

# **2019 6th International Conference on Control, Decision and Information Technologies (CoDIT 2019)**

**Paris, France  
23-26 April 2019**

**Pages 1-680**



**IEEE Catalog Number: CFP19COB-POD  
ISBN: 978-1-7281-0522-2**

**Copyright © 2019 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:	CFP19COB-POD
ISBN (Print-On-Demand):	978-1-7281-0522-2
ISBN (Online):	978-1-7281-0521-5
ISSN:	2576-3547

**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](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

CURRAN ASSOCIATES INC.  
**proceedings**  
.com

# TABLE OF CONTENTS

<b>DETECTION OF REPLAY ATTACKS IN CPSS USING OBSERVER-BASED SIGNATURE COMPENSATION</b> .....	1
<i>Carlos Trapiello ; Damiano Rotondo ; Helem Sanchez ; Vicenç Puig</i>	
<b>CROW SEARCH ALGORITHM FOR CONTINUOUS OPTIMIZATION TASKS</b> .....	7
<i>Piotr A. Kowalski ; Krystian Franus ; Szymon Lukasik</i>	
<b>FRACTIONAL-PD<sup>n</sup> CONTROLLERS FOR IRRATIONAL SYSTEMS</b> .....	13
<i>A.-J. Guel-Cortez ; Mihir Sen ; C.-F. Méndez-Barrios ; Bill Goodwine</i>	
<b>STATE-MULTIPLICATIVE STOCHASTIC LINEAR SYSTEMS - INPUT-DELAYED H<sub>∞</sub> CONTROL</b> .....	19
<i>Eli Gershon</i>	
<b>SELECTION AND SCHEDULING OF ACTIONS FOR INNOVATION CAPABILITIES IMPROVEMENT</b> .....	25
<i>Franco Quezada ; Luis Rojo-González ; Óscar C. Vásquez</i>	
<b>A COMPARATIVE STUDY OF OPEN-CIRCUIT-VOLTAGE ESTIMATION ALGORITHMS FOR LITHIUM- ION BATTERIES IN BATTERY MANAGEMENT SYSTEMS</b> .....	30
<i>Jianwen Meng ; Moussa Boukhjifer ; Demba Diallo</i>	
<b>STRING SIMILARITY ALGORITHMS FOR A TICKET CLASSIFICATION SYSTEM</b> .....	36
<i>Malgorzata Pikies ; Junade Ali</i>	
<b>TOWARDS A MINIMUM INITIAL MARKING ESTIMATION PROCEDURE FOR P-TIME LABELLED PETRI NET SYSTEMS</b> .....	42
<i>Amir Abdellatif ; Patrice Bonhomme ; Achraf Jabeur Telmoudi ; Lotfi Nabli</i>	
<b>EASILY IMPLEMENTABLE TIME SERIES FORECASTING TECHNIQUES FOR RESOURCE PROVISIONING IN CLOUD COMPUTING</b> .....	48
<i>Michel Fliess ; Cédric Join ; Maria Bekcheva ; Alireza Moradi ; Hugues Mounier</i>	
<b>RAILWAY DISRUPTION: A BI-LEVEL RESCHEDULING ALGORITHM</b> .....	54
<i>G. Cavone ; L. Blenkers ; T. Van Den Boom ; M. Dotoli ; C. Seatzu ; B. De Schutter</i>	
<b>SUBMODULAR STOCHASTIC PROBING WITH PRICES</b> .....	60
<i>Ben Chugg ; Takanori Maehara</i>	
<b>MODEL REDUCTION OF LTI DISCRETE-TIME MULTIVARIABLE SYSTEMS USING PADE APPROXIMATION AND STABILITY EQUATION METHOD</b> .....	67
<i>Sudharsana Rao Potturu ; Rajendra Prasad</i>	
<b>A LEADER-FOLLOWER SET-THEORETIC APPROACH FOR CYBER-PHYSICAL SYSTEMS AGAINST DENIAL-OF-SERVICE ATTACKS</b> .....	73
<i>Giuseppe Franzè ; Walter Lucia ; Francesco Tedesco</i>	
<b>MIMICKING HUMAN MOVEMENT WITH ROBOTS: CONTROL OF AN ANTHROPOMORPHIC ROBOTIC ARM USING A GLOVE-BASED SYSTEM AS AN EDUCATIONAL TOOL</b> .....	79
<i>Ricardo Oliveira ; Ricardo Resende ; Filomena Soares ; Alexandre Calado ; Pedro Leite</i>	
<b>DEVELOPMENT OF AN ANTHROPOMORPHIC ROBOTIC HAND WITH TACTILE PERCEPTION</b> .....	85
<i>Artur Vitório Andrade Santos ; Alberto José Álvares</i>	
<b>LARGE SPACE DIMENSION REINFORCEMENT LEARNING FOR ROBOT POSITION/FORCE DISCRETE CONTROL</b> .....	91
<i>Adolfo Perrusquía ; Wen Yu ; Alberto Soria</i>	
<b>ABOUT SATISFYING STRING STABILITY USING HETEROGENOUS UNIDIRECTIONAL CONTROLLERS</b> .....	97
<i>Arash Farnam ; Guillaume Crevecoeur</i>	
<b>PARAMETER IDENTIFICATION USING PSO UNDER MEASUREMENT NOISE CONDITIONS</b> .....	103
<i>R. Cortez-Vega ; J. Maldonado ; R. Garrido</i>	
<b>PROPOSITION OF A HOLONIC APPROACH TO MODEL THE INFORMATION CHAIN FROM PRODUCT TO STAKEHOLDER</b> .....	109
<i>Vivien Basselot ; Thierry Berger ; Yves Sallez</i>	
<b>COOPERATIVE TRACKING CONTROL IN NETWORKED DISCRETE-EVENT SYSTEMS</b> .....	115
<i>Markus Zgorzelski ; Jan Lunze</i>	
<b>MULTI-VARIANCE PERFORMANCE CONSTRAINED ROBUST FUZZY CONTROL FOR FUZZY MODEL- BASED DISCRETE-TIME STOCHASTIC SYSTEMS</b> .....	121
<i>Wen-Jer Chang ; Chih-Ming Chang ; Yann-Hong Lin ; Che-Lun Su</i>	
<b>HYBRID DIRECT-INDIRECT ADAPTIVE CONTROL OF NONLINEAR SYSTEM WITH UNMATCHED UNCERTAINTY</b> .....	127
<i>Girish Joshi ; Girish Chowdhary</i>	
<b>A BI-LEVEL PROGRAMMING APPROACH TO LOCATE CAPACITATED ELECTRIC VEHICLE CHARGING STATIONS</b> .....	133
<i>Walid Makhoulf ; Mouna Kchaou-Boujelben ; Céline Gicquel</i>	
<b>ON A SUPERCAPACITOR DYNAMICS MATHEMATICAL OPTIMAL MODELLING DUE TO DIFFERENT MEASURES</b> .....	139
<i>Piotr Ostalczyk</i>	
<b>DEDUCING CAUSES FOR THE ABSENCE OF STATES IN SUPERVISED SYSTEMS</b> .....	144
<i>L. Swartjes ; M. A. Reniers ; W. J. Fokkink</i>	

<b>SIMULATION STUDY ON LATENCY-AWARE NETWORK IN EDGE COMPUTING</b> .....	150
<i>Qinling Zheng ; Zhan Ping</i>	
<b>ALTERNATIVE DROOP CONTROL METHOD USING A MODIFIED LAG COMPENSATOR FOR PARALLELED CONVERTERS IN DC MICROGRIDS</b> .....	156
<i>Daniel Zammit ; Cyril Spiteri Staines ; Maurice Apap ; Alexander Micallef</i>	
<b>ONLINE BALANCED TRUNCATION FOR LINEAR TIME-VARYING SYSTEMS USING CONTINUOUSLY DIFFERENTIABLE INTERPOLATION ON GRASSMANN MANIFOLD</b> .....	165
<i>Nguyen Thanh Son ; Pierre-Yves Gousenbourger ; Estelle Massart ; P.-A. Absil</i>	
<b>A NEW APPROACH ON THE LINEARIZATION OF 2-D POLYNOMIAL MATRICES</b> .....	171
<i>Stavros Vologiannidis ; Efstathios Antoniou</i>	
<b>MULTI-ROBOT FORMATION AND TRACKING CONTROL METHOD</b> .....	176
<i>Dong Wang ; Yang Yu ; Wei Wang</i>	
<b>PREDICTION OF HEPARIN DOSE DURING CONTINUOUS RENAL REPLACEMENT THERAPY SURGERY BY USING THE GRADIENT BOOSTING REGRESSION MODEL</b> .....	182
<i>Jie Lian ; Qiao-Feng Zhao</i>	
<b>ENERGY-EFFICIENT BICYCLING WITH PASSIVE MECHANICAL NETWORK</b> .....	187
<i>Makoto Shinpou ; Kentaro Hirata ; Yukinori Nakamura ; Kuniyoshi Okano ; Kazuyoshi Hatada</i>	
<b>A PERFORMANCE EVALUATION ON DISTANCE MEASURES IN KNN FOR MOBILE MALWARE DETECTION</b> .....	193
<i>Gianmarco Baldini ; Dimitris Geneiatakis</i>	
<b>IMPROVING THE LOW-VOLTAGE RIDE-THROUGH CAPACITY OF A DFIG USING NEURAL INVERSE OPTIMAL FIELD ORIENTED CONTROL</b> .....	199
<i>Larbi Djilali ; Edgar N. Sanchez ; Fernando Ornelas-Tellez ; Mohammed Belkheiri</i>	
<b>CARBON BLACK BASED FRACTIONAL ORDER ELEMENT: WIEN OSCILLATOR IMPLEMENTATION</b> .....	205
<i>A. Buscarino ; R. Caponetto ; E. Murgano ; M. G. Xibilia</i>	
<b>ITERATIVE LEARNING FUZZY CONTROL WITH OPTIMAL GAINS FOR A CLASS OF NONLINEAR SYSTEMS</b> .....	210
<i>Tarek Bensidhoum ; Farah Bouakrif ; Michel Zasadzinski</i>	
<b>A CASCADED LOOP STRUCTURE IN FORCE AND POSITION TO CONTROL A BILATERAL TELEOPERATION ROBOTIC SYSTEM</b> .....	216
<i>Sylvain Devie ; Pierre-Philippe Robet ; Yannick Aoustin ; Maxime Gautier</i>	
<b>APPROXIMATE CONTROLLABILITY OF A BILINEAR VIBRATING PLATE EQUATION WITH BOUNDED DISTRIBUTED CONTROL</b> .....	222
<i>El Hassan Zerrik ; Abella El Kabouss</i>	
<b>RESIDENTIAL MICROGRID PHOTOVOLTAIC PANEL ARRAY SIZING OPTIMIZATION TO ENSURE ENERGY SUPPLY AND FINANCIAL SAFETY</b> .....	226
<i>Remy Vincent ; Mourad Ait-Ahmed ; Azeddine Houari ; Mohamed Fouad Benkhoris</i>	
<b>GAME THEORETIC ALGORITHM FOR VEHICLE SELECTION FROM DEPLOYED FLEET</b> .....	232
<i>Evangelos D. Spyrou ; Afroditi Anagnostopoulou ; Maria Boile ; Dimitris Mitrakos</i>	
<b>THE FLOWSORT FOR MULTI CRITERIA DECISION MAKING IN INTUITIONISTIC FUZZY ENVIRONMENT</b> .....	238
<i>Fedia Daami Remadi ; Hela Moalla Frikha</i>	
<b>DECISIONS BASED ON DEVIATION FUNCTIONS</b> .....	245
<i>Andrea Stupnanová</i>	
<b>ALTERNATIVE INFERENCE-BASED DECENTRALIZED PROGNOSIS OF DISCRETE EVENT SYSTEMS</b> .....	250
<i>Ahmed Khoumsi</i>	
<b>OPTIMAL TUNING RULES FOR INTEGRATING PROCESSES FOR 2-DOF PARALLEL CONTROL STRUCTURE</b> .....	256
<i>Mohammad Irshad ; Ahmad Ali</i>	
<b>STABILITY ANALYSIS OF POWER NETWORKS UNDER CYBER-PHYSICAL ATTACKS: AN LPV-DESCRIPTOR APPROACH</b> .....	262
<i>Souad Bezzaoucha Rebaï ; Holger Voos</i>	
<b>INERTIAL RESPONSE USING BACKSTEPPING CONTROL FROM DFIG BASED WIND POWER PLANT FOR SHORT-TERM FREQUENCY REGULATION</b> .....	268
<i>Mohamed Nadour ; Ahmed Essadki ; Mohammed Fdaïli ; Tamou Nasser</i>	
<b>UTILITY FUNCTIONS AND CONSTRAINED ADDITIVITY</b> .....	274
<i>Radko Mesiar ; Anna Kolesárová</i>	
<b>TWO WHEELS ELECTRIC VEHICLE MODELLING: PARAMETERS SENSITIVITY ANALYSIS</b> .....	279
<i>Y. Bello ; T. Azib ; C. Larouci ; M. Boukhmifer ; N. Rizoug ; D. A. Patino ; F. Ruiz</i>	
<b>DLO-IN-HOLE FOR ASSEMBLY TASKS WITH TACTILE FEEDBACK AND LSTM NETWORKS</b> .....	285
<i>R. Zanella ; D. De Gregorio ; S. Pirozzi ; G. Palli</i>	
<b>RESILIENT EVENT-TRIGGERED AVERAGE CONSENSUS UNDER DENIAL OF SERVICE ATTACK AND UNCERTAIN NETWORK</b> .....	291
<i>Amir Amini ; Ali Azarbahram ; Arash Mohammadi ; Amir Asif</i>	
<b>A VARIABLE NEIGHBORHOOD SEARCH TO REDUCE CARBON DIOXIDE EMISSIONS IN THE CAPACITATED VEHICLE ROUTING PROBLEM</b> .....	297
<i>D. Tayachi ; H. Boukadi</i>	
<b>A NOVEL SOLUTION FOR AX=YB SENSOR CALIBRATION PROBLEM USING DUAL LIE ALGEBRA</b> .....	302
<i>Daniel Condurache ; Ioan-Adrian Ciureanu</i>	

<b>SENSOR FAULT TOLERANT SLIDING MODE CONTROL USING INFORMATION FILTERS WITH APPLICATION TO A TWO-WHEELED MOBILE ROBOT</b> .....	308
<i>Boussad Abci ; Maan El Badaoui El Najjar ; Vincent Cocquempot ; Gerald Dherbomez</i>	
<b>CLINICAL DECISION SUPPORT USING COLORED PETRI NETS: A CASE STUDY ON CANCER INFUSION THERAPY</b> .....	314
<i>Francesca Cairoli ; Gianfranco Fenu ; Felice Andrea Pellegrino</i>	
<b>ANALYSIS AND OPTIMIZATION OF WAVEFORM-DEPENDENT UWB TIMING SYNCHRONIZATION BY DELAY-LOCKED LOOPS</b> .....	320
<i>Mohamed Adnan Landolsi ; Mishal Algharabally</i>	
<b>A FRAMEWORK FOR EXTRACTION OF INNER LIMITING MEMBRANE IN HIGH SPECKLE NOISY IMAGES</b> .....	326
<i>Hina Raja ; M. Usman Akram ; Aneeqa Ramzan ; Tehmina Khalil ; Amtul Aziz ; Hira Raja</i>	
<b>PROPERTIES OF CONTINUED FRACTIONS APPROXIMATIONS OF FRACTIONAL ANALOG AND DIGITAL OPERATORS</b> .....	332
<i>Guido Maione</i>	
<b>GAIT MATCHING BY MAPPING WEARABLE TO CAMERA PRIVACY-PRESERVING RECORDINGS: EXPERIMENTAL COMPARISON OF MULTIPLE SETTINGS</b> .....	338
<i>Nikolaos Kolokas ; Stelios Krinidis ; Anastasios Drosou ; Dimosthenis Ioannidis ; Dimitrios Tzovaras</i>	
<b>FACIAL EXPRESSION RECOGNITION BASED ON DWT FEATURE FOR DEEP CNN</b> .....	344
<i>Bendjillali Ridha Ilyas ; Beladgham Mohammed ; Merit Khaled ; Abdelmalik Taleb Ahmed ; Alouani Ihsen</i>	
<b>REGIONAL OPTIMAL CONTROL OF A BILINEAR PLATE EQUATION</b> .....	349
<i>Abderrahman Ait Aadi ; El Hassan Zerrick</i>	
<b>HOMOGENEOUS FINITE TIME HIGHER ORDER SLIDING MODE CONTROL APPLIED TO AN UPPER LIMB EXOSKELETON ROBOT</b> .....	355
<i>Ratiba Fellag ; Mustapha Hamerlain ; Salah Laghrouche ; Mohamed Guiatni ; Noura Achour</i>	
<b>AN INTELLIGENT COMPENSATION THROUGH B-SPLINE NEURAL NETWORK FOR A DELTA PARALLEL ROBOT</b> .....	361
<i>Jonatan Martín Escorcía-Hernández ; Hipólito Aguilar-Sierra ; Omar Aguilar-Mejía ; Ahmed Chemori ; José Humberto Arroyo-Núñez</i>	
<b>GUARANTEED APPROACH TO ACCELEROMETER UNIT CALIBRATION</b> .....	367
<i>Andrei Golovan ; Alexander Matasov</i>	
<b>MIXED INTEGER LINEAR PROGRAMMING MODEL FOR THE OPTIMAL OPERATION OF A DUAL SOURCE HEAT PUMP</b> .....	373
<i>Sasan Rafii-Tabrizi ; Jean-Régis Hadji-Minaglou ; Frank Scholzen</i>	
<b>MULTI-OBJECTIVE APPROXIMATION FOR THE OPTIMAL DESIGN OF CONTROL CHARTS WITH VARIABLE PARAMETERS USING THE TAGUCHI LOSS FUNCTION</b> .....	379
<i>Oscar Oviedo-Trespalacios ; Rita Peñabaena-Niebles</i>	
<b>DIAGNOSIS, PROGNOSIS AND HEALTH MONITORING OF ELECTRO HYDRAULIC SERVO VALVES (EHSV) USING PARTICLE FILTERS</b> .....	385
<i>S. Shahkar ; Yanyan Shen ; K. Khorasani</i>	
<b>SECURITY INDEX OF LINEAR CYBER-PHYSICAL SYSTEMS: A GEOMETRIC PERSPECTIVE</b> .....	391
<i>Amir Bamiamerian ; Khashayar Khorasani</i>	
<b>PARAMETER-ESTIMATION-BASED ADAPTIVE MTPA CONTROL FOR INTERIOR PERMANENT MAGNET SYNCHRONOUS MOTORS</b> .....	397
<i>Jinhui Xia ; Jiayue Xu ; Yingwei Huang ; Juri Jatskevich ; Yuanbo Guo ; Xiaohua Zhang</i>	
<b>A REFERENCE-OPTIMIZING ANTIWINDUP CONTROL FOR INPUT-CONSTRAINED SYSTEMS</b> .....	403
<i>Razak Olusegun Alli-Oke</i>	
<b>STABILIZING AC DISTRIBUTED POWER SYSTEMS WITH CONSTANT-POWER LOADS USING TUNABLE ACTIVE DAMPING</b> .....	408
<i>Zhi Qu ; Navid Amiri ; Juri Jatskevich</i>	
<b>STABILITY OF SWITCHED NONLINEAR FEEDBACK SYSTEMS WITH BOUNDED AVERAGE TIME-VARIATION</b> .....	414
<i>Yu-Chen Sung ; Sagar V. Patil ; Michael G. Safonov</i>	
<b>PARTICLE SWARM OPTIMIZATION OF A RAIL-TO-RAIL DELAY ELEMENT FOR MAXIMUM LINEARITY</b> .....	420
<i>Jordan Lee Gauci ; Edward Gatt ; Owen Casha ; Giacinto De Cataldo ; Ivan Grech ; Joseph Micallef</i>	
<b>A LOW PAPR DFT PRECODING BASED UPMC SCHEME FOR 5G COMMUNICATION SYSTEMS</b> .....	425
<i>Imran Baig ; U. Farooq ; N. Ul Hasan ; M. Zghaibeh ; Ahthasham Sajid ; Umer Mukhtar Rana</i>	
<b>AIRCRAFT CONTROL WITH NEURAL NETWORKS</b> .....	429
<i>Akif Altun ; Mehmet Önder Efe</i>	
<b>COMPONENT SIZING BASED ON MULTI-OBJECTIVE OPTIMIZATION FOR A FUEL CELL HYBRID VEHICLE</b> .....	434
<i>Sashidhar Palani ; Shankar C. Subramanian ; Raghuram Chetty</i>	
<b>CONVEXITY ANALYSIS OF OPTIMIZATION FRAMEWORK OF ATTITUDE DETERMINATION FROM VECTOR OBSERVATIONS</b> .....	440
<i>Jin Wu ; Zebo Zhou ; Min Song ; Hassen Fourati ; Ming Liu</i>	
<b>EMERGING ISSUES IN CONTROL, DECISION, AND ICT APPROACHES FOR SMART WASTE MANAGEMENT</b> .....	446
<i>M. Dotoli ; N. Epicoco</i>	

<b>DISTRIBUTED PREDICTIVE CONTROL FOR WIND FARMS EFFICIENCY MAXIMIZATION: CHALLENGES AND OPPORTUNITIES</b> .....	452
<i>Constantin F. Caruntu</i>	
<b>ON THE ALGEBRAIC STRUCTURE OF THE MOORE PENROSE INVERSE OF FULL ROW OR FULL COLUMN RANK POLYNOMIAL MATRICES</b> .....	458
<i>Ioannis S. Kafetzis ; Nicholas P. Karampetakis</i>	
<b>ADRC AS AN EXERCISE FOR MODELING AND CONTROL DESIGN IN THE STATE-SPACE</b> .....	464
<i>Mikulas Huba ; Paulo Moura Oliveira ; Damir Vrancic ; Pavol Bistak</i>	
<b>INVERSE STOCHASTIC QUADCOPTER TRAJECTORY GENERATION USING FLAT INVERSE DYNAMICS AND POLYNOMIAL CHAOS UNCERTAINTY PROPAGATION</b> .....	470
<i>Tom Lefebvre ; Frederik De Belie ; Guillaume Crevecoeur</i>	
<b>MODEL-BASED APPROACH IDS DESIGN</b> .....	477
<i>Mohamad Houssein Monzer ; Kamal Beydoun ; Jean-Marie Flaus</i>	
<b>ACTIVE FTC APPROACH DESIGN FOR T-S FUZZY SYSTEMS UNDER ACTUATOR SATURATION</b> .....	483
<i>Sabrina Aouaouda ; Mohammed Chadli ; Ines Righi</i>	
<b>REDUCED MODELLING OF TRANSMISSION LINE CIRCUITS USING A NOVEL NONLINEARITY AWARE TPWL WITH ADAPTIVE SAMPLING</b> .....	489
<i>Shifali Kalra ; M. Nabi</i>	
<b>ESTIMATION AND NONLINEAR PREDICTIVE CONTROL FOR AN INDUCTION MACHINE</b> .....	494
<i>Florin Stinga ; Marius Marian</i>	
<b>SWITCHED-MODE POWER SUPPLY FOR CONTROL SYSTEM</b> .....	500
<i>Vladimir F. Strelkov ; Elena N. Sosnina ; Andrey B. Dar'Enkov ; Andrey V. Shalukho ; Ivan A. Lipuzhin</i>	
<b>GENERALIZED PHI-TRANSFORMATIONS AND <math>n</math>-UNINORMS</b> .....	506
<i>Lesheng Jin ; Martin Kalina ; Radko Mesiar ; Surajit Borkotokey ; Jana Špirková</i>	
<b>TRAFFIC FLOW MULTI-MODEL WITH MACHINE LEARNING METHOD BASED ON FLOATING CAR DATA</b> .....	512
<i>Jinjian Li ; Jacques Boonaert ; Arnaud Doniec ; Guillaume Lozenguez</i>	
<b>REDUCED ORDER MODELLING OF INVERTER CHAIN CIRCUIT USING NONLINEARITY AWARE TPWL</b> .....	518
<i>Shifali Kalra ; M. Nabi</i>	
<b>REACTIVE COLLISION AVOIDANCE USING ESSENTIAL VISIBILITY GRAPHS</b> .....	522
<i>Egidio D'Amato ; Immacolata Notaro ; Massimiliano Mattei</i>	
<b>STABILIZATION OF CYBER PHYSICAL SYSTEM EXPOSED TO A RANDOM REPLAY ATTACK MODELED BY MARKOV CHAINS</b> .....	528
<i>Reda El Abbadi ; Hicham Jamouli</i>	
<b>LAYERED NETWORK ORIENTED APPROACHES FOR VEHICLE RELOCATION PROBLEMS</b> .....	534
<i>Alain Quilliot ; Hélène Toussaint</i>	
<b>SUPERVISION AND ENERGY MANAGEMENT SYSTEM FOR SMART TELECOM TOWER BASED ON THE LORAWAN PROTOCOL</b> .....	539
<i>O. M. Kam ; S. Noël ; P. Kasser ; C. Tanougast ; H. Ramenah ; K. H. Adjallah</i>	
<b>PV SYSTEM SIZING WITH STORAGE MANAGEMENT: A COMPARATIVE STUDY BASED ON MIXED INTEGER LINEAR PROGRAMMING</b> .....	545
<i>Mohamed Hascuri ; Mustapha Ait Rami ; Mostafa Derrhi</i>	
<b>THE DEVELOPMENT OF A MULTI-LOOP CONTROL STRUCTURE FOR A TWO-WHEELED INVERTED PENDULUM ROBOT</b> .....	551
<i>Fu-Cheng Wang ; Zih-Jia Wang</i>	
<b>DISTRIBUTED UAV STATE ESTIMATION IN UTM CONTEXT</b> .....	557
<i>Marco Cicala ; Egidio D'Amato ; Immacolata Notaro ; Massimiliano Mattei</i>	
<b>UNIVERSAL NOTICE NETWORK: TRANSFERABLE KNOWLEDGE AMONG AGENTS</b> .....	563
<i>Mehdi Mounsiif ; Sebastien Lengagne ; Benoit Thuilot ; Loumis Adouane</i>	
<b>GENETIC ALGORITHM TO OPTIMIZE UNLOADING OF LARGE CONTAINERS VESSEL IN PORT OF TRIPOLI-LEBANON</b> .....	569
<i>A. Skaf ; S. Lamrous ; Z. Hammoudan ; M.-A. Manier</i>	
<b>HYBRID DEEP LEARNING AND HOF FOR ANOMALY DETECTION</b> .....	575
<i>Slim Hamdi ; Samir Bouindour ; Kais Loukil ; Hichem Snoussi ; Mohamed Abid</i>	
<b>ALGORITHMS FOR PREDICTION OF SMOOTH BOUNDED SIGNALS</b> .....	581
<i>Igor B. Furtat ; Pavel A. Gushchin ; Artem N. Nekhoroshikh ; Sergey A. Vrazhevsky ; Mikhail S. Tarasov ; Julia V. Chugina</i>	
<b>INTERVAL OBSERVERS DESIGN FOR UNCERTAIN MULTIPLE MODEL SYSTEMS</b> .....	587
<i>Naima Sehli ; Kaouther Ibn Taarit ; Tarek Raïssi ; Moufida Ksouri</i>	
<b>REGULARIZATION OF EXTREME LEARNING MACHINES WITH INFORMATION OF SPATIAL RELATIONS OF THE PROJECTED DATA</b> .....	593
<i>Lourenço R. G. Araújo ; Luiz C. B. Torres ; Leonardo J. Silvestre ; Carla Takahashi ; António P. Braga</i>	
<b>SELECTION OF PATTERN NEURONS FOR A PROBABILISTIC NEURAL NETWORK BY MEANS OF CLUSTERING AND NEAREST NEIGHBOR TECHNIQUES</b> .....	598
<i>Maciej Kusy</i>	
<b>MODIFIED BACKSTEPPING ALGORITHM FOR PLANTS UNDER MISMATCHED DISTURBANCES AND VARYING TIME-DELAY</b> .....	604
<i>Igor B. Furtat ; Pavel A. Gushchin ; Artem N. Nekhoroshikh ; Sergey A. Vrazhevsky ; Julia V. Chugina</i>	

<b>IMPLEMENTABLE DISCRETE-TIME <math>\mathcal{L}_1</math> ADAPTIVE CONTROL FOR A CART INVERTED PENDULUM SYSTEM</b> .....	610
<i>Mahmoud Elnaggar ; Ahmed Lasheen</i>	
<b>SYNCHRONISATION OF LINEAR AGENTS OVER A TIME-VARYING RANDOM NETWORK</b> .....	616
<i>Philipp Welz ; Jan Lunze</i>	
<b>ALGORITHMS FOR BELIEF STATE COMPRESSION</b> .....	622
<i>Ali Elhalawaty ; Haythem Ismail</i>	
<b>PROPOSED DECISION FRAMEWORK FOR SMART PRODUCT DEVELOPMENT IN INDUSTRY 4.0: AN INDIAN PERSPECTIVE</b> .....	628
<i>Akanksha Jaiswal ; Rana Basu ; Prabha Bhola</i>	
<b>MODEL FREE CONTROL VS SLIDING MODE CONTROL: APPLICATION TO A COUPLED THREE-TANK SYSTEM</b> .....	634
<i>Zahraa Serhan ; Hassan Noura</i>	
<b>COMPARISON BETWEEN SINUSOIDAL AND SPACE VECTOR MODULATION TECHNIQUES ON THE RESULTING ELECTROMAGNETIC TORQUE RIPPLE PRODUCED BY A THREE-PHASE BLDC MOTOR UNDER FIELD-ORIENTED CONTROL</b> .....	640
<i>Nicolae Daniel Irimia ; Florin Ioan Lazar ; Marian Luchian</i>	
<b>GRADIENT-DESCENT BASED NONLINEAR MODEL PREDICTIVE CONTROL FOR INPUT-AFFINE SYSTEMS</b> .....	646
<i>Carlos Andrés Devia ; Julian Colorado ; Diego Patino</i>	
<b>EVALUATION OF THE INFLUENCE OF THE PROPERTIES OF INHOMOGENEOUS MEDIA IN THE FORMATION OF THE IMAGE IN TECHNICAL VISION SYSTEMS</b> .....	652
<i>Tatiana A. Akimenko ; Olga Y. Gorbunova</i>	
<b>A NEW NETWORK ANOMALY DETECTION METHOD BASED ON HEADER INFORMATION USING GREEDY ALGORITHM</b> .....	657
<i>Çagatay Ates ; Süleyman Özdel ; Emin Anarim</i>	
<b>OPTIMAL ROBUST CONTROLLER DESIGN FOR UNCERTAIN LINEAR GLUCOSE SYSTEM</b> .....	663
<i>Amjad J. Humaidi ; Kadhim Yakoob Yousif ; Akram Hashim Hameed ; Ibraheem Kasim Ibraheem</i>	
<b>EXTENDED HIGH GAIN OBSERVER BASED CONTROL DESIGN FOR BUCK-BOOST CONVERTERS</b> .....	669
<i>R. Sharma ; A. Almelkar ; K. Baghel ; S. Syed ; K. Sonam</i>	
<b>PERFORMANCE ANALYSIS AND ISLANDING DETECTION OF 3-PHASE 1500V DC GRID INVERTER</b> .....	675
<i>K. Sonam ; P. Nikhil ; B. Sudeep ; A. Sharma</i>	
<b>SIGNAL PROCESSING IN THE INVESTIGATION OF TWO-PHASE LIQUID-GAS FLOW BY GAMMA-RAY ABSORPTION</b> .....	681
<i>Robert Hanus ; Marcin Zych ; Marek Jaszczur ; Anna Szlachta ; Anna Golijanek-Jedrzejczyk</i>	
<b>COMPARISON BETWEEN P&amp;O-BASED AND PSO-BASED MPPT ALGORITHMS FOR PHOTOVOLTAIC SYSTEM UNDER PARTIALLY SHADED CONDITIONS</b> .....	685
<i>Samuel N. Figueiredo ; Ranoyca N. A. L. S. Aquino ; Marcos E. P. V. Zurita</i>	
<b>OPTIMAL TRACKING CONTROL FOR A PERMANENT MAGNET SYNCHRONOUS GENERATOR</b> .....	691
<i>David Cortes-Vega ; Fernando Ornelas-Tellez ; Juan Anzures-Marin ; Carlos Cordova-Aguilar</i>	
<b>ARROWHEAD FRAMEWORK SERVICES FOR CONDITION MONITORING AND MAINTENANCE BASED ON THE OPEN SOURCE APPROACH</b> .....	697
<i>Jaime Campos ; Pankaj Sharma ; Michele Albano ; Erkki Jantunen ; David Baglee ; Luis Lino Ferreira</i>	
<b>A ROBUST OPTIMIZATION MODEL FOR THE RADIOACTIVE WASTE TRANSMUTATION IN ADS</b> .....	703
<i>Anna Golovkina ; Sorin Olaru ; Dmitri Ovsyannikov</i>	
<b>ABOUT ONE APPROACH TO SIMULATION OF NON-STATIONARY TEMPERATURE FIELD IN AXISYMMETRIC STRUCTURES</b> .....	709
<i>Tatiana A. Akimenko ; Valery A. Dunaev</i>	
<b>MODEL PREDICTIVE CONTROL OF GLUCOSE CONCENTRATION BASED ON SIGNAL TEMPORAL LOGIC SPECIFICATIONS</b> .....	714
<i>Francesca Cairoli ; Gianfranco Fenu ; Felice Andrea Pellegrino ; Erica Salvato</i>	
<b>COMPARISON OF DISTURBANCE REJECTION WITH DERIVATIVE STATE FEEDBACK AND ACTIVE DISTURBANCE REJECTION CONTROL: CASE STUDY</b> .....	720
<i>V. Gonzalez ; A. Joel ; Christophe Sueur</i>	
<b>TERMINAL SLIDING MODE CONTROL OF A VIRTUAL HUMANOID ROBOT</b> .....	726
<i>M. Sanchez-Magos ; M. Ballesteros-Escamilla ; D. Cruz-Ortiz ; I. Salgado ; I. Chairez</i>	
<b>OPTIMAL SCHEDULING OF ENERGY SUPPLY ENTITIES IN HOME AREA POWER NETWORK</b> .....	732
<i>Daud Mustafa Minhas ; Georg Frey</i>	
<b>DISTURBANCES AND COUPLING COMPENSATION FOR TRAJECTORY TRACKING OF A MULTI-LINK AERIAL ROBOT</b> .....	738
<i>J. J. Castillo-Zamora ; J. Escareno ; J. Alvarez ; J. Stéphant ; I. Boussaada</i>	
<b>MODEL OF THE HUMAN CARDIOVASCULAR SYSTEM BASED ON HYBRID SYSTEMS</b> .....	744
<i>André A. Jorge ; Luis A. M. Riascos ; Fabrício Junqueira ; Diolino J. Santos Filho ; Paulo E. Miyagi</i>	
<b>MODELLING AND CONTROLLING OF A HYBRID MOTORIZED WHEELCHAIR ON FLAT AND INCLINED SURFACES</b> .....	750
<i>André A. Jorge ; Luis A. M. Riascos ; Paulo E. Miyagi</i>	
<b>NONLINEAR OPTIMAL CONTROL OF THE HEEL ANGLE OF A ROCKET</b> .....	756
<i>Mohamed Aliane ; Nacima Moussouni ; Mohand Bentobache</i>	

<b>EVALUATION OF INVISIBLE PHYSICAL AND MENTAL EXERTION FROM CT SCAN OPERATION IN SAUDI ARABIAN HOSPITALS</b> .....	761
<i>Saad Aldoihi ; Omar Hammami</i>	
<b>THEORETICAL FUNDAMENTALS FOR UNIMODALITY ESTIMATION OF AN OBJECTIVE FUNCTIONAL IN THE OPTIMAL CONTROL PROBLEM</b> .....	767
<i>Askhat I. Diveev ; Elizaveta Yu. Shmalko ; Elena A. Sofronova</i>	
<b>AN IMPROVEMENT OF SERVICE QUALITIES BY EDGE COMPUTING IN NETWORK-ORIENTED MIXED REALITY APPLICATION</b> .....	773
<i>Shiori Takagi ; Junichi Kaneda ; Shin'Ichi Arakawa ; Masayuki Murata</i>	
<b>AUDIO TEMPO ESTIMATION METHOD IMPROVED BY RHYTHM PATTERN AND DATA AUGMENTATION</b> .....	779
<i>Fu-Hai Frank Wu ; Shang-Hong Lai</i>	
<b>DISTRIBUTED OPTIMIZATION OF STANDALONE PV COMPONENTS IN MICROGRID</b> .....	785
<i>K. Alok ; U. Bhagyashree ; R. Singh</i>	
<b>FUSING STEREOPSIS &amp; CORNER SPARSE OPTICAL FLOW FOR REAL-TIME OBSTACLE AVOIDANCE OF UNMANNED AERIAL VEHICLE</b> .....	790
<i>Shihao Ding ; Xiaoxia Li ; Shuoquan Wei ; Xiangchun Kong ; Wenjun Yan</i>	
<b>CONSTRAINED <math>H_{\infty}</math> CONTROL FOR ACTIVE SUSPENSION SYSTEMS WITH APERIODIC SAMPLING: A LOOPED FUNCTIONAL APPROACH</b> .....	796
<i>Seungyong Han ; S. M. Lee ; Ho-Youl Jung ; Ju H. Park</i>	
<b>CLASSIFICATION OF OPTICAL REMOTE SENSING IMAGES BASED ON CONVOLUTIONAL NEURAL NETWORK</b> .....	801
<i>Yibo Li ; Mingjun Liu ; Senyue Zhang</i>	
<b>NO-IDLE PARALLEL MACHINE SCHEDULING OF UNIT-TIME JOBS</b> .....	807
<i>Nadia Brauner ; Mikhail Y. Kovalyov ; Alain Quilliot ; H��l��ne Toussaint</i>	
<b>IMAGE CLASSIFICATION WITH LOCAL DIRECTIONAL DECODED TERNARY PATTERN</b> .....	812
<i>I. El Khadiri ; A. Chahi ; Y. El-Merabet ; Y. Ruichek ; R. Touahni</i>	
<b>A THEORETICAL FRAMEWORK FOR TESTING CYBER-PHYSICAL SYSTEMS</b> .....	818
<i>Puneet Bhateja</i>	
<b>STABILITY CONTROL OF A QUADCOPTER FIXED TO A BASE</b> .....	824
<i>H��lder Freitas ; Pedro Santos ; Tiago Coelho ; Filomena Soares ; Jo��o Sena Esteves ; Alexandre Calado</i>	
<b>ROBUST LEAST SQUARES APPROACH FOR TRACKING CONTROL SYNTHESIS OF UNSTRUCTURED UNCERTAIN BILINEAR SYSTEMS</b> .....	829
<i>Bassem Iben Warrad ; Mohamed Karim Bouafoura ; Naceur Benhadj Braiek</i>	
<b>A MATHEMATICAL MODEL AND CONTROL PROBLEMS OF TRAFFIC FLOWS IN URBAN ROAD NETWORKS</b> .....	837
<i>A. I. Diveev ; E. A. Sofronova</i>	
<b>OPTIMIZATION OF A MILK PROCESSING APPLICATION USING A SERVICE ORIENTED ARCHITECTURE</b> .....	843
<i>Alina Itu</i>	
<b>AN LMI APPROACH TO ILC OF LINEAR DISTRIBUTED PARAMETER SYSTEMS WITH TIME DELAY</b> .....	849
<i>Xisheng Dai ; Su Wang ; Chenghua Liang</i>	
<b>CODAS-SORT: A NEW CODAS BASED METHOD FOR SORTING PROBLEMS</b> .....	855
<i>A. Ouhibi ; H. Frikha</i>	
<b>ORGANIZING INTERNET OPINIONS TO IMPROVE THEIR USEFULNESS USING FUZZY ONTOLOGIES AND SENTIMENT ANALYSIS</b> .....	861
<i>J. A. Morente-Molinera ; F. J. Cabrerizo ; G. Kou ; C. Pang ; S. Alonso ; E. Herrera-Viedma</i>	
<b>SIMPLE DESIGN OF FRACTIONAL-ORDER DC MOTOR CONTROLLER</b> .....	867
<i>Stavroula Kapoulea ; Costas Psychalinos ; Ivo Petr��s</i>	
<b>FRACTIONAL-ORDER MIHALAS-NIEBUR NEURON MODEL IMPLEMENTATION USING CURRENT-MIRRORS</b> .....	872
<i>Panagiotis Bertsis ; Costas Psychalinos ; Ahmed S. Elwakil</i>	
<b>HYBRID EVOLUTIONARY ALGORITHM FOR SYNTHESIZED OPTIMAL CONTROL PROBLEM FOR GROUP OF INTERACTING ROBOTS</b> .....	876
<i>Askhat Diveev ; Elizaveta Shmalko</i>	
<b>ADVANTAGES OF A LIMITED FREQUENCY BAND FRACTIONAL INTEGRATION OPERATOR IN THE DEFINITION OF FRACTIONAL MODELS</b> .....	882
<i>Jocelyn Sabatier ; Sergio Rodriguez Cadavid ; Christophe Farges</i>	
<b>A REPUTATION CAPITAL AND BLOCKCHAIN-BASED MODEL TO SUPPORT GROUP FORMATION PROCESSES IN THE INTERNET OF THINGS</b> .....	888
<i>Giancarlo Fortino ; Fabrizio Messina ; Domenico Rosaci ; Giuseppe M. L. Sarn��</i>	
<b>ON FAULT DETECTION FOR DISCRETE-TIME LINEAR STATE-MULTIPLICATIVE SYSTEMS WITH UNCORRELATED MULTIPLICATIVE FAULTS</b> .....	894
<i>Du��san Krokavec ; Anna Filasov��</i>	
<b>CONTROL OF A SINGLE FLEXIBLE LINK MANIPULATOR USING FRACTIONAL ACTIVE DISTURBANCE REJECTION CONTROL</b> .....	900
<i>Raouf Fareh</i>	
<b>MODELING COMPUTER SECURITY SERVICE DESK</b> .....	906
<i>Sabah Al-Fedaghi ; Basmah Almusallam</i>	



<b>IMPLEMENTATION AND EXPERIMENTAL VALIDATION OF ROBUST NUMERICAL CONTROL FOR DC-DC BUCK CONVERTER</b> .....	912
<i>Abdivall Maouloud ; Moussa Boukhnifer ; Cherif Larouci ; Hichame Maanane ; Fabien Simon</i>	
<b>DESIGN A UNIVERSAL REMOTE CONTROLLED THERMOSTAT BASED ON FPGA</b> .....	918
<i>Ali S. Alghamdi</i>	
<b>MULTIMODAL DAILY ACTIVITY RECOGNITION IN SMART HOMES</b> .....	922
<i>Mohammed Gh. Al Zamil</i>	
<b>ON THE EFFECTIVENESS OF MH-BASED JOINT-DECODERS FOR VERY SHORT TARDOS FINGERPRINTING CODES</b> .....	928
<i>Bettina Fazzinga ; Sergio Flesca ; Filippo Furfaro ; Elio Masciari</i>	
<b>A LINE FOLLOWER EDUCATIONAL MOBILE ROBOT PERFORMANCE ROBUSTNESS INCREASE USING A COMPETITION AS BENCHMARK</b> .....	934
<i>Jose Gonçalves ; Vitor H. Pinto ; Paulo Costa</i>	
<b>PITCH-RATE CONTROL AUGMENTATION SYSTEM DESIGN FOR DELAYED MEASUREMENTS</b> .....	940
<i>Ilkay Gümbüşboga ; Altug İftar</i>	
<b>COOPERATIVE PEOPLE TRACKING USING MULTIPLE GROUND LIDARS BASED ON DISTRIBUTED INTERACTING MULTIMODEL ESTIMATOR</b> .....	946
<i>T. Nakahira ; M. Hashimoto ; K. Takahashi</i>	
<b>THE MULTI-ARMED BANDIT PROBLEM UNDER DELAYED REWARDS CONDITIONS IN DIGITAL CAMPAIGN MANAGEMENT</b> .....	952
<i>M. Martín ; A. Jiménez-Martín ; A. Mateos</i>	
<b>OPTIMAL SIZING AND PLACEMENT OF MULTIPLE DISTRIBUTED GENERATORS USING TEACHING LEARNING BASED OPTIMIZATION ALGORITHM IN RADIAL DISTRIBUTED NETWORK</b> .....	958
<i>Gargi Trivedi ; Anilkumar Markana ; Praghesh Bhatt ; Vivek Patel</i>	
<b>PRIORITIZED CONTROL OF MULTIVARIATE PROCESS USING LEXICOGRAPHIC ORDERING APPROACH: A SIMULATION STUDY</b> .....	964
<i>Markana Anilkumar ; Nitin Padhiyar ; Kannan Moudgalya</i>	
<b>ENHANCED EXACT APPROACH FOR THE NETWORK LOADING PROBLEM</b> .....	970
<i>Imen Mejri ; Safa Bhar Layeb ; Farah Zeghal Mansour</i>	
<b>INTERNET OF THING (IOT) BASED REMOTE LABS IN ENGINEERING</b> .....	976
<i>Tareq S. El-Hasan</i>	
<b>A NEW INTELLIGENT TECHNIQUE OF CONSTRUCTING OPTIMAL AIRLINE SEAT PROTECTION LEVELS FOR MULTIPLE NESTED FARE CLASSES OF SINGLE-LEG FLIGHTS</b> .....	983
<i>Nicholas A. Nechval ; Gundars Berzins ; Konstantin N. Nechval</i>	
<b>PLAN REPAIR APPLIED TO AUTONOMOUS UNDERWATER VEHICLE SWARMS</b> .....	989
<i>Hélène Soubaras</i>	
<b>MULTIPLE CRITERIA HIERARCHY PROCESS WITHIN ARAS METHOD</b> .....	995
<i>M. Ghram ; H. Frikha</i>	
<b>DETECTION AND SVM CLASSIFICATION OF BROKEN ROTOR BARS FAULT IN INDUCTION MOTOR USING WPA</b> .....	1001
<i>Drici Djalel ; Kourd Yahia ; Touba Mostefa Mohamed ; Merabet Hichem ; Bedoud Khouloud</i>	
<b>WIND MPPT FOR A PMSG SWT IN A GRID-CONNECTED DC MICROGRID</b> .....	1006
<i>Daniel Zammit ; Cyril Spiteri Staines ; Alexander Micallef ; Maurice Apap</i>	
<b>PETRI NET BASED NAVIGATION PLANNING WITH DIPOLE FIELD AND DYNAMIC WINDOW APPROACH FOR COLLISION AVOIDANCE</b> .....	1013
<i>Lan Anh Trinh ; Mikael Ekström ; Baran Cürüklü</i>	
<b>INNOVATING IN CONTROL ENGINEERING TEACHING/LEARNING WITH SMARTPHONES</b> .....	1019
<i>Paulo Moura Oliveira ; José Boaventura Cunha ; Filomena Soares</i>	
<b>DENIAL-OF-SLEEP ATTACKS AGAINST IOT NETWORKS</b> .....	1025
<i>Antoine Gallais ; Thin-Hinen Hedli ; Valeria Loscri ; Nathalie Mitton</i>	
<b>ANALYSIS OF THE PERFORMANCE OF EXTENDED KALMAN FILTERING IN SLAM PROBLEM</b> .....	1031
<i>Satwik Mohanty ; Asim Kumar Naskar</i>	
<b>AUTOMATIC CONTROL OF DRUG DOSAGE FOR CONTINUOUS INFUSION IN ANAESTHESIA USING STATE SPACE METHODS</b> .....	1037
<i>Jorge Silva ; Teresa Mendonça ; Paula Rocha</i>	
<b>REAL-TIME LOAD CONSUMPTION PREDICTION AND DEMAND RESPONSE SCHEME USING DEEP LEARNING IN SMART GRIDS</b> .....	1043
<i>Sara Atef ; Amr B. Eltawil</i>	
<b>MACD-HISTOGRAM-BASED FULLY CONVOLUTIONAL NEURAL NETWORKS FOR CLASSIFYING TIME SERIES</b> .....	1049
<i>Shuichi Hashida ; Keiichi Tamura</i>	
<b>DISCOVERING SYSTEMATIC RELATIONS BETWEEN ALARMS FOR ALARM FLOWS REDUCTION</b> .....	1055
<i>Y. Laumonier ; J.-M. Faure ; J.-J. Lesage ; H. Sabot</i>	
<b>A TWO-STEP APPROACH FOR FAULT DIAGNOSIS OF MAX-PLUS AUTOMATA</b> .....	1061
<i>Aiwen Lai ; Sébastien Lahaye ; Alessandro Giua</i>	
<b>LOCALIZING, TRACKING AND CLASSIFYING AERIAL OBJECTS</b> .....	1067
<i>Ameni Ellouze ; Mohamed Karray ; Mohamed Ksantini ; François Delmotte</i>	
<b>AUTOMATIC DRONE NAVIGATION IN REALISTIC 3D LANDSCAPES USING DEEP REINFORCEMENT LEARNING</b> .....	1072
<i>Sang-Yun Shin ; Yong-Won Kang ; Yong-Guk Kim</i>	

<b>TRAJECTORY-OBSERVERS OF TIMED STOCHASTIC DISCRETE EVENT SYSTEMS: APPLICATIONS TO PRIVACY ANALYSIS</b> .....	1078
<i>Dimitri Lefebvre ; Christoforos N. Hadjicostis</i>	
<b>TIME-BASED ESTIMATOR FOR CONTROL RECONFIGURATION OF DISCRETE EVENT SYSTEMS (DES)</b> .....	1084
<i>I. Tahiri ; A. Philippot ; V. Carre-Menetrier ; A. Tajer</i>	
<b>IDENTIFICATION OF RAILWAY TRANSPORT SYSTEMS USING STOCHASTIC P-TIMED PETRI NETS MODEL</b> .....	1090
<i>Mouhaned Gaied ; Dimitri Lefebvre ; Anis M'Halla ; Kamel Ben Othmen</i>	
<b>FIXED POINT COMPUTATION BY EXPONENTIATING LINEAR OPERATORS</b> .....	1096
<i>Asma Mansouri ; Matthieu Martel ; Oana Silvia Serea</i>	
<b>ON THE REAL-WORLD APPLICABILITY OF STATE-OF-THE-ART ALGORITHMS FOR THE OPTIMAL CAMERA PLACEMENT PROBLEM</b> .....	1103
<i>Julien Kritter ; Mathieu Brévilliers ; Julien Lepagnot ; Lhassane Idoumghar</i>	
<b>STABILIZATION OF A CLASS OF SECOND ORDER SEMILINEAR SYSTEMS</b> .....	1109
<i>El Hassan Zerrik ; Lahcen Ezzaki</i>	
<b>EVALUATION OF SKELETAL GENDER AND MATURITY FOR HAND RADIOGRAPHS USING DEEP CONVOLUTIONAL NEURAL NETWORKS</b> .....	1115
<i>Rijad Saric ; Jasmin Kevric ; Edhem Custovic ; Dejan Jokic ; Nejra Beganovic</i>	
<b>DEVELOPMENT OF WAYPOINT TRACKING CONTROLLER FOR DIFFERENTIAL DRIVE MOBILE ROBOT</b> .....	1121
<i>Robins Mathew ; Somashekhar S. Hiremath</i>	
<b>ROBUST POLE PLACEMENT WITH MINIMUM GAIN FOR CONSTRAINED LINEAR SYSTEMS</b> .....	1127
<i>Samira El Faiz ; Abdellah Benzaouia</i>	
<b>LONG SHORT-TERM MEMORY FOR PREDICTING FIREMEN INTERVENTIONS</b> .....	1132
<i>Selene Leya Cerna Nahuis ; Christophe Guyeux ; Héber Hwang Arcolezi ; Raphaël Couturier ; Guillaume Royer ; Anna Diva Plasencia Lotufo</i>	
<b>FCS-MPC CURRENT CONTROL OF PARALLEL PHOTOVOLTAIC GRID CONNECTED INVERTER WITH COMMON AC AND DC BUSES</b> .....	1138
<i>S. Bella ; A. Houari ; A. Djerioui ; M. Machmoum ; A. Chouder ; M.-F. Benkhoris ; K. Ghedamsi</i>	
<b>AUTOMATIC ACUTE LYMPHOBLASTIC LEUKEMIA DETECTION AND COMPARATIVE ANALYSIS FROM IMAGES</b> .....	1144
<i>Md. Nuruddin Qaisar Bhuiyan ; Shantanu Kumar Rahut ; Razwan Ahmed Tanvir ; Shamim Ripon</i>	
<b>A SPECIAL CASE OF VARIABLE-SIZED BIN PACKING PROBLEM WITH COLOR CONSTRAINTS</b> .....	1150
<i>Igor Crévits ; Saïd Hanafi ; A. Ridha Mahjoub ; Raouia Taktak ; Christophe Wilbaut</i>	
<b>EVALUATION OF ALARM SYSTEM PERFORMANCE AND MANAGEMENT IN SEMICONDUCTOR MANUFACTURING</b> .....	1155
<i>Mohammed Al-Kharaz ; Bouchra Ananou ; Mustapha Ouladsine ; Michel Combal ; Jacques Pinaton</i>	
<b>COORDINATED DISTRIBUTED DECISION MAKING ON SOCIAL INFLUENCE NETWORKS</b> .....	1161
<i>Wynn C. Stirling ; Luca Tummolini</i>	
<b>ASSISTED COOPERATIVE ADAPTIVE CRUISE CONTROL WITH HUMAN MEMORY EFFECTS</b> .....	1167
<i>Luis Juárez ; Sabine Mondié</i>	
<b>USING AN ADAPTIVE ENTROPY-BASED THRESHOLD FOR CHANGE DETECTION METHODS – APPLICATION TO FAULT-TOLERANT FUSION IN COLLABORATIVE MOBILE ROBOTICS</b> .....	1173
<i>Bilal Daass ; Denis Pomorski ; Kamel Haddadi</i>	
<b>THE MULTICOPTER CONTROL ALGORITHMS WITH UNSTABLE MODES</b> .....	1179
<i>Viacheslav Pshikhopov ; Mikhail Medvedev ; Victor Soloviev</i>	
<b>RECONFIGURATION OF DISTRIBUTION SYSTEMS AIMING FOR ACCUMULATED IMPEDANCE BALANCING AMONG FEEDERS THROUGH GENETIC ALGORITHM</b> .....	1185
<i>Mauro A. G. Clark ; Iulle De M. G. Neves ; Aldir S. Sousa ; Marcos E. Do Prado Villarroel Zurita</i>	
<b>APPLICATION OF EVOLUTIONARY ALGORITHM FOR RECONFIGURATION OF THE DISTRIBUTION NETWORK, ENVISAGING A LARGER BRANCHING OF THE SYSTEM</b> .....	1191
<i>Iulle De M. G. Neves ; Mauro A. G. Clark ; Aldir S. Sousa ; Marcos E. Do Prado Villarroel Zurita</i>	
<b>A RISE-BASED CONTROLLER FINE-TUNED BY AN IMPROVED GENETIC ALGORITHM FOR HUMAN LOWER LIMB REHABILITATION VIA NEUROMUSCULAR ELECTRICAL STIMULATION</b> .....	1197
<i>Héber Hwang Arcolezi ; William R. B. M. Nunes ; Selene Leya Cerna Nahuis ; Marcelo A. A. Sanches ; Marcelo C. M. Teixeira ; Aparecido A. De Carvalho</i>	
<b>MODEL BASED CONTROL OF DISTURBANCE FORCES FOR PITCH PLANE STABILITY OF A TRACTOR WITH IMPLEMENT</b> .....	1203
<i>Gurudatta Anche ; K. B. Devika ; Shankar C. Subramanian</i>	
<b>HOTSPOTS INFRARED DETECTION OF PHOTOVOLTAIC MODULES BASED ON HOUGH LINE TRANSFORMATION AND FASTER-RCNN APPROACH</b> .....	1209
<i>Shuoquan Wei ; Xiaoxia Li ; Shihao Ding ; Qiang Yang ; Wenjun Yan</i>	
<b>DESIGN AND PERFORMANCE STUDY OF TWO SLIDING MODE BACKSTEPPING CONTROL SCHEMES FOR ROLL CHANNEL OF DELTA WING AIRCRAFT</b> .....	1215
<i>Amjad J. Humaidi ; Akram Hashim Hameed ; Ibraheem Kasim Ibraheem</i>	
<b>MULTI-MODE CONTROL SYSTEM OF AN UNMANNED VESSEL WITH FUZZY HYBRIDIZATION OF CONTROLLERS</b> .....	1221
<i>Viacheslav Pshikhopov ; Mikhail Medvedev ; Victor Soloviev</i>	

<b>NOVEL APPROACH TOWARDS GLOBAL OPTIMALITY OF OPTIMAL POWER FLOW USING QUADRATIC CONVEX OPTIMIZATION</b> .....	1227
<i>Hadrien Godard ; Sourour Elloumi ; Amélie Lambert ; Jean Maeght ; Manuel Ruiz</i>	
<b>ROBUST ADAPTIVE PI CONTROLLER OF LOW VOLTAGE RIDE-THROUGH FOR PMSG-BASED WIND TURBINE</b> .....	1233
<i>Ayman Alhejji ; Yasser Bouzid</i>	
<b>STATISTICAL PROPERTIES OF DDOS ATTACKS</b> .....	1238
<i>Derya Erhan ; Emin Anarim</i>	
<b>UNCERTAINTY QUANTIFICATION IN SYSTEM-LEVEL PROGNOSTICS: APPLICATION TO TENNESSEE EASTMAN PROCESS</b> .....	1243
<i>Ferhat Tamssaouet ; T. P. Khanh Nguyen ; Kamal Medjaher ; Marcos E. Orchard</i>	
<b>A PERFORMANCE EVALUATION FOR PARAMETER ESTIMATION METHOD SUITABLE FOR MACHINE NOISE ANALYSIS</b> .....	1249
<i>Yukihiro Kamiya</i>	
<b>STOCHASTIC DUAL DYNAMIC INTEGER PROGRAMMING FOR A MULTI-ECHELON LOT-SIZING PROBLEM WITH REMANUFACTURING AND LOST SALES</b> .....	1254
<i>Franco Quezada ; Céline Gicquel ; Safia Kedad-Sidhoum</i>	
<b>MODEL-FREE CONTROL APPLIED FOR POSITION CONTROL OF QUADROTOR USING ROS</b> .....	1260
<i>Z. Chekakta ; M. Zerikat ; Y. Bouzid ; M. Abderrahim</i>	
<b>VOLTAGE CONTROL OF DC-DC THREE LEVEL BOOST CONVERTER USING TS FUZZY PI CONTROLLER</b> .....	1266
<i>Hajar Doubabi ; Issam Salhi ; Mohammed Chennani ; Najib Essounbouli</i>	
<b>ITERATIVE LEARNING WAVE CONTROL OF A 20 ACTUATOR SYSTEM FOR EXTERNAL FLOW RESEARCH</b> .....	1272
<i>F. Seidler ; M. Schiek ; W. Silex ; R. Heil ; S. Van Waasen ; D. Abel</i>	
<b>SENSITIVITY ANALYSIS OF AN OPTIMAL DESIGN METHODOLOGY FOR HYBRID POWER SYSTEM</b> .....	1277
<i>Adriano Ceschia ; Toufik Azib ; Olivier Bethoux ; Francisco Alves</i>	
<b>MULTI-CHANNEL SOFTWARE INFRASTRUCTURE FOR REMOTE CONTROL OF SERVICE ROBOTS</b> .....	1283
<i>Stefan Chivarov ; Denis Chikurtev ; Kaloyan Yovchev ; Nayden Chivarov</i>	
<b>A HYBRID ANT COLONY OPTIMIZATION APPROACH FOR THE CYCLIC ANTIBANDWIDTH PROBLEM</b> .....	1289
<i>Shyam Sundar</i>	
<b>MONITORING OF PRODUCTION PROCESSES AND THE CONDITION OF THE PRODUCTION EQUIPMENT THROUGH THE INTERNET</b> .....	1295
<i>Jari Halme ; Erkki Jantunen ; David Hästbacka ; Csaba Hegedus ; Pal Varga ; Mikael Björkbohm ; Heikki Mesä ; Rupesh More ; Antti Jaatinen ; Laurentiu Barna ; Pasi Tuominen ; Henri Petinen ; Marko Elo ; Martin Larrañaga</i>	
<b>CONSTRAINED OPTIMAL CONTROL OF BILINEAR SYSTEMS: APPLICATION TO AN HVAC SYSTEM</b> .....	1301
<i>Nihale El Boukhari ; El Hassan Zerrik</i>	
<b>MODELING OF DYNAMIC BEHAVIOR OF AGV SYSTEMS</b> .....	1307
<i>João Veiga ; João Sousa ; José Machado ; João Mendonça ; Toni Machado ; Pedro Silva</i>	
<b>FAULT DIAGNOSIS OF STATOR INTER-TURN SHORT CIRCUIT IN DOUBLY FED INDUCTION GENERATOR OF WIND TURBINE</b> .....	1313
<i>Imane Idrissi ; Rachid El Bachtiri ; Houcine Chafouk ; Maha Khanfara</i>	
<b>ONLINE PARAMETER IDENTIFICATION METHOD FOR LTI SYSTEMS IN STATE SPACE REPRESENTATION</b> .....	1319
<i>Francis A. Okou ; Donatien Nganga-Kouya ; Arsène Missanda</i>	
<b>OPEN-SWITCH FAULT DIAGNOSIS BASED ON LUENBERGER OBSERVER IN BACK-TO-BACK CONVERTERS OF WIND TURBINES WITH DFIG</b> .....	1326
<i>Siamak Afshar Khamseh ; Amir Mohammadbeigi</i>	
<b>DESIGN OF MAMDANI TYPE FUZZY CONTROLLER FOR A HYBRID SOLAR-ELECTRIC DRYER: CASE STUDY OF CLAY DRYING</b> .....	1332
<i>Ahmed Zoukit ; Hicham El Ferouali ; Issam Salhi ; Said Doubabi ; Naji Abdenouri</i>	
<b>DEADBEAT VS. POLE-FREE PERFECT CONTROL</b> .....	1338
<i>M. Krok ; W. P. Huneke</i>	
<b>OPTIMAL TOPOLOGY AND REPOWERING TIME FOR OFFSHORE WIND TURBINES</b> .....	1344
<i>F. Safaei ; N. Tazi ; E. Châtelet ; Y. Bouzidi</i>	
<b>AN APPROACH FOR HANDLING PARTIALLY VISIBLE HUMAN SHAPES IN PEOPLE DETECTION SYSTEMS</b> .....	1350
<i>Avanish Shrestha ; Tapanan Yeophantong ; Kwankamol Nongpong</i>	
<b>CONE DISCRETE-TIME FRACTIONAL VARIABLE ORDER SYSTEMS</b> .....	1355
<i>Wiktor Malesza ; Dominik Sierociuk</i>	
<b>FAULT PATTERN MINING BASED ON FAULT INFORMATION EVENT MODEL</b> .....	1361
<i>Yijun Wen ; Li Zhang ; Huimi Zhu ; Kan Sun ; Ye Tao</i>	
<b>INNOVATIVE BASELINE ESTIMATION METHODOLOGY FOR KEY PERFORMANCE INDICATORS IN THE ELECTRO-MOBILITY SECTOR</b> .....	1367
<i>B. Silvestri ; A. Rinaldi ; M. Roccotelli ; M. P. Fanti</i>	
<b>A METHOD FOR TRACK ASSOCIATION USING DYNAMIC PROGRAMMING</b> .....	1373
<i>Kan Sun ; Yijun Wen ; Xia Chen ; Ye Tao</i>	
<b>PREDICTING BREAST CANCER RISK USING SUBSET OF GENES</b> .....	1379
<i>Tahsien Al-Quraishi ; Jemal H. Abawajy ; Naseer Al-Quraishi ; Ahmad Abdalrada ; Lamyaa Al-Omairi</i>	

<b>A GEOMETRIC-BASED APPROACH TO THE MAXIMUM-SPEED STATE AND OUTPUT VARIABLES FOR SOME CLASS OF IMC STRUCTURES .....</b>	<b>1385</b>
<i>Wojciech P. Hunek ; Tomasz Feliks</i>	
<b>DESIGN AND REALIZATION OF FLIGHT CONTROL SYSTEM FOR MUAUV BASED ON FEEDFORWARD COMPENSATION .....</b>	<b>1390</b>
<i>Ye Tao ; Kan Sun ; Yijun Wen ; Huichuan Wang</i>	
<b>SPORES: A NEW DISTRIBUTED HEURISTIC INSPIRED BY FUNGI REPRODUCTION .....</b>	<b>1396</b>
<i>Abdeslam Jakjoud ; Maria Zrikem ; Claude Chanchole</i>	
<b>DEEP NEURAL NETWORK APPROACH FOR PREDICTING THE PRODUCTIVITY OF GARMENT EMPLOYEES .....</b>	<b>1402</b>
<i>Abdullah Al Imran ; Md Nur Amin ; Md Rifatul Islam Rifat ; Shampripta Mehreen</i>	
<b>ECONOMIC HEALTH-AWARE MPC-LPV BASED ON DBN RELIABILITY MODEL FOR WATER TRANSPORT NETWORK .....</b>	<b>1408</b>
<i>Fatemeh Karimi Pour ; Vicenç Puig ; Gabriela Cembrano</i>	
<b>A METHOD FOR PREDICTING IT VULNERABILITIES USING BRANCHING PROCESSES – AN OUTLINE .....</b>	<b>1414</b>
<i>M. Zieja ; P. Migus ; R. Kasprzyk ; A. Stachurski</i>	
<b>ENERGY-EFFICIENT COOPERATIVE ADAPTIVE CRUISE CONTROL STRATEGY USING V2I .....</b>	<b>1420</b>
<i>S. Jones ; N. Wikström ; A. Ferreira Parrilla ; R. Patil ; E. Kural ; A. Massoner ; A. Grauers</i>	
<b>LEAK LOCALIZATION IN WATER DISTRIBUTION NETWORKS USING DEEP LEARNING .....</b>	<b>1426</b>
<i>Mohammadreza Javadiha ; Joaquim Blesa ; Adrià Soldevila ; Vicenç Puig</i>	
<b>A NEW SIMULATED ANNEALING BASED METHOD FOR THE CONTAINER RELOCATION PROBLEM .....</b>	<b>1432</b>
<i>Mohamed Elwakil ; Mohamed Gheith ; Amr Eltawil</i>	
<b>STATISTICAL MANEUVER NET GENERATION FOR ANOMALY DETECTION IN NAVIGATIONAL WATERWAYS .....</b>	<b>1438</b>
<i>Arne Lamm ; Axel Hahn</i>	
<b>DATA PREPARATION AND PREPROCESSING FOR BROADCAST SYSTEMS MONITORING IN PHM FRAMEWORK .....</b>	<b>1444</b>
<i>Houda Sarih ; Ayeley P. Tchangani ; Kamal Medjaher ; Eric Pere</i>	
<b>MAXIMUM POWER POINT TRACKING USING BACKSTEPPING NONLINEAR CONTROLLER FOR VARIABLE SPEED WIND GENERATOR .....</b>	<b>1450</b>
<i>D. Moussaïf ; O. El Maguiri ; E. Semma</i>	
<b>DESIGN OF RADIOMETRIC THERMOGRAPHY SYSTEM FOR OBJECT RECOGNITION .....</b>	<b>1456</b>
<i>Edina Ražanica ; Ajdin Hamzić ; Dinko Osmankovic ; Jasmin Velagic</i>	
<b>A LAYERED COMPACT FORMULATION FOR THE MULTIPLE STEINER TSP WITH ORDER CONSTRAINTS .....</b>	<b>1462</b>
<i>A. Ridha Mahjoub ; Raouia Taktak ; Eduardo Uchoa</i>	
<b>BALL DETECTION FOR BOCCIA GAME ANALYSIS .....</b>	<b>1468</b>
<i>Alexandre Calado ; Vinicius Silva ; Filomena Soares ; Paulo Novais ; Pedro Azezes</i>	
<b>TOWARDS A PANCREATIC LESIONS DISEASE CLASSIFICATION SYSTEM BASED ON ONTOLOGIES .....</b>	<b>1474</b>
<i>Khouloud Fakhfakh ; Ahmed Maalel ; Waad Farhat</i>	
<b>FSM MODELING OF TESTING SECURITY POLICIES FOR MAPREDUCE FRAMEWORKS .....</b>	<b>1480</b>
<i>Sara Hsaini ; Salma Azzouzi ; My El Hassan Charaf</i>	
<b>OBSERVABILITY AND SLIDING MODE OBSERVER DESIGN FOR MULTI-CELL SERIES CONVERTER .....</b>	<b>1486</b>
<i>Mariem Jday ; Paul-Etienne Vidal ; Joseph Haggège ; Frédéric Rotella</i>	
<b>BULLWHIP EFFECT ATTENUATION IN SUPPLY CHAIN MANAGEMENT VIA CONTROL-THEORETIC TOOLS AND SHORT-TERM FORECASTS: A PRELIMINARY STUDY WITH AN APPLICATION TO PERISHABLE INVENTORIES .....</b>	<b>1492</b>
<i>Koussaila Hamiche ; Michel Fliess ; Cédric Join ; Hassane Abouaïssa</i>	
<b>SEMIDEFINITE PROGRAMMING RELAXATIONS THROUGH QUADRATIC REFORMULATION FOR BOX-CONSTRAINED POLYNOMIAL OPTIMIZATION PROBLEMS .....</b>	<b>1498</b>
<i>Sourour Elloumi ; Amélie Lambert ; Arnaud Lazare</i>	
<b>A NOVEL APPROACH TO IMPROVE THE RECORD LINKAGE PROCESS .....</b>	<b>1504</b>
<i>Hamid Naceur Benkhaled ; Djamel Berrabah ; Faouzi Boufares</i>	
<b>A FUZZY LOGIC-BASED APPROACH FOR HVAC SYSTEMS CONTROL .....</b>	<b>1510</b>
<i>A. Berouine ; E. Akssas ; Y. Naitmalek ; F. Lachhab ; M. Bakhouya ; R. Ouladsine ; M. Essaïdi</i>	
<b>AERODYNAMIC DISTURBANCE REJECTION ACTING ON A QUADCOPTER NEAR GROUND .....</b>	<b>1516</b>
<i>Antonio Matus-Vargas ; Gustavo Rodríguez-Gómez ; José Martínez-Carranza</i>	
<b>INTRODUCTION TO DC MOTORS FOR ENGINEERING STUDENTS BASED ON LABORATORY EXPERIMENTS .....</b>	<b>1522</b>
<i>Vítor H. Pinto ; José A. Gonçalves ; Paulo Costa</i>	
<b>SELECTING THIRD-PARTY REVERSE LOGISTICS PROVIDERS UNDER UNCERTAINTY .....</b>	<b>1528</b>
<i>Esmail Keshavarz ; Mehdi Toloo</i>	
<b>3D MAPPING BASED ON FUSION OF 2D LASER AND IMU DATA ACQUIRED BY UNMANNED AERIAL VEHICLE .....</b>	<b>1533</b>
<i>Tarik Pozderac ; Jasmin Velagic ; Dinko Osmankovic</i>	
<b>SEM G ONSET DETECTION CAUSED BY TEMPERATURE VARIATION .....</b>	<b>1539</b>
<i>Efrén V. Herrera ; Edgar M. Vela ; Nathaly S. Sánchez ; Victor A. Arce ; Katherine G. Molina ; Luis E. Herrera ; Douglas A. Plaza</i>	
<b>SPECTRAL FEATURES OF MYOELECTRIC SIGNAL: APPROACH ON TEMPERATURE VARIATION .....</b>	<b>1544</b>
<i>Efrén V. Herrera ; Katherine G. Molina ; Edgar M. Vela ; Dennys D. Cortez ; Luis E. Herrera ; Douglas A. Plaza</i>	

<b>EARLY CHATTER DETECTION USING MAXENT AND SPRT</b> .....	1550
<i>Yanqing Zhao ; Kondo H. Adjallah ; Alexandre Sava ; Zhouhang Wang</i>	
<b>LEADER-FOLLOWER CONTROL FOR A GROUP OF ROS-ENABLED MOBILE ROBOTS</b> .....	1556
<i>Khadir L. Besseghieur ; Radoslaw Trebinski ; Wojciech Kaczmarek ; Jaroslaw Panasiuk</i>	
<b>A HYBRID REPRESENTATION OF URBAN TRAFFIC NETWORKS USING MULTI-AGENT SYSTEMS AND PETRI NETS</b> .....	1562
<i>M. Flores-Geronimo ; E. G. Hernandez-Martinez ; E. D. Ferreira-Vazquez ; J. J. Flores-Godoy ; G. Fernandez-Anaya</i>	
<b>ON THE DEVELOPMENT OF A WIRELESS MOTION CAPTURE SENSOR NODE FOR UPPER LIMB REHABILITATION</b> .....	1568
<i>Ourania Tsilomitrou ; Konstantinos Gkountas ; Nikolaos Evangeliou ; