

2020 Advances in Science and Engineering Technology International Conferences (ASET 2020)

**Dubai, United Arab Emirates
4 February – 9 April 2020**

Pages 1-627



**IEEE Catalog Number: CFP20ASG-POD
ISBN: 978-1-7281-4641-6**

**Copyright © 2020 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP20ASG-POD
ISBN (Print-On-Demand):	978-1-7281-4641-6
ISBN (Online):	978-1-7281-4640-9

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

TABLE OF CONTENTS

KERNEL SYMMETRY FOR CONVOLUTION NEURAL NETWORKS.....	1
<i>Munther Gdeisat, Abdulla Desmal, Yacouba Moumouni, Zaid S. Al-Aubaidy, Ahmed Al Khodary, Asad Hindash, Chandika Wavegedara</i>	
DETECTION OF PV SOLAR PANEL SURFACE DEFECTS USING TRANSFER LEARNING OF THE DEEP CONVOLUTIONAL NEURAL NETWORKS.....	4
<i>Imad Zyout, Abdulrohman Qatawneh</i>	
PREDICTION ON MATERIAL REMOVAL RATE IN ELECTRICAL DISCHARGE MACHINING BASED UPON ADAPTIVE NEURO-FUZZY INFERENCE SYSTEM.....	8
<i>Laith Abdullah Al-Juboori, Shukry Hamed</i>	
ANALYSIS THE IMPACT OF WEDM PARAMETERS ON SURFACE MICROSTRUCTURE USING RESPONSE SURFACE METHODOLOGY	15
<i>Shukry Hamed, Laith Abdullah Al-Juboori, Vean N. Najm, Athraa M. Saleh</i>	
ACTIVATED CRUMB RUBBER MODIFIED BINDER AS A SUSTAINABLE PAVING MATERIAL: PAVEMENT PERFORMANCE CONSIDERATION	23
<i>Muhammed Umar Munir, Amna Elnour, Sabira Huda, Waleed Zeiada</i>	
AERODYNAMIC INVESTIGATION AND DESIGN OF DIMPLED-SURFACE AIRFOIL FOR UAV PROPELLERS.....	30
<i>Abdul Qader Abdullah, Sharul Sham Dol</i>	
USING RECYCLED WASTE MATERIAL FROM UAE IN CONCRETE	35
<i>Muhammad Faiz Ahmed, Sheikh Hamza Rizwan, Muhammad Haseeb Ahmed, Mustafa Batikha</i>	
EXPERIMENTAL STUDY ON BEHAVIOR OF NORMAL STRENGTH CONCRETE INFLUENCED BY ELEVATED TEMPERATURES.....	41
<i>Hemraj Kumavat, Narayan Chandak</i>	
IN-PLANE MODULI OF ELASTICITY HOMOGENIZATION OF ARC-TAN CORRUGATION.....	46
<i>Shamma Z. Al Hemeiri, Shadi Balawi, Kursat Kara, Ashraf N. Al-Khateeb</i>	
COMPARING ONLINE AND PAPER-BASED TESTING FOR PHYSICS COURSES AT HCT, UAE.....	50
<i>Roy D. Forrest, Zahid Shareef, Khaldoun Tarawneh</i>	
DECISION-MAKING IN ENGINEERING DESIGN	54
<i>Evangelos Papageorgiou, Aziz Al Mahadin, Serdar Dalkilic, Eleni-Eleftheria Kamperi</i>	
REMOVAL OF ACID ORANGE 7 DYE FROM WASTEWATER: REVIEW	60
<i>Helanka Jayani Perera</i>	
CASE STUDY OF OUTCOMES OF INNOVATIVE TEACHING METHODS ADOPTED IN ENGINEERING EDUCATION IN INDIA	66
<i>Saba Kausar M. Shaikh, Pradeep B. Mane</i>	
A NEW ANALYSIS AND INVESTIGATION OF SUSTAINABLE MANUFACTURING THROUGH A PERSPECTIVE APPROACH.....	71
<i>Ibrahim Garbie, Abdelrahman Garbie</i>	

OPTIMUM RELIABLE DESIGN OF WATER DISTRIBUTION SYSTEMS USING PARTICLE SWARM OPTIMIZATION CONSIDERING PUMPING POWER AND TANK SITING	77
<i>Mohamed R. Torkomany, Mohamed M. Yusuf, Mohamed Elkholy, Ahmed M. Abdelrazek, Hassan E. S. Fath</i>	
RECTIFYING ACOUSTICAL ISSUES: THE CASE OF M8 DESIGN STUDIO IN UNIVERSITY OF SHARJAH.....	83
<i>Mohammad Khezri, Shady Ashraf, Abdallah Mouselly, Mohammad Jamal, Emad Mushtaha, Abdulraof Rabie</i>	
EXPERIMENTAL INVESTIGATION ON RELATIONSHIPS BETWEEN REBOUND INDEX AND COMPRESSIVE STRENGTH OF CEMENT CONCRETE SPECIMEN INFLUENCED BY PHYSICAL FACTORS.....	88
<i>Hemraj R Kumavat, Narayan Chandak, Dhananjay Jadhav</i>	
RENEWABLE ENERGY IN THE UNITED ARAB EMIRATES: STATUS AND POTENTIAL	93
<i>Abdalla Mahmoud Salim, Imad Alsyouf</i>	
AN INTEGRATED METHOD FOR STEM EDUCATION USING MATLAB.....	98
<i>Nabila A. Azzam, Rula Al-Abbas Al-Kayyali</i>	
AN INVESTIGATION OF APPLICATION OF MATHEMATICS REVIEW TO IMPROVE PROBLEM SOLVING SKILLS AND ACTIVE LEARNING OF ENGINEERING STUDENTS IN PHYSICS APPLIED TO ENGINEERING EDUCATION.....	102
<i>Sandhya Kattayat, Ruba Miqdadi, Manuel Eusebio, Smitha Josey</i>	
ENERGY AND ECONOMIC ANALYSIS OF FLASH STEAM GEOTHERMAL POWER PLANTS IN LEBANON.....	108
<i>M. El-Haj Assad, M. Alshabi, A. Khosravi, A. Hamida, Z. Said</i>	
OUTLOOK OF REQUIREMENTS OF MANUFACTURING SYSTEMS FOR INDUSTRY 4.0	114
<i>Ibrahim Garbie, Abdelrahman Garbie</i>	
INVESTIGATION OF FREE SURFACE FLOW INDUCED BY A BUBBLY PLUME USING PIV	120
<i>Hassan Abdilmouti, Monsif Shinneeb</i>	
SYSTEMATIC APPROACHES FOR SOIL ANALYSIS IN FORENSIC INVESTIGATION	125
<i>Mayssa Hachem, Bhoopesh Kumar Sharma, Ahmed El Naggar, Ishani Pilankar, Nashrah Anwar</i>	
AERODYNAMIC OPTIMIZATION OF AN AERIAL POD	130
<i>Shaikha M. Ai-Ali, Kursat Kara, Ashraf N. Al-Khateeb</i>	
RESCALED-LSTM FOR PREDICTING AIRCRAFT COMPONENT REPLACEMENT UNDER IMBALANCED DATASET CONSTRAINT	134
<i>Maren David Dangut, Zakwan Skaf, Ian Jemmions</i>	
DESIGN OF LIGHTWEIGHT AERIAL MANIPULATOR WITH A COG COMPENSATION MECHANISM.....	143
<i>Ibrahim Abuzayed, Abdul Rahman Itani, Aser Ahmed, Mohammad Alkharaz, Mohammad A. Jaradat, Lotfi Romdhane</i>	
DESIGN OF NON-INTRUSIVE TIDAL HARVESTER AND ITS POTENTIAL APPLICATION FOR ARABIAN GULF.....	148
<i>Omar Ahmad Mohamad, Mohammad Khan, Sharul Sham Dol</i>	

