

2018 Advances in Science and Engineering Technology International Conferences (ASET 2018)

**Dubai, Sharjah, Abu Dhabi, UAE
6 February – 5 April 2018**

Pages 1-489



**IEEE Catalog Number: CFP18ASG-POD
ISBN: 978-1-5386-2400-5**

**Copyright © 2018 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:	CFP18ASG-POD
ISBN (Print-On-Demand):	978-1-5386-2400-5
ISBN (Online):	978-1-5386-2399-2

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

INTERPRETATION SUBSURFACE AREA WITH GEOELECTRICITY METHOD TO OBTAIN FAULT FIELD: CASE STUDY IN KARANG INDAH VILLAGE, SOUTH OKU REGENCY, SOUTH SUMATERA	1
<i>Yusraida Khairani Dalimunthe</i>	
EXPLORING CONSUMER SOCIAL RESPONSIBILITY (CNSR): A KEY ELEMENT FOR SUSTAINABLE ENVIRONMENT	5
<i>Mamta Soni ; Sunny Dawar</i>	
DEVELOPING SOLUTIONS FOR DEALING WITH WATER AND FOOD SCARCITY: ATMOSPHERIC WATER GENERATOR AND URBAN FARM TOWER	10
<i>Camilo Cerro</i>	
RESPONSE SPECTRUM ANALYSIS OF MULTI STORIED BUILDINGS: A REVIEW	16
<i>Saunil Dadawala ; N. R. Chandak</i>	
EUROPEAN UNION'S ECOLOGICAL LABEL	21
<i>Nathan Kawansson</i>	
ATMOSPHERIC POLLUTION WITH HEAVY METALS AT TABOUK CITY-KSA	25
<i>Anwar Jiries ; Anf Hanna Ziadat ; Rehab Al-Atwi</i>	
CREATIVE AND SUSTAINABLE THOUGHTS IN AUGMENTING RTA'S INFRASTRUCTURE IN DUBAI	30
<i>Ramesh Vandana ; Chithirai Pon Selvan ; Renuka Seenivasan ; Swaroop Ramaswamy Pillai</i>	
DIFFERENCES IN BINARY GAS PERMEATION BETWEEN INORGANIC AND POLYMERIC MEMBRANES	36
<i>Zhou He ; Kean Wang</i>	
SUSTAINABLE INFRASTRUCTURE DEVELOPMENT: CONCRETE WITH HUMAN HAIR AS FIBER	40
<i>Gaurav Sancheti ; Lucas Pais</i>	
SOLAR HYBRID VEHICLES FOR ENVIRONMENTAL PROTECTION	44
<i>M Chithirai Pon Selvan ; Sahith Reddy Madara ; Swaroop Ramaswamy Pillai ; Ramesh Vandana</i>	
GREEN CLOUD COMPUTING FOR ENVIRONMENTAL SUSTAINABILITY IN UAE	50
<i>Sujni Paul</i>	
IDENTIFYING THE RISK FACTORS AFFECTING CRASH SEVERITY AT INTERSECTIONS WITH CONSIDERING CRASH CHARACTERISTICS AND SIGNAL CONFIGURATION USING AN ORDERED LOGISTIC MODEL	54
<i>Ameera Alkhlaifi ; Abdulla Galadari</i>	
ASSESSMENT AND DATA ASSIMILATION OF AGRICULTURAL DRAINAGE WATER FOR REUSE IN IRRIGATION PURPOSES	61
<i>Walaa Assar ; Ayman Allam ; Ahmed Tawfik</i>	
DESIGN FROM WASTE: REVIEW OF THE UAE WASTE MANAGEMENT SECTOR AND EXPERIMENTATION ON RECYCLED MATERIALS TO SUPPORT THE DEVELOPMENT OF A SUSTAINABLE AND ENERGY-EFFICIENT BUILDING MARKET	66
<i>Vittorino Belpoliti ; Heba S. Abbas ; Mahmood A. Abu Ali ; Ayah M. Al Khulaifi</i>	
FINITE ELEMENT SIMULATIONS OF THE FLEXURAL RESPONSE OF CFSTS	72
<i>Farid Abed ; Yosri Abdelmageed</i>	
BUCKLING CAPACITY OF PRETWISTED UNIVERSAL BEAM SECTIONS	77
<i>Farid Abed ; Fadia Ajjan</i>	
FINITE ELEMENT SIMULATION OF THE FLEXURAL BEHAVIOR OF BFRP-FRC BEAMS	82
<i>Farid Abed ; Abdul Rahman Alhafiz</i>	
FOOD WASTE — A GLOBAL CHALLENGE TO SUSTAINABILITY	87
<i>Padmaja Vootla ; Fadhel Al Remeithi ; Samuel Andemariam Bariaghbr ; Faraj Al Mansoori</i>	
AIR DISPERSION MODELLING STUDY OF A CEMENT PLANT IN RAJASTHAN	92
<i>Nitin Goyal</i>	
FACTORS INFLUENCING GREEN DATA CENTERS IN UAE	96
<i>Hatem Tamimi ; Ameer Bensefta</i>	
EFFECT OF FIBERS ON CONCRETE FRESH, MECHANICAL AND TRANSPORT PROPERTIES	102
<i>Sukina Alzyoud ; Anf Ziadat</i>	
GREEN BLOCKS MADE OF RECYCLED WASTE	107
<i>Elgaali Elgaali ; Abdulla Alsharid ; Ahmed Julfar</i>	

