN
		8	THE EFFECT OF SMARTPHONE ADDICTION AND PSYCHOLOGICAL SYMPTOMS ON DRIVER BEHAVIOR	Öğr. Gör. Dr. Tuncay ÇORAK

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SALON 5	Doç. Muteber Burunsuz	1	EXAMINATION OF HABİP AYDOĞDU’S WORKS IN THE CONTEXT OF STAIN EXPRESSION AND UNDERSTANDING OF COLOR	Doç. Muteber Burunsuz
		2	THE INFLUENCE OF “AHMET ÖZHAN” ON THE TRANSFORMATION FROM TEKKE MUSIC TO SUFI MUSIC	Yüksek Lisans Öğrencisi, KEMALCAN ERGÜN
		3	EDİP CANSEVER’İN İLK 100 ŞİİRİNDE SÖZCÜKLERİN İSTATİSTİKSEL ÖRÜNTÜ DAĞILIMLARI	Doç. Dr. B. Tahir TAHIROĞLU
		4	TEN HEROIC WOMEN OF THE NATIONAL STRUGGLE	Prof. Dr. Nurhan AYDIN Doktora öğrencisi Zafer IŞIK
		5	İLETİŞİM TEKNOLOJİLERİNİN GELİŞMESİYLE KARŞIMIZA ÇIKAN ENFORMASYON OBEZİTESİ KAVRAMI VE ÇÖZÜM YOLU OLARAK ENFORMASYON DİYETİ	Doç. Dr. Sinem ONAR Şeref Can Şimşir
		6	CUMHURİYET DÖNEMİNİN İLK YÖNETMENİ MUHSİN ERTUĞRUL	Prof. Dr. Yusuf YURDİGÜL Öğr. Gör. Mustafa GÜLSÜN
		7	TÜRK SINEMASINDA CUMHURİYET TEMALI FİLMLER	Prof. Dr. Yusuf YURDİGÜL Öğr. Gör. Mustafa GÜLSÜN

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SALON 6	Asst. Prof. Seher SULUK	1	TESTING THE VALIDITY OF THE FISHER HYPOTHESIS AFTER THE 2008 FINANCIAL CRISIS: THE CASE OF TURKEY	Esma ERDOĞAN
		2	THE EFFECT OF ENVIRONMENTAL REGULATION ON ENVIRONMENTAL POLLUTION: THE CASE OF TÜRKİYE	Müge MANGA Esma ERDOĞAN
		3	POLICIES IMPLEMENTED TOWARDS CLIMATE CHANGE IN EU COUNTRIES	Dr. Cemalettin LEVENT Doç. Dr. Fatma Fehime AYDIN
		4	THE EFFECT OF AUDIT COMMITTEE FEATURES ON PROFITABILITY	Yüksek Lisans Öğrencisi, Tark ERCAN Prof. Dr., İsmail BEKÇİ Dr., Eda KÖSE
		5	CONCEPTUAL APPROACH TO AUDIT COMMITTEE CHARACTERISTICS	Yüksek Lisans Öğrencisi, Tark ERCAN Prof. Dr., İsmail BEKÇİ
		6	BÜTÜNLEŞİK PAZARLAMA İLETİŞİMİ DİNAMİĞİ İLE MARKA PERFORMANSI ARASINDAKİ İLİŞKİ	Ebru ERDOĞAN
		7	ELEKTRONİK AĞIZDAN AĞIZA İLETİŞİMİN VE MARKA İMAJININ TÜKETİCİ SATIN ALMA DAVRANIŞINA ETKİSİ	Ebru ERDOĞAN
		8	THE STAGES OF DIGITAL BANKING AND DIGITAL BANKING IN THE LIGHT OF CURRENT DEVELOPMENTS	Asst. Prof. Seher SULUK
		9	CUMHURİYETİN 100. YILINDA TÜRKİYE’DE KADININ SOSYOEKONOMİK KONUMU	Prof. Dr. İlhan EROĞLU Öğr. Gör. Dr. Serap BOLAYIR

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HALL 1	Assoc. Prof. Muhammad Hammad Lakhvi	1	SOCIAL ANTHROPOLOGY OF CONVERGENCE AND NOMADIC COMPUTING	PhD Emilia Nercissians
		2	THE NATIONAL ENERGY STRATEGY FOR SAUDI ARABIA	Dr. Ziyad Aljarboua
		3	POLITICAL FINANCE IN AFRICA: ETHIOPIA AS A CASE STUDY	Wondwosen Teshome B.
		4	ANALYZING AND COMPARING THE ARCHITECTURAL SPECIFICATIONS AND THE URBAN ROLE OF SCIENTIFIC-TECHNOLOGICAL PARKS IN IRAN AND THE WORLD	Shahryar Shaghghi G., Mojtaba H. Ghoshouni, Bahareh S. Ghabel
		5	COST OF ROAD TRAFFIC ACCIDENTS IN EGYPT	Mohamed A. Ismail, Samar M. M. Abdelmageed
		6	ISLAM AND FERTILITY REGULATIONS	Assoc. Prof. Muhammad Hammad Lakhvi
		7	MULTIPURPOSE CADASTRE, ESSENTIAL FOR URBAN DEVELOPMENT PLANS IN IRAN	Mehrshad Khalaj, Elham Lashkari
		8	STREET NETWORK IN BANDUNG CITY, INDONESIA: COMPARISON BETWEEN CITY CENTER AND NEW COMMERCIAL AREA	Siska Soesanti, Dr. Norihiro Nakai
		9	TEMPORARY HOUSING RESPOND TO DISASTERS IN DEVELOPING COUNTRIES- CASE STUDY: IRAN-ARDABIL AND LORESTAN PROVINCE EARTHQUAKES	Farzaneh Hadafi, Prof. Alireza Fallahi

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HALL 2	Prof. Denis Căprăroiu	1	TOWARDS GOOD ACCOUNTABILITY: THE ROLE OF ACCOUNTING IN ISLAMIC RELIGIOUS ORGANISATIONS	Hasan Basri Afifuddin, A.K Siti-Nabiha
		2	AN INTRODUCTION TO METHODS AND TECHNOLOGIES APPLIED FOR REDUCTION OF ENERGY CONSUMPTION IN TRANSPORTATION SECTOR AND AIR POLLUTION IN IRAN	Eshagh Rasouli Sarabi, Mir Saeed Moosavi
		3	ASPECTS REGARDING THE GENESIS OF THE CITY OF SUCEAVA, A MEDIEVAL CAPITAL OF MOLDAVIA	Prof. Denis Căprăroiu
		4	EVALUATION TECHNIQUES OF PHOTOGRAPHY IN VISUAL COMMUNICATIONS IN IRAN	Dr. Firouzeh Keshavarzi
		5	INTRODUCING THE MAIN FACTORS OF ACCIDENTS ON THE ROADS OF IRAN AND STUDYING ITS CAUSES AND STRATEGIES APPLIED TO DECREASE IT	Dr. Eshagh Rasouli Dr. Sarabi, Mir Saeed Moosavi
		6	SPATIAL VARIABILITY IN HUMAN DEVELOPMENT PATTERNS IN ASSIUT, EGYPT	Abdel-Samad M. Ali
		7	DISPARITY IN SOCIO-ECONOMIC DEVELOPMENT AND ITS IMPLICATIONS ON COMMUNAL CONFLICTS: A STUDY ON INDIA'S NORTH-EASTERN REGION	Assoc. Debasis Neogi
		8	USERS- MOTIVATION AND SATISFACTION WITH IS	Abbas Moshref Razavi, Rodina Ahmad
		9	MINING IMPLICIT KNOWLEDGE TO PREDICT POLITICAL RISK BY PROVIDING NOVEL FRAMEWORK WITH USING BAYESIAN NETWORK	Prof. Siavash Asadi Ghajarloo
		10	MIGRATION AMONG MULTICITIES	Dr. Ming Guan



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HALL 3	Dr. Fattaneh Daneshmand Malayeri	1	KNOWLEDGE RELATIONSHIP MODEL AMONG USER IN VIRTUAL COMMUNITY	Fariba Haghbini, Othman Bin Ibrahim, Prof Mohammad Reza Attarzadeh Niaki
		2	DYNAMICS SIMULATION APPROACH IN ANALYZING PENSION EXPENDITURE	Dr. Hasimah Sapiri, Anton Abdulbasah Kamil, Dr. Razman Mat Tahar, Hanafi Tumin
		3	AN ASSESSMENT OF GROUNDWATER CRISIS IN IRAN CASE STUDY: FARS PROVINCE	Mohammad Hossein Hojjati , Dr. Fardin Boustani
		4	CULTURAL EFFECT ON USING NEW TECHNOLOGIES	Nazli Ebrahimi, Sharan Kaur Garib Singh, Reza Sigari Tabrizi
		5	GOOD URBAN PLANNING AND MANAGEMENT: NEW ASPECTS AND METHODOLOGIES	Dr. Fattaneh Daneshmand Malayeri
		6	DROWSINESS WARNING SYSTEM USING ARTIFICIAL INTELLIGENCE	Nidhi Sharma, V. K. Banga
		7	URBAN ENVIRONMENT QUALITY IMPROVEMENT PLANNING CASE STUDY: MOFT ABAD NEIGHBORHOOD, TEHRAN, IRAN	PhD. Elham Lashkari, Mehrshad Khalaj
		8	INCREASING OF ENERGY EFFICIENCY BASED ON PERSIAN ANCIENT ARCHITECTURAL PATTERNS IN DESERT REGIONS (CASE STUDY OF TRADITIONAL HOUSES IN KASHAN)	Mehran Jamshidi, Naghme Yazdanfar, Masoud Nasri

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HALL 4	Assoc.Subramaniam Chandran	1	INFORMAL EDUCATION AND DEVELOPING ENTREPRENEURIAL SKILLS AMONG FARMERS IN MALAYSIA	Golnaz Rezai, Zainalabidin Mohamed, Mad Nasir Shamsudin
		2	HOW DO POLITICIANS RECOVER THEIR COSTS? THE POLITICAL ECONOMY OF REPRESENTATIVE DEMOCRACY IN INDIA	Assoc.Subramaniam Chandran
		3	TOWARDS A UNIFIED APPROACH OF SOCIAL JUSTICE: MERGING TRADITION AND MODERNITY IN PUBLIC POLICY MAKING IN INDIA	Dr. Subramaniam Chandran
		4	OCCUPANTS- BEHAVIOR AND SPATIAL IMPLICATIONS OF RIVERFRONT RESIDENTIAL IN YOGYAKARTA, INDONESIA	Dr. Hastuti Saptorini
		5	CITIZENS- EXPECTATIONS FROM RURAL TELECENTRES: A CASE STUDY OF IMPLEMENTATION OF COMMON SERVICE CENTRES IN MUSHEDPUR VILLAGE, HARYANA, INDIA	Charru Malhotra, Girija Krishnaswamy
		6	RESEARCH ON HYPERMEDIATED IMAGES IN ASIAN FILMS	Somi Nah, Timothy Yoonsuk Lee, Prof. Jinhwan Yu
		7	KNOWLEDGE MANAGEMENT AND E-LEARNING –AN AGENT-BASED APPROACH	Teodora Bakardjieva, Dr. Galya Gercheva
		8	BRAIN DRAIN OF DOCTORS; CAUSES AND CONSEQUENCES IN PAKISTAN	Muhammad Wajid Tahir, Rubina Kauser, Majid Ali Tahir
		9	KNOWLEDGE MANAGEMENT MODEL FOR MANAGING KNOWLEDGE AMONG RELATED ORGANIZATIONS	Assoc. Prof. Mahboubah Molaei

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HALL 5	Dr. Hiroshi Abe	1	DOES PERCEIVED ORGANIZATIONAL VIRTUOUSNESS EXPLAIN ORGANIZATIONAL CITIZENSHIP BEHAVIORS?	Neuza Ribeiro, Arménio Rego
		2	BEHAVIORAL ANALYSIS OF TEAM MEMBERS IN VIRTUAL ORGANIZATION BASED ON TRUST DIMENSION AND LEARNING	Indiramma M., K. R. Anandakumar
		3	IMPROVED AUTOMATED CLASSIFICATION OF ALCOHOLICS AND NON-ALCOHOLICS	Ramaswamy Palaniappan
		4	RHETORICAL COMMUNICATION IN THE COGSCI DISCOURSE COMMUNITY: THE COGNITIVE NEUROSCIENCES (2004) IN THE CONTEXT OF SCIENTIFIC DISSEMINATION	Lucia Abbamonte, Olimpia Matarazzo
		5	LINGUISTIC, PRAGMATIC AND EVOLUTIONARY FACTORS IN WASON SELECTION TASK	Olimpia Matarazzo, Fabrizio Ferrara
		6	AN INVESTIGATION INTO KANJI CHARACTER DISCRIMINATION PROCESS FROM EEG SIGNALS	Dr. Hiroshi Abe, Minoru Nakayama
		7	CHAOTIC PROPERTIES OF HEMODYNAMIC RESPONSEIN FUNCTIONAL NEAR INFRARED SPECTROSCOPIC MEASUREMENT OF BRAIN ACTIVITY	Ni Ni Soe , Masahiro Nakagawa
		8	SELF-ASSEMBLING HYPERNETWORKS FOR COGNITIVE LEARNING OF LINGUISTIC MEMORY	Byoung-Tak Zhang, Chan-Hoon Park
		9	GENDER DIFFERENCES IN SPATIAL NAVIGATION	Bia Kim, Sewon Lee, Jaesik Lee

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HALL 6	Dr. Raied Salman	1	INTELLIGENT MOBILE SEARCH ORIENTED TO GLOBAL E-COMMERCE	PhD Student Abdelkader Dekdouk
		2	AN ECONOMIC ANALYSIS OF PHU KRADUENG NATIONAL PARK	Dr. Chutarat Boontho
		3	THE INVESTIGATION OF THE ROLE OF INSTITUTIONS IN THE PROCESS OF GROWTH AND DEVELOPMENT OF ECONOMY	Seyed Mohammad Reza Hosseini
		4	PROPOSING A CONCEPTUAL MODEL OF CUSTOMER KNOWLEDGE MANAGEMENT: A STUDY OF CKM TOOLS IN BRITISH DOTCOMS	Mehdi Shami Zanjani, Roshanak Rouzbehani, Hosein Dabbagh
		5	DESIGN AN ELECTRONIC MARKET FRAMEWORK USING JADE ENVIRONMENT	Mohammad Ali Tabar zad, Caro Lucas
		6	A NEW METHOD FOR COMPLEX GOODS SELECTION IN ELECTRONIC MARKETS	Mohammad Ali Tabar zad, Caro Lucas, Nassim Jafarzadeh Eslami
		7	DEGENERACY OF MIS UNDER THE CONDITIONS OF INSTABILITY: A MATHEMATICAL FORMULATION	Nazar Younis, Dr. Raied Salman
		8	LESSONS TO MANAGEMENT FROM THE CONTROL LOOP PHENOMENON	Dr. Raied Salman, Nazar Younis
		9	INVESTIGATING THE POSSIBLE USE OF SESSION INITIATION PROTOCOL FOR EXTENDING MOBILITY SERVICE TO THE BIOMEDICAL ENGINEERS	Msc. Anwar Sadat

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HALL 7	Elena Chernyshkova	1	COGNITIVE LANDSCAPE OF VALUES – UNDERSTANDING THE INFORMATION CONTENTS OF MENTAL REPRESENTATIONS	J. Maksimainen
		2	SERIOUS GAME FOR AUTISM CHILDREN: REVIEW OF LITERATURE	Helmi Adly Mohd Noor, Faaizah Shahbodin, Naim Che Pee
		3	REMOTE REHABILITATION DEVELOPMENT STATUS IN CHINA–TO ELIMINATE THE DISABLED PEOPLE’S SPACE OBSTACLES	Ning Liu, Jue Wang, Zhe Li
		4	THE IMPLICIT METHODS FOR THE STUDY OF TOLERANCE	M. Bambulyaka
		5	ANALYSIS OF DRIVING CONDITIONS AND PREFERRED MEDIA ON DIVERSION	Yoon-Hyuk Choi
		6	DYNAMIC OF AGGRESSIVE BEHAVIOR AT THE CONTEXT OF REFLECTIVE PROCESS	Elena Chernyshkova
		7	HOW DOES PSYCHOANALYSIS HELP IN RECONSTRUCTING POLITICAL THOUGHT? AN EXERCISE OF INTERPRETATION	Subramaniam Chandran
		8	PROBLEM-BASED LEARNING APPROACH TO HUMAN COMPUTER INTERACTION	Oon-Seng Tan
		9	THE STRANGE RELATIONSHIP BETWEEN LITERACY AND WELL-BEING: THE RESULTS OF AN INTERNATIONAL SURVEY WITH SPECIAL FOCUS ON ITALY	Federica Cornali

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SALON 1	Asst. Prof. Dr. Ali AJDER	1	PRESENT SITUATION OF RENEWABLE ENERGY IN TURKEY	Res. Asst., Pelin İLKER Alptug Nihat OZKUMRU Prof. Dr., Mehmet SORGUN
		2	PUMPED STORAGE HYDROELECTRIC POWER PLANTS	Mustafa AKDOĞAN Res. Asst., Pelin İLKER Prof. Dr., Mehmet SORGUN
		3	ANALYSIS OF EARTHQUAKE DAMAGE COST IN POWER TRANSMISSION LINES WITH THE HELP OF INDEX NUMBERS	Asst. Prof. Dr. Ali AJDER Prof. Dr. Selim AY
		4	INVESTIGATION OF ENERGY STORAGE SYSTEMS IN TERMS OF POWER SYSTEM RELIABILITY AND SPINNING RESERVE	Asst. Prof. Dr. Ali AJDER Prof. Dr. Selim AY
		5	Recovery of Low Sulfur Diesel-Like Fuel from Waste Tire Oils by Pyrolytic Distillation and Sulfurization Process	Abdulkemim YILDIZ Doç. Dr. Selman AYDIN
		6	Evaluation of Combustion Characteristics of Subjected to sulfurization process Waste tire oil and waste engine oil in a CI Engine operating at a low load	Abdulkemim YILDIZ Doç. Dr. Selman AYDIN
		7	EXPLANATION OF A DESIGN TECHNIQUE FOR MODELING A CONFORMAL WRIST BRACE BASED ON PATIENT DATA	Research Assistant, Ahmet DAYANÇ Assistant Professor, Feridun KARAKOÇ
		8	MEASURING THE SURFACE AREAS OF DIFFERENT TYPES OF TPMS STRUCTURES FOR COMPARISON OF HEAT TRANSFER INTERFACES	Research Assistant, Ahmet DAYANÇ Assistant Professor, Feridun KARAKOÇ
		9	MİKROBİYAL YAKIT HÜCRELERİNDE KULLANILMAK ÜZERE POLİMERİK BLEND MEMBRAN SENTEZİ	Sema Tuğçe BAYKARA Arş. Gör. Gizem Hazan AKÇAY Prof. Dr. İrfan AR

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SALON 2	Assoc. Prof. Dr. Enver KENDAL	1	BI PERIODIC JACOBSTHAL POLINOM SEQUENCE AND BINOMIAL TRANSFORMATIONS	Doç. Dr. Şükran UYGUN Songül AKSU
		2	BAZI ÖZEL MATRİSLER VE CEBİRSEL ÖZELLİKLERİ	Doç. Dr. Özge ÖZTEKİN Fatima ELHASAN
		3	HIGHER ORDER LEONARDO NUMBERS	Assoc. Prof. Kübra GÜL
		4	DEVELOPING A MOBILE APPLICATION THAT OFFERS PAYMENT WITH ETHEREUM CRYPTO CURRENCY	Master Student Nida BAŞER Assoc. Prof. Dr. Ahmet Faruk ASLAN
		5	PHOTOGRAPHICAL FRAME AS A DEVICE FOR THE ARCHITECTURAL CRITICISM	Graduate Student, Semih AKARSU



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SALON 3	Assoc. Prof., Ayhan MENTES	1	Limanlarda Atık Alım Tesisi Planlamasında Kriterlerin Önceliklendirilmesi: Çevresel ve Mali Faktörlerin Analizi	Gülem CANBOLAT Dr. Öğr. Üyesi, Üstün ATAK Doç. Dr., Burak ZİNCİR
		2	OPTICAL BRIGHTENERS AND USE IN THE PAPER INDUSTRY	Dr. Ufuk YILMAZ Prof. Dr. Ahmet TUTUŞ Prof. Dr. Sinan SÖNMEZ
		3	CABLE PRODUCTION WITH FIBROUS PLANTS: AN ENVIRONMENT-FRIENDLY AND SUSTAINABLE APPROACH	Hatice Kübra FALCIOĞLU Özge TUTKUN Aleyna İrem KARA Elif ÇAĞLAR Gökhan ÇOKLAR
		4	COMPARISON OF FINITE ELEMENT AND FINITE VOLUME METHODS FOR TURBULENT WATER FLOW IN PIPES	Buse Nur ALYAZ Prof. Dr. Mehmet SORGUN
		5	INVESTIGATION OF THE EFFECT OF SURFACE TREATMENTS AND ORGANIC INHIBITORS ON GENERAL CORROSION OF ALUMINUM 2024 AND 7075 ALLOYS USING ELECTROCHEMICAL METHODS	Şahin YILMAZ
		6	INVESTIGATION OF MECHANICAL PROPERTIES OF WOVEN AND UNIDIRECTION FIBER POLYMER COMPOSITES	Assist. Prof., Mahmut BİNGÖL
		7	COMPUTER AIDED ANALYSIS OF A POLYMER COMPOSITE COMMERCIAL BUMPER	Assist. Prof., Mahmut BİNGÖL
		8	LEAN MANUFACTURING APPLICATION IN THE WORKSHOP PRODUCING SURGICAL MASKS	Doç. Dr. Seher ARSLANKAYA
		9	DEMAND FORECASTING IN A BUSINESS THAT PRODUCES FOOD MACHINES USING ARTIFICIAL NEURAL NETWORKS	Doç. Dr. Seher ARSLANKAYA
		10	FACTORS INFLUENCING THE COMPETITIVENESS OF TURKISH YACHT BUILDING INDUSTRY	Pouya ADİBFAR Assoc.Prof., Ayhan MENTES
		11	APPLICATION OF A MULTI-CRITERIA DECISION-MAKING METHOD FOR WIND FARM SITE SELECTION IN WESTERN AUSTRALIA	MSc, Emil RZAYEV Assoc. Prof., Ayhan MENTES

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SALON 4	Doç. Dr., Sevilay ÖZTÜRK	1	DÜNYA VE TÜRKİYE’DE CHRYSIDIDAE (HYMENOPTERA: CHRYSIDOIDEA) FAMILİYASI HAKKINDA GÜNCEL BİLGİLER	Dr. Öğr. Üyesi, Emin KAPLAN
		2	BIBLIOMETRIC ANALYSIS of STUDIES on PESTICIDE RESIDUES in FRESH FRUITS and VEGETABLES	Dr. Erdal ZENGİN
		3	RAFİNERİ BÖLGESİNDEN İZOLE EDİLEN BAKTERİLERİN ÇİNKO DİRENÇLİLİKLERİNİN BELİRLENMESİ	Öğr. Gör. M. Yunus Emre KARAMAN Prof. Dr. Hatice ÖĞÜTCÜ
		4	POLİAROMATİK HİDROKARBONLARLA KONTAMİNE OLMUŞ ALANLARDAN İZOLE EDİLEN BAZI BAKTERİLERİN İDENTİFİKASYONU	Öğr. Gör. M. Yunus Emre KARAMAN Prof. Dr. Hatice ÖĞÜTCÜ
		5	ECOLOGICAL AND TAXONOMICAL INVESTIGATION OF THE BIODIVERSITY OF ALGAE IN CUMALI THERMAL SPRING (SEFERİHİSAR-İZMİR)	Doç. Dr., Sevilay ÖZTÜRK
		6	CLIMATE CHANGE AND ITS EFFECTS ON THE ENVIRONMENT IN IRAQ	Bahra Mohamed Sharif Rashid Doç. Dr. Hüseyin MERTOL Yl. Öğr. Yunus ERGÜN
		7	EFFECTIVENESS OF TURKISH DISASTER MANAGEMENT SYSTEM AND RECOMMENDATIONS	Omed Hakeem Mousa MOUSA Doç. Dr. Hüseyin MERTOL Yl. Öğr. Yunus ERGÜN
		8	THE GEOGRAPHY OF ASYLUM SEEKERS AND REFUGEES IN EUROPE	Farhad Jalal Najem NAJEM Doç. Dr. Hüseyin MERTOL Yl. Öğr. Yunus ERGÜN

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		2	LACTİFLUUS BERTİLLONİİ MANTARINDAN YEŞİL SENTEZLE DEMİR NANO PARTİKÜLLERİN SENTEZLENMESİ, KARAKTERİZASYONU	Dr. Öğr. Üyesi, Aybek YİĞİT
		3	THE SCREENING OF NRG1 rs4560751-rs3802160-rs10503929 HAPLOTYPES IN TURKISH SCHIZOPHRENIA PATIENTS and CONTROLS.	Assoc. Prof. Dr. Mustafa Mert SÖZEN Prof. Dr. Şükrü KARTALCI
		4	THE SCREENING OF NRG1 rs4560751-rs3802160 HAPLOTYPES IN A TURKISH SCHIZOPHRENIA CASE-CONTROL GROUP	Assoc. Prof. Dr. Mustafa Mert SÖZEN Prof. Dr. Şükrü KARTALCI
		5	EPİZYOTOMİ İYİLEŞME SÜRECİNDE LAVANTA KULLANIMI	Doç. Dr. Çiğdem GÜN KAKAŞCI Öğrenci Nisa Gökçen TEPE
		6	GENÇLİK VE CİNSEL MİTLER	Doç. Dr. Çiğdem GÜN KAKAŞCI Öğrenci Nisa Gökçen TEPE
		7	YETİŞKİN POPÜLASYONDA İZOMETRİK KUVVET VE EKLEM HAREKET AÇIKLIĞI İLİŞKİSİNİN DEĞERLENDİRİLMESİ	Doç. Dr. UMUT CANLI

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SALON 6	Arş. Gör. Dr. Ayşegül YILMAZER	1	EBEVEYNLERE GÖRE ÇOCUKLARDA EKCRAN BAĞIMLILIĞI	Nergiz Sevim AĞAÇDELEN Meral ARDIÇ Doç. Dr. Neziğ ÖNAL
		2	NOMOFÖBİ KONUSUNDA YAPILMIŞ ULUSAL LİSANSÜSTÜ TEZLERİN SİSTEMATİK İNCELENMESİ	Meral ARDIÇ Nergiz Sevim AĞAÇDELEN Doç. Dr. Neziğ ÖNAL
		3	LİSE MATEMATİK ÖĞRETMENLERİNİN GEOMETRİ ÖĞRENME ALANINA YÖNELİK GÖRÜŞLERİ: YALOVA İLİ ÖRNEĞİ	Yüksek Lisans Öğrencisi, Meryem Dilara ATEŞ Doç. Dr. Çiğdem ARSLAN
		4	İLKOKUL OKUL GELİŞTİRME HİZMETLERİNİ DEĞERLENDİRME ÖLÇEĞİ GELİŞTİRME ÇALIŞMASI	Cem MORAN Dr. Öğr. Üyesi MUSTAFA AYDIN BAŞAR
		5	İLKOKUL EĞİTİM ÖĞRETİM HİZMETLERİNİ DEĞERLENDİRME ÖLÇEĞİ GELİŞTİRME ÇALIŞMASI	Cem MORAN Dr. Öğr. Üyesi MUSTAFA AYDIN BAŞAR
		6	5-6 VE 7. SINIF SOSYAL BİLGİLER DERS KİTAPLARINDA KARİKATÜR KULLANIMININ İNCELENMESİ	Arş. Gör. Dr. Ayşegül YILMAZER
		7	OKUL ÖNCESİ ÖĞRETMENLERİNİN YOĞUNLAŞTIRILMIŞ EĞİTİM PROGRAMI ETKİNLİKLERİNE İLİŞKİN ÇEVRESEL TUTUM, ÇEVRE KİRLİLİĞİ, GERİ DÖNÜŞÜM, YENİDEN KULLANMA, AZALTMA VE ÇEVRESEL FARKINDALIKLA İLGİLİ GÖRÜŞLERİ	Doktora Öğrencisi, Zülfikar GÜVENİR Profesör, Lütfullah TÜRKMEN
		8	YOĞUNLAŞTIRILMIŞ EĞİTİM PROGRAMI ETKİNLİKLERİNE İLİŞKİN OKUL ÖNCESİ ÖĞRETMENLERİNİN TEMEL BİLİMSSEL SÜREÇ BECERİLERİYLE İLGİLİ GÖRÜŞLERİ	Doktora Öğrencisi, Zülfikar GÜVENİR Profesör, Lütfullah TÜRKMEN

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HALL 1	Dr. Juliana Panova	1	MULTI-VIEW NEURAL NETWORK BASED GAIT RECOGNITION	Saeid Fazli, Hadis Askarifar, Assoc Maryam Sheikh Shoaie
		2	HOW VALID ARE OUR LANGUAGE TEST INTERPRETATIONS? A DEMONSTRATIVE EXAMPLE	Masoud Saeedi, Shirin Rahimi Kazerooni, Dr. Vahid Parvaresh
		3	EXPLORING LIFE MEANINGFULNESS AND ITS PSYCHOSOCIAL CORRELATES AMONG RECOVERING SUBSTANCE USE DISORDERS – AN INDIAN PERSPECTIVE	Fouzia Alsabah Assoc Shaikh, Anjali Ghosh
		4	DEVELOPMENT OF ORGANIZATIONAL JUSTICE IN INCENTIVE ALLOCATION OF THE THAI PUBLIC SECTOR	Dr. Kalayane Koonmee
		5	CULTURAL ANXIETY AND ITS IMPACT ON STUDENTS- LIFE: A CASE STUDY OF INTERNATIONAL STUDENTS IN WUHAN UNIVERSITY	Nadeem Akhtar, Shan Bo
		6	THE PREDICTABILITY AND ABSTRACTNESS OF LANGUAGE: A STUDY IN UNDERSTANDING AND USAGE OF THE ENGLISH LANGUAGE THROUGH PROBABILISTIC MODELING AND FREQUENCY	Revanth Sai Kosaraju, Michael Ramscar, Melody Dye
		7	STUDY ON THE RELATIONS BETWEEN ONE'S PERSONALITY DIMENSIONS AND HIS PERSONALITY JUDGMENT ABOUT FRIEND BASED ON REALITY DISTORTION	Bahareh Babaei, Hadi Bahrami Ehsan, Reza Reza-zadeh, Hossien Kaviani
		8	TREATMENT OR RE-VICTIMIZING THE VICTIMS	Dr. Juliana Panova
		9	ATTACHMENT STYLES OF CHILDREN RAISED IN NURSERY VS. THOSE WHO ARE RAISED IN THE FAMILY IN IRAN	Narges Razeghi

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HALL 2	Prof. Hooman Jafarabadi	1	OPTIMAL CONTROL STRATEGIES FOR SPEED CONTROL OF PERMANENT-MAGNET SYNCHRONOUS MOTOR DRIVES	Roosbeh Molavi, Davood A. Khaburi
		2	NSGA BASED OPTIMAL VOLT / VAR CONTROL IN DISTRIBUTION SYSTEM WITH DISPERSED GENERATION	P. N. Hrisheeksha, Jaydev Sharma
		3	SIGNATURE RECOGNITION USING CONJUGATE GRADIENT NEURAL NETWORKS	Jamal Fathi Abu Hasna
		4	SPECTRAL ANALYSIS OF SPEECH: A NEW TECHNIQUE	Neeta Awasthy, J.P.Saini, D.S.Chauhan
		5	STUDY AND ENHANCEMENT OF FLASH EVAPORATION DESALINATION UTILIZING THE OCEAN THERMOCLINE AND DISCHARGED HEAT	Sami Mutair, Yasuyuki Ikegami
		6	INTRODUCING AN IMAGE PROCESSING BASE IDEA FOR OUTDOOR CHILDREN CARING	Prof. Hooman Jafarabadi
		7	DEVICE DISCOVER: A COMPONENT FOR NETWORK MANAGEMENT SYSTEM USING SIMPLE NETWORK MANAGEMENT PROTOCOL	Garima Gupta, Daya Gupta
		8	THEMATIC ROLE EXTRACTION USING SHALLOW PARSING	Mehrnoush Shamsfard, Maryam Sadr Mousavi
		9	INTRODUCING AN IMAGE PROCESSING BASE IDEA FOR OUTDOOR CHILDREN CARING	Hooman Jafarabadi

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HALL 3	Dr. Dawei Lin	1	A REVIEW ON APPLICATION OF CHITOSAN AS A NATURAL ANTIMICROBIAL	F. Nejati Hafdani, N. Sadeghinia
		2	NEUROGENIC POTENTIAL OF CLITORIA TERNATEA AQUEOUS ROOT EXTRACT-A BASIS FOR ENHANCING LEARNING AND MEMORY	Kiranmai S.Rai
		3	FORMULATION AND EVALUATION OF VAGINAL SUPPOSITORIES CONTAINING LACTOBACILLUS	Sanae Kaewnopparat, Nattha Kaewnopparat
		4	ISOLATION OF B-SITOSTEROL DIARABINOSIDE FROM RHIZOMES OF ALPINIA GALANGA	N. K. Fuloria, S. Fuloria
		5	DATA MINING CLASSIFICATION METHODS APPLIED IN DRUG DESIGN	Mária Stachová, Lukáš Sobíšek
		6	SALBUTAMOL SULPHATE-ETHYLCELLULOSE TABLETTED MICROCAPSULES: PHARMACOKINETIC STUDY USING CONVOLUTION APPROACH	Ghulam Murtaza, Kalsoom Farzana
		7	ANTIBACTERIAL ACTIVITY OF ETHANOL EXTRACT FROM SOME THAI MEDICINAL PLANTS AGAINST CAMPYLOBACTER JEJUNI	Achara Dholvitayakhun, Nathanon Trachoo



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HALL 4	Bharadwaj Kadiyala	1	PSO-BASED PLANNING OF DISTRIBUTION SYSTEMS WITH DISTRIBUTED GENERATIONS	Amin Hajizadeh, Ehsan Hajizadeh
		2	THREE-PHASE HIGH FREQUENCY AC CONVERSION CIRCUIT WITH DUAL MODE PWM/PDM CONTROL STRATEGY FOR HIGH POWER IH APPLICATIONS	Nabil A. Ahmed
		3	A NEW MAXIMUM POWER POINT TRACKING FOR PHOTOVOLTAIC SYSTEMS	Mohamed Azab
		4	IMPULSE RESPONSE SHORTENİNG FOR DİSCRETE MULTİTONE TRANSCİEİVERS USİNG CONVEX OPTİMİZATİON APPROACH	Ejaz Khan, Conor Heneghan
		5	HYBRID ASSOCIATION CONTROL SCHEME AND LOAD BALANCING IN WIRELESS LANS	Chutima Prommak, Airisa Jantaweetip
		6	ESTIMATION OF BROADCAST PROBABILITY IN WIRELESS ADHOC NETWORKS	Bharadwaj Kadiyala, Sunitha V
		7	THEORETICAL ANALYSIS OF CAPACITIES IN DYNAMIC SPATIAL MULTIPLEXING MIMO SYSTEMS	Imen Sfaihi, Nouredine Hamdi
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HALL 5	Samar Krimi,	1	BREAST SKIN-LINE ESTIMATION AND BREAST SEGMENTATION IN MAMMOGRAMS USING FAST-MARCHING METHOD	Koichi Harada
		2	SCATTERER DENSITY IN EDGE AND COHERENCE ENHANCING NONLINEAR ANISOTROPIC DIFFUSION FOR MEDICAL ULTRASOUND SPECKLE REDUCTION	Ahmed Badawi
		3	T-WAVE DETECTION BASED ON AN ADJUSTED WAVELET TRANSFORM MODULUS MAXIMA	J. Michael Johnson
		4	BRIDGING THE MENTAL GAP BETWEEN CONVOLUTION APPROACH AND COMPARTMENTAL MODELING IN FUNCTIONAL IMAGING: TYPICAL EMBEDDING OF AN OPEN TWO-COMPARTMENT MODEL INTO THE SYSTEMS THEORY APPROACH OF INDICATOR DILUTION THEORY	Mohamed Mahfouz
		5	ANALYSIS OF MEDICAL DATA USING DATA MINING AND FORMAL CONCEPT ANALYSIS	Samar Krimi,
		6	CASE BASED REASONING TECHNOLOGY FOR MEDICAL DIAGNOSIS	Kaïs Ouni,
		7	DETECTION OF DIABETIC SYMPTOMS IN RETINA IMAGES USING ANALOG ALGORITHMS	Noureddine Ellouze
		8	ARRIVING AT AN OPTIMUM VALUE OF TOLERANCE FACTOR FOR COMPRESSING MEDICAL IMAGES	Gesine Hellwig
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HALL 6	Assoc. Akmaral Datalbekkyzy	1	LATERAL TORSIONAL BUCKLING OF STEEL THIN-WALLED BEAMS WITH LATERAL RESTRAINTS	Ivan Balázs, Jindřich Melcher
		2	THE ESTABLISHMENT OF CAUSE-SYSTEM OF POOR CONSTRUCTION SITE SAFETY AND PRIORITY ANALYSIS FROM DIFFERENT PERSPECTIVES	Shirong Li, Xueping Xiang
		3	APPLICATIONS OF CARBON FIBERS PRODUCED FROM POLYACRYLONITRILE FIBERS	R. Eslami Farsani, R. Fazaeli
		4	A STUDY ON THE DEVELOPING METHOD OF THE BIM (BUILDING INFORMATION MODELING) SOFTWARE BASED ON CLOUD COMPUTING ENVIRONMENT	Byung-Kon Kim
		5	TORSION BEHAVIOR OF STEEL FIBERED HIGH STRENGTH SELF COMPACTING CONCRETE BEAMS REINFORCED BY GFRB BARS	Khaled S. Ragab, Ahmed S. Eisa
		6	ADVANTAGES OF LARGE STRANDS IN PRECAST/PRESTRESSED CONCRETE HIGHWAY APPLICATION	Amin Akhnoukh
		7	MULTIPATH ROUTING SENSOR NETWORK FOR FINDING CRACK IN METALLIC STRUCTURE USING FUZZY LOGIC	Dulal Acharjee, Punyaban Patel
		8	ASSESSING THE EFFECTS OF EXPLOSION WAVES ON OFFICE AND RESIDENTIAL BUILDINGS	Mehran Pourgholi , Amin Lotfi Eghlim
		9	EFFECT OF POLYVINYL PYRROLIDONE AND ETHYL CELLULOSE CONCENTRATION ON RELEASE PROFILE AND KINETICS OF GLIBENCLAMIDE EXTENDED RELEASE DOSAGE FORM SYSTEM	Amit Kumar, Peeyush Sharma, Anil Bhandari

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HALL 7	Asst. Prof. Jelena Trejakova	1	A COMPARISON OF SVM-BASED CRITERIA IN EVOLUTIONARY METHOD FOR GENE SELECTION AND CLASSIFICATION OF MICROARRAY DATA	Rameswar Debnath, Haruhisa Takahashi
		2	BIOEFFICACY OF SOME OIL-MIXED PLANT DERIVATIVES AGAINST AFRICAN MUD CATFISH (CLARIAS GARIEPINUS) BEETLES, DERMESTES MACULATUS AND NECROBIA RUFIPES	Akinwumi F. Olusegun
		3	THE ROLE OF IMMUNOGENIC ADHESIN VIBRIO ALGINOLYTICUS 49 K DA TO MOLECULE EXPRESSION OF MAJOR HISTOCOMPATIBILITY COMPLEX ON RECEPTORS OF HUMPBACK GROUPER CROMILEPTES ALTIVELIS	Uun Yanuhar
		4	IDENTIFICATION CHARACTERIZATION AND PRODUCTION OF PHYTASE FROM ENDOPHYTIC FUNGI	Yetti Marlida , Rina Delfita , Neni Gusmanizar, Gita Ciptaan
		5	DIRECT AND INDIRECT SOMATIC EMBRYOGENESIS FROM PETIOLE AND LEAF EXPLANTS OF PURPLE FAN FLOWER (SCAEVOLA AEMULA R. BR. CV. 'PURPLE FANFARE')	Shyama Ranjani Weerakoon
		6	STRUCTURAL BASIS OF RESISTANCE OF HELICOBACTERPYLORI DNAK TO ANTIMICROBIAL PEPTIDE PYRRHOCORICIN	Musammat F. Nahar, Anna Roujeinikova
		7	COMMUNITIES OF AMMONIA-OXIDIZING ARCHAEA AND BACTERIA IN ENRICHED NITRIFYING ACTIVATED SLUDGE	Puntipar Sonthiphand, Tawan Limpiyakorn
		8	HUMAN ELASTIN-DERIVED BIOMIMETIC COATING SURFACE TO SUPPORT CELL GROWTH	Antonella Bandiera
		9	A REPORT ON OCCURRENCE AND PARASITE-HOST OF LIGULA INTESTINALIS IN SATTARKHAN LAKE(EAST AZERBAIJAN-IRAN)	Mahbobeh Hajirostamloo

**25th International Group Exhibition**

**OCTOBER 29, 2023 – ANKARA**

Salon / Hall	Oturum Başkanı / Session Chair		Eser Adı / Art Work	Artist	Tema / Theme
		1	Nehrin Altındaki Nehir- The River Under the River	Doç. Dr. Meral BATUR	
		2	Melankoli/Melancholia	Doç. Dr. Mehmet Akif KAPLAN	
		3	Seksek	Dr. Öğretim Üyesi Mustafa TUNÇ	
		4	THE SUN RİSES WITH US	Educationist, Gülşen KARAKOYUNLU	
		5	Axis Mundi-Hayat Ağacı	Dr. Öğr. Üyesi Koza Kurt Kırtay	
		6	Renkler / Colors	Dr.Öğr.Üyesi Merve KARAMAN	
		7	Her Zaman Ayakta	Uzm. Öğret. Füsun Dönmez	
		8	Göktaşı	Doç. Dr. Nermin ÖZCAN ÖZER	
		9	Kadim Topraklarda	Doç. Dr. Nermin ÖZCAN ÖZER	
		10	Hisler ve Arzular ve Açıklamalar	Doç. Ayşegül Türk	
		11	Cumhuriyet / Republic	Yüksel TOK	
		12	İsimsiz	Prof. Dr. Ahmet DALKIRAN	
		13	İsimsiz	Prof. Dr. Ahmet DALKIRAN	
		14	Kuşlar	Seda Türkan	
		15	Kamusal alanda sanat: Odak	Dr. Bengi Polat	
		16	Kamusal alanda sanat: Sembol	Dr. Bengi Polat	
		17	Abstraction I	Arş. Gör. Beyzanur Karakuş	
		18	KOMPOZİSYON / COMPOSITION	UMUT GÖRMEN	
		19	Omuz Omuza	Nesrin ŞİRİN	

20	İsimsiz	Öğr. Gör. Rabiha ARSLAN YILDIRIM
21	İsimsiz	Öğr. Gör. Rabiha ARSLAN YILDIRIM
22	People Alive	Arş. Gör. Bilge ŞENGÜL
23	Yaşam Alanı	Dr. Öğr. Üyesi Mustafa KOCALAN
25	100. YIL ANISINA	Öğr. Gör. Fatime SAVAŞ CAN
26	Bayrak	Melahat TELERİ
	O Ev	Hatice DÖNMEZ AYDIN
	3 Güzeller / Three Beauties	Ayşe Yerebakan
	Parla	Arzu BOR KOCAMAN
	Umay	Şengül EROL

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## PUMPED STORAGE HYDROELECTRIC POWER PLANTS

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### ABSTRACT

Hydraulic energy is one of the leading renewable energy sources and Hydroelectric Power Plants (HPP) are used in the treatment of this energy. In addition to conventional power plants, Pumped Storage Hydroelectric Power Plants (PSHPPs) offer substantial advantages in the area of energy storage and management. The operating principle of Pumped Storage Hydroelectric Power Plants (PSHPP) involves storing excess energy during periods of low demand and releasing it during high-demand periods, thereby smoothing fluctuations in electricity demand. This ensures grid stability and reliability. This study aims to comprehensively review on both conventional and pumped storage hydroelectric power plants, providing a comparative overview of their distinctions, operational principles, advantages, and global and Turkish-specific examples. Through the analysis of the efficient use of water resources, key differences are highlighted, such as the storage of energy by pumping water and subsequently releasing it for electricity generation.

**Keywords:** Renewable Energy, hydraulic energy, hydroelectric power plants, energy storage

## PRESENT SITUATION OF RENEWABLE ENERGY IN TURKEY

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### ABSTRACT

Many factors, including population growth and technological advancements, are significantly raising energy demand and consumption. The increasing energy demand lead the energy to a critical point in Turkey. Due to the obvious expanding energy needs, insufficient fossil fuel reserves, rising environmental awareness and concern over the sustainability of its energy supply, employing renewable energy sources is gaining importance. Regarding the development of clean and sustainable energy in Turkey, renewable energy sources stand out as one of the most practical and efficient alternatives. Hydropower, wind, geothermal, solar, and bio-power are common forms of renewable energy sources in Turkey. Turkey has a lot of potential for hydroelectric, wind, and geothermal energy. Solar and biomass energy are also useful renewable energy sources in Turkey. Turkey's geographical location provides several advantages for widespread use of most renewable energy sources, including biomass, hydropower, geothermal, solar, and wind. In this study, the current situation of renewable energy sources, which renewable energy sources are used, how much of this energy is used and what kind of future studies have been done in Turkey are investigated.

**Keywords:** Renewable energy, hydropower, wind, geothermal, solar, biomass

## ENERJİ İLETİM HAVA HATLARINDA DEPREM SONUCU OLUŞAN HASAR MALİYETİNİN ENDEKS SAYILARI YARDIMIYLA ANALİZİ

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### ÖZET

Depremlerin hasar etkisi; fayların geometrileri/karakteristikleri, zeminin jeolojik özellikleri, faya olan mesafe, kırığın derinliği, yapı stoğunun inşaat kalitesi ve depremin aletsel büyüklüğü (=Magnitüd) gibi bir dizi parametreye bağlıdır. Depremlerin yıkıcı etkisi ile deprem anında ortaya çıkan enerji arasında çok yakın bir ilişki vardır; bu enerji ile magnitüd arasında ampirik bağıntılar geliştirilmiştir. Benzer şekilde fayın uzunluğu ile magnitüd arasında da ampirik bağıntılar verilmiştir. Depremin ivmesi zeminin deprem anında sarsılma miktarının göstergesidir; ivme fayın derinliği (konumu) ve magnitüd ile ilişkili olup ivme ile hasar seviyesi arasında daima pozitif korelasyon vardır. Enerji iletim hava hatlarının maliyet bileşenleri (L köşebenti, iletken, izolator, vb.) farklı birimler (kg, m, adet) için tanımlanır. Bu bakımdan, deprem sonucu enerji iletim hava hatlarında oluşan hasar maliyetinin analizinde “endeks sayıları” kullanılmıştır. Referans alınan bir deprem ivmesi (g) için; seçilen baz yıla ait ve cari yıla ait birim fiyatlar (TL/kg, TL/m, TL/adet) yardımıyla hasar maliyet endeksleri ortaya konulmuştur. Endeks sayıları olarak ekonomik analizlerde en sık kullanılan Laspeyres fiyat endeksi ve Paasche fiyat endeksi ile bunların geometrik ve aritmetik ortalamaları (Fisher fiyat endeksi ve Bowley fiyat endeksi) kullanılmıştır.

**Anahtar Kelimeler:** Deprem ivmesi, Bowley endeksi, Fisher endeksi, Laspeyres endeksi, Magnitüd, Paasche endeksi, Regresyon

## ENERJİ DEPOLAMA SİSTEMLERİNİN GÜÇ SİSTEMİ GÜVENİLİRLİĞİ VE YEDEK REZERV AÇISINDAN İNCELENMESİ

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### ÖZET

Enerji depolama sistemlerinin güç sistemleri üzerindeki etkisi, son dönemde araştırmacılar, enerji sistemleri planlamacıları- işletmecileri ve düzenleyici kurumlar tarafından yoğun bir ilgiyle takip edilmektedir. Enerji depolama sistemleri teknolojilerinin enerji sistemlerinin güvenilirliğini artırmanın yanı sıra enerjinin en fazla tüketildiği pik zamanlarda stratejik olarak ertelenmesi potansiyeli sunmaktadır. Ayrıca, bu sistemler özellikle rüzgar ve güneş gibi stokastik karakterli yenilenebilir enerji kaynaklarının üretimlerinin tahminlerden sapmalarını minimize ederek, geniş çaplı entegrasyonlarına kritik katkıda bulunmaktadır. Enerji depolama sistemlerinin yenilenebilir enerji kaynakları ile entegrasyonu, özellikle mikro şebekelerin ada çalışma senaryolarında mikro şebeke tasarımlarına yeni bir adaptasyon seviyesi sağlamaktadır. Enerji depolama sistemleri göz ardı edilerek yapılan sistem tasarımlarında sistem güvenilirliğinin sürdürülmesi adına yüksek maliyetli yedek enerji kaynaklarının devreye alınması kaçınılmaz olup, bu da artan işletme maliyetlerini ve potansiyel yük atma cezalarını beraberinde getirmektedir. Bu çalışma, enerji depolama teknolojilerinin derinlemesine bir incelemesini sunmakla kalmayıp, bu teknolojilerin güç sistemleri için sunduğu teknik ve ekonomik avantajları, özellikle yedek rezerv olarak hızlıca enerji talebini karşılama kapasiteleri bağlamında detaylı bir şekilde ele almaktadır.

**Anahtar Kelimeler:** Enerji depolama sistemleri, Mikro şebekeler, Yenilenebilir enerji kaynakları, Yedek rezerv

## RECOVERY OF LOW SULFUR DIESEL-LIKE FUEL FROM WASTE TIRE OILS BY PYROLYTIC DISTILLATION AND SULFURIZATION PROCESS

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### Abstract

The objective of this research is to create diesel-like fuel from waste tire oil by pyrolytic distillation that is harmful to the environment and human health, as well as to desulfurize these fuels. In this line, low sulfur diesel-like fuel was created in a pyrolysis reactor using the pyrolysis process from waste tire oil. It was observed that the waste tire liquids obtained from pyrolysis contain a high sulphur content at high temperature. A two-stage desulfurization technique was used to reduce the sulphur. In the first stage of the basic desulfurization process, 10% perlite, 10% CaO, and 10% zeolite catalysts were implemented to the waste tire liquid, respectively. As a result of this application, the sulfur content of diesel-like tire fuel (DLTF) was reduced by 25.3% with a 10% volumetric perlite application. The second stage of acidic desulfurization was implemented following the basic desulfurization procedure. Consequently, although the basic method lowered the sulfur content in the DLTF liquids, the acidic solution raised it.

**Keywords:** Pyrolytic distillation, Basic desulfurization, Acidic desulfurization, Diesel fuel, Diesel-like mineral fuel

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## EVALUATION OF COMBUSTION CHARACTERISTICS OF SUBJECTED TO SULFURIZATION PROCESS WASTE TIRE OIL AND WASTE ENGINE OIL IN A CI ENGINE OPERATING AT A LOW LOAD

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### Abstract

In this study, it is aimed at using waste vehicle tires and waste engine oils, which are harmful for both humans and the environment, in a diesel engine as an alternative to diesel fuel. For this purpose, the pyrolytic distillation method was applied to create diesel-like fuel from the liquid produced in a pyrolysis reactor from waste mineral oils and waste tire liquids. After that, test blends were prepared as 30% waste engine oils and 70% diesel fuel, named WEOF30 (waste engine oil fuel), and 30% waste tire oils and 70% diesel fuel, named WTOF30 (waste tire oil fuel). These sulfurized test fuels were compared with diesel fuel in a research diesel engine at a constant engine speed of 1500 rpm and a low load (2.5 BMEP) of eddy current dynamometer. In the laboratory investigation, cylinder gas pressure, net heat release, average gas temperature, heat release, and pressure increase rate values were measured and graphed against diesel fuel combustion values. As a consequence, the combustion parameters of WEOF30 and WTOF30 are nearly identical to those of ULSD fuel.

**Keywords:** Pyrolysis, Diesel engine, Combustion, waste tire fuel, Waste engine oils fuel

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## **EXPLANATION OF A DESIGN TECHNIQUE FOR MODELING A CONFORMAL WRIST BRACE BASED ON PATIENT DATA**

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### **ABSTRACT**

The use of wrist braces is especially recommended by doctors after surgical operations or wrist traumas such as fractures and sprains. Wrist braces are a highly important orthopedic product that stabilizes and specifically supports the applied area. The support provided by wrist braces restricts excessive movement in the affected area, thereby reducing the likelihood of further injury and potentially speeding up the healing process. Wrist braces can be made from various materials, including fabric, plastic, metal, or a combination thereof. There are different types of wrist braces with varying designs and purposes depending on the needs. While needs for wrist braces vary, one of the most significant demands is the ability to create patient-specific designs. The method detailed in this study employs implicit modeling technology, one advantage of which is the ability to design a wrist brace that is completely conformal to the patient's body contours. With implicit modeling technology, conformal lattice structures can be created quickly and easily. Utilizing this innovative design method and the advantages of additive manufacturing, it is possible to design and produce a patient-specific wrist brace rapidly with suitable equipment.

**Keywords :** Conformal Lattice Structures, Field-Driven Design, Implicit Modeling, Unit Cells, nTopology

## MEASURING THE SURFACE AREAS OF DIFFERENT TYPES OF TPMS STRUCTURES FOR COMPARISON OF HEAT TRANSFER INTERFACES

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### ABSTRACT

The concept of “Triply Periodic Minimal Surfaces” (TPMS) has garnered considerable interest, particularly due to the advantages afforded by additive manufacturing. These structures offer maximum surface area within a minimal volume and can be formed in a periodic manner in three-dimensional space. The ability to produce them as complex internal structures through additive manufacturing makes them attractive for various applications. One such application is thought to be heat exchangers. For TPMS structures to be efficient as interfaces where heat transfer occurs in heat exchangers, certain parameters must be considered. One of the most significant of these parameters is the type of unit cell that constitutes the TPMS structure. TPMS structures can consist of various types of unit cells such as Gyroid, Schwarz P, Diamond, and Lidinoid. In a setting where some parameters are held constant, this study has determined the surface areas of different types of TPMS structures formed within the same volume and compared them. As a result of this comparison, it has been observed whether TPMS structures formed from different types fully separate hot and cold fluids from each other, and their maximum surface areas in minimum volumes have been ranked according to the types of unit cells.

**Keywords :** Implicit Modeling, Lattice, TPMS Structures, Unit Cells, nTopology

## MİKROBİYAL YAKIT HÜCRELERİNDE KULLANILMAK ÜZERE POLİMERİK BLEND MEMBRAN SENTEZİ

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### ÖZET

Atık su arıtımı yaparak temiz enerji eldesi sağlayan mikrobiyal yakıt hücreleri (MYH), son yıllarda araştırmacılar tarafından oldukça ilgi gören yeşil teknolojiler arasında yer almaktadır. MYH’de, anaerobik anot odası ve aerobik katot odasını birbirinden ayırmak amacıyla kullanılan membranlar, reaktör performansını etkileyen önemli bir bileşendir. MYH çalışmalarında yaygın olarak kullanılan membranlar arasında Dupont firması tarafından üretilen Nafion ticari membranlar oldukça etkili performans göstermektedir. Nafion ticari membranının MYH performansını artıran özelliklerinin yanında çeşitli sınırlayıcı özelliklerinin bulunması ve yüksek maliyeti, araştırmacıların daha ekonomik ve yüksek verimli bir membran arayışına girmelerine neden olmuştur. Bu çalışmada, MYH sistemlerinde kullanılmak üzere sülfolanmış poli-eter-eter-eton (SPEEK) ve polivinil alkol (PVA) polimerleri kullanılarak bir blend membranı sentezlenmiştir. Sentezlenen membranın sudaki çözünürlüğünü azaltmak için termal çapraz bağlama işlemi uygulanmıştır. Elde edilen blend membranın 25°C’de ve %100 nemli ortamda proton iletkenlik değeri 0,1099 mS/cm olarak Nafion 117 membranından daha iyi bir değerde bulunmuştur. Çalışma sonuçları, sentezlenen SPEEK/PVA blend membranının, Nafion 117 membranına alternatif olabilecek bir membran olduğu görülmüştür.

**Anahtar Kelimeler:** Mikrobiyal yakıt hücresi, polimerik blend membran, SPEEK bazlı membran

## HIGHER ORDER LEONARDO NUMBERS

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### ABSTRACT

In this study, we define the higher order Leonardo sequence. We give basic definitions and properties of this new sequence. Moreover, we derive the recurrence relation, the Binet formula and the generating function for the higher order Leonardo numbers. Finally, we calculate Catalan's identity, Cassini's identity and d'Ocagne identity for these numbers.

**Keywords:** Higher order Leonardo numbers, Generating function, Binet formula.

## BI PERIODIC JACOBSTHAL POLINOM SEQUENCE AND BINOMIAL TRANSFORMATIONS

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### ABSTRACT

In this study, the definition of a generalization of special number sequences is called bi-periodic Jacobsthal is given. Binet formula and generating function of these special number sequence and generalized forms of the number sequence is demonstrated. The definition of bi-periodic Jacobsthal matrix sequence is defined and the Binet formula and generating function of the matrix sequence is given. In the last part of the study, some important relations and binomial transformations of the matrix polynomial sequence obtained as a result of using the bi-periodic Jacobsthal polynomial sequence is mentioned. Similarly, the binomial, k-binomial transformations of bi-periodic Jacobsthal matrix polynomial are denoted. Some relations for binomial transformations of the bi-periodic Jacobsthal matrix polynomial are found. Also, the increasing and decreasing k-binomial transformation of the bi-periodic Jacobsthal matrix polynomial sequences are given, then the Binet formula and generating function of these transformation sequences are given.

**Keywords:** Special number sequences, Generalized number and Matrix sequences, Binet Formula.

## BAZI ÖZEL MATRİSLER VE CEBİRSEL ÖZELLİKLERİ

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### ÖZET

Bir matris, sütunlar ve satırlar halinde düzenlenmiş dikdörtgen bir sayı veya sembol tablosudur. Matris cebiri, matematikte kodlama teorisinde, analiz ve geometri alanlarında olduğu kadar birçok bilim alanında uygulaması bulunmaktadır. Matrisler, ilk olarak doğrusal denklemlerin çözümünde uygulanmaktaydı bununla ilgili ilk çalışma Çince yazılan *Matematik Sanatı Üzerine Dokuz Bölüm* isimli metindir. Daha sonra İtalyan matematikçi Gerolamo Cardano, Japon matematikçi Takakazu Seki doğrusal denklemleri çözmek için benzer yöntemleri kullandılar.

Arthur Cayley, toplama, çıkarma, çarpma ve skaler ile çarpma gibi cebirsel işlemleri bu matrislerin dönüşümleri olarak tanımladı, bu işlemlerin birleşme ve dağılma özelliklerini sağladığını gösterdi. Cayley ayrıca matris çarpımının değişmeli olmadığını fakat toplama işleminin değişmeli olduğunu ispatladı. Daha sonra, aynı satır ve aynı sütuna sahip matrislerin oluşturduğu kümenin toplama ve skalerle çarpma işlemleriyle bir vektör uzayı olduğu elde edildi ayrıca her vektör uzayının bir baza sahip olduğu ispatlandı.

Augustin-Louis Cauchy ise bir matrisin determinantını tanım olarak kullanarak determinantlarla ilgili genel ifadeleri kanıtladı.

Lineer cebirde, karesel matris, köşegen matris, birim, matris, üçgensel matris ve simetrik matrisler temel matrislerdir. Bu matrislerin dışında bazı özel matrisler de bulunmaktadır; Toeplitz matrisi, Alterne matrisler, Band matrisi, Boolean matris, Design matris, Incidence matris, bidiagonal matris, bi-simetrik matris vs.

Bu çalışmada, özellikle önemli uygulama alanlarına sahip olan bu farklı tipteki matrislerden; Toeplitz matrisi, Alterne matrislerden Vandermonde ve Moore matrisleri, bi-simetrik matris, Cauchy matrisi ve Boolean matrisleri tanıtılmış, bu matrislerin yukarıda bahsedilen cebirsel özellikleri ile ilgili bilgiler derlenmiştir.

**Anahtar Kelimeler:** Toeplitz matrisi, Alterne matrisler, Cauchy matrisi, Boolean matrisi

## ETHEREUM KRİPTO PARA İLE ÖDEME İMKANI SUNAN BİR MOBİL UYGULAMA GELİŞTİRİLMESİ

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### ÖZET

Bu çalışmada, blok zinciri tabanlı Ethereum cinsinden kripto para ile ödeme seçeneği sunan bir mobil yemek sipariş uygulaması geliştirilmesi hedeflenmiştir. Android Studio ve Kotlin dili kullanılarak tasarlanan uygulama, Metamask kripto para cüzdanıyla entegre edilmiştir. Bu sayede kullanıcılar, Ethereum hesaplarından ödeme yapabilmektedir. Bu ödeme yöntemi merkezi olmayıp, tüm işlemler değiştirilemez şekilde Ethereum blok zinciri üzerinde kaydedilmektedir. Bu özellik, ülkemizdeki mobil uygulamalarda henüz mevcut değildir. Ayrıca blok zinciri teknolojisinin henüz gelişme aşamasında olması nedeniyle bilimsel ve akademik kaynaklar sınırlıdır. Dolayısıyla bu alanda çalışmak isteyenler için daha fazla kaynağa ihtiyaç vardır. Ayrıca, blok zinciri teknolojisi ile ilgili yapılmış olan çalışmaların geneli web tabanlı olduğu için mobil uygulama projelerine göre yaygınlaşma potansiyelleri daha düşüktür. Bu nedenle, mobil uygulamalarda blok zinciri ve kripto para kavramlarını içeren projelerin desteklenip arttırılması önerilmektedir. Son olarak, blok zinciri teknolojisi alanında çalışan insan kaynağındaki yetersizlik sebebiyle bu teknolojinin sadece finansal alanla sınırlı kalmayıp diğer alanlarda da çalışılması gerektiği sonucuna varılmıştır.

**Anahtar Kelimeler : Blok zinciri, Kripto para, Ethereum, Metamask, Android Studio, Kotlin**

## **DEVELOPING A MOBILE APPLICATION THAT OFFERS PAYMENT WITH ETHEREUM CRYPTO CURRENCY**

### **SUMMARY**

This study aims to develop a mobile food ordering application that offers payment option with Ethereum-based cryptocurrency on a blockchain platform. The application, designed using Android Studio and Kotlin language, is integrated with the Metamask cryptocurrency wallet. This enables users to make payments from their Ethereum accounts. This payment method is decentralized, and all transactions are recorded on the Ethereum blockchain in an immutable manner. This feature is not yet available in mobile applications in our country. Additionally, due to the early stage of blockchain technology, scientific and academic resources are limited. Therefore, there is a need for more resources for those interested in working in this field. Furthermore, most studies related to blockchain technology are web-based. The potential for widespread adoption of web-based applications is lower compared to mobile applications. Hence, it is recommended to support and increase projects involving blockchain and cryptocurrency concepts in mobile applications. Finally, due to the shortage of human resources in the field of blockchain technology, it is concluded that this technology should not be limited to the financial sector but should also be explored in other areas.

**Keywords:** Blockchain, Cryptocurrency, Ethereum, Metamask, Android Studio, Kotlin



## ETHEREUM KRİPTO PARA İLE ÖDEME İMKANI SUNAN BİR MOBİL UYGULAMA GELİŞTİRİLMESİ

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### ÖZET

Bu çalışmada, blok zinciri tabanlı Ethereum cinsinden kripto para ile ödeme seçeneği sunan bir mobil yemek sipariş uygulaması geliştirilmesi hedeflenmiştir. Android Studio ve Kotlin dili kullanılarak tasarlanan uygulama, Metamask kripto para cüzdanıyla entegre edilmiştir. Bu sayede kullanıcılar, Ethereum hesaplarından ödeme yapabilmektedir. Bu ödeme yöntemi merkezi olmayıp, tüm işlemler değiştirilemez şekilde Ethereum blok zinciri üzerinde kaydedilmektedir. Bu özellik, ülkemizdeki mobil uygulamalarda henüz mevcut değildir. Ayrıca blok zinciri teknolojisinin henüz gelişme aşamasında olması nedeniyle bilimsel ve akademik kaynaklar sınırlıdır. Dolayısıyla bu alanda çalışmak isteyenler için daha fazla kaynağa ihtiyaç vardır. Ayrıca, blok zinciri teknolojisi ile ilgili yapılmış olan çalışmaların geneli web tabanlı olduğu için mobil uygulama projelerine göre yaygınlaşma potansiyelleri daha düşüktür. Bu nedenle, mobil uygulamalarda blok zinciri ve kripto para kavramlarını içeren projelerin desteklenip arttırılması önerilmektedir. Son olarak, blok zinciri teknolojisi alanında çalışan insan kaynağındaki yetersizlik sebebiyle bu teknolojinin sadece finansal alanla sınırlı kalmayıp diğer alanlarda da çalışılması gerektiği sonucuna varılmıştır.

**Anahtar Kelimeler :** Blok zinciri, Kripto para, Ethereum, Metamask, Android Studio, Kotlin

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**Keywords: Blockchain, Cryptocurrency, Ethereum, Metamask, Android Studio, Kotlin**

## PHOTOGRAPHIC FRAME AS A DEVICE FOR THE ARCHITECTURAL CRITICISM

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### ABSTRACT

This article explores the multifaceted qualities of photography and its role in architectural representation. It examines the concept of the photographic frame as a device that constitutes the photograph's meaning, and how it connects and separates with its boundaries. The article also discusses how the mechanism of the frame conveys meaning and develops a critical view through its separated context. By exploring these dimensions, this article aims to provide a comprehensive understanding of the complex interplay between the photographic frame and the interpretation of what the architectural photograph represents. This study suggests that architectural photographs can generate critique through their framing, which determines its visual narrative and interpretation.

**Keywords:** frame, architectural representation, criticism, photography

## LİMANLARDA ATIK ALIM TESİSİ PLANLAMASINDA KRİTERLERİN ÖNCELİKLENDİRİLMESİ: ÇEVRESEL VE MALİ FAKTÖRLERİN ANALİZİ

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### ÖZET

Bir limanda atık alım tesisi planlaması, çeşitli faktörlerin titizlikle değerlendirilmesini gerektiren karmaşık bir süreçtir. Bu çalışmada en önemli kriterleri belirlemek için Bulanık Analitik Hiyerarşi Süreci (B-AHS) yöntemini kullanarak 11 konu uzmanıyla gerçekleştirilen bir anket temel alınmıştır. Çalışmamızın sonuçları, karar verme sürecinde belirleyici rol oynayan iki ana faktörü vurgulamaktadır. İlk olarak, etkili atık yönetimi, atık geri kazanımı ve bertaraf uygulamalarıyla sağlanması gerektiği bulunmuştur. Bu, çevresel uyumlu ve sürdürülebilir atık işleme yöntemlerinin öncelikli olduğunu göstermektedir. İkinci olarak, finansal meseleler, özellikle atık kabul tesisi kurma maliyetinin önemli bir faktör olduğu belirlenmiştir. Uzmanlar, çevre dostu uygulamaların gerekliliğini kabul ederken, bu çabaların bütçe sınırlamalarıyla dengelemesi gerektiğini vurgulamaktadır. Alt kategorilere bakıldığında, atık geri kazanımı ve bertaraf yöntemlerinin birden fazla alanı ele alan kapsamlı bir strateji gerektirdiği görülmektedir. Tesis, farklı atık türlerini işlemek ve etkili bir şekilde yönetmek için tasarlanması gerekliliği açığa çıkmıştır. Ayrıca, atık ürünlerinden enerji üretme seçeneği büyük önem taşımaktadır. Sonuç olarak, bu çalışma, bir limanda atık alım tesisi oluştururken atık geri kazanımı ve bertaraf uygulamalarının önceliklendirilmesinin ve maliyetlerin kontrol edilmesinin kritik olduğunu vurgulamaktadır. Bu temel faktörlere odaklanarak, karar vericiler tesisin çevresel standartlara uygun olmasının yanı sıra etkili ve ekonomik bir şekilde çalışmasını sağlayabilir, ayrıca limanın ve çevresinin genel ekolojik bütünlüğüne katkıda bulunabilir.

**Anahtar Kelimeler:** Limanlar, Atık Yönetimi, Atık Alım Tesisi Planlaması, B-AHS

## OPTİK BEYAZLATICILAR VE KAĞIT ENDÜSTRİSİNDE KULLANIMI OPTICAL BRIGHTENERS AND USE IN THE PAPER INDUSTRY

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### ÖZET

Optical brighteners are auxiliaries that are increasingly consumed in the detergent and soap industry and are widely used in the textile industry. These organic compounds, which were found 50 years ago, are not only used in the textile and detergent industry, but also in the paper, plastic and paint industry. Optical brightening agents (OBA's), fluorescent brightening agents (FBA's) or fluorescent whitening agents (FWA's) are extensively used in paper production to increase the amount of reflection of blue light. Today, it has become almost impossible to produce papers produced without optical brighteners, except for papers that are specially needed. These materials are especially used in writing papers to achieve a higher whiteness ratio and absorb UV light in the 290–400 nm range and emit visible blue light at 400–480 nm. This increases the brightness and whiteness of the paper. As these substances create a high contrast during printing, they reduce the need for ink/dye on the paper.

The aim of this study is to examine optical brighteners with an overview. In this study, optical brighteners, their applications in various industries, and their usage in the paper sector, along with their advantages and disadvantages in terms of product quality and human health, have been examined. During this investigation, national and international comparisons and standards have also been included in the study.

**Anahtar Kelimeler :** FBA's, FWA's, OBA's, Paper industry, Whiteness

## **LİFLİ BİTKİLERLE KABLO ÜRETİMİ: ÇEVRE DOSTU VE SÜRDÜRÜLEBİLİR BİR YAKLAŞIM**

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### **ÖZET**

Endüstride polimer temelli hammadde kullanılması temeli ürünlerin esnekliğe ve uzun kullanım ömrüne sahip olmasının istenmesidir. Günümüzde polimerik malzemelerin kullanımındaki artış, bu malzemelerin doğada geç çözünmelerini ve atık miktarını artırmaktadır. Aynı zamanda yanma sonucunda zehirli gazların açığa salınımı ile olumsuz çevresel etkenler ortaya çıkmaktadır. Geleneksel plastik ve polimer malzemelerin kullanımı ile yüksek enerji tüketimi ve sera gazı emisyonlarında artış gözlenmiştir. Bu durum çevre bilincinin kazanılması ile yenilebilir kaynaklara olan ilginin yönelimini başlatmıştır. Endüstriyel ürünlerin tasarım ve üretim süreçlerinde polimerik malzemeler kullanılmaktadır. Polimerik malzemelerin kullanıldığı sektörlerin başında elektrik elektronik endüstrisi gelmektedir. Elektronik cihazların muhafaza edilmesi, izolasyonu ve bağlantı elemanlarının üretiminde polimerik malzemelere sıkça rastlanmaktadır. Elektrik bağlantı elemanlarından olan kablolar polimerik malzemelerin en çok kullanıldığı sektörlerden biridir. Kılıflama, izolasyon ve dolgu çekme işlemleri kablo üretim proseslerindendir. Bu proseslerde hammadde olarak yüksek miktarda polimerik malzemeler tercih edilmektedir. Alternatif ürün arayışı sonucunda doğada yüksek dayanıma sahip, elde edilmek istenen malzeme formunu sağlayabilen, üretim proseslerine uygun ve enerji tasarrufu sağlayan lifli bitkilere yönelim başlamıştır. Doğal liflerin düşük yoğunluğu, kolay bulunulabilirliği ve maliyet uygunluğu gibi avantajların yanı sıra yapısal ve mekanik özelliklerinin yüksek olması üretimde tercih edilmelerini sağlayabilmektedir.

Endüstriyel kablo üretiminde kenevir ve kenevir temelli malzemelerin kullanımı oldukça fazladır. Geniş literatür çalışmaları sonucunda Manila keneviri olarak bilinen abaka lifli bitkisinin kenevire kıyasla kablo kullanımında öne çıkabilecek yüksek dayanım ve mukavemete sahip olmasına rağmen sektör tarafından yeterli ilgiyi görmediği düşünülmektedir.

Bu çalışmada, polimerik malzemelere kıyasla abaka, kenevir, sisal ve jüt gibi lifli bitkilerin endüstriyel kablo uygulamalarında karşılaştırmalı performans ve dayanıklılık özelliklerinin

değerlendirilmesi ele alınmıştır. Yapılan incelemeler sonucunda abaka bitkisinin yüksek dayanım ve kullanılabilirlik sağlayabileceği ön görülmüştür.

**Anahtar Kelimeler:** Sürdürülebilirlik, Lifli Bitkiler, Yenilenebilir Kablo, Yeşil Üretim.

## **CABLE PRODUCTION WITH FIBROUS PLANTS: AN ENVIRONMENT-FRIENDLY AND SUSTAINABLE APPROACH**

### **ABSTRACT**

The main reason for using polymer-based raw materials in the industry is that the products are desired to have flexibility and long service life. Today, the increase in the use of polymeric materials increases the slow decomposition of these materials in nature and the amount of waste. At the same time, negative environmental effects occur with the release of toxic gases as a result of combustion. High energy consumption and an increase in greenhouse gas emissions have been observed with the use of traditional plastic and polymer materials. This situation has initiated the interest in renewable resources by gaining environmental awareness. Polymeric materials are used in the design and production processes of industrial products. The electrical and electronics industry is one of the sectors where polymeric materials are used. Polymeric materials are frequently encountered in the production of housing, insulation and connection elements of electronic devices. Cables, which are electrical connection elements, are one of the sectors where polymeric materials are used most. Sheathing, insulation and filling processes are among the cable production processes. In these processes, high amounts of polymeric materials are preferred as raw materials. As a result of the search for alternative products, a trend towards fibrous plants that have high strength in nature, can provide the desired material form, are suitable for production processes and provide energy saving has begun. In addition to the advantages of natural fibers such as low density, easy availability and cost-effectiveness, their high structural and mechanical properties make them preferred in production. As a result of extensive literature studies, it is thought that the abaca fiber plant, known as Manila hemp, has not received sufficient attention from the industry, even though it has higher strength and strength compared to hemp, which can stand out in cable use.

In this study, the evaluation of comparative performance and durability properties of fibrous plants such as abaca, hemp, sisal and jute in industrial cable applications compared to polymeric materials is discussed. As a result of the examinations, it was predicted that the abaca plant could provide high durability and usability. In cable applications where polymer-based raw materials are used, its applicability as an additive in raw material formulations by reducing the plastic rate has been examined.

**Keywords:** Sustainability, Fibrous Plants, Renewable Cable, Green Production

## COMPARISON OF FINITE ELEMENT AND FINITE VOLUME METHODS FOR TURBULENT WATER FLOW IN PIPES

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### ABSTRACT

Choosing an appropriate pump for energy systems is critical to improving energy efficiency. Since the pump's function requires overcoming internal and frictional resistance inside the fluid, accurate prediction of pressure losses is crucial in pump selection. The required pressure, volumetric flow rate, fluid viscosity, and frictional forces are all important elements affecting energy input. In the field of fluid dynamics, the use of Computational Fluid Dynamics (CFD) is essential. CFD, which is based on the Navier-Stokes equations, gives numerical approximations for fluid dynamics by include mass, momentum, and energy conservation equations. To solve these equations, numerical techniques such as finite differences, finite volumes, and finite elements are used. CFD is widely used in industry and research, assisting in a variety of settings. Furthermore, the Finite Element Method (FEM) and Finite Volume Method (FVM) are essential numerical methods for solving complicated fluid flow problems. These approaches are widely used in engineering, wide range of phenomena from fluid mechanics to heat transfer, allowing for the optimization of system designs and improving knowledge of fluid dynamics. The pressure losses in rough pipes with turbulent water flow were investigated in this work. The experimental data from turbulent flows in pipes with diameters of 40mm and 50mm were compared to FEM and FVM models using ANSYS Workbench. The results demonstrated that FEM calculations closely matched experimental data, showing the method's ability to estimate pressure losses is better. And also the result were obtained from the models are in the range of  $\pm 20\%$ .

**Keywords:** turbulent flow, turbulent water flow, pressure loss, ANSYS workbench, CFD, finite volume method, finite element method



## ALÜMİNYUM 2024 VE 7075 ALAŞIMLARININ GENEL KOROZYONUNA YÜZEY İŞLEMLERİ VE ORGANİK İNHİBİTÖRLERİN ETKİSİNİN ELEKTROKİMYASAL YÖNTEMLERLE İNCELENMESİ

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### ÖZET

Bu çalışmada, penisilin grubu antibiyotik olan Largopen ve topikal antifungal bir ilaç olan Oceral'in alüminyum 2024 ve alüminyum 7075 alaşımları üzerindeki inhibisyon etkisi, kuyu suyu ortamında araştırılmıştır. Buna ek olarak alaşımların gösterdiği korozyon davranışına, yüzey işlemlerinin (ısıtıl işlem ve kumlama) etkisi de incelenmiştir. Çalışmada, yüzey işlemlerinin ve her iki organik inhibitörün korozyona etkisini belirlemek için potansiyodinamik polarizasyon (PD) ve elektrokimyasal empedans spektroskopisi (EIS) teknikleri kullanılarak elde edilen korozyon parametreleri kullanılmıştır. Sonuçlar, uygulanan tüm yüzey işlemlerinin, işlemsiz numunelere kıyasla korozyon direncinde iyileşme sağladığını göstermiştir. Ayrıca çalışmada kullanılan organik inhibitörlerin de işlemler ve işlemsiz numunelerin korozyon hızında, belirgin bir azalma sağladığı tespit edilmiştir.

**Anahtar Kelimeler:** Alüminyum, inhibitör, kumlama, ısıtıl işlem, potansiyodinamik polarizasyon, empedans spektroskopisi.

### INVESTIGATION OF THE EFFECT OF SURFACE TREATMENTS AND ORGANIC INHIBITORS ON GENERAL CORROSION OF ALUMINUM 2024 AND 7075 ALLOYS USING ELECTROCHEMICAL METHODS

#### ABSTRACT

In this study, the inhibitory effect of the penicillin group antibiotic Largopen and the topical antifungal drug Oceral on aluminum 2024 and aluminum 7075 alloys in well water environments has been investigated. Additionally, the influence of surface treatments (heat treatment and sanding) on the corrosion behavior of the alloys has been examined. Corrosion parameters obtained using potentiodynamic polarization (PD) and electrochemical impedance spectroscopy (EIS) techniques are utilized to determine the impact of surface treatments and both organic inhibitors on corrosion. The results have shown that all applied surface treatments have improved corrosion resistance compared to untreated samples. Furthermore, the organic inhibitors used in the study have been found to significantly decrease the corrosion rate of both treated and untreated samples.

**Keywords:** Aluminum, inhibitor, sanding, heat treatment, potentiodynamic polarization, impedance spectroscopy.

<sup>1</sup> Bu çalışma Sivas Bilim ve Teknoloji Üniversitesi Lisansüstü Eğitim Enstitüsü birinci yazara ait "Yüksek Lisans Tezi"nden üretilmiştir.

## COMPUTER AIDED ANALYSIS OF A POLYMER COMPOSITE COMMERCIAL BUMPER

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### ABSTRACT

Materials science is also developing in parallel with technological developments. It is desired to reduce fuel emissions in the automotive industry. Apart from this, it has become necessary to lighten the weight of vehicles that run on alternative energy such as electricity. Lightening cannot be achieved with high density metallic materials. Apart from these, composite materials are used as an alternative when it is desired to obtain more than one feature such as corrosion resistance, good surface quality and low density. In composite materials consisting of two main components: matrix and reinforcement material, mechanical strength is generally provided by the reinforcement material. There are many composite production methods available depending on the properties of the material produced. SMC (sheet molding compound) method, one of these production methods, is preferred in many different fields such as aviation and space, especially automotive, due to its many superior advantages such as suitability for mass production and good surface quality. This production method consists of two stages. In the first stage, resin formulations prepared according to need are combined with fibers, which are reinforcement materials, and left to mature. It is then shaped under a pressure-controlled press in a temperature-controlled mold.

This scope of work; Previously made test plates produced with various glass fiber lengths using the SMC method were subjected to tensile and bending tests, and then a commercial truck bumper produced with the fiber length that gave the best results was attached to a special fastening apparatus and subjected to mechanical testing. The bumper model was transferred to the computer and a CAD model was created, and mechanical analyzes were performed similar to mechanical testing.

**Keywords:** Computer aided analysis, Bumper, SMC (sheet molding compound), Mechanical properties

## INVESTIGATION OF MECHANICAL PROPERTIES OF WOVEN AND UNIDIRECTION FIBER POLYMER COMPOSITES

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### ABSTRACT

There are multiple demands to be met in designs. These demands cannot be met with classical materials. Composite materials come to the fore today when there is more than one request. Composite materials are primarily made by combining resin and reinforcement materials, and when necessary, additives are added to give them different properties such as fire resistance. While the reinforcing materials provide the mechanical properties, the resin holds these fibers together. The low density of these materials that make up the composite ensures that the produced part also has a low density. Thus, while parts with superior mechanical properties are produced, lightness is also achieved.

Many different methods are used to obtain these materials. There are various criteria for choosing a composite part production method. Criteria such as the features expected from the part and the number of production changes the method selection. For example, if a large number of parts are to be produced, it is necessary to choose a method that can be produced in a shorter time. SMC (Sheet Molding Compound) is preferred in many sectors because it has a short production method. It is especially preferred in sectors such as automotive and aviation where lightness is required. In addition, class A surface quality can be achieved because it is produced in pressure molds. In the method, part production takes place in two stages. In the first stage, materials called prepreg are prepared by adding matrix, reinforcement material and additives. Afterwards, it is molded under high pressure in heated molds.

In the SMC method, compared to other composite methods, mechanical properties are provided by the reinforcement materials. In this study, the effect of using different reinforcement materials on mechanical properties was examined. Randomly chopped fibers are generally used in SMC composites. SMC composite test plates were produced by combining unidirectional and woven fiber composites. Afterwards, these test plates were cut with a diamond saw in accordance with the standards. Again, tensile and bending tests were applied to the samples in accordance with the standards. It was compared with previously made random fiber SMC composites.

**Keywords:** Unidirectional fiber, Woven fiber, SMC (sheet molding compound), Mechanical properties

## APPLICATION OF A MULTI-CRITERIA DECISION-MAKING METHOD FOR WIND FARM SITE SELECTION IN WESTERN AUSTRALIA

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### SUMMARY

The global shift towards sustainable energy alternatives has brought offshore wind power into the spotlight. Western Australia, with its abundant wind resources and extensive coastline, offers significant potential for harnessing offshore wind energy. However, a comprehensive study that utilizes decision-making techniques to identify optimal sites in this region is currently lacking.

This research aims to fill this gap by evaluating potential offshore wind power installation sites in Western Australia using two established Multi-Criteria Decision-Making (MCDM) techniques: the Analytical Hierarchy Process (AHP) and the Complex Proportional Evaluation (COPRAS). Various factors, including environmental impact, technological feasibility, economic viability, and social impacts, are taken into consideration during the regional assessment and ranking process.

By employing AHP and COPRAS, this research provides a thorough evaluation of potential locations, taking all relevant criteria into account. It offers valuable insights for potential future offshore wind farms in Western Australia, enabling effective and well-informed decision-making.

**Keywords:** Offshore Wind Energy; Western Australia; Analytic Hierarchy Process; Complex Proportional Assessment; Site selection; Renewable energy.

## FACTORS INFLUENCING THE COMPETITIVENESS OF TURKISH YACHT BUILDING INDUSTRY

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### SUMMARY

The Turkish yacht building industry is a vast sector with substantial potential, impact, and growth opportunities for both the local and global economy. Particularly in the last decade, the yacht building industry has experienced rapid progress and secured a significant market share. To ensure its permanence and sustainability in this market, a comprehensive understanding and evaluation of the sector is imperative.

This study aims to develop strategies for a robust and sustainable sector by evaluating the key factors and situations influencing the competitiveness of the Turkish yacht building industry. To lay the foundation for this analysis, it is essential to have a well-founded assessment of the life cycle of ships and yachts, as well as the advantages, disadvantages, opportunities, and threats affecting companies in this sector, along with the parameters that determine their competitive strength. Consequently, strategies have been devised using SWOT and Porter's Five Forces analysis.

By employing these methods, we will conduct a thorough examination of the Turkish Yacht Building Sector. Ultimately, we will draw informed conclusions to address challenges that may impact companies operating in the sector and contribute to its sustainability.

This study, conducted by utilizing both local and global realities and benefiting from the insights of experts with significant experience and knowledge in the sector, will play a pivotal role in fostering the growth and sustainability of the sector. Furthermore, it will provide valuable input for the future strategic planning of companies within the Turkish yacht building industry.

**Keywords :** Yacht building industry, Turkish yacht sector, Swot analysis, Porters five forces analysis.

## DÜNYA VE TÜRKİYE'DE CHRYSIDIDAE (HYMENOPTERA: CHRYSIDOIDEA) FAMİLYASI HAKKINDA GÜNCEL BİLGİLER

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### ÖZET

Hymenoptera takımına ait Chrysidoidea üst familyası Betilidae, Chrysididae, Dryinidae, Embolemidae, Plumariidae, Sclerogibbidae ve Scolybythidae olmak üzere yedi familyadan oluşmaktadır. Bugüne kadar Chrysidoidea üst familyasında dünya çapında 6590'dan fazla tür tanımlanmıştır. Ancak bazı araştırmacılar bu üst familyada yaklaşık 16.000 tür olduğunu tahmin etmektedirler. Chrysidoidea üst familyasında yer alan Chrysididae familyası Amiseginae, Chrysidinae, Cleptinae ve Loboscelidiinae olmak üzere dört altfamilyadan oluşur. Ancak bazı araştırmacılar Parnopinae'yi altfamilya olarak kabul eder. Bu familya bütün dünyada 92 cins ve 2900'den fazla tür ile temsil edilmektedir. Chrysididae familyası, en büyük çeşitliliğini Palearktik bölgede gösterdiği söylenebilir. Türkiye'deki Chrysididae familyası üzerine yapılan çalışmalar 19. yüzyılın ortalarına kadar uzanmaktadır. Zira bugüne kadar Türkiye Chrysididae faunasına yönelik sadece 23 yayın yapılmış olup oldukça yetersiz olduğu görülmektedir. Türkiye Chrysididae faunası üç alt familyaya ait 22 cinsten 446 tür ve alttürden oluşmaktadır. Dolayısıyla ülkenin coğrafi konumu, iklimi ve topoğrafik yapısı dikkate alındığında Türkiye'nin Chrysidid faunasının şimdiye kadar belgelenenden daha zengin olduğu söylenebilir.

Chrysididae familyasına ait ergin bireyler, metalik parlıtlı, yeşil, mavi, kırmızı, bakır, altın veya bu renklerin bir kombinasyonuna sahip renklerle karakterize edildiklerinden dolayı "altın eşekarısı" veya "mücevher eşekarısı" olarak adlandırılmaktadırlar. Ayrıca, Palaearktik faunada nadir görülen bazı kahverengimsi ile donuk siyah türleri de vardır. Çoğu Hymenoptera grubunun aksine, daha az sayıda görünen karın seğmenine sahiptirler. Bu ailede Cinsel dimorfizm oldukça yaygın olup erkekler ve dişiler oldukça farklıdır. Chrysididae familyasına ait türler genellikle Coleoptera, Embioptera, Hemiptera, Hymenoptera, Lepidoptera gibi takımlara ait bazı türlerin parazitoidleri veya kleptoparazitleridir. Bu familyaya ait ergin dişiler, konukçu yuvalarına veya pupalara bir yumurta bırakır ve bu yumurtadan çıkan larvalar, konukçu papasında gelişir. Sonuçta Chrysididae larvasının ergin olması ve konukçunun da ölümü ile bu süreç tamamlandığından parazitoid olarak adlandırılabilirler. Ayrıca Chrysididae

larvaları yuvadaki konukçu larvaların besinleri ile beslendiğinden kleptopazitik davranış sergiledikleri söylenebilir. Chrysididler genellikle kumlu alanları, kil tuğlalı veya taş duvarları, ağaçlı veya kayalık bozkırları, yarı çölleri, çölleri, hatta ormanları ve konakçıların yaşadığı diğer yerleri tercih ederler.

**Anahtar Kelimeler:** Hymenoptera, Chrysidoida, Chrysididae, güncel bilgiler

## TAZE MEYVE VE SEBZELERDEKİ PESTİSİT KALINTILARI ÜZERİNE YAPILAN ÇALIŞMALARIN BİBLİYOMETRİK ANALİZİ

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### ÖZET

Pestisitler, artan gıda talebinin karşılanması adına tarımsal ürünlerde verim artışı sağlayan vazgeçilmez birer araç olsalar da yanlış kullanımları insan ve çevre sağlığı üzerine oldukça yıkıcı ve telafisi mümkün olmayan etkilere sebep olabilen tehlikeli kimyasallardır. Bu çalışmanın temel amacı taze meyve ve sebzelerdeki pestisit kalıntılarının tespit edilmesi üzerine dünya genelinde yapılan çalışmaları literatür analizi yoluyla kapsamlı bir şekilde sunmaktır. Bu kapsamda, 1980-2023 yılları arasında söz konusu alanda yayınlamış 879 makale Web of Science veri tabanı kullanılarak incelenmiştir. Elde edilen verilerin görselleştirilmesinde ve analiz birimlerinin belirlenmesinde ise VOSviewer programından faydalanılmıştır. Çalışmanın performans analizine göre, 2005 yılından itibaren yayın sayılarının artmaya başladığı ve en fazla yayının 2022 yılında (86) yapıldığı tespit edilmiştir. Ayrıca en fazla yayın yapan yazar, yayıncı ve ülke sırasıyla Wang, XY (%1,14), Elsevier (%28,78) ve Çin (%35,4) olmuştur. Yazarlar arasında bağlantı gücü en yüksek olanlar Dong, F., Liu, X., Zheng, Y. ve Xu, J. iken ülkeler bağlamında bağlantı gücü en fazla olan devletler Çin, Amerika ve İspanya olmuştur. En fazla ortak anahtar kelime “pestisitler” olarak tespit edilirken, Chinese Academy of Agricultural Sciences kaynakça eşleşmesinde en fazla bağlantı gücüne sahip kurum olmuştur.

**Anahtar Kelimeler:** Kalıntı limiti, Gıda güvenliği, Sağlık

### BIBLIOMETRIC ANALYSIS of STUDIES on PESTICIDE RESIDUES in FRESH FRUITS and VEGETABLES

Although pesticides are indispensable tools for increasing agricultural productivity to meet the growing demand for food, they are dangerous chemicals that can have highly destructive and irreversible effects on human and environmental health when misused. The main aim of this study is to comprehensively present worldwide research on the detection of pesticide residues in fresh fruits and vegetables through a literature analysis. In this context, 879 articles published between 1980 and 2023 in this field were examined using the Web of Science database. The VOSviewer program was used for determining units of analysis and visualizing of the data obtained. According to the performance analysis of the study, it was determined that the number of publications started to increase from 2005, with the highest number of publications (86) in



2022. Furthermore, the top authors, publishers, and countries in terms of the highest number of publications were Wang, XY (1.14%), Elsevier (28.78%), and China (35.4%), respectively. Among the authors, Dong, F., Liu, X., Zheng, Y., and Xu, J. had the highest link strength, while in the context of countries, China, the United States, and Spain were the states with the highest link strength. The most common keyword was identified as "pesticides," and the Chinese Academy of Agricultural Sciences had the highest link strength in the reference co-occurrence.

**Keywords:** Residue limit, Food safety, Health risk

## POLİAROMATİK HİDROKARBONLARLA KONTAMİNE OLMUŞ ALANLARDAN İZOLE EDİLEN BAZI BAKTERİLERİN İDENTİFİKASYONU

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### ÖZET

Endüstriyel atıkların yapısında bulunan poliaromatik hidrokarbonlar ekosistem için gün geçtikçe kompleks bir çevre sorunu olmaya devam etmektedir. Petrol ve petrol türevinden üretilen bu endüstriyel ürünlerin doğada çözünümleri oldukça uzun yıllar sürmektedir. Bunların doğal olarak biyoçözünümlerini hızlandırmak için poliaromatik hidrokarbonları besin kaynağı olarak kullanan mikroorganizmaların çoğaltılıp kontamine alanlara uygulanması sonucu bu kirliliğin biyoçözünürlülük süresinin kısaldığı yapılan çalışmalar ile ortaya konulmaktadır. Günümüzde poliaromatik hidrokarbonları parçalayan mikroorganizmalar özellikle de bakteriler, petrol ve petrol türevlerinden üretimi sağlanan endüstriyel ürünlerin artması sonucu biyoremediasyon açısından büyük önem kazanmıştır.

Bu çalışmada lastik fabrikası atıklarının döküldüğü topraklardan doğal olarak direnç kazanan toplam 12 adet izolat elde edilmiştir. İzole edilen suşların tür bazında moleküler tanımlamaları 16S rRNA gen sekans analizlerine göre yapılmıştır. Bu tanımlama sonucunda; 11 adet izolattan *Achromobacter*, *Massilia*, *Bacillus*, *Staphylococcus* ve *Azospirillum* genuslarına ait türler ( *Achromobacter xylosoxidans* (1), *Massilia alkalitolerans* (3), *Bacillus simplex* (1), *Staphylococcus sp.* (1), *Azospirillum brasilense* (4) ) belirlenmiş ancak bir izolat tanımlanamamıştır. Bu izolatların gelecekte ekosistemin dengesinin sağlanmasına ve biyoremediasyon çalışmalarının geliştirilmesine katkı sağlayacağı değerlendirilmektedir.

**Anahtar Kelimeler:** Biyoremediasyon, Poliaromatik hidrokarbonlar (PAHs), Biyodegradasyon, *Bacillus sp.*

## RAFİNERİ BÖLGESİNDEN İZOLE EDİLEN BAKTERİLERİN ÇİNKO DİRENÇLİLİKLERİNİN BELİRLENMESİ

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### ÖZET

Canlılığın oluşumunda eser element olarak bildiğimiz çinko miktarsal olarak arttığında canlılık için bir toksik etki oluşturmaktadır. Bu tehlike miktarı biyoremediasyon yöntemlerinde kullanılan organizmaların yaşamsal faaliyetlerini kısıtlamakta hatta diğer mikroorganizmaların ekosistemden yok olmasına sebebiyet vermektedir. Poliaromatik hidrokarbonlar ekosistemde kirletici unsur bakımından kompleks bileşiklerdir. Bu bileşikler toprağın strüktüründe bulunan mikroorganizmalar için bir oksijen kesici ortam oluşturmasıyla toprağın derinliklerine kadar bir verimsizlik meydana gelmektedir. Petrol ve petrol türevi hidrokarbonları parçalayan organizmalar ortamda bulunan maddelerin yoğunluğuna göre belirli seviyede biyolojik parçalama aktivitesi gösterebilmektedir. Biyoçözünürlüğün artması için degradasyon yapan mikroorganizmaların optimum ağır metal dirençlerinin bulunması da bu organizmalar için daha etkili biyoremediasyon çalışmalarının yapılmasında etkili olacaktır.

Bu çalışmada; petrol ve petrol türevlerinin yoğun bulunduğu Mersin Rafineri bölgesinde eski doldurma ve boşaltma silolarından alınan toprak örneklerinden biyodegradasyon yapan bakterilerin izolasyonları gerçekleştirilmiştir. Toplamda 18 adet bakteri izole edilmiş ve izolatların ağır metal dirençlilikleri  $ZnSO_4 \cdot 7H_2O$  tuzunun 5mM, 10mM, 15mM ve 20mM konsantrasyonları agar well difüzyon metodu kullanılarak belirlenmiştir.

Çalışma sonucunda; 18 adet izolattan bütün konsantrasyonlara dirençli olan 4 izolat belirlenirken duyarlı olan 11 adet izolat tespit edilmiştir. Sonuç olarak elde edilen izolatlardan en yüksek çinko konsantrasyonunda bile biyodegradasyon yapabilme yeteneğine sahip 4 izolat elde edilmiştir. Bu izolatların daha sonraki biyoremediasyon çalışmalarında yoğun ağır metal konsantrasyonlarının olduğu topraklarda bile etkili bir parçalama özelliği göstereceği değerlendirilmektedir. Teşekkür: Bu çalışma Ahi Evran Üniversitesi Bilimsel Araştırma Projeleri No: PYO-FEN.4001/1.16.009 kapsamında desteklenmiştir.

**Anahtar Kelimeler:** Biyoremediasyon, Biyodegradasyon, Ağır Metal, Çinko

## ECOLOGICAL AND TAXONOMICAL INVESTIGATION OF THE BIODIVERSITY OF ALGAE IN CUMALI THERMAL SPRING (SEFERİHİSAR-İZMİR)

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### ABSTRACT

The province of Izmir, located in the western of Turkey characterized by tectonic activities, is abundant in thermal springs. Cumalı Thermal Springs, situated in the Seferihisar district of Izmir province, have been utilized for health-related purposes. A total of 42 samples were collected from 12 thermal water points at Cumalı Thermal Springs. In addition, in-situ measurements of water temperature and pH values were conducted at 3 different sampling points, and water samples were taken for ex-situ measurements (Sodium, Potassium, Calcium, Magnesium, Carbonate, Bicarbonate, Chloride, Sulfate). The Cumalı Thermal Springs consist of numerous thermal points with temperatures ranging from 45-70 °C and pH 6-6.5. They contain high levels of sodium chloride, iron, and free carbon dioxide. The most significant feature that distinguishes Cumalı Thermal Springs from the others in the region is the very high total mineralization rate. As a result of taxonomic examinations, a total of 22 algae were identified in the thermal springs of Cumalı, including 17 Cyanobacteria and 5 Diatom taxa. It was observed that the taxon *Kamptonema okenii* (C.Agardh ex Gomont) Strunecký, Komárek & J. Smarda, which is a common taxon in high-mineral content thermal springs, formed substantial clusters in the sampling areas of Cumalı. A statistical analysis conducted with Canoco to determine the ecological preferences of the taxa revealed a positive relationship between the taxa and the thermal water. Furthermore, among the identified species, *Anagnostidinema amphibium* (Gomont) Strunecký, Bohunická, J.R.Johansen & Komárek, is one of the promising taxon for biodiesel production and pigment extraction.

**Key Words:** Algal flora, thermal springs, ecological approach.

## CLIMATE CHANGE AND ITS EFFECTS ON THE ENVIRONMENT IN IRAQ

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### ABSTRACT

Iraq as a country is now suffering from Climate Change Impacts in similar or even worse ways than many other countries of the world. The manifestations of these climate changes are being felt in global warming, changes to weather driving elements and sea level rise. Increasing temperatures, declining precipitation rates and changed distribution patterns together with increasing evaporation are causing water stress in Iraq. However, they trigger other changes in a sort of chain reaction; such as droughts, desertification and sand storms. Iraq is not even safe from the consequences of sea level rise where the southern part of the Tigris- Euphrates delta is threatened by inundation and Iraq's ports and sea coast line are endangered by such projected rise. So far the agricultural sector in Iraq has been hit very badly by the reduced water availability for arable lands; whether rain fed lands as in the northern part, or irrigated lands using the declining discharges of the Tigris and Euphrates Rivers as in the southern and middle parts. The present negative climate change trends seem to be continuing in the future as it is obvious from all projections and studies being performed so far. Loss of cultivable land to desertification, recurrent droughts and sand storms and declining agriculture are the pattern of change in Iraq's already fragile environment; and this will result inevitably in much more distress for the population in the future and will lead to social unrest. These will add to the great pressures facing all future governments unless the government takes protective planning and solutions.

**Keywords:** Climate change, Climate of Iraq, Effects of climate change on the environment in Iraq.

## THE GEOGRAPHY OF ASYLUM SEEKERS AND REFUGEES IN EUROPE

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### ABSTRACT

Recent waves of immigration flows and asylum seekers are posing serious social and political problems in European countries. Between 2009 and 2015, it has been estimated a total of 3–3.5 millions of asylum applications to national governments. This chapter discusses the geography of asylum seekers in the European Union and proposes some descriptive statistics concerning the behavioral reaction of residents. In particular, it is shown a strong correlation between the size of the population of asylum seekers and the fear of terrorism and crime, whereas no economic concern was found. This evidence is interpreted as need to provide also correct information to residents when implementing immigration policies.

**Keywords:** Refugees · Asylum seekers · Migration · European Union · Attitudes

## EFFECTIVENESS OF TURKISH DISASTER MANAGEMENT SYSTEM AND RECOMMENDATIONS

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### ABSTRACT

Turkey has always been vulnerable to various kinds of natural disasters because of its geology, topography and meteorological conditions. It is at risk from a range of complex emergencies. Statistically, a large-scale disaster happens every seven to eight years. Earthquakes, landslides, floods, drought, rock falls and avalanches are the main natural disasters. Deforestation and soil erosions exacerbate these disasters. Earthquakes account for 97 per cent of deaths and injuries caused by natural disasters. In Turkey many problems in organizing a proper disaster management and response system are institutional and organizational. Absence of a single organizational structure focused on disaster management, including all disaster management aspects, dramatically exacerbated the impacts of disasters. The study is concentrate on institutional actors and deal with issues of coordinating disaster management aspects considering the past experiences.

**Keywords:** Turkey, Natural Hazard, Disaster, Disaster Management.

**KAHRAMANMARAŞ SÜTÇÜ İMAM ÜNİVERSİTESİ SAĞLIK HİZMETLERİ  
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MÜFREDATLARINDA YER ALAN ANATOMİ ÖĞRETİMİNE İLİŞKİN  
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**ÖZET**

**Amaç:** Kahramanmaraş Sütçü İmam Üniversitesi Sağlık Hizmetleri Meslek Yüksekokullarındaki öğrenci görüşleri neticesinde anatomi eğitiminin mevcut durumunun ve eğitim-öğretim sürecine ilişkin sorunların öğrencilerin geribildirimleri ışığında belirlenmesidir.

**Materyal ve Metot:** Bu araştırmaya Kahramanmaraş Sütçü İmam Üniversitesi Sağlık Hizmetleri Meslek Yüksekokulu 2022-2023 eğitim öğretim yılı güz döneminde anatomi eğitimi almış Anestezi, İlk ve Acil Yardım, Tıbbi Laboratuvar Teknikleri, Tıbbi Görüntüleme Teknikleri, Yaşlı Bakımı, programları öğrencilerinin tamamı dahil edildi. Bu öğrencilere tamamen gönüllülük esasına dayalı olarak Google Forms üzerinden anatomi eğitimiyle ilgili 20 soruluk (Teorik eğitim 10, İnternet kullanımı 3, Testler 1, Sınavlar 4 ve Pratik eğitim 2 soru) bir anket gönderildi. Sorulara cevap seçenekleri olarak “katılmıyorum”, “fikrim yok” ve “katılıyorum” şeklinde üçlü Likert tipi ölçek kullanıldı.

**Bulgular:** Anestezi, ilk ve acil yardım ve tıbbi görüntüleme teknikleri bölümü öğrencileri büyük oranda teorik derslerin yeterli olmadığını düşünürken, tıbbi laboratuvar teknikleri ve yaşlı bakımı bölümü öğrencileri büyük oranda yeterli olduğu görüşünü bildirdiler. Tüm öğrencilerin büyük oranı pratik derslerin yetersiz olduğunu ifade etmişlerdir. Öğrencilerin büyük bir kısmı anatomi dersinin mesleki yaşamlarına katkı sağlayacağını düşünüyorlardı. Ancak tıbbi laboratuvar teknikleri ve yaşlı bakımı bölümü öğrencileri büyük oranda verilen anatomi eğitimiyle gelecekteki meslekleri arasında çok az ilişki olduğunu ifade etmişlerdir. Genel olarak öğrencilerin çoğu ders sunumlarında videolar, animasyonlar ve klinik vaka sunumları gibi araçların yer alması gerektiği görüşünü bildirmişlerdir.

**Sonuç:** Verilen anatomi eğitiminin, öğrencilerin ilerideki meslek hayatlarında ihtiyaçlarına yönelik farklılıklar barındırması gerektiği kanaatindeyiz. Literatürdeki çoğu çalışmada görüldüğü gibi bizim yaptığımız anket sonucu da branşların geneli için pratik eğitimin önemini vurgulamaktadır.

**Anahtar Kelimeler:** Anatomi, eğitim, sağlık bilimleri, geribildirim, anket.



## ***LACTIFLUUS BERTILLONII* MANTARINDAN YEŞİL SENTEZLE DEMİR NANO PARTİKÜLLERİN SENTEZLENMESİ, KARAKTERİZASYONU**

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### **ÖZET**

Bu çalışmada, *Lactifluus bertillonii* mantarından yeşil sentez yöntemiyle elde ettiğimiz demir nano partiküllerinin karakterizasyonu gerçekleştirildi. Karakterizasyonlarda FT-IR, SEM, TEM, UV-Vis cihazlarından yararlanıldı. Yapılan karakterizasyonlarda değişimler belirgin olarak saptandı. TEM analizlerinde ortalama partikül boyutu 9.071 nm olarak tespit edildi. Literatür araştırmalarında karşılaştığımız karakterizasyonlarla eşleştirdiğimizde FeNPs yapılarının oluştuğu kanaatine vardık.

**Anahtar Kelimeler:** Nano partikül, *Lactifluus bertillonii*, Yeşil sentez

## THE SCREENING OF NRG1 rs4560751-rs3802160-rs10503929 HAPLOTYPES IN TURKISH SCHIZOPHRENIA PATIENTS and CONTROLS.

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### ABSTRACT

The NRG1 gene encodes the protein called *Neuregulin-1*, the first protein component of neuregulin signaling pathway (NSP). The earliest gene whose association was shown with schizophrenia was also the NRG1 gene. The SNPs rs4560751, rs3802160 and rs10503929 located in the NRG1 gene, have been reported to be associated with schizophrenia in several populations.

In this study, we have analyzed the haplotypes constructed these three SNPs in a case-control group collected from Malatya-TURKEY. We had 96 schizophrenia patients and 100 controls in this case-control group. The SNP genotypes were determined by a real-time PCR based method. The haplotypes were estimated by using the Haploview Software. Case-control association analyses of the haplotypes were carried out with the same software.

Our analyses revealed 6 different haplotypes constructed by two SNPs. Nevertheless, no significant differences were found between the two groups for the distribution of these haplotypes. This indicates that there is no sufficient evidence to support the presence of an association between these haplotypes with schizophrenia in our group. This might be caused by the sample size of our group, or the limited geographical region we have collected our sample. Screening the SNP in larger groups of family trios would help to find a potential association.

Acknowledgement: This study has been supported by Inonu University BAP project Number: FCD-2021-2552 to M.M.S.

**Key Words:** NRG1, Neuregulin-1, Genetic Association, Schizophrenia, Genetics, Haplotype.

## THE SCREENING OF NRG1 rs4560751-rs3802160 HAPLOTYPES IN A TURKISH SCHIZOPHRENIA CASE-CONTROL GROUP

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### ABSTRACT

The NRG1 gene is responsible for the synthesis of *Neuregulin-1*, the first protein component of neuregulin signaling pathway (NSP). It is also the earliest gene which was found to be associated with schizophrenia. The SNPs called rs4560751 and rs3802160 are located in the NRG1 gene and have been reported to be associated with schizophrenia in several populations.

In this study, we have analyzed the haplotypes constructed by rs4560751 and rs rs3802160 in 96 schizophrenia patients and 100 controls from Malatya-Turkey. The SNP genotypes were determined by a real-time PCR based method. The haplotype estimation and case-control association analyses were done using Haploview Software.

Our analyses revealed 4 different haplotypes constructed by two SNPs. Nevertheless, no significant differences were found between the two groups for the distribution of these haplotypes. This indicates that there is no sufficient evidence to support the presence of an association between these haplotypes with schizophrenia in our group. This might be caused by the sample size of our group, or the limited geographical region we have collected our sample. Screening the SNP in larger groups of family trios would help to find a potential association.

Acknowledgement: This study has been supported by Inonu University BAP project Number: FCD-2021-2552 to M.M.S.

**Key Words:** NRG1, Neuregulin-1, Genetic Association, Schizophrenia, Genetics, Haplotype.

## GENÇLİK VE CİNSEL MİTLER

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### ÖZET

Cinsel mitler cinsellik ile ilgili konularda bilimsel gerçekliği olmamasına rağmen doğru olduğuna inanılan, genellikle abartılmış, cinsel yaşamı sınırlandıran, kalıplaşmış ve yanlış yargılardır. Cinsellikle ilgili yanlış inançlar ve kavramlar, bireylerin cinsellikle ilgili tutum ve davranışlarını etkilemektedir. Oturmuş bir cinsel eğitim programının olmadığı ve cinselliğin tabu olarak kabul edildiği toplumlarda, o toplumların geleceği olarak görülen gençlerin cinsel bilgi düzeyleri, cinselliğe bakış açısı, cinsellik hakkındaki inanışları öncelikle ele alınması gereken konulardan biridir. Ailenin genellikle cinselliğe yönelik yasaklayıcı tutumlar sergilemesi daha çocukluk döneminden başlayan cinsellik ile ilgili tabuların gelişimine zemin hazırlamaktadır. Bu nedenle çoğunlukla cinsellik konusunda aileden yeterli bilgi alınamaz ve cinsellik hakkında açık iletişim kurulamaz. Bu süreç gençlerin gelecekteki cinsel hayatlarını, aile hayatlarını ve üreme sağlığını önemli ölçüde etkilemektedir. Cinsel mitlere inanma özellikle ülkemizde yapılan çalışmalarda gençler arasında yaygın bir sorundur. Oysa cinsellik konusunda doğru bilgi edinmek, cinsiyeti sağlıklı bir şekilde deneyimleyebilmenin ana göstergelerinden biridir. Adölesan dönemi ve çocukluk döneminde edinilen yanlış veya yetersiz bilgiler ve abartılı beklentiler, insanların yetişkinlik dönemindeki cinsel inanç ve davranışlarına da yansıyabilmektedir. Ne yazık ki cinsel sağlık problemlerine neden olabilen bu yanlış inanışlar çiftlerin cinsel yaşantısında da sıkıntılar yaratabilmektedir. Cinselliğe yönelik bilimsellikten uzak, eksik, yanlış ve kulaktan dolma bilgilerin yerini profesyonellerin eşliğinde anlaşılabilir, net ve bilimsel cinsel eğitim programları almalıdır. Cinsel eğitimlerin yaş ve eğitim düzeyine göre tasarlanması ve sürdürülebilir özellikte olması önemlidir. Özellikle gençlerde bu eğitim programlarının içeriği oluşturulurken cinsel mitlere yönelik araştırma sonuçlarında dikkate alınması önerilir

**Anahtar Kelimeler :** Gençlik, Cinsellik, Cinsel Mit

## EPİZYOTOMİ İYİLEŞME SÜRECİNDE LAVANTA KULLANIMI

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### ÖZET

Epizyotomi 1850'de ilk kez Amerika Birleşik Devletleri'nde tanıtılmıştır. Epizyotomi distosi, makat doğum, fetal makrozomi, uzamış ikinci evre, obstetrik anal sfinkter hasarı ve hızlı doğum gibi durumlarda doğru ve uygun zamanda yapıldığında doğumu kolaylaştırabilir. Epizyotomi için tipik iyileşme süresi kesiğin boyutuna ve yarayı kapatmak için kullanılan dikiş malzemesinin türüne bağlı olarak 4-6 hafta civarındadır. Bu süreçte yara iyileşmesindeki gecikme kötü anatomik sonuçlara yol açabilir, enfeksiyon riskini artırabilir ve sonuçta tehlikeli komplikasyonlara ve hatta ölüme yol açabilir. Ayrıca perine ağrısı annenin yaşam kalitesini düşürebilmekte ve annenin bebeğine karşı tutumunu değiştirebilmektedir. Epizyotomi sonrası yara izi ve ağrı emzirme pozisyonunu ve etkili emzirmeyi etkileyerek emzirmenin başlamasının gecikmesine neden olur. Bu nedenle yara iyileşmesini hızlandırmak için kullanılan bitkisel preparatlar benimsenen tedavi sürecinde kullanılabilen yöntemler arasındadır. Bunlardan biri olan lavanta (*Lavandula angustifolia*) nane familyasından Lamiaceae'ye ait otsu bir bitkidir. Linalool ve linalil asetat bu bitkinin pozitif ve etkili bileşikleri arasındadır. Gastrointestinal ve merkezi sinir sistemleri üzerinde önemli etkileri vardır. Ayrıca analjezik, antiinflamatuvar ve sedatif etkileri de çeşitli çalışmalarda kanıtlanmıştır. Araştırmalar lavantanın epizyotomi için kullanılmasının, plasebo ve diğer mevcut yöntemler ile karşılaştırıldığında iltihaplanma ve ağrıda önemli bir azalmayla sonuçlandığını bildirmektedir. Üstelik bu çalışmalarda bildirilen hiçbir yan etki olmamıştır. Birçok çalışma postpartum dönemde lavantanın ağrı ve epizyotomi iyileşmesinde önemli etkisi olduğunu göstermiş olsada çalışmalardaki heterojenite göz önünde bulundurulduğunda konuyu açıklığa kavuşturabilmek için daha fazla kanıt düzeyi yüksek çalışmalar yapılması önem arz etmektedir.

**Anahtar Kelimeler :** Epizyotomi, lavanta, tedavi

## YETİŞKİN POPÜLASYONDA İZOMETRİK KUVVET VE EKLEM HAREKET AÇIKLIĞI İLİŞKİSİNİN DEĞERLENDİRİLMESİ

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### ÖZET

Kuvvet ve eklem hareket açıklığı ile ilişkili esneklik ve mobilizasyon yaş düzeyinin artışı ile birlikte azalmaktadır. Bu fizyolojik sürecin hızı ve etkisinin en aza indirilmesindeki en önemli strateji doğru planlanmış bir egzersiz rutini içerisinde yer almaktadır. Bu noktada, kuvvet ve eklem hareket açıklığının geliştirilmesinde belirtilen değişkenlerin birbirleri ilişkisinin ortaya konması kaliteli egzersiz programlarının tasarlanmasına katkı sağlayacaktır. Araştırmada yetişkin bireylerin izometrik kuvvet düzeyleri ile eklem hareket açıklıkları arasındaki ilişkinin belirlenmesi amaçlanmıştır. Araştırmaya gönüllü olarak (erkek = 67; kadın = 53) toplam 120 yetişkin birey katılmıştır. Katılımcıların izometrik kas kuvvetini belirlemek için (Lafayette Manual Muscle Test System, Model 01165) ekipman kullanılmıştır. Bu sistemi, kas gücünü objektif olarak ölçmek için kullanılan ergonomik bir elde tutulan cihazdır. Katılımcıların eklem hareket açıklıklarını ölçmek için Dualer IQ Pro Eğimölçer (J-TECH Medical, Salt Lake City, UK, USA) ekipmanı kullanılmıştır. Dualer IQ Pro Dijital İnclinometre ile çift sensörlü ölçüm sayesinde kolay ve güvenilir veri toplanarak eklem hareket açıklığı değerlendirilmesi yapılabilmektedir. Değişkenler arasında ilişkinin belirlenmesinde Pearson Sıra Korelasyon analizinden yararlanılmıştır. Araştırmada katılımcıların alt ve üst ekstremitte kuvvetini temsil eden parametreler ile yine alt ve üst ekstremitte eklem hareket açıklığını temsil eden parametreler arasındaki ilişki belirlenmeye çalışılmıştır. Bu noktada; özellikle omuz fleksiyon ve ekstansiyon izometrik kuvvetinin omuz fleksiyon eklem hareket açıklığı ile pozitif yönlü zayıf ilişkisi olduğu belirlenmiştir (sırasıyla:  $r=0.25$ ,  $p<0.01$ ;  $r=0.23$ ,  $p<0.05$ ). Kalça fleksiyon izometrik kuvveti ile diz fleksiyon eklem hareket açıklığı arasında pozitif yönlü zayıf bir ilişkinin olduğu tespit edilmiştir ( $r=0.20$ ,  $p<0.05$ ). Diz fleksiyon kuvveti ve diz eklem hareket açıklığı kuvveti arasında pozitif yönlü zayıf bir ilişkinin olduğu ortaya konulmuştur ( $r=0.24$ ,  $p<0.05$ ). Sonuç olarak, izometrik kuvvetin hem alt hem de üst ekstremitde eklem hareket açıklığı ile ilişkisi olduğu belirlenmiştir.

**Anahtar Kelimeler:** Kuvvet, stabilizasyon, mobilizasyon

## OPTIMAL CONTROL STRATEGIES FOR SPEED CONTROL OF PERMANENT-MAGNET SYNCHRONOUS MOTOR DRIVES

Roozbeh Molavi, Davood A. Khaburi

### Abstract:

The permanent magnet synchronous motor (PMSM) is very useful in many applications. Vector control of PMSM is popular kind of its control. In this paper, at first an optimal vector control for PMSM is designed and then results are compared with conventional vector control. Then, it is assumed that the measurements are noisy and linear quadratic Gaussian (LQG) methodology is used to filter the noises. The results of noisy optimal vector control and filtered optimal vector control are compared to each other. Nonlinearity of PMSM and existence of inverter in its control circuit caused that the system is nonlinear and time-variant. With deriving average model, the system is changed to nonlinear time-invariant and then the nonlinear system is converted to linear system by linearization of model around average values. This model is used to optimize vector control then two optimal vector controls are compared to each other. Simulation results show that the performance and robustness to noise of the control system has been highly improved.

**Keywords:** Kalman filter, Linear quadratic Gaussian (LQG), Linear quadratic regulator (LQR), Permanent-Magnet synchronous motor (PMSM).

## NSGA BASED OPTIMAL VOLT / VAR CONTROL IN DISTRIBUTION SYSTEM WITH DISPERSED GENERATION

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### **Abstract:**

In this paper, a method based on Non-Dominated Sorting Genetic Algorithm (NSGA) has been presented for the Volt / Var control in power distribution systems with dispersed generation (DG). Genetic algorithm approach is used due to its broad applicability, ease of use and high accuracy. The proposed method is better suited for volt/var control problems. A multi-objective optimization problem has been formulated for the volt/var control of the distribution system. The non-dominated sorting genetic algorithm based method proposed in this paper, alleviates the problem of tuning the weighting factors required in solving the multi-objective volt/var control optimization problems. Based on the simulation studies carried out on the distribution system, the proposed scheme has been found to be simple, accurate and easy to apply to solve the multiobjective volt/var control optimization problem of the distribution system with dispersed generation.

**Keywords:** Dispersed Generation, Distribution System, Non-Dominated Sorting Genetic Algorithm, Voltage / Reactive power control.



## **SIGNATURE RECOGNITION USING CONJUGATE GRADIENT NEURAL NETWORKS**

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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.

## SPECTRAL ENTROPY EMPLOYMENT IN SPEECH ENHANCEMENT BASED ON WAVELET PACKET

**Talbi Mourad, Salhi Lotfi, Chérif Adnen**

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### **Abstract:**

In this work, we are interested in developing a speech denoising tool by using a discrete wavelet packet transform (DWPT). This speech denoising tool will be employed for applications of recognition, coding and synthesis. For noise reduction, instead of applying the classical thresholding technique, some wavelet packet nodes are set to zero and the others are thresholded. To estimate the non stationary noise level, we employ the spectral entropy. A comparison of our proposed technique to classical denoising methods based on thresholding and spectral subtraction is made in order to evaluate our approach. The experimental implementation uses speech signals corrupted by two sorts of noise, white and Volvo noises. The obtained results from listening tests show that our proposed technique is better than spectral subtraction. The obtained results from SNR computation show the superiority of our technique when compared to the classical thresholding method using the modified hard thresholding function based on u-law algorithm.

**Keywords:** Enhancement, spectral subtraction, SNR, discrete wavelet packet transform, spectral entropy Histogram

## STUDY AND ENHANCEMENT OF FLASH EVAPORATION DESALINATION UTILIZING THE OCEAN THERMOCLINE AND DISCHARGED HEAT

**Sami Mutair, Yasuyuki Ikegami**

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### **Abstract:**

This paper reports on the results of experimental investigations of flash evaporation from superheated jet issues vertically upward from a round straight nozzle of 81.3 mm diameter. For the investigated range of jet superheat degree and velocity, it was shown that flash evaporation enhances with initial temperature increase. Due to the increase of jet inertia and subsequently the delay of jet shattering, increase of jet velocity was found to result in increase of evaporation "delay period". An empirical equation predicts the jet evaporation completion height was developed, this equation is thought to be useful in designing the flash evaporation chamber. In attempts for enhancement of flash evaporation, use of steel wire mesh located at short distance downstream was found effective with no consequent pressure drop.

**Keywords:** Enhancement; Flash Evaporation; OTEC; superheated jet

## INTRODUCING AN IMAGE PROCESSING BASE IDEA FOR OUTDOOR CHILDREN CARING

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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.

## **A REVIEW ON APPLICATION OF CHITOSAN AS A NATURAL ANTIMICROBIAL**

**F. Nejati Hafdani, N. Sadeghinia**

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### **Abstract:**

In recent years application of natural antimicrobials instead of conventional ones, due to their hazardous effects on health, has got serious attentions. On the basis of the results of different studies, chitosan, a natural bio-degradable and non-toxic biopolysaccharide derived from chitin, has potential to be used as a natural antimicrobial. Chitosan has exhibited high antimicrobial activity against a wide variety of pathogenic and spoilage microorganisms, including fungi, and Gram-positive and Gramnegative bacteria. The antimicrobial action is influenced by intrinsic factors such as the type of chitosan, the degree of chitosan polymerization and extrinsic factors such as the microbial organism, the environmental conditions and presence of the other components. The use of chitosan in food systems should be based on sufficient knowledge of the complex mechanisms of its antimicrobial mode of action. In this article we review a number of studies on the investigation of chitosan antimicrobial properties and application of them in culture and food mediums.

**Keywords:** Antimicrobial, Chitosan, Preservative

## NEUROGENIC POTENTIAL OF CLITORIA TERNATEA AQUEOUS ROOT EXTRACT–A BASIS FOR ENHANCING LEARNING AND MEMORY

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INDIA

### Abstract:

The neurogenic potential of many herbal extracts used in Indian medicine is hitherto unknown. Extracts derived from *Clitoria ternatea* Linn have been used in Indian Ayurvedic system of medicine as an ingredient of “Medhya rasayana”, consumed for improving memory and longevity in humans and also in treatment of various neurological disorders. Our earlier experimental studies with oral intubation of *Clitoria ternatea* aqueous root extract (CTR) had shown significant enhancement of learning and memory in postnatal and young adult Wistar rats. The present study was designed to elucidate the in vitro effects of 200ng/ml of CTR on proliferation, differentiation and growth of anterior subventricular zone neural stem cells (aSVZ NSC-s) derived from prenatal and postnatal rat pups. Results show significant increase in proliferation and growth of neurospheres and increase in the yield of differentiated neurons of aSVZ neural precursor cells (aSVZNPC-s) at 7 days in vitro when treated with 200ng/ml of CTR as compared to age matched control. Results indicate that CTR has growth promoting neurogenic effect on aSVZ neural stem cells and their survival similar to neurotrophic factors like Survivin, Neuregulin 1, FGF-2, BDNF possibly the basis for enhanced learning and memory.

**Keywords:** Anterior subventricular zone (aSVZ) neural stemcell, *Clitoria ternatea*, Learning and memory, Neurogenesis.

## FORMULATION AND EVALUATION OF VAGINAL SUPPOSITORIES CONTAINING LACTOBACILLUS

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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.

## DATA MINING CLASSIFICATION METHODS APPLIED IN DRUG DESIGN

**Mária Stachová, Lukáš Sobíšek**

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### Abstract:

Data mining incorporates a group of statistical methods used to analyze a set of information, or a data set. It operates with models and algorithms, which are powerful tools with the great potential. They can help people to understand the patterns in certain chunk of information so it is obvious that the data mining tools have a wide area of applications. For example in the theoretical chemistry data mining tools can be used to predict molecule properties or improve computer-assisted drug design. Classification analysis is one of the major data mining methodologies. The aim of the contribution is to create a classification model, which would be able to deal with a huge data set with high accuracy. For this purpose logistic regression, Bayesian logistic regression and random forest models were built using R software. The Bayesian logistic regression in Latent GOLD software was created as well. These classification methods belong to supervised learning methods. It was necessary to reduce data matrix dimension before construct models and thus the factor analysis (FA) was used. Those models were applied to predict the biological activity of molecules, potential new drug candidates.

Keywords: data mining, classification, drug design, QSAR



## **SALBUTAMOL SULPHATE-ETHYLCELLULOSE TABLETTED MICROCAPSULES: PHARMACOKINETIC STUDY USING CONVOLUTION APPROACH**

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Pakistan

### **Abstract:**

The aim of this article is to narrate the utility of novel simulation approach i.e. convolution method to predict blood concentration of drug utilizing dissolution data of salbutamol sulphate microparticulate formulations with different release patterns (1:1, 1:2 and 1:3, drug:polymer). Dissolution apparatus II USP 2007 and 900 ml double distilled water stirred at 50 rpm was employed for dissolution analysis. From dissolution data, blood drug concentration was determined, and in return predicted blood drug concentration data was used to calculate the pharmacokinetic parameters i.e.  $C_{max}$ ,  $T_{max}$ , and AUC. Convolution is a good biwaiver technique; however its better utility needs its application in the conditions where biorelevant dissolution media are used.

**Keywords:** Convolution, Dissolution, Pharmacokinetics, Salbutamol sulphate

## ANTIBACTERIAL ACTIVITY OF ETHANOL EXTRACT FROM SOME THAI MEDICINAL PLANTS AGAINST CAMPYLOBACTER JEJUNI

**Achara Dholvitayakhun, Nathanon Trachoo**

Faculty of Science and Agricultural Technology, Rajamangala University of Technology  
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### Abstract:

In this study, the forty Thai medicinal plants were used to screen the antibacterial activity against *Campylobacter jejuni*. Crude 95% ethanolic extracts of each plant were prepared. Antibacterial activity was investigated by the disc diffusion assay, and MICs and MBCs were determined by broth microdilution. The results of antibacterial screening showed that five plants have activity against *C.jejuni* including *Adenanthera pavonina* L., *Moringa oleifera* Lam., *Annona squamosa* L., *Hibiscus sabdariffa* L. and *Eupatorium odoratum* L. The extraction of *A. pavonina* L. and *A. squamosa* L. produced an outstanding against *C. jejuni*, inhibiting growth at 62.5-125 and 250-500 µg/mL, respectively. The MBCs of two extracts were just 4-fold higher than MICs against *C. jejuni*, suggesting the extracts are bactericidal against this species. These results indicate that *A. pavonina* and *A. squamosa* could potentially be used in modern applications aimed at treatment or prevention of foodborne disease from *C. jejuni*.

**Keywords:** Antibacterial activity, Thai medicinal plants, *Campylobacter jejuni*

## **PSO-BASED PLANNING OF DISTRIBUTION SYSTEMS WITH DISTRIBUTED GENERATIONS**

**Amin Hajizadeh, Ehsan Hajizadeh**

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Industrial Engineering Department, Amirkabir University of Technology, Tehran, Iran

### **Abstract:**

This paper presents a multi-objective formulation for optimal siting and sizing of distributed generation (DG) resources in distribution systems in order to minimize the cost of power losses and energy not supplied. The implemented technique is based on particle swarm optimization (PSO) and weight method that employed to obtain the best compromise between these costs. Simulation results on 33-bus distribution test system are presented to demonstrate the effectiveness of the proposed procedure.

**Keywords:** Distributed generation, distribution networks, particle swarm optimization, reliability, weight method

## **THREE-PHASE HIGH FREQUENCY AC CONVERSION CIRCUIT WITH DUAL MODE PWM/PDM CONTROL STRATEGY FOR HIGH POWER IH APPLICATIONS**

**Nabil A. Ahmed**

Electrical Engineering Department, Assiut University Egypt

### **Abstract:**

This paper presents a novel three-phase utility frequency to high frequency soft switching power conversion circuit with dual mode pulse width modulation and pulse density modulation for high power induction heating applications as melting of steel and non ferrous metals, annealing of metals, surface hardening of steel and cast iron work pieces and hot water producers, steamers and super heated steamers. This high frequency power conversion circuit can operate from three-phase systems to produce high current for high power induction heating applications under the principles of ZVS and it can regulate its ac output power from the rated value to a low power level. A dual mode modulation control scheme based on high frequency PWM in synchronization with the utility frequency positive and negative half cycles for the proposed high frequency conversion circuit and utility frequency pulse density modulation is produced to extend its soft switching operating range for wide ac output power regulation. A dual packs heat exchanger assembly is designed to be used in consumer and industrial fluid pipeline systems and it is proved to be suitable for the hot water, steam and super heated steam producers. Experiment and simulation results are given in this paper to verify the operation principles of the proposed ac conversion circuit and to evaluate its power regulation and conversion efficiency. Also, the paper presents a mutual coupling model of the induction heating load instead of equivalent transformer circuit model.

**Keywords:** Induction heating, three-phase, conversion circuit, pulse width modulation, pulse density modulation, high frequency, soft switching.

## **A NEW MAXIMUM POWER POINT TRACKING FOR PHOTOVOLTAIC SYSTEMS**

**Mohamed Azab**

Assistant Professor in the Department of Electrical Engineering Technology at Banha High Institute of Technology, Banha, University. Spain.

### **Abstract:**

In this paper a new maximum power point tracking algorithm for photovoltaic arrays is proposed. The algorithm detects the maximum power point of the PV. The computed maximum power is used as a reference value (set point) of the control system. ON/OFF power controller with hysteresis band is used to control the operation of a Buck chopper such that the PV module always operates at its maximum power computed from the MPPT algorithm. The major difference between the proposed algorithm and other techniques is that the proposed algorithm is used to control directly the power drawn from the PV. The proposed MPPT has several advantages: simplicity, high convergence speed, and independent on PV array characteristics. The algorithm is tested under various operating conditions. The obtained results have proven that the MPP is tracked even under sudden change of irradiation level.

**Keywords:** Photovoltaic, maximum power point tracking, MPPT.

## **IMPULSE RESPONSE SHORTENING FOR DISCRETE MULTITONE TRANSCIVERS USING CONVEX OPTIMIZATION APPROACH**

**Ejaz Khan, Conor Heneghan**

Dept. of Electronic and Electrical Engg, University College Dublin, Ireland.

### **Abstract:**

In this paper we propose a new criterion for solving the problem of channel shortening in multi-carrier systems. In a discrete multitone receiver, a time-domain equalizer (TEQ) reduces intersymbol interference (ISI) by shortening the effective duration of the channel impulse response. Minimum mean square error (MMSE) method for TEQ does not give satisfactory results. In [1] a new criterion for partially equalizing severe ISI channels to reduce the cyclic prefix overhead of the discrete multitone transceiver (DMT), assuming a fixed transmission bandwidth, is introduced. Due to specific constrained (unit norm constraint on the target impulse response (TIR)) in their method, the freedom to choose optimum vector (TIR) is reduced. Better results can be obtained by avoiding the unit norm constraint on the target impulse response (TIR). In this paper we change the cost function proposed in [1] to the cost function of determining the maximum of a determinant subject to linear matrix inequality (LMI) and quadratic constraint and solve the resulting optimization problem. Usefulness of the proposed method is shown with the help of simulations.

**Keywords:** Equalizer, target impulse response, convex optimization, matrix inequality.

## **HYBRID ASSOCIATION CONTROL SCHEME AND LOAD BALANCING IN WIRELESS LANS**

**Chutima Prommak, Airisa Jantaweetip**

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Ratchasima, 30000 Thailand

### **Abstract:**

This paper presents a hybrid association control scheme that can maintain load balancing among access points in the wireless LANs and can satisfy the quality of service requirements of the multimedia traffic applications. The proposed model is mathematically described as a linear programming model. Simulation study and analysis were conducted in order to demonstrate the performance of the proposed hybrid load balancing and association control scheme. Simulation results shows that the proposed scheme outperforms the other schemes in term of the percentage of blocking and the quality of the data transfer rate providing to the multimedia and real-time applications.

**Keywords:** Association control, Load balancing, Wireless LANs

## **ESTIMATION OF BROADCAST PROBABILITY IN WIRELESS ADHOC NETWORKS**

**Bharadwaj Kadiyala, Sunitha V**

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### **Abstract:**

Most routing protocols (DSR, AODV etc.) that have been designed for wireless adhoc networks incorporate the broadcasting operation in their route discovery scheme. Probabilistic broadcasting techniques have been developed to optimize the broadcast operation which is otherwise very expensive in terms of the redundancy and the traffic it generates. In this paper we have explored percolation theory to gain a different perspective on probabilistic broadcasting schemes which have been actively researched in the recent years. This theory has helped us estimate the value of broadcast probability in a wireless adhoc network as a function of the size of the network. We also show that, operating at those optimal values of broadcast probability there is at least 25-30% reduction in packet regeneration during successful broadcasting.

**Keywords:** Crossover length, Percolation, Probabilistic broadcast, Wireless adhoc networks



## **THEORETICAL ANALYSIS OF CAPACITIES IN DYNAMIC SPATIAL MULTIPLEXING MIMO SYSTEMS**

**Imen Sfaihi, Nouredine Hamdi**

National Institute of Applied Sciences and Technology, and Communication Systems  
laboratory ENIT, Tunis

### **Abstract:**

In this paper, we investigate the study of techniques for scheduling users for resource allocation in the case of multiple input and multiple output (MIMO) packet transmission systems. In these systems, transmit antennas are assigned to one user or dynamically to different users using spatial multiplexing. The allocation of all transmit antennas to one user cannot take full advantages of multi-user diversity. Therefore, we developed the case when resources are allocated dynamically. At each time slot users have to feed back their channel information on an uplink feedback channel. Channel information considered available in the schedulers is the zero forcing (ZF) post detection signal to interference plus noise ratio. Our analysis study concerns the round robin and the opportunistic schemes. In this paper, we present an overview and a complete capacity analysis of these schemes. The main results in our study are to give an analytical form of system capacity using the ZF receiver at the user terminal. Simulations have been carried out to validate all proposed analytical solutions and to compare the performance of these schemes.

**Keywords:** MIMO, scheduling, ZF receiver, spatial multiplexing, round robin scheduling, opportunistic.

## **FIBER OPTIC SENSORS**

**Bahareh Gholamzadeh, Hooman Nabovati**

h Sadjad Institute of Higher Education, Mashhad, Iran

H. Nabovati, Department of Electrical Engineering, Sadjad Institute of Higher Education,  
Mashhad, Iran

### **Abstract:**

Fiber optic sensor technology offers the possibility of sensing different parameters like strain, temperature, pressure in harsh environment and remote locations. these kinds of sensors modulates some features of the light wave in an optical fiber such an intensity and phase or use optical fiber as a medium for transmitting the measurement information. The advantages of fiber optic sensors in contrast to conventional electrical ones make them popular in different applications and now a day they consider as a key component in improving industrial processes, quality control systems, medical diagnostics, and preventing and controlling general process abnormalities. This paper is an introduction to fiber optic sensor technology and some of the applications that make this branch of optic technology, which is still in its early infancy, an interesting field.

**Keywords:** Fiber optic sensors, distributed sensors, sensorapplication, crack sensor.

## **INHIBITION KINETIC DETERMINATION OF TRACE AMOUNTS OF RUTHENIUM(III) BY THE SPECTROPHOTOMETRIC METHOD WITH RHODAMINE B IN MICELLAR MEDIUM**

**Mohsen Keyvanfard**

Islamic Azad University, Majlessi Branch. Mohsen Keyvanfard is with faculty of Science,  
Islamic Azad University – Majlessi Branch, Isfahan, Iran

### **Abstract:**

A new, simple and highly sensitive kinetic spectrophotometric method was developed for the determination of trace amounts of Ru(III) in the range of 0.06-20 ng/ml. The method is based on the inhibitory effect of ruthenium(III) on the oxidation of Rhodamine B by bromate in acidic and micellar medium. The reaction was monitored spectrophotometrically by measuring the decreasing in absorbance of Rhodamine B at 554 nm with a fixed time method. The limit of detection is 0.04 ng/ml Ru(III). The relative standard deviation of 5 and 10 ng/ml Ru(III) was 2.3 and 2.7 %, respectively. The method was applied to the determination of ruthenium in real water samples

**Keywords:** Ruthenium ;Inhibitory; Rhodamine B; bromate

## **BREAST SKIN-LINE ESTIMATION AND BREAST SEGMENTATION IN MAMMOGRAMS USING FAST-MARCHING METHOD**

**Roshan Dharshana Yapa, Koichi Harada**

Department of Information Engineering of the Graduate School of Engineering in Hiroshima  
University, Japan

### **Abstract:**

Breast skin-line estimation and breast segmentation is an important pre-process in mammogram image processing and computer-aided diagnosis of breast cancer. Limiting the area to be processed into a specific target region in an image would increase the accuracy and efficiency of processing algorithms. In this paper we are presenting a new algorithm for estimating skin-line and breast segmentation using fast marching algorithm. Fast marching is a partial-differential equation based numerical technique to track evolution of interfaces. We have introduced some modifications to the traditional fast marching method, specifically to improve the accuracy of skin-line estimation and breast tissue segmentation. Proposed modifications ensure that the evolving front stops near the desired boundary. We have evaluated the performance of the algorithm by using 100 mammogram images taken from mini-MIAS database. The results obtained from the experimental evaluation indicate that this algorithm explains 98.6% of the ground truth breast region and accuracy of the segmentation is 99.1%. Also this algorithm is capable of partially-extracting nipple when it is available in the profile.

**Keywords:** Mammogram, fast marching method, mathematical morphology.

## **SCATTERER DENSITY IN EDGE AND COHERENCE ENHANCING NONLINEAR ANISOTROPIC DIFFUSION FOR MEDICAL ULTRASOUND SPECKLE REDUCTION**

**Ahmed Badawi, J. Michael Johnson, Mohamed Mahfouz**

University of Tennessee, Knoxville, Biomedical Engineering Department

### **Abstract:**

This paper proposes new enhancement models to the methods of nonlinear anisotropic diffusion to greatly reduce speckle and preserve image features in medical ultrasound images. By incorporating local physical characteristics of the image, in this case scatterer density, in addition to the gradient, into existing tensorbased image diffusion methods, we were able to greatly improve the performance of the existing filtering methods, namely edge enhancing (EE) and coherence enhancing (CE) diffusion. The new enhancement methods were tested using various ultrasound images, including phantom and some clinical images, to determine the amount of speckle reduction, edge, and coherence enhancements. Scatterer density weighted nonlinear anisotropic diffusion (SDWNAD) for ultrasound images consistently outperformed its traditional tensor-based counterparts that use gradient only to weight the diffusivity function. SDWNAD is shown to greatly reduce speckle noise while preserving image features as edges, orientation coherence, and scatterer density. SDWNAD superior performances over nonlinear coherent diffusion (NCD), speckle reducing anisotropic diffusion (SRAD), adaptive weighted median filter (AWMF), wavelet shrinkage (WS), and wavelet shrinkage with contrast enhancement (WSCE), make these methods ideal preprocessing steps for automatic segmentation in ultrasound imaging.

**Keywords:** Nonlinear anisotropic diffusion, ultrasound imaging, speckle reduction, scatterer density estimation, edge based enhancement, coherence enhancement.

## **T-WAVE DETECTION BASED ON AN ADJUSTED WAVELET TRANSFORM MODULUS MAXIMA**

**Samar Krimi, Kaïs Ouni, Nouredine Ellouze**

Systems and Signal Processing Laboratory (LSTS) in the National Engineering School of  
Tunis

### **Abstract:**

The method described in this paper deals with the problems of T-wave detection in an ECG. Determining the position of a T-wave is complicated due to the low amplitude, the ambiguous and changing form of the complex. A wavelet transform approach handles these complications therefore a method based on this concept was developed. In this way we developed a detection method that is able to detect T-waves with a sensitivity of 93% and a correct-detection ratio of 93% even with a serious amount of baseline drift and noise.

**Keywords:** ECG, Modulus Maxima Wavelet Transform, Performance, T-wave detection

## **BRIDGING THE MENTAL GAP BETWEEN CONVOLUTION APPROACH AND COMPARTMENTAL MODELING IN FUNCTIONAL IMAGING: TYPICAL EMBEDDING OF AN OPEN TWO-COMPARTMENT MODEL INTO THE SYSTEMS THEORY APPROACH OF INDICATOR DILUTION THEORY**

**Gesine Hellwig**

Research campus Neuherberg near Munich, this investigation was supported in part by the German Cancer Aid (Deutsche Krebshilfe) under grant number 70–2323 and by the Helmholtz Society Strategy Fund

### **Abstract:**

Functional imaging procedures for the non-invasive assessment of tissue microcirculation are highly requested, but require a mathematical approach describing the trans- and intercapillary passage of tracer particles. Up to now, two theoretical, for the moment different concepts have been established for tracer kinetic modeling of contrast agent transport in tissues: pharmacokinetic compartment models, which are usually written as coupled differential equations, and the indicator dilution theory, which can be generalized in accordance with the theory of linear time-invariant (LTI) systems by using a convolution approach. Based on mathematical considerations, it can be shown that also in the case of an open two-compartment model well-known from functional imaging, the concentration-time course in tissue is given by a convolution, which allows a separation of the arterial input function from a system function being the impulse response function, summarizing the available information on tissue microcirculation. Due to this reason, it is possible to integrate the open two-compartment model into the system-theoretic concept of indicator dilution theory (IDT) and thus results known from IDT remain valid for the compartment approach. According to the long number of applications of compartmental analysis, even for a more general context similar solutions of the so-called forward problem can already be found in the extensively available appropriate literature of the seventies and early eighties. Nevertheless, to this day, within the field of biomedical imaging – not from the mathematical point of view – there seems to be a trench between both approaches, which the author would like to get over by exemplary analysis of the well-known model.

**Keywords:** Functional imaging, Tracer kinetic modeling, LTI system, Indicator dilution theory / convolution approach, Two-Compartment model.

## **ANALYSIS OF MEDICAL DATA USING DATA MINING AND FORMAL CONCEPT ANALYSIS**

**Anamika Gupta, Naveen Kumar, Vasudha Bhatnagar**

Department of Computer Science, Delhi University, India.

### **Abstract:**

This paper focuses on analyzing medical diagnostic data using classification rules in data mining and context reduction in formal concept analysis. It helps in finding redundancies among the various medical examination tests used in diagnosis of a disease. Classification rules have been derived from positive and negative association rules using the Concept lattice structure of the Formal Concept Analysis. Context reduction technique given in Formal Concept Analysis along with classification rules has been used to find redundancies among the various medical examination tests. Also it finds out whether expensive medical tests can be replaced by some cheaper tests.

**Keywords:** Data Mining, Formal Concept Analysis, Medical Data, Negative Classification Rules.



## **CASE BASED REASONING TECHNOLOGY FOR MEDICAL DIAGNOSIS**

**Abdel-Badeeh M. Salem**

professor with the Department of Computer Science, Faculty of Computer and Information Sciences, Ain Shams University, Cairo, Egypt

### **Abstract:**

Case based reasoning (CBR) methodology presents a foundation for a new technology of building intelligent computeraided diagnoses systems. This Technology directly addresses the problems found in the traditional Artificial Intelligence (AI) techniques, e.g. the problems of knowledge acquisition, remembering, robust and maintenance. This paper discusses the CBR methodology, the research issues and technical aspects of implementing intelligent medical diagnoses systems. Successful applications in cancer and heart diseases developed by Medical Informatics Research Group at Ain Shams University are also discussed.

**Keywords:** Medical Informatics, Computer-Aided MedicalDiagnoses, AI in Medicine, Case-Based Reasoning.

## **DETECTION OF DIABETIC SYMPTOMS IN RETINA IMAGES USING ANALOG ALGORITHMS**

**Daniela Matei, Radu Matei**

Technical University of Iasi, Romania, Faculty of Electronics and Telecommunications

### **Abstract:**

In this paper a class of analog algorithms based on the concept of Cellular Neural Network (CNN) is applied in some processing operations of some important medical images, namely retina images, for detecting various symptoms connected with diabetic retinopathy. Some specific processing tasks like morphological operations, linear filtering and thresholding are proposed, the corresponding template values are given and simulations on real retina images are provided.

**Keywords:** Diabetic retinopathy, pathology detection, cellular neural networks, analog algorithms.

## ARRIVING AT AN OPTIMUM VALUE OF TOLERANCE FACTOR FOR COMPRESSING MEDICAL IMAGES

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center for Medical Electronics, Anna University, Chennai, India as a research scholar, and working as Professor in Department of ECE, KCG College of Technology, Chennai., India

### Abstract:

Medical imaging uses the advantage of digital technology in imaging and teleradiology. In teleradiology systems large amount of data is acquired, stored and transmitted. A major technology that may help to solve the problems associated with the massive data storage and data transfer capacity is data compression and decompression. There are many methods of image compression available. They are classified as lossless and lossy compression methods. In lossy compression method the decompressed image contains some distortion. Fractal image compression (FIC) is a lossy compression method. In fractal image compression an image is coded as a set of contractive transformations in a complete metric space. The set of contractive transformations is guaranteed to produce an approximation to the original image. In this paper FIC is achieved by PIFS using quadtree partitioning. PIFS is applied on different images like , Ultrasound, CT Scan, Angiogram, X-ray, Mammograms. In each modality approximately twenty images are considered and the average values of compression ratio and PSNR values are arrived. In this method of fractal encoding, the parameter, tolerance factor  $T_{max}$ , is varied from 1 to 10, keeping the other standard parameters constant. For all modalities of images the compression ratio and Peak Signal to Noise Ratio (PSNR) are computed and studied. The quality of the decompressed image is arrived by PSNR values. From the results it is observed that the compression ratio increases with the tolerance factor and mammogram has the highest compression ratio. The quality of the image is not degraded upto an optimum value of tolerance factor,  $T_{max}$ , equal to 8, because of the properties of fractal compression.

**Keywords:** Fractal image compression, IFS, PIFS, PSNR, Quadtree partitioning.

## **EFFECT OF POLYVINYL PYRROLIDONE AND ETHYL CELLULOSE CONCENTRATION ON RELEASE PROFILE AND KINETICS OF GLIBENCLAMIDE EXTENDED RELEASE DOSAGE FORM SYSTEM**

**Amit Kumar, Peeyush Sharma, Anil Bhandari**

Department of Pharmaceutics, Faculty of Pharmaceutical Sciences, Jodhpur National  
University, India

### **Abstract:**

The aim of present work was to optimize the effect of Ethyl Cellulose (EC) and Polyvinyl Pyrrolidone (PVP) concentration in extended release solid dispersion of Glibenclamide using combination of hydrophilic and hydrophobic polymers such as Polyvinyl Pyrrolidone and Ethyl cellulose. The advantage of solid dispersion technique provides a unique approach to particle size reduction and increased rates of dissolution. The compatibility studies of the drug and polymers were studied by TLC and results suggested no interaction between drug and polymers. Solid dispersions of Glibenclamide were prepared by common solvent evaporation method using Polyvinyl Pyrrolidone and Ethyl cellulose. The results indicated that homogeneous or heterogeneous conditions during the preparation methods employed governed the internal structures of the polymer matrices while retaining the drug in an amorphous form. F2 formulation prepared by solid dispersion method, displayed extended drug release followed by Higuchi matrix model indicating diffusion release of GLB from polymer matrices.

**Keywords:** Ethyl Cellulose, Glibenclamide, Polyvinyl Pyrrolidone, Solid Dispersion.

## **ASSESSING THE EFFECTS OF EXPLOSION WAVES ON OFFICE AND RESIDENTIAL BUILDINGS**

**Mehran Pourgholi , Amin Lotfi Eghlim**

University of mohaghegh ardabili , Ardabil , Iran

### **Abstract:**

Explosions may cause intensive damage to buildings and sometimes lead to total and progressive destruction. Pressures induced by explosions are one of the most destructive loads a structure may experience. While designing structures for great explosions may be expensive and impractical, engineers are looking for methods for preventing destructions resulted from explosions. A favorable structural system is a system which does not disrupt totally due to local explosion, since such structures sustain less loss in comparison with structural ones which really bear the load and suddenly disrupt. Designing and establishing vital and necessary installations in a way that it is resistant against direct hit of bomb and rocket is not practical, economical, or expedient in many cases, because the cost of construction and installation with such specifications is several times more than the total cost of the related equipment.

**Keywords:** Explosion Waves, explosion load, Office, Residential Buildings

## MULTIPATH ROUTING SENSOR NETWORK FOR FINDING CRACK IN METALLIC STRUCTURE USING FUZZY LOGIC

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department of Information Technology of Purushottam Institute of Engineering and Technology, Mandiakudar, Kansbahal, Rourkela, India

### Abstract:

For collecting data from all sensor nodes, some changes in Dynamic Source Routing (DSR) protocol is proposed. At each hop level, route-ranking technique is used for distributing packets to different selected routes dynamically. For calculating rank of a route, different parameters like: delay, residual energy and probability of packet loss are used. A hybrid topology of DMPR(Disjoint Multi Path Routing) and MMPR(Meshed Multi Path Routing) is formed, where braided topology is used in different faulty zones of network. For reducing energy consumption, variant transmission ranges is used instead of fixed transmission range. For reducing number of packet drop, a fuzzy logic inference scheme is used to insert different types of delays dynamically. A rule based system infers membership function strength which is used to calculate the final delay amount to be inserted into each of the node at different clusters. In braided path, a proposed 'Dual Line ACK Link'scheme is proposed for sending ACK signal from a damaged node or link to a parent node to ensure that any error in link or any node-failure message may not be lost anyway. This paper tries to design the theoretical aspects of a model which may be applied for collecting data from any large hanging iron structure with the help of wireless sensor network. But analyzing these data is the subject of material science and civil structural construction technology, that part is out of scope of this paper.

**Keywords:** Metallic corrosion, Multi Path Routing, DisjointMPR, Meshed MPR, braided path, dual line ACK link, route rankingand Fuzzy Logic.

## **ADVANTAGES OF LARGE STRANDS IN PRECAST/PRESTRESSED CONCRETE HIGHWAY APPLICATION**

**Amin Akhnoukh**

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Department at the University of Arkansas at Little Rock

### **Abstract:**

The objective of this research is to investigate the advantages of using large-diameter 0.7 inch prestressing strands in pretension applications. The advantages of large-diameter strands are mainly beneficial in the heavy construction applications. Bridges and tunnels are subjected to a higher daily traffic with an exponential increase in trucks ultimate weight, which raise the demand for higher structural capacity of bridges and tunnels. In this research, precast prestressed I-girders were considered as a case study. Flexure capacities of girders fabricated using 0.7 inch strands and different concrete strengths were calculated and compared to capacities of 0.6 inch strands girders fabricated using equivalent concrete strength. The effect of bridge deck concrete strength on composite deck-girder section capacity was investigated due to its possible effect on final section capacity. Finally, a comparison was made to compare the bridge cross-section of girders designed using regular 0.6 inch strands and the large-diameter 0.7 inch. The research findings showed that structural advantages of 0.7 inch strands allow for using fewer bridge girders, reduced material quantity, and light-weight members. The structural advantages of 0.7 inch strands are maximized when high strength concrete (HSC) are used in girder fabrication, and concrete of minimum 5ksi compressive strength is used in pouring bridge decks. The use of 0.7 inch strands in bridge industry can partially contribute to the improvement of bridge conditions, minimize construction cost, and reduce the construction duration of the project.

**Keywords:** 0.7 Inch Strands, I-Girders, Pretension, Flexure Capacity

## **TORSION BEHAVIOR OF STEEL FIBERED HIGH STRENGTH SELF COMPACTING CONCRETE BEAMS REINFORCED BY GFRB BARS**

**Khaled S. Ragab, Ahmed S. Eisa**

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Zagazig, Egypt.

### **Abstract:**

This paper investigates experimentally and analytically the torsion behavior of steel fibered high strength self compacting concrete beams reinforced by GFRP bars. Steel fibered high strength self compacting concrete (SFHSSCC) and GFRP bars became in the recent decades a very important materials in the structural engineering field. The use of GFRP bars to replace steel bars has emerged as one of the many techniques put forward to enhance the corrosion resistance of reinforced concrete structures. High strength concrete and GFRP bars attract designers and architects as it allows improving the durability as well as the esthetics of a construction. One of the trends in SFHSSCC structures is to provide their ductile behavior and additional goal is to limit development and propagation of macro-cracks in the body of SFHSSCC elements. SFHSSCC and GFRP bars are tough, improve the workability, enhance the corrosion resistance of reinforced concrete structures, and demonstrate high residual strengths after appearance of the first crack. Experimental studies were carried out to select effective fiber contents. Three types of volume fraction from hooked shape steel fibers are used in this study, the hooked steel fibers were evaluated in volume fractions ranging between 0.0%, 0.75% and 1.5%. The beams shape is chosen to create the required forces (i.e. torsion and bending moments simultaneously) on the test zone. A total of seven beams were tested, classified into three groups. All beams, have 200cm length, cross section of 10×20cm, longitudinal bottom reinforcement of 3

**Keywords:** Self compacting concrete, torsion behavior, steel fiber, steel fiber reinforced high strength self compacting concrete (SFRHSSCC), GFRP bars.



## **A STUDY ON THE DEVELOPING METHOD OF THE BIM (BUILDING INFORMATION MODELING) SOFTWARE BASED ON CLOUD COMPUTING ENVIRONMENT**

**Byung-Kon Kim**

ICT Convergence and Integration Research Division, SOC Research Institute, Korea Institute of Construction Technology, Senior Researcher

### **Abstract:**

According as the Architecture, Engineering and Construction (AEC) Industry projects have grown more complex and larger, the number of utilization of BIM for 3D design and simulation is increasing significantly. Therefore, typical applications of BIM such as clash detection and alternative measures based on 3-dimensional planning are expanded to process management, cost and quantity management, structural analysis, check for regulation, and various domains for virtual design and construction. Presently, commercial BIM software is operated on single-user environment, so initial cost is so high and the investment may be wasted frequently. Cloud computing that is a next-generation internet technology enables simple internet devices (such as PC, Tablet, Smart phone etc) to use services and resources of BIM software. In this paper, we suggested developing method of the BIM software based on cloud computing environment in order to expand utilization of BIM and reduce cost of BIM software. First, for the benchmarking, we surveyed successful case of BIM and cloud computing. And we analyzed needs and opportunities of BIM and cloud computing in AEC Industry. Finally, we suggested main functions of BIM software based on cloud computing environment and developed a simple prototype of cloud computing BIM software for basic BIM model viewing.

**Keywords:** Construction IT, BIM(Building Information Modeling), Cloud Computing, BIM Service Based Cloud Computing, Viewer Based BIM Server, 3D Design.

## **APPLICATIONS OF CARBON FIBERS PRODUCED FROM POLYACRYLONITRILE FIBERS**

**R. Eslami Farsani, R. Fazaeli**

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### **Abstract:**

Carbon fibers have specific characteristics in comparison with industrial and structural materials used in different applications. Special properties of carbon fibers make them attractive for reinforcing and fabrication of composites. These fibers have been utilized for composites of metals, ceramics and plastics. However, it-s mainly used in different forms to reinforce lightweight polymer materials such as epoxy resin, polyesters or polyamides. The composites of carbon fiber are stronger than steel, stiffer than titanium, and lighter than aluminum and nowadays they are used in a variety of applications. This study explains applications of carbon fibers in different fields such as space, aviation, transportation, medical, construction, energy, sporting goods, electronics, and the other commercial/industrial applications. The last findings of composites with polymer, metal and ceramic matrices containing carbon fibers and their applications in the world investigated. Researches show that carbon fibers-reinforced composites due to unique properties (including high specific strength and specific modulus, low thermal expansion coefficient, high fatigue strength, and high thermal stability) can be replaced with common industrial and structural materials.

**Keywords:** Polyacrylonitrile Fibers, Carbon Fibers, Application

## **THE ESTABLISHMENT OF CAUSE-SYSTEM OF POOR CONSTRUCTION SITE SAFETY AND PRIORITY ANALYSIS FROM DIFFERENT PERSPECTIVES**

**Shirong Li, Xueping Xiang**

Faculty of Construction Management and Real Estate, Chongqing University, China,

### **Abstract:**

Construction site safety in China has aroused comprehensive concern all over the world. It is imperative to investigate the main causes of poor construction site safety. This paper divides all the causes into four aspects, namely the factors of workers, object, environment and management and sets up the accident causes element system based on Delphi Method. This is followed by the application of structural equation modeling to examine the importance of each aspect of causes from the standpoints of different roles related to the construction respectively. The results indicate that all the four aspects of factors are in need of improvement, and different roles have different ideas considering the priority of those factors. The paper has instructive significance for the practitioners to take measures to improve construction site safety in China accordingly.

**Keywords:** construction site safety, Delphi Method, structural equation modeling, different perspective.

## **LATERAL TORSIONAL BUCKLING OF STEEL THIN-WALLED BEAMS WITH LATERAL RESTRAINTS**

**Ivan Balázs, Jindřich Melcher**

Brno University of Technology, Faculty of Civil Engineering, Institute of Metal and Timber  
Structures, Czech Republic

### **Abstract:**

Metal thin-walled members have been widely used in building industry. Usually they are utilized as purlins, girts or ceiling beams. Due to slenderness of thin-walled cross-sections these structural members are prone to stability problems (e.g. flexural buckling, lateral torsional buckling). If buckling is not constructionally prevented their resistance is limited by buckling strength. In practice planar members of roof or wall cladding can be attached to thin-walled members. These elements reduce displacement of thin-walled members and therefore increase their buckling strength. If this effect is taken into static assessment more economical sections of thin-walled members might be utilized and certain savings of material might be achieved. This paper focuses on problem of determination of critical load of steel thin-walled beams with lateral continuous restraint which is crucial for lateral torsional buckling assessment.

**Keywords:** Beam, buckling, numerical analysis, stability, steel.

## ANTIBACTERIAL ACTIVITY OF ETHANOL EXTRACT FROM SOME THAI MEDICINAL PLANTS AGAINST *CAMPYLOBACTER JEJUNI*

**Achara Dholvitayakhun, Nathanon Trachoo**

Faculty of Science and Agricultural Technology, Rajamangala University of Technology  
Lanna Tak Thailand.

### Abstract:

In this study, the forty Thai medicinal plants were used to screen the antibacterial activity against *Campylobacter jejuni*. Crude 95% ethanolic extracts of each plant were prepared. Antibacterial activity was investigated by the disc diffusion assay, and MICs and MBCs were determined by broth microdilution. The results of antibacterial screening showed that five plants have activity against *C.jejuni* including *Adenanthera pavonina* L., *Moringa oleifera* Lam., *Annona squamosa* L., *Hibiscus sabdariffa* L. and *Eupatorium odoratum* L. The extraction of *A. pavonina* L. and *A. squamosa* L. produced an outstanding against *C. jejuni*, inhibiting growth at 62.5-125 and 250-500 µg/mL, respectively. The MBCs of two extracts were just 4-fold higher than MICs against *C. jejuni*, suggesting the extracts are bactericidal against this species. These results indicate that *A. pavonina* and *A. squamosa* could potentially be used in modern applications aimed at treatment or prevention of foodborne disease from *C. jejuni*.

**Keywords:** Antibacterial activity, Thai medicinal plants, *Campylobacter jejuni*

## **NEW SIMULTANEOUS HIGH PERFORMANCE LIQUID CHROMATOGRAPHIC METHOD FOR DETERMINATION OF NSAIDS AND OPIOID ANALGESICS IN ADVANCED DRUG DELIVERY SYSTEMS AND HUMAN PLASMA**

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### **Abstract:**

A new and cost effective RP-HPLC method was developed and validated for simultaneous analysis of non steroidal anti inflammatory drugs Diclofenac sodium (DFS), Flurbiprofen (FLP) and an opioid analgesic Tramadol (TMD) in advanced drug delivery systems (Liposome and Microcapsules), marketed brands and human plasma. Isocratic system was employed for the flow of mobile phase consisting of 10 mM sodium dihydrogen phosphate buffer and acetonitrile in molar ratio of 67: 33 with adjusted pH of 3.2. The stationary phase was hypersil ODS column (C18, 250×4.6 mm i.d., 5 µm) with controlled temperature of 30 C°. DFS in liposomes, microcapsules and marketed drug products was determined in range of 99.76-99.84%. FLP and TMD in microcapsules and brands formulation were 99.78 - 99.94 % and 99.80 - 99.82 %, respectively. Single step liquid-liquid extraction procedure using combination of acetonitrile and trichloroacetic acid (TCA) as protein precipitating agent was employed. The detection limits (at S/N ratio 3) of quality control solutions and plasma samples were 10, 20, and 20 ng/ml for DFS, FLP and TMD, respectively. The Assay was acceptable in linear dynamic range. All other validation parameters were found in limits of FDA and ICH method validation guidelines. The proposed method is sensitive, accurate and precise and could be applicable for routine analysis in pharmaceutical industry as well as in human plasma samples for bioequivalence and pharmacokinetics studies.

**Keywords:** Diclofenac Sodium, Flurbiprofen, Tramadol, HPLC-UV detection, Validation.

## **A REVIEW ON APPLICATION OF CHITOSAN AS A NATURAL ANTIMICROBIAL**

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### **Abstract:**

In recent years application of natural antimicrobials instead of conventional ones, due to their hazardous effects on health, has got serious attentions. On the basis of the results of different studies, chitosan, a natural bio-degradable and non-toxic biopolysaccharide derived from chitin, has potential to be used as a natural antimicrobial. Chitosan has exhibited high antimicrobial activity against a wide variety of pathogenic and spoilage microorganisms, including fungi, and Gram-positive and Gramnegative bacteria. The antimicrobial action is influenced by intrinsic factors such as the type of chitosan, the degree of chitosan polymerization and extrinsic factors such as the microbial organism, the environmental conditions and presence of the other components. The use of chitosan in food systems should be based on sufficient knowledge of the complex mechanisms of its antimicrobial mode of action. In this article we review a number of studies on the investigation of chitosan antimicrobial properties and application of them in culture and food mediums.

**Keywords:** Antimicrobial, Chitosan, Preservative

## NEUROGENIC POTENTIAL OF CLITORIA TERNATEA AQUEOUS ROOT EXTRACT–A BASIS FOR ENHANCING LEARNING AND MEMORY

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### Abstract:

The neurogenic potential of many herbal extracts used in Indian medicine is hitherto unknown. Extracts derived from *Clitoria ternatea* Linn have been used in Indian Ayurvedic system of medicine as an ingredient of “Medhya rasayana”, consumed for improving memory and longevity in humans and also in treatment of various neurological disorders. Our earlier experimental studies with oral intubation of *Clitoria ternatea* aqueous root extract (CTR) had shown significant enhancement of learning and memory in postnatal and young adult Wistar rats. The present study was designed to elucidate the in vitro effects of 200ng/ml of CTR on proliferation, differentiation and growth of anterior subventricular zone neural stem cells (aSVZ NSC-s) derived from prenatal and postnatal rat pups. Results show significant increase in proliferation and growth of neurospheres and increase in the yield of differentiated neurons of aSVZ neural precursor cells (aSVZNPC-s) at 7 days in vitro when treated with 200ng/ml of CTR as compared to age matched control. Results indicate that CTR has growth promoting neurogenic effect on aSVZ neural stem cells and their survival similar to neurotrophic factors like Survivin, Neuregulin 1, FGF-2, BDNF possibly the basis for enhanced learning and memory.

**Keywords:** Anterior subventricular zone (aSVZ) neural stemcell, *Clitoria ternatea*, Learning and memory, Neurogenesis.



## **FORMULATION AND EVALUATION OF VAGINAL SUPPOSITORIES CONTAINING LACTOBACILLUS**

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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.

## DATA MINING CLASSIFICATION METHODS APPLIED IN DRUG DESIGN

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### Abstract:

Data mining incorporates a group of statistical methods used to analyze a set of information, or a data set. It operates with models and algorithms, which are powerful tools with the great potential. They can help people to understand the patterns in certain chunk of information so it is obvious that the data mining tools have a wide area of applications. For example in the theoretical chemistry data mining tools can be used to predict molecule properties or improve computer-assisted drug design. Classification analysis is one of the major data mining methodologies. The aim of the contribution is to create a classification model, which would be able to deal with a huge data set with high accuracy. For this purpose logistic regression, Bayesian logistic regression and random forest models were built using R software. The Bayesian logistic regression in Latent GOLD software was created as well. These classification methods belong to supervised learning methods. It was necessary to reduce data matrix dimension before construct models and thus the factor analysis (FA) was used. Those models were applied to predict the biological activity of molecules, potential new drug candidates.

**Keywords:** data mining, classification, drug design, QSAR

## **SALBUTAMOL SULPHATE-ETHYLCELLULOSE TABLETTED MICROCAPSULES: PHARMACOKINETIC STUDY USING CONVOLUTION APPROACH**

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Pakistan

### **Abstract:**

The aim of this article is to narrate the utility of novel simulation approach i.e. convolution method to predict blood concentration of drug utilizing dissolution data of salbutamol sulphate microparticulate formulations with different release patterns (1:1, 1:2 and 1:3, drug:polymer). Dissolution apparatus II USP 2007 and 900 ml double distilled water stirred at 50 rpm was employed for dissolution analysis. From dissolution data, blood drug concentration was determined, and in return predicted blood drug concentration data was used to calculate the pharmacokinetic parameters i.e. C<sub>max</sub>, T<sub>max</sub>, and AUC. Convolution is a good biwaiver technique; however its better utility needs its application in the conditions where biorelevant dissolution media are used.

**Keywords:** Convolution, Dissolution, Pharmacokinetics, Salbutamol sulphate

## BIOEFFICACY OF SOME OIL-MIXED PLANT DERIVATIVES AGAINST AFRICAN MUD CATFISH (*CLARIAS GARIEPINUS*) BEETLES, *DERMESTES* *MACULATUS* AND *NECROBIA RUFIPES*

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### Abstract:

The efficacy of the separate mixing of four tropical spicy and medicinal plant products: *Dennettia tripetala* Baker (pepper fruit), *Eugenia aromatica* Hook (clove), *Piper guineense* (Schum and Thonn) (black pepper) and *Monodora myristica* (Dunal) (African nut-meg) with a household vegetable oil was evaluated under tropical storage conditions for the control and reproductive performance of *Dermestes maculatus* (De Geer) (hide beetle) and *Necroba rufipes* (De Geer) (copra beetle) on African catfish, *Clarias gariepinus* (Burchell). Each of the plant materials was pulverized into powder and applied as a mix of 1ml of oil and plant powder at 2.5, 5.0, 7.5 and 10.0g per 100g of dried fish, and allowed to dry for 6h. Each of the four oil-mixed powder treatments evoked significant ( $P < 0.05$ ) mortalities of the two insects compared with the control (oil only) at 1, 3 and 7 days post treatment. The oil-powder mixture dosages did not prevent insect egg hatchability but while the emergent larvae on the treated samples died, the emergent larvae in the control survived into adults. The application of oil-mixed powders effectively suppressed the emergence of the larvae of the beetles. Similarly, each of the oil-powder mixtures significantly reduced weight loss in smoked fish that were exposed to *D. maculatus* and *N. rufipes* when compared to the control ( $P < 0.05$ ). The results of this study suggest that the plant powders rather than the domestic oil demonstrated protective ability against the fish beetles and confirm the efficacy of the plant products as pest control agents.

**Keywords:** Catfish, Fish beetles, Fish preservation, Oil-powder mix, Plant products.

## THE ROLE OF IMMUNOGENIC ADHESIN *VIBRIO ALGINOLYTICUS* 49 K DA TO MOLECULE EXPRESSION OF MAJOR HISTOCOMPATIBILITY COMPLEX ON RECEPTORS OF HUMPBAC GROUPE CRONILEPTES ALTIVELIS

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### Abstract:

The purpose of research was to know the role of immunogenic protein of 49 kDa from *V.alginolyticus* which capable to initiate molecule expression of MHC Class II in receptor of *Cromileptes altivelis*. The method used was in vivo experimental research through testing of immunogenic protein 49 kDa from *V.alginolyticus* at *Cromileptes altivelis* (size of 250 - 300 grams) using 3 times booster by injecting an immunogenic protein in a intramuscular manner. Response of expressed MHC molecule was shown using immunocytochemistry method and SEM. Results indicated that adhesin *V.alginolyticus* 49 kDa which have immunogenic character could trigger expression of MHC class II on receptor of grouper and has been proven by staining using immunocytochemistry and SEM with labeling using antibody anti MHC (anti mouse). This visible expression based on binding between epitopes antigen and antibody anti MHC in the receptor. Using immunocytochemistry, intracellular response of MHC to in vivo induction of immunogenic adhesin from *V.alginolyticus* was shown.

**Keywords:** *C.altivelis*, immunogenic, MHC, *V.alginolyticus*.

## IDENTIFICATION CHARACTERIZATION AND PRODUCTION OF PHYTASE FROM ENDOPHYTIC FUNGI

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### Abstract:

Phytases are acid phosphatase enzymes, which efficiently cleave phosphate moieties from phytic acid, thereby generating myo-inositol and inorganic phosphate. Thirty four isolates of endophytic fungi to produce of phytases were isolated from leaf, stem and root fragments of soybean. Screening of 34 isolates of endophytic fungi identified the phytases produced by *Rhizoctonia* sp. and *Fusarium verticillioides* . The phytase production were the best induced by phytic acid and rice bran compared the others inducer in submerged fermentation medium used. The phytase produced by both *Rhizoctonia* sp. and *F. verticillioides* have pH optimum at 4.0 and 5.0 respectively. The characterization of phytase from *Fusarium verticillioides* showed that temperature optimum was 50°C and stability until 60°C, the pH optimum 5.0 and pH stability was 2.5 – 6.0, and substrate specificity were rice bran>soybean meal>corn> coconut cake, respectively.

**Keywords:** endophytic fungus, phytase, soybean, *Rhizoctonia* sp., *Fusarium verticillioides*,

**DIRECT AND INDIRECT SOMATIC EMBRYOGENESIS FROM PETIOLE AND LEAF EXPLANTS OF PURPLE FAN FLOWER (SCAEVOLA AEMULA R. BR. CV. 'PURPLE FANFARE')**

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Open University of Sri Lanka,

**Abstract:**

Direct and indirect somatic embryogenesis (SE) from petiole and leaf explants of *Scaevola aemula* R. Br. cv. 'Purple Fanfare' was achieved. High frequency of somatic embryos was obtained directly from petiole and leaf explants using an inductive plant growth regulator signal thidiazuron (TDZ). Petiole explants were more responsive to SE than leaves. Plants derived from somatic embryos of petiole explants germinated more readily into plants. SE occurred more efficiently in half-strength Murashige and Skoog (MS) medium than in full-strength MS medium. Non-embryogenic callus induced by 2, 4-dichlorophenoxyacetic acid was used to investigate the feasibility of obtaining SE with TDZ as a secondary inductive plant growth regulator (PGR) signal. Non-embryogenic callus of *S. aemula* was able to convert into an "embryogenic competent mode" with PGR signal. Protocol developed for induction of direct and indirect somatic embryogenesis in *S. aemula* can improve the large scale propagation system of the plant in future.

**Keywords:** Petiole and leaf explants, *Scaevola aemula*, Somaticembryogenesis

## STRUCTURAL BASIS OF RESISTANCE OF *HELICOBACTER PYLORI* DnaK TO ANTIMICROBIAL PEPTIDE PYRRHOCORICIN

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### Abstract:

Bacterial molecular chaperone DnaK plays an essential role in protein folding, stress response and transmembrane targeting of proteins. DnaKs from many bacterial species, including *Escherichia coli*, *Salmonella typhimurium* and *Haemophilus influenzae* are the molecular targets for the insect-derived antimicrobial peptide pyrrhocoricin. Pyrrhocoricin-like peptides bind in the substrate recognition tunnel. Despite the high degree of crossspecies sequence conservation in the substrate-binding tunnel, some bacteria are not sensitive to pyrrhocoricin. This work addresses the molecular mechanism of resistance of *Helicobacter pylori* DnaK to pyrrhocoricin. Homology modelling, structural and sequence analysis identify a single aminoacid substitution at the interface between the lid and the  $\beta$ -sandwich subdomains of the DnaK substrate-binding domain as the major determinant for its resistance.

**Keywords:** *Helicobacter pylori*, molecular chaperone DnaK, pyrrhocoricin, structural biology.



## COMMUNITIES OF AMMONIA-OXIDIZING ARCHAEA AND BACTERIA IN ENRICHED NITRIFYING ACTIVATED SLUDGE

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Environmental and Hazardous Waste Management, Chulalongkorn University, Bangkok,  
Thailand

### Abstract:

In this study, communities of ammonia-oxidizing archaea (AOA) and ammonia-oxidizing bacteria (AOB) in nitrifying activated sludge (NAS) prepared by enriching sludge from a municipal wastewater treatment plant in three continuous-flow reactors receiving an inorganic medium containing different ammonium concentrations of 2, 10, and 30 mM  $\text{NH}_4^+ \text{--N}$  (NAS2, NAS10, and NAS30, respectively) were investigated using molecular analysis. Results suggested that almost all AOA clones from NAS2, NAS10, and NAS30 fell into the same AOA cluster and AOA communities in NAS2 and NAS10 were more diverse than those of NAS30. In contrast to AOA, AOB communities obviously shifted from the seed sludge to enriched NASs and in each enriched NAS, communities of AOB varied particularly. The seed sludge contained members of *N. communis* cluster and *N. oligotropha* cluster. After it was enriched under various ammonium loads, members of *N. communis* cluster disappeared from all enriched NASs. AOB with high affinity to ammonia presented in NAS 2, AOB with low affinity to ammonia presented in NAS 30, and both types of AOB survived in NAS 10. These demonstrated that ammonium load significantly influenced AOB communities, but not AOA communities in enriched NASs.

**Keywords:** ammonia-oxidizing bacteria, ammonia-oxidizing archaea, nitrifying activated sludge.

## HUMAN ELASTIN-DERIVED BIOMIMETIC COATING SURFACE TO SUPPORT CELL GROWTH

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### Abstract:

A new sythetic gene coding for a Human Elastin-Like Polypeptide was constructed and expressed. The recombinant product was tested as coating agent to realize a surface suitable for cell growth. Coatings showed peculiar features and different human cell lines were seeded and cultured. All cell lines tested showed to adhere and proliferate on this substrate that has been shown also to exert a specific effect on cells, depending on cell type.

**Keywords:** elastin, recombinant protein, coating, cell adhesion.

## **A REPORT ON OCCURRENCE AND PARASITE-HOST OF *LIGULA* *INTESTINALIS* IN SATTARKHAN LAKE(EAST AZERBAIJAN-IRAN)**

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Marand, Iran

### **Abstract:**

*Ligula intestinalis* is a three-host life-cycle Pseudophyllidean Cestode which in its plerocercoid stage infests a range of fresh water species. The objective of the present study was the worm occurrence within planktonic copepods, fishes and piscivorous birds and examine of parasite-hosts samples in the Lake of Sattarkhan Dam (near the city of Ahar, East Azerbaijan, Iran). Fish sample were collected with fyke and gill nets and the abdominal cavity was examined for the presence of ligula. Zooplanktons were captured using a planktonic net and occurrence of parasitic larval form in the body cavity was determined. Piscivorous birds were selected by telescope, they hunted and dissected for presence of parasite eggs in their gut. Results indicated that prevalence of infection was 16% for cyclopoid copepoda and majority of infected cyclopoid were female Cyclops. Investigation of 310 fishes specimens were indicated to infection of five species of cyprinid fishes. In addition, results indicated to manipulation of six species of migratory aquatic and semi aquatic birds by ligula. Obtained results are in agreement by previous studies. Its definite in this study that all of fishes in Sattarkhan Lake capable to infection, its important for health because they capture by native people and it is documented that ligula can be introduce as a zoonose. It's seemed that to prevent from disperses of parasite and restricted of infection, biological elimination can be effective and it's necessary to inform native people about sanitation.

**Keywords:** *Ligula intestinalis*, parasite-host, Sattarkhan Lake, Iran.

## VOCAL COMMUNICATION IN SOOTY-HEADED BULBUL; PYCNONOTUS AURIGASTER

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### **Abstract:**

Studies of vocal communication in Sooty-headed Bulbul were carried out from January to December 2011. Vocal recordings and behavioral observations were made in their natural habitats at some localities of Lampang, Thailand. After editing, cuts of high quality recordings were analyzed with the help of Avisoft- SASLab Pro (version 4.40) software. More than one thousand element repertoires in five groups were found within two vocal structures. The two structures were short sounds with single element and phrases composed of elements, the frequency ranged from 1-10 kHz. Most phrases were composed of 2 to 5 elements that were often dissimilar in structure, however, these phrases were not as complex as song phrases. The elements and phrases were combined to form many patterns. The species used ten types of calls; i.e. alert, alarm, aggressive, begging, contact, courtship, distress, exciting, flying and invitation. Alert and contact calls were used more frequently than other calls. Aggressive, alarm and distress calls could be used for interspecific communication among some other bird species in the same habitats.

**Keywords:** Vocal communication, Call, Bird, Sooty-headed Bulbul