IMPROVING THE BUCKLING STRENGTH OF HONEYCOMB CORES USING PERIODIC IMPERFECTIONS.....	153
<i>Haroun El Mir, Maen Alkhader, Parham Dadash Pour, Mohammed Mustafa</i>	
TRANSIENT ANALYSIS OF DC SHUNT MOTOR SUPPLIED BY STAND-ALONE PV SYSTEM EMPLOYING FOCV FOR MPPT	159
<i>Tha'Er O. Sweidan, Mohammed I. Abuashour, Nagy F. Osman</i>	
THERMAL IMAGING FAULT DETECTION FOR ROLLING ELEMENT BEARINGS.....	165
<i>Abid Abdul Azeez, Mohammad Alkhedher, Mohamed S. Gadala</i>	
FAULT DETECTION OF ROLLING ELEMENT BEARINGS USING ADVANCED SIGNAL PROCESSING TECHNIQUE.....	170
<i>Abid Abdul Azeez, Mohammad Alkhedher, Mohamed S. Gadala, Omar Ahmad Mohamad</i>	
AUTOMATED VISION-BASED SURVEILLANCE SYSTEM TO DETECT DROWNING INCIDENTS IN SWIMMING POOLS.....	176
<i>Abdel Ilah N. Alshbatat, Shamma Alhameli, Shamsa Almazrouei, Salama Alhameli, Wadhha Almarar</i>	
APPLICATION OF CNTS/LAVO ₄ ON PHOTOCATALYTIC DEGRADATION OF METHYLENE BLUE IN DIFFERENT CONTACT MODES	181
<i>Mahmoud Samy, Mona G. Ibrahim, Mohamed Gar Alalm, Manabu Fujii</i>	
NONLINEAR OPTICS OF PHOTONIC CRYSTALS.....	187
<i>Yassine Benachour</i>	
SYNTHESIS, CHARACTERIZATION AND ADSORPTION PROPERTIES OF SEWAGE SLUDGE DERIVED BIOCHAR MODIFIED WITH EGGSHELL.....	195
<i>Andy G. Kumi, Mona G. Ibrahim, Mahmoud Nasr, Manabu Fujii</i>	
EMERGING TECHNOLOGIES AND THE NEGATIVE IMPACTS OF USING THE INTERNET AMONG NURSING STUDENTS	199
<i>Atallah Alenezi, Manal S. Moustafa Saleh, Laila H. Kamel, Abba F. A. Saad, Marwa F. Elmahdy, Ramon Perley Pandaan</i>	
IOT BASED SWITCHING OF MICROGRID FOR UNINTERRUPTED POWER SUPPLY	208
<i>Ravichandran Danthakani, Said Kafumbe, Emad Abd-Elrady, Rajesh Divakaran</i>	
NONLINEAR PROJECTED SPARSE OPTIMIZATION APPROACH BASED ON ADAM ALGORITHM FOR MICROWAVE IMAGING.....	214
<i>Abdulla Desmal, Ali Imran Sandhu, Hakan Bagci</i>	
COMPARING LEAD IODIDE AND LEAD ACETATE BASED PEROVSKITE ABSORBER LAYERS BY AEROSOL-ASSISTED CHEMICAL VAPOR DEPOSITION	218
<i>Mohammad Afzaal, Shreya Basak, Heather M. Yates</i>	
CANCER TRANSCRIPTOME ANALYSIS WITH RNA-SEQ USING QUANTUM K-MEANS CLUSTERING ALGORITHM	224
<i>Abrar-Ul-Haq, Talal Bonny</i>	
MULTI-AGENTS SYSTEM FOR EARLY DISASTER DETECTION, EVACUATION AND RESCUING	228
<i>Jawad Abusalama, Abdel Rahman Alkharabsheh, Lina Momani, Szalinsyah Razali</i>	

OBLIQUE BALLISTIC IMPACT SIMULATION OF FLEXIBLE BODY ARMORS UNDER VISCOUS FRICTION.....	234
<i>Abdulkadir Yavuz, S. Leigh Phoenix</i>	
VITAMIN DEFICIENCY DETECTION USING IMAGE PROCESSING AND NEURAL NETWORK.....	240
<i>Ahmed Saif Eldeen, Mohamed Aitgacem, Saifeddin Alghlayini, Wessam Shehieb, Mustahsan Mir</i>	
PERFORMANCE COMPARISON OF CLOUD COMPUTING/IOT VIRTUALIZATION SOFTWARE, HYPER-V VS VSPHERE.....	245
<i>Samad Salehi Kolahi, Vichar S. Hora, Amrit P. Singh, Sherazia Bhatti, Susmitha R. Yeeda</i>	
INTRODUCING ASPECT-ORIENTED PROGRAMMING IN IMPROVING THE MODULARITY OF MIDDLEWARE FOR INTERNET OF THINGS	251
<i>S. Senthil Velan</i>	
CAMPHORIC BASED NANO CARBON FOR THE VISUAL ENHANCEMENT OF LATENT FINGERPRINTS.....	256
<i>Asha Anish Madhavan, Sharon Philip, Michelle Ann, Mohammad Alsuwaidi</i>	
CORROSION PROBLEMS IN ELECTRICAL PUMPS: IDENTIFICATION AND SOLUTION	260
<i>Anil Midathada, Jinendrika Weliwita, Chanyalew Belachew, Ashraf Shalalfeh, Lina Momani, Alfred Miller, Deviprakash Jyothshmathi</i>	
IDENTIFYING THE BEST FOREARM MUSCLE TO CONTROL SOFT ROBOTIC GLOVE SYSTEM BY USING A SINGLE SEMG CHANNEL.....	265
<i>Husamuldeen K. Hameed, Wan Z. W. Hassan, Suhaidi Shafie, Siti Anom Ahmad, Haslina Jaafar, Liyana N. I. Mat, Yasir Alkubaisi</i>	
A CRITICISM OF POSITION CONTROL OF THE INVERTED PENDULUM WITH BIASED ANGLE MEASUREMENTS USING DOUBLE-LOOP PID.....	269
<i>Ali Safi, Esmaeel Khanmirza</i>	
METHODOLOGICAL APPLICATION OF BOOTSTRAPPING FOR PREDICTIVE DATA ANALYTICS	274
<i>Sadia Riaz, Maninder Jeet Kaur, Arif Mushtaq</i>	
COMPUTER SIMULATION OF FATIGUE CRACK GROWTH UNDER DIFFERENT LOADING CONDITIONS USING BOUNDARY CRACKLET METHOD (BCM).....	279
<i>Abdulkadir Yavuz, Talal Ahmed, Halit S. Turkmen</i>	
SUSTAINABILITY CIRCLES THE WAY TO SUSTAINIBILITY EXCELLENCE IN INSTITUTIONS OF HIGHER EDUCATION	285
<i>Imad Alsyouf</i>	
A DESIGN CONSIDERATION OF HEATED BED'S RAPID LEVELLING TOOL BASED ON VON MISSES STRESS USING FEA SIMULATION.....	291
<i>Rudi Kurniawan Arief, Errv Yulian T. Adesta, Riyadh Ali Abdullah Hannaf, Irfan Hilmy</i>	
THERMAL ENERGY STORAGE OPTIONS FOR CONCENTRATED SOLAR POWER PLANTS IN THE UNITED ARAB EMIRATES	296
<i>Noor Salem Jawhar, Sanjeeva Witharana, Shawulu Nggada, Ayman Talib, Chanyalew Belachew, Yongliang Li</i>	