MAPPING OF DEWATERING IMPACTS ON GROUND WATER AND SOIL QUALITY USING GIS	112
<i>Elgaali Elgaali ; Majid Akram</i>	
USE OF AERIAL PHOTOGRAPHY AND GIS IN ESTIMATING URBAN LAWN IRRIGATION REQUIREMENTS	117
<i>Elgaali Elgaali</i>	
IMPROVING THE EFFICIENCY OF A WIND TURBINE SYSTEM USING A FUZZY-PID CONTROLLER	123
<i>Silpa Baburajan</i>	
EXPERIMENTAL EVALUATION OF A WIND TURBINE'S ENERGY DEPENDENCE ON AIR DENSITY	128
<i>Yacouba Moumouni ; Nicolae Galupa</i>	
SIZING AN OFF-GRID PHOTOVOLTAIC SYSTEM	132
<i>Yacouba Moumouni ; Munther Gdeisat</i>	
A SYSTEM DYNAMIC MODEL OF A DISTRIBUTED GENERATION FOR ENERGY SECURITY IN NIAMEY	136
<i>Modou Pouye ; Yacouba Moumouni</i>	
A SYSTEM DYNAMICS MODEL OF THE NIGERIAN ELECTRICITY SYSTEM	141
<i>Shari Babajide ; Yacouba Moumouni ; Momodu Abiodun ; Rabani Adamou</i>	
PORTABLE ROBOT FOR CLEANING PHOTOVOLTAIC SYSTEM: ENSURING CONSISTENT AND OPTIMAL YEAR-ROUND PHOTOVOLTAIC PANEL PERFORMANCE	146
<i>Amna Al Baloushi ; Maryam Saeed ; Shaza Marwan ; Shiaikha Algghafri ; Yacouba Moumouni</i>	
SMART INNOVATION APPLICATIONS FOR A GREEN HOUSE USING SUSTAINABLE AND RENEWABLE ENERGY IN THE UAE: HOME ENERGY RETROFIT	150
<i>Hassan Abdulmouti ; Khalifa Ali ; Abdulla Ali ; Marwan Ali ; Saleh Abdullah ; Rashed Abdalla</i>	
IMPLEMENTATION OF PROPORTIONAL-RESONANT CONTROLLER IN AN AUTONOMOUS DISTRIBUTED GENERATION UNIT	156
<i>Preetha Sreekumar ; Ravichandran Danthakani ; Suhas P. Veetil</i>	
UTILIZING FUEL CELL TECHNOLOGY FOR DUBAI ROADS AND TRANSPORT AUTHORITY (RTA)	161
<i>Aziz Al-Mahadin ; Mohamad Y. Mustafa</i>	
HEURISTIC SEARCH ALGORITHMS FOR OPTIMAL LOCATIONS AND SIZING OF DISTRIBUTED GENERATORS IN THE GRID: A BRIEF RECENT REVIEW	167
<i>Abdullah Khamis Banhidarah ; Ameena Saad Al-Sumaiti</i>	
MAXIMIZING THE POWER OF SOLAR CELLS BY USING INTELLIGENT SOLAR TRACKING SYSTEM BASED ON FPGA	172
<i>Alaa Hamza Omran ; Yaser M. Abid ; Ahmed Sabah Ahmed ; Huda Kadhim ; Ruqaiya Jwad</i>	
MODELING AND ANALYSIS OF PV SOILING AND ITS EFFECT ON THE TRANSMITTANCE OF SOLAR RADIATION	177
<i>Abdel Gafoor Haddad ; Rached Dhaouadi</i>	
NATURAL VENTILATION POTENTIAL STRATEGIES IN WARM WINTER CLIMATE ZONES — A CASE STUDY OF DUBAI	182
<i>Issah M. Alhamad ; Moamin H. Alsaleem ; Hanan Taleb</i>	
RISK ASSESSMENT OF HAZARDS DUE TO THE INSTALLATION AND MAINTENANCE OF ONSHORE WIND TURBINES	186
<i>Albara M. Mustafa ; Aziz Al-Mahadin</i>	
PROTOTYPE ANALYSES OF AUTOMATED DROPPER SYSTEM FOR ELECTRIC POWER GENERATION	193
<i>Yasir Alkubaisi ; W. Z. W Hasan ; S. B. Mohd Noor ; Norhafiz Azis ; M. Z. A. Ab. Kadir ; A H. Sabry</i>	
BIOGAS PRODUCTION FROM DIFFERENT TYPES OF COW MANURE	198
<i>Mohamed Abdallah ; Abdallah Shanableh ; Mohamad Adghim ; Chaouki Ghenai ; Suhair Saad</i>	
LONG-TERM ENERGY PEAK LOAD FORECASTING MODELS: A HYBRID STATISTICAL APPROACH	202
<i>Eman Khorsheed</i>	
A FEASIBILITY STUDY OF ROOF-MOUNTED GRID-CONNECTED PV SOLAR SYSTEM UNDER ABU DHABI NET METERING SCHEME USING HOMER	208
<i>Issah M. Alhamad</i>	
EFFICIENT DIGITAL IMPLEMENTATION OF SPACE VECTOR MODULATION FOR THREE-LEVEL NPC CONVERTERS USED IN WIND ENERGY CONVERSION SYSTEMS	212
<i>Fatima N. Al Mansoori ; Hany A. Hamed ; Ehab H. E. Bayoumi</i>	

A LOW-COST ONLINE PERFORMANCE MONITORING SYSTEM FOR HOME PHOTOVOLTAIC GENERATORS.....	217
<i>Hala Al-Nuaimi ; Afnan Abu-Serdaneh ; Hanin Kablan ; Ghaya Al-Darmaki ; Atef Abdrabou</i>	
POWER GENERATION THROUGH ROAD SPEED BREAKERS — AN EXPERIMENTAL APPROACH	222
<i>Aisha Abdulrazzaq Al Ahmadi ; Al Dana Rashed Almansoori ; Ali Saeed Alshehhi ; Hamad Abdulla Almahdi ; Mahra Musallam Albulooshi ; Omar Radaideh ; Konstantinos N. Voudouris</i>	
DESIGN AND DEVELOPMENT OF SMALL CAPACITY VERTICAL AXIS WIND TURBINE.....	228
<i>Sathyam Krishnan ; Sherif Araby ; Mohamad Al Ali ; Qais Al Hammadi ; Mohammad Saleh Al Ali ; Hadif Al Mansoori</i>	
FUEL CELL TECHNOLOGY APPLICATION FOR DUBAI RAIL SYSTEMS.....	233
<i>Mohamad Y. Mustafa ; Aziz Al-Mahadin ; Bjorn E. Kanstad ; Raj K. Calay</i>	
DESIGN OF HYDRO-POWER PLANT FOR ENERGY GENERATION FOR A MID-SIZE FARM WITH INSUFFICIENT WATER DISTRIBUTION NETWORKS	240
<i>Nasr Al Khudhiri ; Sharul Sham Dol ; Mohammad S. Khan</i>	
FEASIBILITY STUDY AND DESIGN OF FLOATING OFFSHORE WIND TURBINE FARM IN UNITED ARAB EMIRATES	246
<i>Abdulla Ahmed Al Qubaisi ; Sharul Sham Dol ; Mohammad S. Khan ; Abid Abdul Azeez</i>	
FEASIBILITY STUDY ON CONVERTING OCEAN WAVES ENERGY BY PELAMIS IN UNITED ARAB EMIRATES.....	251
<i>Mohamed Raouf Houhou ; Sharul Sham Dol ; Mohammad S. Khan ; Abid Abdul Azeez</i>	
STREAMLINING “SMART GRID END POINT DEVICES” VULNERABILITY TESTING USING SINGLE BOARD COMPUTER.....	256
<i>Mohammed Saleh ; Nedaa Baker Al Barghuthi ; Khadija Alawadhi ; Fatima Sallal ; Azzeddine Ferrah</i>	
NUMERICAL MODELLING OF PERFORMANCE ON BATCH BLADE SAVONIUS TURBINE USING ANSYS	262
<i>Mesfin G. Zewge ; Abdulwehab A. Ibrahim ; Aja Ogboo Chikere</i>	
SPRAY CHARACTERISTICS OF PLUG TYPE SWIRL INJECTOR.....	267
<i>Sri Nithya Mahottamananda Jayapal ; Mohammed Rafnaz ; P N Kadiresh</i>	
DEVELOPMENT AND APPLICATION OF A VALUE DRIVEN DESIGN ASSESSMENT FRAMEWORK TO AN UNMANNED AIR SYSTEM DESIGN	271
<i>Evangelos Papageorgiou</i>	
THE APPLICABILITY OF THE ADAPTIVE WAVELET ANALYSIS IN FLUTTER IDENTIFICATION IN AEROSPACE STRUCTURES.....	277
<i>Molham H. Chikhalsouk ; Khalid Zhouri ; Yaseer El Okda ; Monsif Shinneeb</i>	
INVESTIGATION OF FACTORS AFFECTING AIRCRAFT VORTEX ENCOUNTERS	281
<i>Aziz Al-Mahadin ; Serdar Dalkilic</i>	
NEURO-FUZZY TECHNIQUES FOR THE IDENTIFICATION OF AIRCRAFT WAKE VORTEX ENCOUNTERS	287
<i>Aziz Al-Mahadin ; Faouzi Bouslama</i>	
SAFETY CULTURE IN AIRCRAFT MAINTENANCE ORGANIZATIONS OF UNITED ARAB EMIRATES.....	293
<i>Kamal Jaiswal ; Aziz Al-Mahadin ; Seema Verma ; Balgopal Singh</i>	
THE IMPACT OF CLIMATE CHANGE AND WEATHER ON AIR TRANSPORT IN THE UAE: REDUCTION OF CO₂ EMISSIONS	300
<i>R. Alberto Bernabeo ; Hadil Abu Khalifeh ; Alfonso Andretta ; Inas Taisier Al Khatib ; Mohammed Haris Ghori</i>	
STUDY AND TESTING OF A GREEN TRAINER TO TRANSFORM SMALL GENERAL AVIATION AIRCRAFT FOR TRAINING INTO A NO-EMISSION AERIAL VEHICLES.....	307
<i>R. Alberto Bernabeo ; L. Piancastelli ; Zahid Hameed Malik ; Asif Al Azad ; Jamal Ahmed Yaseen</i>	
EVALUATION OF GEOMAGNETIC STORMS — A CASE STUDY	310
<i>W. F. Alsadoon ; M. M. Shaikh ; I. Fernini</i>	
A NUMERICAL ANALYSIS OF THE SLOT FILM-COOLING EFFECTIVENESS.....	314
<i>Mohammed Al-Hemyari ; Mohammad O. Hamdan ; Mehmet F. Orhan</i>	
EFFECTS OF 23RD SOLAR CYCLE ON TEC MEASUREMENT OVER BAHRAIN — A CASE STUDY	321
<i>A. M. Darya ; M. M. Shaikh ; I. Fernini</i>	
HEAT TRANSFER INFLUENCE OF SOLAR PANEL ON SPACECRAFT	330
<i>Reem Almehtisi ; Fadi Al Naimat</i>	
EFFECT OF FLEXURAL BENDING TEST ON THREE DIMENSIONAL SPACER COMPOSITE MATERIALS.....	336
<i>N. S. Sarath Raj ; Jerrin Thadathil Varghese ; M. Chithirai Pon Selvan</i>	

COEXISTING IN A WORLD WITH URBAN AIR MOBILITY: A REVOLUTIONARY TRANSPORTATION SYSTEM	345
<i>Akash Bandyopadhyay ; N. S. Sarath Raj ; Jerrin Thadathil Varghese</i>	
ESTIMATION AND REDUCTION OF HELICOPTER HUB VIBRATORY FORCES DUE TO BLADE-TO-BLADE DISSIMILARITY IN COMPOSITE ROTOR SYSTEM	351
<i>Babruvahan Ronge ; Prashant Pawar</i>	
EXPERIMENTAL ANALYSIS OF COMPOSITE ROTOR BLADE MODELS FOR DAMAGE IDENTIFICATION	356
<i>Babruvahan Ronge ; Prashant Pawar ; Avinash Parkhe</i>	
EVALUATION OF THE INFLUENCE OF ORGANIZATIONAL FACTORS IN THE EFFECTIVE IMPLEMENTATION OF SAFETY MANAGEMENT SYSTEMS (SMS) IN THE UNITED ARAB EMIRATES (UAE)	362
<i>Melaku Tadesse</i>	
PREPARING TO LEAD THE BANDWAGON: A CASE OF GROWING INDIAN AVIATION INDUSTRY	371
<i>Kamal Jaiswal ; Seema Verma ; Balgopal Singh</i>	
BINARY IMAGE MATCHING USING SCALE INVARIANT FEATURE AND HOUGH TRANSFORMS	379
<i>A. M. Nickfarjam ; H. Ebrahimpour-Komleh ; A. A. Amini Tehrani</i>	
DEVELOPING A WEB BASED INTERACTIVE 3D VIRTUAL ENVIRONMENT FOR NOVEL SKIN MEASUREMENT INSTRUMENTS	384
<i>Omar Al Hashimi ; Perry Xiao</i>	
CHSM-MBC CLUSTER HEAD SELECTION METHOD WITH MULTI HOP BALANCED CLUSTERING ROUTING PROTOCOL FOR HETEROGENEOUS WIRELESS SENSORS NETWORKS	392
<i>Dallali Sondes ; Hadded Rim</i>	
AN INTERDISCIPLINARY APPROACH TO DEVELOPING AN IOT HEALTHCARE SOLUTION IN APPLIED HIGHER EDUCATION	398
<i>Ali Farhat ; Thomas Mcneill ; John Raven</i>	
SMART HOME ENERGY MANAGEMENT SYSTEM: AN EXPLORATION OF IOT USE CASES	403
<i>Mulham B. Soudan ; Homam M. Al Rifaie ; Taha M. Asmar ; Sohaib Majzoub</i>	
EFFICIENT LIGHTWEIGHT MECHANISM FOR NODE AUTHENTICATION IN WBSN	408
<i>Sazia Parvin ; Amjad Gawanmeh ; Sita Venkatraman ; Ali Alwadi ; Jamal N. Al-Karaki</i>	
PLATFORM DEPENDENT DELAY AND PITCH SHIFTING USING ANDROID ENVIRONMENT	414
<i>Ammar Natsheh ; Waleed Al-Mughrabi ; Sami Sukhtian</i>	
LOW PAPR OFDM WITH IMPLICIT SIDE INFORMATION AND REDUCED COMPLEXITY FOR IOT NETWORKS	421
<i>Zaid S. Al-Aubaidy ; Saloa M. Ali</i>	
REVISITING OF ELLIPTICAL CURVE CRYPTOGRAPHY FOR SECURING INTERNET OF THINGS (IOT)	427
<i>Darshana Pritam Shah ; Pritam Gajkumar Shah</i>	
REVIEW — CHALLENGES OF MOBILITY AWARE MAC PROTOCOLS IN WSN	430
<i>Sijo Sudheendran ; Ons Bouachir ; Sherif Moussa ; Adel Omar Dahmane</i>	
COMMERCIAL 4G LTE CELLULAR NETWORKS FOR SUPPORTING EMERGING IOT APPLICATIONS	436
<i>Ahmed Hassebo ; Muath Obaidat ; M. A. Ali</i>	
PLC AUTOMATION OF A HYDROCHLORIC ACID PRODUCTION UNIT ON A MANNHEIM-PROCESS	442
<i>Hussam Khasawneh ; Mohammad Kilani</i>	
NAVIGATION ALGORITHM FOR AUTONOMOUS MOBILE ROBOTS IN INDOOR ENVIRONMENTS	447
<i>Fatima Khan ; Asma Alakberi ; Shamma Almaamari ; Abdul R Beig</i>	
REAL-TIME THREE DIMENSIONAL IMAGING OF PARAMAGNETIC CONTAMINANTS IN OIL-GAS PIPELINES	453
<i>Mahmoud Meribout ; Karim Bin Saied</i>	
THE IMPACT OF TOPOLOGY ON INTERNET OF THINGS: A MULTIDISCIPLINARY REVIEW	456
<i>Giulia De Masi</i>	
IROVERS: REAL-TIME UNMANNED FOUR-WHEEL IOT VEHICLES FOR AIR AND NOISE POLLUTION MONITORING	462
<i>Said Kafumbe</i>	

WIRELESS SENSOR NODE FOR INDOOR AIR QUALITY MONITORING SYSTEM	467
<i>Ismaila B. Tijani ; Abdulla D. Almannae ; Abdulla A. Alharthi ; Abdulla M. Alremeithi</i>	
A MULTI-STAGE MINIMUM TIME ADAPTIVE CONTROL OF ROBOT MANIPULATORS.....	473
<i>Amar Khoukhi</i>	
DIGITAL PRESERVATION OF RHYTHMIC FEATURES USING BIOKIN SENSOR PLATFORM.....	479
<i>Lanka Udawatta ; Josefa Wivou ; Ahmed Alali ; Bryan Daniels ; Simon Hissem</i>	
FOGGY DRONE: APPLICATION TO A HEXAROTOR UAV	485
<i>Maitha Al Shamsi ; Mohammed Al Shamsi ; Rashed Al Dhaheri ; Rashed Al Shamsi ; Saif Al Kaabi ; Younes Al Younes</i>	
LINE-OF-SIGHT EXPLORATION OF UNKNOWN ENVIRONMENT BY A PAIR OF MOBILE ROBOTS	490
<i>Mohammad Al Khawaldah ; Salvatore Livation</i>	
TRACKING CONTROL FOR ROBOTIC MANIPULATOR BASED ON FABRIK ALGORITHM.....	495
<i>Mahmoud A. Y. Abdallah ; Mohammed Saeed Baziyed ; Raouf Fareh ; Tamer Rabie</i>	
MAGNETORHEOLOGICAL ELASTOMER MOUNTS IN NON-LINEAR VEHICLE MODEL	500
<i>Ismail Ladipo</i>	
A NOVEL IMAGE ENCODING AND COMMUNICATION TECHNIQUE OF B/W IMAGES FOR IOT, ROBOTICS AND DRONES USING (15, 11) REED SOLOMON SCHEME	504
<i>Muhammad Zaid Ejaz ; Khurram Khurshid ; Zeeshan Abbas ; Muhammad Ali Aizaz ; Asif Nawaz</i>	
MODEL BASED ESTIMATION APPROACH TO THE MISSING DATA PROBLEM.....	510
<i>Fesmi Majeed</i>	
INVESTIGATION REPORT ON UNDERWATER DAMAGE DETECTION USING LASER PROXIMITY SENSORS.....	516
<i>Fesmi Abdul Majeed ; Taif Alh moudi ; Marwa Alghawi ; Fatmah Alyammahi ; Hind Alhosani ; Nouf Alloghani</i>	
HYBRID SENSOR AND INFORMATION FUSION TO ENHANCE SIGNAL CLASSIFICATION OF A MULTI RECEIVING SYSTEM	519
<i>Mahesh A. Nair ; Konstantinos N. Voudouris</i>	
IMPROVING SYSTEM AVAILABILITY USING OVERLAPPING DECOMPOSITION-BASED ROBUST CONTROL.....	525
<i>Haris M. Khalid ; Zimran Rafique</i>	
REVEALING STRUCTURAL AND OPTO-ELECTRONIC PERFORMANCE OF PHOTOSENSITIVE CHALCOPYRITE CDAL₂SE₄: FIRST-PRINCIPLE MODIFIED BECKE-JOHNSON (MBJ) OBSERVATIONS	530
<i>Amit Soni ; Jagrati Sahariya ; Ushma Ahuja</i>	
THE MATERIAL DAMPING AS RAYLEIGH DAMPING IN THE VIBRATIONS OF SQUARE AND RECTANGULAR METALIC PLATES	534
<i>Najeeb U. Khan ; P. Bangaru Babu</i>	
INCLUSION REMOVAL STUDY IN MULTISTRAND TUNDISH WITH TURBOSTOPER.....	540
<i>Sabin Kumar Mishra ; Pradeep Kumar Jha</i>	
SIMULATING THE OPTICAL PROPERTIES OF ISOLATED AND DIMER NANOSHELLS FOR PHOTOTHERMAL THERAPY	544
<i>Frank Gunzer ; Maryam Magdy</i>	
SIMULATING THE OPTICAL PROPERTIES OF GRAPHENE NANODISKS FOR PHOTOTHERMAL THERAPY	549
<i>Frank Gunzer ; Maryam Magdy</i>	
AUTOMATED SPORTS RIM DESIGN IN CAD SYSTEM.....	554
<i>M. S. Abdul Karim ; Ahmad Zuhakim Ab Rashid</i>	
SYNTHESIS, CHARACTERIZATION, AC CONDUCTIVITY AND HUMIDITY SENSING BEHAVIOUR OF POLYANILINE/BAFE₁₂O₁₉ COMPOSITE EMBEDDED WITH SILVER PARTICLES	557
<i>K. Vinay ; K. Shivakumar ; Y. T. Ravikiran ; M. Revanasiddappa ; S. C. Raghavendra</i>	
A COMPUTATIONAL AND EXPERIMENTAL INVESTIGATION OF AIRFLOW AND HEAT TRANSFER THROUGH IMPROVED HORTICULTURAL PRODUCE-CRATES	562
<i>Abed Mennad ; Najeeb U. Khan</i>	
ALKYL CHAIN MODIFIED DIATOMACEOUS EARTH SUPERHYDROPHOBIC COATINGS.....	570
<i>Helanka J. Perera ; Frank D. Blum</i>	
MOLECULAR DYNAMICS STUDY OF CARBON NANOTUBE/GRAPHENE REINFORCED NICKEL COMPOSITES	574
<i>Sumit Sharma ; Uday K. Ravella ; Prince Setia</i>	
MOLECULAR DYNAMICS STUDY OF CARBON NANOTUBE REINFORCED TITANIUM COMPOSITES.....	580
<i>Sumit Sharma ; Uday K. Ravella ; Prince Setia</i>	

BOND BEHAVIOR OF GALVANIZED STEEL MESH TO CONCRETE	584
<i>Rami Hawileh ; Jamal A. Abdalla ; Waleed Nawaz ; Kais A. Douier</i>	
USING BORE-EPOXY ANCHORAGE TO DELAY DEBONDING OF CFRP PLATES STRENGTHENED CONCRETE BEAMS	588
<i>Khalid M. Mohamed ; Jamal A. Abdalla ; Rami A. Hawileh ; Waleed Nawaz</i>	
REINFORCED CONCRETE BEAMS EXTERNALLY STRENGTHENED IN FLEXURE USING HYBRID SYSTEMS	593
<i>Jamal A. Abdalla ; Rami A. Hawileh ; Waleed Nawaz ; Abubakr Mohammed</i>	
SEMICONDUCTOR MANUFACTURING PROCESS OPTIMISATION	598
<i>Said Kafumbe</i>	
FINITE ELEMENT MODELING OF THERMAL DEFORMATIONS IN COMPOSITE MATERIALS	603
<i>Enrique Graciani ; Alejandro Estefani ; Federico Paris</i>	
MICROSTRUCTURE, CORROSION AND CYTOTOXICITY ANALYSIS OF NOVEL BIODEGRADABLE MG-ZN-CA/HA ALLOYS/COMPOSITES FOR FUTURE BIOMEDICAL APPLICATIONS	609
<i>Akshay Rakesh Devikar ; Ranjeeth Kumar Kasala ; Sameer Kumar Rai ; Perumal Varalakshmi ; Vairathevar Sivasamy Vasantha ; Uday Krishna Ravella ; Anil Midathada</i>	
EFFECTS OF PROCESS PARAMETERS ON DEPTH OF CUT IN ABRASIVE WATERJET CUTTING OF PHOSPHATE GLASS	615
<i>M Chithirai Pon Selvan ; S S Sampath ; Sahith Reddy Madara ; N S Sarath Raj</i>	
UPCYCLING OF E-WASTE PLASTICS CONTAINING BROMINATED FLAME RETARDANTS INTO VALUABLE CARBON MATERIAL	621
<i>Sylvia Oleszek ; Mariusz Grabda ; Eisuro Shibata ; Takashi Nakamura ; Alfons Buekens</i>	
THROUGH THICKNESS PERMEABILITY AND COMPACTION CHARACTERIZATION OF 3D PREFORMS USING IN-SITU μXCT	625
<i>A. Muhammad Ali ; Kamran Ahmed Khan ; Rehan Umer</i>	
UPCYCLING OF E-WASTE PLASTICS CONTAINING BROMINATED FLAME RETARDANTS INTO VALUABLE CARBON MATERIAL	631
<i>Sylvia Oleszek ; Mariusz Grabda ; Takashi Nakamura ; Alfons Buekens</i>	
ENHANCING HEAT TRANSFER OF RECTANGULAR FINS: IMPLEMENTING CONSTRUCTAL OPTIMIZATION APPROACH	635
<i>Fadi Alnaimat ; Mohammed Ziauddin ; Bobby Mathew</i>	
SVPWM ALGORITHM FOR MMC BASED AC TO DC CONVERTER	639
<i>Yan Yan ; Abdul R Beig</i>	
SIC-MOSFET BASED SINGLE PHASE AC TO DC PWM CONVERTER	645
<i>Amal M A Youssef ; Abdul R Beig</i>	
VIBRATION MODEL FOR A VIRTUAL REALITY BIKES' FRAME	651
<i>Hussien Al-Wedyan ; Hamad Abdulla Al Nuaimi ; Helal Ateeq Alkuwaiti ; Salman Saeed Al Meskari ; Theyab Abdulla Al Nuaimi ; Surour Slayem Alshamsi</i>	
CONTROL OF AIRBORNE NOISE GENERATED IN THE CAVITIES OF A T-SLOTTED ALUMINUM CYLINDRICAL COLUMN	658
<i>Mohamad Y. Mustafa ; Yizhong Xu ; Bjorn Reidar Sorensen ; Jose Santos ; Aziz Al-Mahadin</i>	
X AND KU-BAND FREQUENCY DEPENDENT MICROWAVE CHARACTERISTICS OF GRAPHITE /BAFe₁₂O₁₉ PARTICLES	664
<i>Samaila Bawa Waje ; Ismayadi Ismail</i>	
COST EFFECTIVE MASKLESS LITHOGRAPHY: DIRECT UV LASER WRITING OF MICROSTRUCTURES FOR MICROFLUIDICS APPLICATIONS	668
<i>Mohammed Ziauddin ; Abdel-Hamid I. Mourad ; Saud A. Khashan</i>	
EXPERIMENTAL OPTIMIZATION: 3 LEVEL FULL FACTORIAL DESIGN AND VARIATION OF PROCESSING PARAMETERS FOR POLYCARBONATE COLORS	671
<i>Jamal Al Sadi ; Yassin L. Nimir ; Luis Ferreira</i>	
EXPERIMENTAL ANALYSIS OF THE HOLDING-FORCE OF THE JAMMING GRIPPERS	676
<i>Amjad Alsakarneh ; Sulaiman Alnaqbi ; Mariam Alkaabi ; Rehab Alnaqbi ; Mohamed Alnaqbi ; Abdulla Alkaabi ; Taha Tabaza</i>	
COMPARATIVE STUDY ON 1D PHONONIC CRYSTAL VIBRATION TRANSMISSION	679
<i>M. Fesmi ; A. Amjad ; M. Lina ; A. Mazin ; O. Lateef</i>	
COMPUTATIONAL FLUID DYNAMICS ANALYSIS OF MULTIPHASE FLOW IN CRUDE OIL PIPELINES	682
<i>Abdulwehab A. Ibrahimia ; Hazwan Aizat Bin Ahmedb ; Riyad O. Hussein ; Chong Perk Lind ; Mesfin G. Zewge ; Ahmed Nurye Oumer</i>	
SUSTAINABLE SYSTEMS INTEGRATION BY MEANS OF STEP-NC: LITERATURE REVIEW	690
<i>Alaa M. Ubaid ; Fikri T. Dweiri</i>	

CORRELATION BETWEEN MULTI-DETECTOR CT FINDINGS AND ANGIOGRAPHY REPORTED STENOSIS IN SYMPTOMATIC CORONARY ARTERY DISEASE PATIENTS: PILOT STUDY	698
<i>Entesar Zawam Dalah ; Hiba Waleed Al-Dhubhani ; Nisrin Mesfer Alshamrani ; Sammy Weis ; Ousama Mehdi ; Abdulmunehm Obaideen</i>	
METROLOGY GUIDED RADIOTHERAPY (MEGURATH) MEDICAL IMAGE PROCESSING SYSTEM	703
<i>Munther Gdeisat ; Mohammed Al Sa'd ; Abdulbasit Z. Abid ; Hussein Abdul-Rahman ; Bashar Rajoub ; Yacouba Moumouni</i>	
COMPARISON OF MACHINE LEARNING METHODS FOR TWO CLASS MOTOR IMAGERY TASKS USING EEG IN BRAIN-COMPUTER INTERFACE	709
<i>Miznan Behri ; Abdulhamit Subasi ; Saeed Mian Qaisar</i>	
SURFACE EMG BASED CLASSIFICATION OF BASIC HAND MOVEMENTS USING ROTATION FOREST	714
<i>Abdulhamit Subasi ; Lojain Alharbi ; Raghdah Madani ; Saeed Mian Qaisar</i>	
AN INTELLIGENT MOBILE AGENTS SYSTEM FOR SUDDEN INFANT DEATH SYNDROME MONITORING	719
<i>Abdel Rahman Alkharabsheh</i>	
INTER-FRACTION VARIATIONS IN MOTION MODELING USING PATIENT 4D-CONE BEAM CT IMAGES	726
<i>Salam Dhou ; Dan Ionascu ; Christopher Williams ; John Lewis</i>	
A REVIEW ON 3D PRINTING: ADVANCEMENT IN HEALTHCARE TECHNOLOGY	730
<i>Sagnik Mukhopadhyay ; Ramaprasad Poojary</i>	
DESIGN AND COMPARISON OF TWO TYPES OF ANTENNAS FOR SAR CALCULATION IN WIRELESS APPLICATIONS	735
<i>Israa H. Ali ; Huda I. Hamd ; Ali I. Abdalla</i>	
EFFECTIVE ANALYSIS OF IMAGE RECONSTRUCTION ALGORITHMS IN NUCLEAR MEDICINE USING FUZZY PROMETHEE	740
<i>Dilber Uzun Ozsahin ; Nuhu Abdulhaqq Isa ; Berna Uzun ; Ilker Ozsahin</i>	
AWAKE ANIMAL FUNCTIONAL IMAGING TO INVESTIGATE THE EFFECTS OF GENERAL ANESTHESIA ON BRAIN	745
<i>Ilker Ozsahin ; Codi Gharagouzloo ; Vasily Belov ; Nathaniel M. Alpert ; Georges El Fakhri</i>	
RAPID PROTOTYPING OF MICROFLUIDIC PROBES FOR BIOMEDICAL APPLICATIONS	749
<i>Ayoola T. Brimmo ; Roaa Alnemari ; Mohammad A. Qasaimeh</i>	
CAN MULTISCALE FRACTAL DIMENSION ANALYSIS OF SCREENING MAMMOGRAMS DETECT THE ARCHITECTURAL DISTORTION OF THE BREAST?	753
<i>Imad Zyout ; Azmi Alazzam ; Mahmoud Qasaymeh</i>	
COMPARATIVE STUDY ON 1D PHONONIC CRYSTAL VIBRATION TRANSMISSION — A CASE STUDY ON SURGICAL TOOL STRUCTURE	759
<i>F. Majeed ; A. Alsakarneh ; L. Momani ; M. Abuharaz ; L. Olayanju</i>	
AUTONOMOUS ROBOT FISH FOR UNDERWATER POLLUTION DETECTION	764
<i>Fatima Jaber ; Abrar Abdulsalam ; Jawaher Jafar ; Batoool Moosa ; Amna Khalil ; Salama Bilal ; Teye Brown</i>	
EXPLORING COLORECTAL CANCER GENES THROUGH DATA MINING TECHNIQUES	770
<i>Mohammed Othman ; Faten F Kharbat ; Tarik Al Amsy</i>	
NOVEL MEDICAL BED	774
<i>A. Tawfik ; Ahmed Hamdan ; Abdulrahman Azzam ; Yahya Ibrahim</i>	
MATHEMATICAL MODEL AND VERIFICATION OF ELECTRIC FIELD AND DIELECTROPHORESIS IN A MICROFLUIDIC DEVICE	778
<i>Falah Alhammadi ; Waqas Waheed ; Bashar El-Khasawneh ; Anas Alazzam</i>	
DEVELOPMENT OF BIO-SHIELDS FOR ARDUINO UNO	783
<i>K K Mujeeb Rahman ; M Monica Subashini ; Mohamed Nasor ; Ayman Tawfik</i>	
A PROTOTYPE OF AN AUTONOMOUS POLICE CAR TO REDUCE FATAL ACCIDENTS IN DUBAI	788
<i>Moaza A. Al Suwaidi ; Fatima J. Alhammadi ; Maryam M. Buhumaid ; Nada Ahmad Rais Ali ; Teye John Brown</i>	
ELDERLY CONDITION MONITORING AND ALERT SYSTEM	792
<i>Bushra Talib ; Maitha Mohammad ; Walid A. Zgallai</i>	
MICROFLUIDIC MIXING ELEMENTS FOR CONCENTRATION GRADIENTS	798
<i>Pavithra Sukumar ; Mohammad A. Qasaimeh</i>	
MULTI REGION TOOTH SHADE MATCHING USING STANDARD TAB COLORS	802
<i>Jamal S. Rahhal ; Osama Abu-Hammad</i>	

REMOTE-MONITORING AND WIRELESS-POWERING SYSTEM FOR PACEMAKER PATIENTS	806
<i>Khalid K. Ali ; Anwar H. Jarndal</i>	
EYE-CONTROLLED MOUSE CURSOR FOR PHYSICALLY DISABLED INDIVIDUAL	812
<i>Mohamed Nasor ; K K Mujeeb Rahman ; Maryam Mohamed Zubair ; Haya Ansari ; Farida Mohamed</i>	
DIELECTROPHORETIC FIELD-FLOW FRACTIONATION IN MICROFLUIDIC DEVICE — A MODEL FOR THE TRAJECTORY OF MICRO-PARTICLES.....	816
<i>Salini Ramesh ; Mohammed Ziauddin ; Ali Hilal-Alnaqbi ; Anas Alazzam ; Fadi Alnaimat ; Bobby Mathew</i>	
NUMERICAL SIMULATION FOR PROTEIN FOCUSING IN A MICROFLUIDIC DEVICE.....	820
<i>Abdul Fahim Arangadi ; Waqas Waheed ; Emad Alhseinat ; Bashar El-Khasawneh ; Fawzi Banat ; Anas Alazzam</i>	
AN APP APPROACH TO CORRECTING THE POSTURE OF SMARTPHONE USERS.....	824
<i>Said Elnaffar ; Aisha El Allam</i>	
MEDICAL EQUIPMENT EFFICIENT FAILURE MANAGEMENT IN IOT ENVIRONMENT	828
<i>Jumana Farhat ; Abdulrahim Shamayleh ; Hasan Al-Nashash</i>	
PATENTS' SUSTAINABILITY AND PATENT SYSTEM IN ENGINEERING EDUCATION: A FRAMEWORK AND POTENTIAL RESEARCH GAPS	833
<i>Alaa M. Ubaid ; Refaat Hassan Abdel-Razek</i>	
TEACHING HYDROLOGY: A CASE STUDY OF TEACHING AND LEARNING	839
<i>Rabee Rustum</i>	
COOPERATIVE SPECTRUM SENSING USING FUZZY LOGIC FOR COGNITIVE RADIO NETWORK.....	842
<i>Tallataf Rasheed ; Adnan Rashdi ; Ahmad Naeem Akhtar</i>	
COMPARATIVE STUDY OF PID TUNING METHODS FOR PROCESSES WITH LARGE & SMALL DELAY TIMES	848
<i>Asfaw Gezae Daful</i>	
INNOVATIVE SEMESTER-SPECIFIC ENGINEERING COURSE EXERCISES DEVELOPMENT FORMULAE.....	855
<i>Said Kafumbe ; Zine-Eddine Abid</i>	
EXAMINING ENGINEERING STUDENT LEARNING AND ENGAGEMENT IN NON-NATIVE LANGUAGE LEARNING ENVIRONMENTS: THE CASE OF THE UNITED ARAB EMIRATES.....	859
<i>Mazhar Azeem ; Georgia Daleure</i>	
IMPACT OF PBL ON ENGINEERING STUDENTS' MOTIVATION IN THE GCC REGION: CASE STUDY	864
<i>Martin Jaeger ; Desmond Adair</i>	
AN ASSOCIATED LINEAR SYSTEM APPROACH FOR SOLVING FULLY FUZZY LINEAR SYSTEM WITH HEXAGONAL FUZZY NUMBER.....	871
<i>Ghassan Malkawi ; Ibrahim Rida ; Nazihah Ahmad</i>	
ENGINEERING STUDENTS' PERCEPTIONS OF FLIPPED LEARNING: BENEFITS, CHALLENGES AND RECOMMENDATIONS.....	878
<i>Raghad Nihlawi ; Hazim El-Baz ; Cindy Gunn</i>	
AUGMENTED REALITY IN EDUCATIONAL GAMES: CITY OF LIFE (COL) EMIRATI SUSTAINABILITY-EDUTAINMENT INTERACTIVE GAME.....	884
<i>Fatima Yahya Al-Hammadi ; Ali Fareed Aldarwish ; Ali Hassan Alasmakh ; M. Jamal Zemerly</i>	
RECENT TRENDS IN RFID TECHNOLOGIES AND ITS IMPACT ON UNIVERSITIES	891
<i>Santhosh Goud Sammeta ; Sahith Reddy Madara</i>	
PERCEPTION AND TECHNOLOGY ADOPTION TRENDS FOR AUTONOMOUS VEHICLES: EDUCATIONAL CASE STUDY	897
<i>Arif Mushtaq ; Sadia Riaz ; Hessa Mohd ; Aisha Saleh</i>	
3D PRINTING INNOVATIONS IN UAE: CASE STUDY: ABU DHABI SUMMER CHALLENGE 2017.....	902
<i>Issah M. Alhamad ; Waleed K Ahmed</i>	
EXTREME PROGRAMMING IMPLEMENTATION IN ACADEMIA FOR SOFTWARE ENGINEERING SUSTAINABILITY.....	907
<i>Lipsa Sadath ; Kayvan Karim ; Stephen Gill</i>	
STUDENTS' PERCEPTIONS OF LECTURE CAPTURE IN UNIVERSITY MATH CLASSES FOR ENGINEERS.....	913
<i>Rim Gouia-Zarrad ; Cindy L Gunn</i>	
FUTURE OF MILLENNIAL GENERATIONS: A REVIEW.....	916
<i>Sahith Reddy Madara ; Piyush Maheshwari ; Chithirai Pon Selvan</i>	
FPGA-BASED STEPPER MOTOR CONTROLLER: AN FPGA-BASED DESIGN PROJECT TO IMPROVE LEVEL OF THE COMPLEXITY IN PROJECT-BASED LEARNING.....	920
<i>Ruzali Rustam ; Mariam Ibrahim Al Khoory</i>	

UNIVERSITY-INDUSTRY COLLABORATION: A NEW WAY OF EDUCATING FUTURE GENERATIONS OF ENGINEERS IN INDIA	925
<i>Abhirup Khanna ; Amit Agarwal ; Piyush Maheshwari</i>	
AN ASSOCIATED LINEAR SYSTEM APPROACH FOR SOLVING FULLY FUZZY LINEAR SYSTEM WITH HEXAGONAL FUZZY NUMBER.....	931
<i>Ghassan Malkawi ; Ibrahim Rida ; Nazihah Ahmad</i>	
THE FIRST DESIGN OF A SMART HOLOGRAM FOR TEACHING	938
<i>Abdullah H. Awad ; Faten F. Kharbat</i>	
OPTIMIZATION OF BLENDED LEARNING PLATFORMS FOR SUSTAINABLE LEARNING	942
<i>Lekshmi Vijayalekshmi Amma ; Shimna Shafeek ; Vidhya Koothupalakkal Viswambharan</i>	
A MODEL TO IMPROVE UNDERGRADUATE RESEARCH: THE NEED OF FUTURE.....	946
<i>Ved P Mishra</i>	
SITE EVALUATION FOR MANAGED AQUIFER RECHARGE.....	948
<i>K. Deepa ; M. Krishnaveni ; R. Meenakshi</i>	
AMALGAMATE MATHEMATICAL METHODS AND ENGINEERING CURRICULUM TO UPLIFT INNOVATIONS	954
<i>J A Weliwita ; S. Witharana</i>	
IMPROVING ELECTRONICS ENGINEERING STUDENTS' SKILLS BY PROJECTS' COLLEGE COMPETITION.....	959
<i>Moath Awawdeh ; Tarig Faisal ; Fatima Fadhel ; Aysha Alhamadi</i>	
SENSORLESS POSITION CONTROL FOR A SINGLE DOF SYSTEM.....	964
<i>Ali Sharida ; Obada Zidan ; Majdi Salamn ; Iyad Hashlamon</i>	
IMPLEMENTATION OF DIGITAL PLATFORM IN TEACHING PHYSICS CONCEPTS APPLIED TO ENGINEERING EDUCATION AND STUDENT'S PERFORMANCE: AN EXPLORATORY STUDY.....	970
<i>Sandhya Kattayat ; Smitha Josey</i>	
WOMEN IN ENGINEERING — OPPORTUNITIES AND CHALLENGES IN AL GHARBIA REGION OF UAE	975
<i>Padmaja Vootla ; Betelihem Bereket Fre ; Ayisha Mustafa Alsayedabdulrahim Mohamedrassol Alhashmi</i>	
Author Index	