PEDIATRICIANS AWARENESS OF RADIATION PROTECTION, RELATIVE EFFECTIVE DOSE AND INHERENT RISK IN COMPUTED TOMOGRAPHY IMAGING: UAE CASE STUDY.....	302
<i>Hussein M Elmehdi, Entesar Zawam Dalah, Walid Zgallai</i>	
ASSISTIVE AND REHABILITATION ROBOTICS FOR UPPER LIMB IMPAIRMENTS IN POST-STROKE PATIENTS: EVALUATION CRITERIA FOR THE DESIGN AND FUNCTIONALITY	308
<i>Aliaa Karam, Fady Alnajjar, Munkhjargal Gochoo</i>	
SUSTAINABLE AND RESILIENT DESIGN FOR EMERGENCY SHELTERS IN FLOOD RISK COMMUNITIES: CASE STUDY: THE INFORMAL SETTLEMENTS IN THE BEKAA VALLEY (EASTERN LEBANON)	312
<i>Neebal Al Azzawi, Lubna Amir, Pallavi Tiwari, Emad S. Mushtaha</i>	
SIMULATION OF JET IMPINGEMENT COOLING OF A STATIONARY HOT STEEL PLATE	318
<i>Nasr M. Alkhudhiri, Mohamed S. Gadala, Mohammad S. Khan</i>	
EFFECT OF HYBRIDIZATION ON THE TENSILE BEHAVIOR OF FABRIC REINFORCED POLYMER COMPOSITES - A FINITE ELEMENT ANALYSIS	324
<i>Clifton Stephen, Shivamurthy Basavanna, Rajiv Selvam</i>	
EMERGENCE AND GROWTH OF MOBILE MONEY IN MODERN INDIA: A STUDY ON THE EFFECT OF MOBILE MONEY	331
<i>Mukund Jakhiya, Malini Mittal Bishnoi, Harsh Purohit</i>	
EFFECT OF INLET ANGLE AND OUTLET ANGLE ON THE PERFORMANCE OF DOUBLE-PISTON SYNCHRONOUS PUMPS	341
<i>Sufian Shaker, Altaf Khan, Mohammad Kilani</i>	
MATHEMATICAL MISCONCEPTIONS OF STUDENTS IN ENGINEERING EDUCATION: STATISTICAL ANALYSIS AND SUGGESTIONS TO PEDAGOGICAL APPROACHES	345
<i>Jinendrika Weliwita, Jess Sanchez, Mohammad Almasalmeh</i>	
RETENTION AT THE UNIVERSITY OF SHARJAH: FACTORS AND STRATEGIES	351
<i>Hussein M Elmehdi, Entesar Zawam Dalah, Aisha Bukhatir, Al Mehdi Ibrahim</i>	
AGFA PACS SOFTWARE SUPPORTED CT, MRI AND PET WINDOWS IMPACT ON OBJECT APPEARANCES AND SIZE: PHANTOM STUDY	357
<i>Entesar Zawam Dalah, Hana Abdel Hamed Elshahawy, Asma Mohamed Abdi, Hussein M Elmehdi, Walid Zgallai</i>	
EVALUATING AND COMPARING A PEDIATRIC CERVICAL-SUPINE IMAGE QUALITY OBTAINED USING DIFFERENT DIGITAL RADIOGRAPHY MACHINES: PHANTOM STUDY.....	363
<i>Entesar Zawam Dalah, Samia Araz, Ghaida Tarig Bilal, Zarmeena Noorajan, Hussein El Mehdi, Walid Zgallai</i>	
OBSERVING AND INSPECTING CRACKS AND DENTS IN TEETH USING DYE PENETRANT LIQUIDS WITHOUT X-RAY IMAGING	369
<i>Ganiyu A. Alimi, Najeeb U. Khan, Muhammad M. Janjua, Waseem S. Khan, Ramazan Asmatulu</i>	
CONTINUOUS WAVELET TRANSFORM OTA-C BAND PASS FILTER ON FIELD PROGRAMMABLE ANALOG ARRAYS	374
<i>Maha S. Diab, Soliman A. Mahmoud</i>	

JOURNEY OF EDUCATION TECHNOLOGY TOWARDS INNOVATION.....	379
<i>Aasiya Ahmed, Anushka Moncey, Megha Mohan, Nikita Teresa Cyriac, Sahar Asmat Ali, Sheza Mariam, Mingxuan Lyu, Kamaladevi Baskaran</i>	
DENSITY FUNCTIONAL THEORY STUDIES OF VACANCIES IN PENTA-GRAPHENE NANORIBBONS	383
<i>Khaldoun Tarawneh</i>	
SAFETY OVERVIEW OF ABLUTION SPACES IN THE UAE MOSQUES: A RANDOMISED SURVEY IN THREE CITIES.....	387
<i>In-Ju Kim, Omar Hasan Omar, Rinada Abbas El Deeb</i>	
EFFECT OF HARSH ENVIRONMENTAL EXPOSURE ON THE FLEXURAL PERFORMANCE OF BFRP-RC BEAMS	392
<i>Noor Al Huda Tello, Malak Abdelrahman, Salma El Tonsy, Farida Weheda, Farid H Abed</i>	
INVESTIGATION OF FALL HAZARDS FROM ABLUTION FLOORS OF MOSQUES IN THE UAE: ASSESSMENTS OF TRACTION AND TEXTURE FEATURES AND THEIR EFFECTS ON SLIPPERINESS.....	397
<i>In-Ju Kim, Omar Hasan Omar, Rinada Abbas El Deeb</i>	
HIGHLY ACCURATE SUBTHRESHOLD FOUR QUADRANT MULTIPLIER FOR BIOMEDICAL TEAGER ENERGY OPERATOR CIRCUITS	402
<i>Sumaiyah I. Khan, Soliman A. Mahmoud</i>	
FE MODELING OF CONCRETE BEAMS REINFORCED IN FLEXURE USING BFRP BARS	406
<i>Haya H. Mhanna, Hakem Alkhraisha, Farid Abed</i>	
SECURE E-AUCTION SYSTEM USING BLOCKCHAIN: UAE CASE STUDY.....	411
<i>Hani Qusa, Jumana Tarazi, Vishwesh Akre</i>	
INTEGRATING VR-ENABLED BIM IN BUILDING DESIGN STUDIOS, ARCHITECTURAL ENGINEERING PROGRAM, UAEU: A PILOT STUDY	416
<i>Khaled Galal Ahmed</i>	
STUDY REGARDING THE EFFECTS OF WIRE MESH INSERTS IN A SHELL-AND-TUBE HEAT EXCHANGER USING COMPUTATIONAL FLUID DYNAMICS TECHNIQUE.....	422
<i>Asarudheen Abdudeen, Jaimon Chacko Varghese</i>	
SINGLE LAYER GRAPHENE OXIDE FUNCTIONALIZED WITH IONIC LIQUID FOR SELECTIVE REMOVAL OF INORGANIC SALTS.....	429
<i>Ioannis Zuburtikudis, Hadil Abu Khalifeh, Inas M. Alnashef, Botagoz Zhuman</i>	
HYBRID FUEL-CELL-SOLAR POWER SYSTEM DESIGN FOR WATER PUMPING APPLICATIONS WITH FUZZY ENERGY MANAGEMENT AND WEATHER FORECASTING	433
<i>Waleed Obaid, Abdul-Kadir Hamid, Chaouki Ghenai</i>	
CATALYTIC PYROLYSIS OF PLASTIC WASTE: A REVIEW.....	438
<i>K. Tarun Kumaran, Ishu Sharma</i>	
DESIGNING OF A 20 KW UPDRAFT FIXED-BED BIOMASS GASIFICATION POWER GENERATION SYSTEM.....	442
<i>Mohsin Raza, Abrar Inayat, Zakir Khan</i>	
A COMPARATIVE STUDY OF LANE CHANGE ASSISTANCE PROTOCOLS AT ROAD NETWORK	448
<i>Maram Bani Younes</i>	

GEOHERMAL COOLING SYSTEM MEASUREMENT	454
<i>Mazin Abuharaz, Reim Alyileili, Aishah Alzahmi, Maryam Alkaabi, Amani Alqaydi, Fatmah Almesmari, Maryam Alzeyoudi</i>	
ESTIMATION AND MITIGATION OF VOLTAGE FLICKER USING EXTENDED COMPLEX KALMAN FILTER	457
<i>N. Alawadhi, A. Elnady</i>	
ANALYSIS OF DIFFERENT BLACK HOLE ATTACK DETECTION MECHANISMS FOR AODV ROUTING PROTOCOL IN ROBOTICS MOBILE ADHOC NETWORKS	463
<i>Muhammad Shakeel, Khalid Saeed, Sheeraz Ahmed, Asif Nawaz, Sadeeq Jan, Zeeshan Najam</i>	
COMPARISON OF DESIGN PARAMETERS FOR PACKET OPTIMIZED BASN ROUTING SCHEMES IN TERMS OF BIO-MEDICAL SENSOR NODES	469
<i>Muhammad Aadil, Sheeraz Ahmed, Fasee Ullah, Asif Nawaz, M. Junaid, Mehtab Ejaz Qureshi</i>	
CURRICULUM DEVELOPMENT WITH A GLOBAL PERSPECTIVE OF AN ESTABLISHED MASTER'S PROGRAM IN CIVIL ENGINEERING.....	476
<i>Aman Mwafy</i>	
REVERSE OSMOSIS WITH AN ENERGY RECOVERY DEVICE FOR SEAWATER DESALINATION POWERED BY GEOTHERMAL ENERGY	481
<i>Mamdouh El Haj Assad, Mohammad Al-Shabi, Fatma Khaled</i>	
APPLYING TOPSIS METHOD FOR WIND FARM SITE SELECTION IN IRAN	486
<i>Mohammad Alhuyi Nazari, Mamdouh El Haj Assad, Siavash Haghighat, Akbar Maleki</i>	
MODELING AND VALIDATION OF A COMERCIAL DRY ELECTROLYTIC CELL FOR THE PRODUCTION OF OXYHYDROGEN.....	490
<i>Erick Daniel Rincón Castrillo, José Ricardo Bermúdez Santaella, Mamdouh El Haj Assad, Ali Khosravi, Juan José García Pabón</i>	
AXIAL CAPACITY OF CIRCULAR CONCRETE COLUMNS REINFORCED WITH GFRP BARS AND SPIRALS USING FEA	496
<i>Yousef Awera, Farid Abed</i>	
NEW TECHNIQUE FOR COMPOSITE FORMATION	502
<i>Ahmad Yussef Musbah</i>	
WOOD SHAPES THE FUTURE OF SUSTAINABLE ARCHITECTURE	510
<i>Abdel-Moniem El-Shorbagy</i>	
SIMULATION OF THE PYROLYSIS PROCESS USING BLEND OF DATE SEEDS AND COFFEE WASTE AS BIOMASS.....	516
<i>Mohsin Raza, Abrar Inayat, Bushra Al Jaberi, Zafar Said, Chaouki Ghenai</i>	
EMERGING APPROACHES FOR ESTIMATION OF POST-MORTEM INTERVAL IN MEDICO-LEGAL PRACTICE.....	521
<i>Mayssa Hachem, Hia Basem Said, Shreya Zakkir, Angela John, Asha Salim, Alia Sabri Alkash, Deol Jimmy</i>	
INFLUENCE OF LEADERSHIP BEHAVIOUR ON THE HEALTH AND SAFETY PERFORMANCE IN THE UNITED ARAB EMIRATES CONSTRUCTION INDUSTRY	525
<i>Nauroze Khalid, Lekshmi Vijayalekshmi Amma, Anf Ziadat, Nassir Eltinay</i>	

ULTRA-LOW-POWER SUBTHRESHOLD TEAGER ENERGY OPERATOR CIRCUITS FOR SLEEP SPINDLE AND K -COMPLEX DETECTION.....	529
<i>Sumaiyah I. Khan, Maha S. Diab, Soliman A. Mahmoud</i>	
ON THE ACCURACY OF LUMPED PARAMETER MODEL FOR TAPERED CANTILEVER PIEZOELECTRIC ENERGY HARVESTERS WITH TIP MASS.....	533
<i>Mai R. Ismail, Farag K. Omar, Rafic Ajaj, Mojtaba Ghodsi</i>	
SCG BACKPROPAGATION BASED PREDICTION OF STRESSED EEG SPECTRUM	539
<i>Prabhat Kumar Upadhyay, Chetna Nagpal</i>	
PREPARING FOR THE SMART CITIES: IOT ENABLED LAST-MILE DELIVERY	544
<i>Leena Wanganoo, Anukul Patil</i>	
EVENT MARKETING IN THE HEALTHCARE INDUSTRY: OPPORTUNITIES, PRACTICES AND CHALLENGES	550
<i>Shahzia Khan, Rishab Kulshreshtha</i>	
EFFECT OF AGING TREATMENT ON THE INITIATION AND PROPAGATION OF FATIGUE CRACKS IN THE Ti-15V-3Al-3Sn-3Cr METASTABLE β TITANIUM ALLOY	556
<i>Nihal Yumak, Kubilay Aslantas, Waleed Ahmed</i>	
OUT-DOOR LOCALIZATION IN LARGE-SCALE WIRELESS SENSOR NETWORKS BY USING VIRTUAL NODES	561
<i>Ghulam Bhatti, Yasir Javed, Munir Naveed, Sayed Asif</i>	
INVESTIGATING THE MECHANICAL PROPERTIES OF 3D PRINTED COMPONENTS	568
<i>Huda Al Khawaja, Haleimah Alabdouli, Hend Alqaydi, Aya Mansour, Waleed Ahmed, Hamad Al Jassmi</i>	
TEMPORAL AND ECONOMIC BENEFITS OF VERTICAL TAKE-OFF AND LANDING VEHICLES IN URBAN TRANSPORT	575
<i>Md. Zishan Akhter, Mohsin Raza, Syed Haris Iftikhar, Mohsin Raza</i>	
ON THE USE OF ADDITIVE MANUFACTURING FOR MECHANICAL PERFORMANCE ASSESSMENT OF ENGINEERING MATERIALS: A REVIEW	581
<i>Abdulrahman Rahmani, Abdel-Hamid I. Mourad</i>	
TOTAL PRODUCTIVE MAINTENANCE IMPLEMENTATION'S BARRIERS AND ENABLERS IN INDONESIAN MANUFACTURING COMPANIES.....	586
<i>Herry Agung Prabowo, Irfan Hilmy, Erry Yulian Triblas Adesta</i>	
PREDICTION OF WATER ROCKET PERFORMANCE.....	592
<i>KC Utsav, Rafat Alnouti, Mohamad Muflehi</i>	
MODELLING A SUSTAINABLE APPROACH TOWARD LOGISTICAL FUNCTIONS AT PAL AEROSPACE SERVICES AIRCRAFT MAINTENANCE IN THE UAE	597
<i>Shamma Tareq Alansari, Anf Hanna Ziadat</i>	
INVESTIGATING THE APPROPRIATENESS OF FUZZY LOGIC TECHNIQUES TO MODEL UNSTEADY AERODYNAMICS	605
<i>Aziz Al-Mahadin, Evangelos Papageorgiou</i>	
AN EXPLORATORY STUDY OF THE USE OF ITUNESU WHEN TEACHING FOUNDATION MATHEMATICS CLASSES FOR ENGINEERING STUDENTS.....	609
<i>Nafeth Al Hashlamoun</i>	

REMOTE LABORATORIES FOR ENGINEERING EDUCATION: STATUS AND PROSPECTS	618
<i>Mykhailo Poliakov, Ibrahim Rida</i>	
AC CONDUCTION STUDIES ON BIODEGRADABLE POLY VINYL ALCOHOL- STARCH/NAI BLEND AT ROOM TEMPERATURE.....	624
<i>Thalari Chandrasekhar, N. Sasidhar, G. B Devidas, Y. T Ravikiran, S. C. Raghavendra</i>	
UTILIZATION OF MACHINE LEARNING IN PATIENT ADMISSION INTO INTENSIVE CARE UNITS.....	628
<i>Leen Nazzal, Eman Arafah, Hawazen Diab, Moreeda Nassar, Abdulrahim Shamayleh, Mahmoud Awad</i>	
AN OVERVIEW OF FRICTION STIR WELDING OF HIGH-DENSITY POLYETHYLENE	632
<i>Syed Haris Iftikhar, Abdel-Hamid Ismail Mourad, Jamal Sheikh-Ahmad</i>	
PERFORMANCE OF A SMALL HORIZONTAL AXIS WIND TURBINE WITH BLADE PITCHING	638
<i>Yasser El-Okda, Mohamed S. Emeara, Nazar Abdelkarim, Kamel Adref, Hussni Al Hajjar</i>	
INTEGRATED ANALYSIS FOR RENEWABLE ENERGY-ECONOMIC DEVELOPMENT- ENVIRONMENTAL SUSTAINABILITY (RE-ED-ES) NEXUS: ANALYSIS OF MENA COUNTRIES.....	643
<i>Mustapha D. Ibrahim, Yaseer Al Amoudy, Faisal Hameed</i>	
MODELING AND SIMULATION OF A SOLAR POWERED GOLF CART CHARGING STATION IN SHARJAH.....	649
<i>Mohamed A. M Abdelsalam, Walid Obaid, Fahad Faraz Ahmad, Abdul Kadir Hamid, Chaouki Ghenai</i>	
DESIGN OF ELLIPTICAL PIN FINS HEAT EXCHANGER FOR CONCENTRATED SOLAR POWER PLANTS.....	653
<i>Mohammed Ziauddin, Zayed Khalifa Alkaabi, Fadi Alnaimat, Abdulla Mahmoud Al-Kaabi, Mohammed Ibrahim Almansoori, Ibrahim Al Dab Alshamsi, Bobby Mathew</i>	
A NEW DATA HIDING TECHNIQUE FOR SURVEILLANCE APPLICATIONS	657
<i>Noor Ahmad Al Hindawi, Tamer Rabie, Ibrahim Kamel</i>	
EMOTION RECOGNITION USING SPEAKER CUES.....	662
<i>Ismail Shahin</i>	
NEW CONCEPT FOR THE INTEGRATION OF ADDITIVE MANUFACTURED MECHANICAL AND MECHATRONIC COMPONENTS IN AIRCRAFT INTERIOR SYSTEMS.....	667
<i>Daniel Gräf, Matthias Friedlein, Christopher Gänßmantel, Jörg Franke, Nils Ischdonat</i>	
EVALUATION OF CHARACTERISTICS OF A390 - SIC _p SQUEEZE CAST AND GRAVITY CAST COMPOSITES	672
<i>Asarudheen Abdudeen, Abdel-Hamid I. Mourad, Jaber Abu Qudeiri, Aiman Ziout</i>	
INVESTIGATION OF PROJECT DELIVERY RISKS IN PUBLIC-PRIVATE-PARTNERSHIP (PPP) INFRASTRUCTURE PROJECTS IN UAE - A STAKEHOLDER'S PERSPECTIVE	678
<i>Abdulwahab Algeelani, Saleh Abu Dabous, Senthilkumar Venkatachalam</i>	
HEALTH CARE DEVICE FOR DIABETIC PATIENTS	683
<i>Bodoor W. Alabdullah, Hind R. Alowais, Sara J. D'Yab, Maha S. Diab, Anwar Jarndal</i>	

FEA OF RC COLUMNS REINFORCED WITH WWF SUBJECTED TO CONCENTRIC LOADING.....	688
<i>Muhammad Kyaure, Mutaman Elyas</i>	
DESIGN AND IMPLEMENTATION OF AN AUTOMATED DRY SOLAR-PANEL CLEANING SYSTEM.....	693
<i>Fatima I. Alzarooni, Aisha K. Alkharji, Asma A. Alsuwaidi, E'Qab R. Almajali</i>	
METHOD DEVELOPMENT AND FORCE DEGRADATION STUDY FOR DACLATASVIR USING LC-MS/MS.....	697
<i>Hemlata M. Nimie, Minakshi N. Deodhar</i>	
A CONVOLUTIONAL NEURAL NETWORK FOR SEIZURE DETECTION.....	703
<i>Omar Kaziha, Talal Bonny</i>	
EFFECT OF HIERARCHICAL FEATURES ON THE CRITICAL BUCKLING STRENGTH OF PERIODIC CELLULAR SOLIDS.....	708
<i>Noureldeen Al Tamimi, Maen Alkhader, Basit Ali, Mohammad Nazzal</i>	
UAE'S ENTRY INTO THE SPACE LEAGUE: ANALYSING THE LEGAL SPECTRUM.....	713
<i>Sagee Geetha Sethu</i>	
BRINE MANAGEMENT IN REVERSE OSMOSIS DESALINATION: A UAE PERSPECTIVE.....	718
<i>Lekshmi Vijayalekshmi Amma, Farwa Ashraf</i>	
A NOVEL NUMERICAL SIMULATION MODEL FOR THE PVT WATER SYSTEM IN THE GCC REGION.....	724
<i>Tareq Salameh, Muhammad Tawalbeh, Adel Juaidi, Ramez Abdallah, Salah Issa, Abdul Hai Alami</i>	
RESPONSE SURFACE ANALYSIS OF STATISTICAL FEATURES OF VOLTAGE AND CURRENT IN A GMAW POWERSOURCE ON WELDING V-GROOVE JOINTS.....	729
<i>Dinu Thomas Thekkuden, Abdel-Hamid I. Mourad, Muhammad M. Sherif</i>	
NANOPARTICLE ENHANCED PCM FOR SOLAR THERMAL ENERGY STORAGE.....	735
<i>Apurv Yadav, Maneesh Kumar Shivhare</i>	
LIFE CYCLE ANALYSIS COMPARISON BETWEEN SINGLE CRYSTALLINE SOLAR CELLS AND POLY CRYSTALLINE GALLIUM IN UAE.....	738
<i>Tareq Salameh, Muhammad Tawalbeh, Abdul Hai Alami, Amani Al-Othman, Salah Issa, Malek Alkasrawi</i>	
FUNDAMENTALS OF IMPLEMENTING BUILDING INFORMATION MODELING (BIM) IN ARCHITECTURAL EDUCATION AT THE GRADUATE SCHOOL LEVEL.....	744
<i>Mona Kausar, Niva Rana Mahanta, Abraham Samuel</i>	
CROWD MANAGEMENT USING LOW ENERGY MMWAVE WIGIG WITH POINT-TO- MASSIVE-POINTS COMMUNICATIONS.....	749
<i>Irfan Ahmed, Hedi Khammari, Muhammad Khalil Shahid, Asif Nawaz</i>	
EVALUATION OF THERMAL PERFORMANCE FACTOR OF NOVEL TWO-PASS, RIBBED, U-SHAPED CHANNEL FOR SOLAR AIR HEATER.....	754
<i>Tareq Salameh, Waseem Siddique, Aneeq Raheem, Abdul Hai Al Alami</i>	
SYSTEM OF COOLING AND IMPROVING POWER OUTPUT OF PHOTOVOLTAIC SOLAR CELLS.....	758
<i>Belkacem Zouak, Aghiles Ardjal, Maamar Bettayeb, Rachid Zirni, Mohammed Said Belkaid</i>	

SMART HEALTHCARE DEVICE FOR CARDIAC PATIENTS.....	764
<i>Muhammad Awais Ali, Huda A. Alzaabi, Aaasha S. Alnuaimi, Anwar Jamdal</i>	
IOT CONFIDENTIALITY: STEGANALYSIS BREAKING POINT FOR J-UNIWARD USING CNN	769
<i>Nour Mohamed, Tamer Rabie, Ibrahim Kamel</i>	
SYNTHESIS AND CHARACTERIZATION OF POLYCRYSTALLINE COPPER IODIDE (CUI) THIN FILMS.....	773
<i>Abdul Hai Alami, Kamilia Aokal, Muhammad Tawalbeh, Mohammed Faraj, Aya Majeed, Tareq Salameh, Di Zhang, Amani Al-Othman</i>	
GREEN BLOCKS MADE OF RECYCLED WASTE PHASE II	778
<i>Elgaali Elgaali, Adel Al Wazeer</i>	
STRUCTURAL MEMBERS MADE OF ULTRA-HIGH-PERFORMANCE CONCRETE (UHPC)	783
<i>Adel Al Wazeer, Elgaali Elgaali</i>	
ANALYSIS AND COMPARISON OF SOLAR IRRADIANCE AT DIFFERENT LOCATIONS IN ABU DHABI.....	788
<i>Priya Vijayan, Preetha Sreekumar</i>	
FABRICATION OF ACOUSTIC MICROFLUIDIC PLATFORMS FOR PARTICLE MANIPULATION	794
<i>Abdulla Al-Ali, Waqas Waheed, Eiyad Abu-Nada, Anas Alazzam</i>	
COMPRESSED AIR FOR LIGHT VEHICLE PROPULSION.....	798
<i>Abdul Hai Alami, Noaf Alblooki, Muhammad Tawalbeh, Zainab Almerashi, Amna Alkharousi, Tareq Salameh</i>	
EFFECTIVE PHOTOCATALYTIC DISINFECTION OF DRINKING WATER USING TIO ₂ AND WO ₃ COATED ON FIXED PLATES	804
<i>Mohamed Fouad Momai, Shinichi Ookawara, Mohamed Gar Alalm, Hisham Kh El-Etriby</i>	
BEHAVIOR OF RC BEAMS EXTERNALLY STRENGTHENED WITH GSM & CFRP SHEETS.....	811
<i>Kais A. Douier, Rami A. Hawileh, Jamal A. Abdalla</i>	
TANTALUM DISULFIDE AS ROOM TEMPERATURE OPERABLE EFFICIENT HUMIDITY SENSOR.....	815
<i>S. Manjunatha, B. Chethan, A. Sunil Kumar, Y. T. Ravikiran, M. Revanasiddappa, S. C. Raghavendra</i>	
A DEEP LEARNING FRAMEWORK FOR ROBUST SEMANTIC SLAM	819
<i>Rana Azzam, Tarek Taha, Shoudong Huang, Yahya Zweiri</i>	
MINIMAL PORTABLE WIND TUNNEL FOR ENGINEERING EDUCATION	826
<i>Mohamed Ismail, Rafat Alnouti, Youssef Matter, Utsav Kc, Mohamad Muflehi</i>	
NATURAL VENTILATION TO IMPROVE THE THERMAL PERFORMANCE OF SCHOOLS IN UAE	831
<i>Abdelsalam Aldawoud, Tareq Salameh</i>	
EFFECT OF DROWSINESS ON DRIVER PERFORMANCE AND TRAFFIC SAFETY	835
<i>Yousef Elbaz, Marwan Naeem, Muamer Abuzwidah, Samer Barakat</i>	

COMPARATIVE STUDY BETWEEN CONTRACTORS' AND CONSULTANTS' EVALUATION OF COST OVERRUN FACTORS IN BUILDING CONSTRUCTION PROJECTS IN UAE.....	841
<i>Abdulla Zahmak, Obada Ghannam, Omar Nofal</i>	
CHALLENGES & OPPORTUNITIES OF WASTEWATER REUSE PRIVATIZATION: A CASE STUDY FROM SHARJAH, UAE	847
<i>Sourjya Bhattacharjee, Gurban Dersel, Abdallah Shanableh, Noora Darwish, Mufid Al-Samarai</i>	
AN ASSESSMENT OF THE RELIABILITY OF REBOUND HAMMER FOR MOIST-CURED SPECIMENS	852
<i>Omar J. Alkhatib</i>	
ELECTRICITY DISTRIBUTION NETWORK: SEASONALITY AND THE DYNAMICS OF EQUIPMENT FAILURES RELATED NETWORK FAULTS	858
<i>Charith Silva, Mohamad Sarae</i>	
DETECTION OF PV SOLAR PANEL SURFACE DEFECTS USING TRANSFER LEARNING OF THE DEEP CONVOLUTIONAL NEURAL NETWORKS.....	864
<i>Imad Zyout, Abdulrohman Qatawneh</i>	
A COMPREHENSIVE APPROACH FOR DESIGN FOR ENVIRONMENT EVALUATION.....	868
<i>M. S. Abdul Karim, C. M. Wong</i>	
DESIGN OF CUBESAT SOLAR POWER SYSTEM FOR REAL-TIME TRACKING OF SHARJAH VESSEL	873
<i>Muaz Al Radi, Mahmoud Mutasim Hassan, Mubarak Adnan Ahmed, Chaouki Ghenai</i>	
GRAPHENE SENSOR FOR SCALE MONITORING APPLICATIONS IN OIL PIPELINES	878
<i>Abdellatif Bouchalkha, Radouane Karli, Khalid Alhammadi</i>	
PUBLIC PERCEPTION AND WILLINGNESS TO PAY FOR HIGH-OCCUPANCY TOLL (HOT) LANES IN THE UNITED ARAB EMIRATES: QUESTIONNAIRE-BASED SURVEY	882
<i>Ahmad Shabib, Mahmoud Khalil, Muamer Abuzwidah, Samer Barakat</i>	
BRIDGE RISK ASSESSMENT USING INTEGRATED FAILURE MODE, EFFECTS, AND CRITICALITY ANALYSIS AND VIKOR APPROACH.....	888
<i>Fakhariya Ibrahim, Saleh Abu Dabous, Imad Alsyouf</i>	
ENERGETIC ADDITIVES FOR HYBRID ROCKET PROPULSION - REVIEW.....	893
<i>Md. Zishan Akhter, M. A. Hassan</i>	
MODIFIED ASYMMETRIC TIME-VARYING COEFFICIENT OF PARTICLE SWARM OPTIMIZATION	899
<i>Mohammad Al-Shabi, Chaouki Ghenai, Maamar Bettayeb</i>	
UTILIZING A DATA ANALYTICS PROJECT TO INCREASE STUDENT AWARENESS OF CONTEMPORARY GLOBAL ISSUES.....	906
<i>Rejitha Ravikumar, Pushpa Sadhwani</i>	
A STUDY ON HEMODIALYZER MEMBRANES USING FINITE ELEMENT ANALYSIS.....	911
<i>Ahana Fatima Alex, R Vinoth, Ravishankar Dudhe</i>	
STRATEGICAL FRAMEWORK IN RETROFITTING EXISTING BUILDINGS USING SUSTAINABLE DESIGN TECHNIQUES IN THE UAE	916
<i>Vijayalakshmi Balachandran, Niva Rana Mahanta, Abraham K Samuel</i>	

A GEOSPATIAL HR FRAMEWORK TO ENHANCE EMPLOYEE EXPERIENCE.....	922
<i>Bhawna Gaur, Satish Menon</i>	
COMPARATIVE LIFE CYCLE ASSESSMENT FOR PEMFC STACK INCLUDING FUEL STORAGE MATERIALS IN UAE	927
<i>Tareq Salameh, Amani Al-Othman, Abdul Ghani Olabi, Salah Issa, Muhammad Tawalbeh, Abdul Hai Alami</i>	
SMART CITY PARADIGM: IMPORTANCE, CHARACTERISTICS, AND IMPLICATIO.....	932
<i>Tariq S. Khan, Najeeb U. Khan, Hasan F. Juneio</i>	
PERFORMANCE INDEX MODELING FOR GOLF GREENSIDE BUNKER SHOTS: IMU SENSOR BASED APPROACH	938
<i>Josefa Wivou, Pubudu N. Pathirana, Van T. Huynh, Lanka Udawatta</i>	
ENERGY EFFICIENT CLUSTERING PROTOCOLS IN WSNS: PERFORMANCE ANALYSIS AND COMPARISON OF EEAHP PROTOCOL WITH LEACH AND EAMMH USING MATLAB	943
<i>K. S. Fathima Shemim, Ulf Witkowski</i>	
DESIGN AND ANALYSIS OF A COST EFFECTIVE MODEL FOR REMOTE AREAS OF ARUNACHAL PRADESH.....	948
<i>Abhishek Sanyal, Piyali Das, Julene Thabah</i>	
UPCYCLING OF HDPE WASTE USING ADDITIVE MANUFACTURING: FEASIBILITY AND CHALLENGES	954
<i>Edgar B. Mejia, Shafaa Al-Maqdi, Meera Alkaabi, Aysha Alhammadi, Mazna Alkaabi, Nizamudeen Cherupurakal, Abdel-Hamid I. Mourad</i>	
SMART MATERIALS BUILD SMART CITIES: EXPLORING MATERIALS FOR SMART WALL FACADES	960
<i>Tamanna Naaz, Banafsha Rajput</i>	
MANUFACTURING, ANALYSIS AND TESTING OF AN ADDITIVELY MANUFACTURED NANOSATELLITE STRUCTURE	966
<i>Ali Alhammadi, Firas Jarrar, Prashanth Marpu</i>	
STRESS DETECTOR SYSTEM USING IOT AND ARTIFICIAL INTELLIGENCE.....	971
<i>Areej Mustafa, Maitha Alahmed, Aysha Alhammadi, Bassel Soudan</i>	
VERIFYING THE UNDERUTILIZATION OF GEOGRAPHIC INFORMATION SYSTEMS (GIS) IN THE REALM OF LANDSCAPE ARCHITECTURE AND PLANNING.....	977
<i>Neha Adkar, Banafsha Rajput, Takhenchangbam Ojaswi Devi, Shriyashrikant Tarawade, Deepa Jindam</i>	
ANISOTROPY EVALUATION OF LDPE/LLDPE/PIB TRILAYER FILMS.....	983
<i>Mariam Imane Babaghayou, Abdel-Hamid I. Mourad, Nizamudeen Cherupurakal</i>	
STITCHING APPROACH FOR PV PANEL DETECTION	986
<i>Hesham Ismail, Abdulrahman Rahmani, Nawal Aljasm, Jabirul Quadir</i>	
THE IMPACT OF THE REAR SEAT BELT USE ON TRAFFIC SAFETY IN THE UAE	990
<i>Arwa Najah, Muamer Abuzwidah, Doaa Khalil</i>	
DRIVER BEHAVIORS' IMPACTS ON TRAFFIC SAFETY AT THE INTERSECTIONS.....	996
<i>Ahmed Elawady, Abdulrauf Khetrish, Muamer Abuzwidah</i>	

ASSESSMENT OF THE POTENTIAL FOR HYDROGEN PRODUCTION FROM RENEWABLE RESOURCES IN LIBYA	1002
<i>Anas Elshabli, Gamal Hashem, Khaled Hossin</i>	
CHILD PASSENGER SAFETY IN THE UNITED ARAB EMIRATES: A REVIEW	1011
<i>Kassim Abdulrahman Abdullah, Abdel Hamid Ismail Mourad, Abdulazeez Uba Muhammad</i>	
AUTONOMOUS NAVAL SURFACE VEHICLE FOR ENERGY GENERATION IN OPEN SEAS	1017
<i>Salman Alhammadi, Fadhil Al-Shami, Ali Alhendi, Omar Baobaid, Ali Almaskary, Abdelhafid Bouhraoua</i>	
COMPRESSIVE BEHAVIOR OF M25 CONCRETE MADE FROM DUNE SAND IN DUBAI WITH MEDIUM WORKABILITY CONDITIONS.....	1021
<i>Saniana Saieev, Tanisha Shetty, Kristoffer Jan Lorenzo, Vidya Puliparambil Mohanan</i>	
TRANSMISSION CONTROL PROTOCOL (TCP) DELAY ANALYSIS IN REAL TIME NETWORK.....	1026
<i>Joanita D'Souza, Maninder Jeet Kaur, Hassan Anwar Mohamad, Piyush Maheshwari</i>	
LABVIEW BASED CONTROL SYSTEM DESIGN FOR VTOL AIRCRAFT SYSTEM	1032
<i>Kehkashan Fatima, Amir Hussain Idrisi, Abdel-Hamid Ismail Mourad</i>	
DIRECTIONAL PIXOGRAM: A NEW APPROACH FOR VIDEO STEGANOGRAPHY	1037
<i>Mohammed Baziyad, Tamer Rabie, Ibrahim Kamel</i>	
UNDERSTANDING THE RELATIONSHIP BETWEEN POPULATION DENSITY AND LOW VOLTAGE FAULTS CAUSES IN ELECTRICITY DISTRIBUTION NETWORK.....	1042
<i>Charith Silva, Mohamad Sarae</i>	
ION PROPULSION TECHNOLOGY: NASA'S EVOLUTIONARY XENON THRUSTER (NEXT) DEVELOPMENT AND LONG DURATION TESTS RESULTS AND ITS APPLICATIONS.....	1048
<i>Louther Charl David, Jerrin Thadathil Varghese, Sarath Raj Nadarajan Assari Syamala</i>	
EXPERIMENTAL INVESTIGATION OF SYNGAS PRODUCTION THROUGH GASIFICATION OF BIOMASS CHAR IN A FLUIDIZED BED REACTOR	1053
<i>John Victor Christy, Abdel Hamid Ismail Mourad, Amir Hussain Idrisi, Dinu Thomas Thekkuden, Nizamudeen Cherupurakal</i>	
DEVELOPMENT AND IMPLEMENTATION OF WIRELESS CONTROLLED QUADCOPTER USING WIFI TECHNOLOGY	1059
<i>Roshan Bhatkar, Jerrin Thadathil Varghese, Sarath Raj Nadarajan Syamala</i>	
A SELF-SUSTAINABLE HOME: 'BAITYKOOL' DEVELOPED FOR THE EXTREME WARM CLIMATE AN EXPERIMENTATION OF ACTIVE & PASSIVE STRATEGIES	1065
<i>Abraham Kovelil Samuel, Vidya Puliparambil Mohanan, Alain Sempey, Ferran Garcia, Philippe Lagiere, Denis Bruneau, Niva Rana Mahanta</i>	
ROUTE MAPPING AND BIOMETRIC ATTENDANCE SYSTEM IN SCHOOL BUSES.....	1072
<i>Khaled Mahfouz, S. Mohammad Rameshi, Mohanad Rafat, Mahmoud Elsayed, Mohammed Sheikh, Hasan Zidan</i>	
NANOCOATING: AN ENERGY EFFICIENT SOLUTION TOWARDS REDUCING BUILDINGS ELECTRICAL CONSUMPTION IN THE STATE OF KUWAIT	1076
<i>Naser Ali, Mohamed Sebzali, Homoud Bourisli, Altaf Safar, Zubaida A. Ebrahim</i>	

ASTHMA DIAGNOSIS USING NEURO-FUZZY TECHNIQUES	1080
<i>Aranyak Ghosh, Nova Rahman, Nagwa Awadalla, Assim Sagahyroon, Fadi Aloul, Salam Dhou</i>	
GAS CENTERED SWIRL CO-AXIAL (GCSC) INJECTORS RELEVANT TO ROCKET PROPULSION APPLICATIONS	1084
<i>K. S. Siddharth</i>	
ENHANCEMENT OF PEM FUEL CELL PERFORMANCE WITH DIRECT ACTIVE FUZZY SLIDING MODE CONTROLLER	1090
<i>EA. Mohamed Ali, A. Manivanna Boopathi, A. Abudhahir, Subha Velappan</i>	
DESIGN AND IMPLEMENTATION OF A VISION STICK WITH OUTDOOR/INDOOR GUIDING SYSTEMS AND SMART DETECTION AND EMERGENCY FEATURES	1096
<i>Mariam M. Bastaki, Abrar A. Sobuh, Noor F. Suhaiban, Eqab R. Almajali</i>	
PREDICTING AVERAGE ANNUAL ELECTRICITY OUTAGE USING ELECTRICITY DISTRIBUTION NETWORK OPERATOR'S PERFORMANCE INDICATORS	1100
<i>Charith Silva, Mohamad Sarae</i>	
A NOVEL TECHNIQUE FOR DETECTING AND MONITORING DUST AND SOIL ON SOLAR PHOTOVOLTAIC PANEL	1106
<i>Kamal Adel Abuqaoud, Azzeddine Ferrah</i>	
MATERIALS SELECTION AND CHARACTERIZATION OF FABRIC MEMBRANE IN TACTILE SENSING	1112
<i>Sara Sarrar, Ebru Gunister, Sulafudin Vukusic, Panos Liatsis</i>	
DRILLING SYSTEMS FOR SPACE MISSION	1119
<i>Noura Hamed Salem Al Nuaimi, Alanoud Karama Alameri, Waleed Ahmed</i>	
QUALITY-DEPENDENT ADAPTATION IN A SWARM OF DRONES FOR ENVIRONMENTAL MONITORING.....	1124
<i>Giulia De Masi, Eliseo Ferrante</i>	
DESIGN4HEALTH BOOTCAMP: A DESIGN THINKING APPROACH TO IMPROVE THE 21 ST CENTURY SKILLS OF HEALTH, ENGINEERING AND DESIGN STUDENTS	1130
<i>Thomas Boillat, Christopher Tuffnell, Homero Rivas, Fadi Aloul, Carlos Montana</i>	
GREEN SYNTHESIS OF SILVER NANOPARTICLES AND THEIR ANTIMICROBIAL ACTIVITIES	1136
<i>El-Sayed I. Ghaiith, Mohamed A. Mohamed, Mahmoud F. Abdel-Haliem</i>	
DISINTEGRATION OF LIQUID SHEETS AND QUANTIFICATION OF ITS DYNAMICS.....	1141
<i>Aafrein Begam Faazil, Ann Mary Eapen, Siddharth Kizhakkalan Sudhakaran</i>	
THE EFFECTS OF DECREASING HYDRAULIC DIAMETER ON FORCED CONVECTION HEAT TRANSFER IN A RECTANGULAR CHANNEL WITH UPPER WALL EXPOSED TO THE CONSTANT HEAT FLUX	1147
<i>Abed Mennad, Najeeb Ullah Khan, Muhammad Mansoor Janjua</i>	
ENERGY HARVESTING FROM CAR SUSPENSION SYSTEM SUBJECTED TO RANDOM EXCITATION.....	1153
<i>Doaa Al-Yafeai, Tariq Darabseh, Abdel-Hamid I. Mourad</i>	

ANALYSIS OF HUB CORNER FLOW OF A COMPRESSOR CASCADE USING DYE INJECTION AND LIMITING STREAMLINES.....	1158
<i>Amanuel Melake, Hassan Jishi, Bahnay Melake</i>	
AUTOMATED MOSQUE RECOGNITION: A CONVOLUTIONAL NEURAL NETWORKS AND LAPLACIAN PYRAMID APPROACH	1163
<i>Mohammed Baziyad, Ali Bou Nassif, Tamer Rabie</i>	
COMPARATIVE ANALYSIS BETWEEN UAE, UN, AND THE EUROPEAN COMMISSION GUIDELINES FOR THE PUBLIC PRIVATE PARTNERSHIP	1171
<i>Aghyad Almasri, Mhd Anas Chamieh, Abdulrazak Alozi, Saleh Abu Dabous</i>	
IMPACT OF EXPANSION PRESSURE ON WALL THINNING AND CONTACT PRESSURE FOR HYDRAULICALLY EXPANDED TUBE-TO-TUBESHEET JOINTS: NUMERICAL ANALYSIS	1176
<i>Dinu Thomas Thekkuden, Abdel-Hamid I. Mourad, Abdel-Hakim Bouzid, Tariq Darabseh</i>	
A SIMPLE FINITE ELEMENT MODEL TO ANALYZE PARTIALLY HEATED MICROCHANNEL HEAT SINKS.....	1182
<i>Pradeep Hegde, Govindaraju Kalimuthu, Sabin Mishra</i>	
EEG WHEELCHAIR FOR PEOPLE OF DETERMINATION.....	1186
<i>Mariam Alabboudi, Maitha Majed, Fatima Hassan, Ali Bou Nassif</i>	
PILOT SIMS AS A MODEL TO CRASH AND SURVIVE IN SUPPORT OF FIRST YEAR UNIVERSITY SUCCESS FOR ENGINEERING STUDENTS.....	1191
<i>Bryn Holmes, Steven Zani</i>	
LOCAL VARIANCE BASED FUSION METHOD FOR MULTI-COMPONENT IMAGES	1198
<i>A. B. Far, Farid Flitti, Jamil Altiti</i>	
INTEGRATING INTERACTIVE LEARNING IN TEACHING GENERAL ENGINEERING COURSES.....	1202
<i>Rihab Hamza, Waleed K. Ahmed, Essam Zaneldin, Omar J. Alkhatib</i>	
A COMPARISON BETWEEN CALCULUS I AND PHYSICS I GRADES AT THE HIGHER COLLEGES OF TECHNOLOGY (HCT).....	1208
<i>Rami Alahmad, Walid El-Jammal, Ahmad Abdelhadi</i>	
CURRICULUM INTEGRATION OF ENGINEERING WITH BUSINESS TO ENHANCE ENGINEER'S MANAGEMENT COMPETENCY- A MULTIDISCIPLINARY TO INTERDISCIPLINARY APPROACH	1211
<i>Rachna Banerjee, Walid Zgallai, Bistra Boukareva</i>	
DEVELOPING INNOVATION AND ENTREPRENEURSHIP SKILLS IN ENGINEERING STUDENTS: SIMULATION GAMES IN THE DESERT	1216
<i>Jaishree Asarpota, Rachna Banerjee</i>	
COOLING OF HOT STEEL PLATE ON RUN-OUT TABLE FACILITY; A SIMULATION	1223
<i>Uzair Jauhar Ali, Omar Ahmad Mohamad, Mohammad S. Khan, Mohamed S. Gadala</i>	
A NOVEL FIRE RESISTANT MATERIAL ("FIRESS") TO MITIGATE FIRES IN WIND TURBINES	1227
<i>Raghu Panduranga, Yasser Alamoudi, Azzeddine Ferrah</i>	

OPTIMAL DESIGN OF GRID CONNECTED PV BATTERY SYSTEM FOR PROBABILISTIC EVCS LOAD.....	1233
<i>Mohammad Mominur Rahman, Essam A. Al-Ammar, Himadry Shekhar Das, Wonsuk Ko</i>	
PREDICTIVE DIRECT POWER CONTROL OF VOLTAGE SOURCE CONVERTERS IN MICROGRIDS DURING RECONFIGURATION.....	1239
<i>Essam A. Al-Ammar, Habib Ur Rahman Habib, Asad Waqar, Shaorong Wang, Mohammad Mominur Rahman, Aftab Ahmed</i>	
SMART ADVISING AND TAILORED CLASS SCHEDULING.....	1245
<i>Amjad Alsakarneh, Taha A. Tabaza, Lina Momani</i>	
RELEVANCE OF BLOOM'S TAXONOMY TO HYBRID LEARNING IN ENGINEERING PROGRAMS AT HCT.....	1249
<i>Majid Akram, Elgaali Elgaali, Carmen Medina Garriguez</i>	

Author Index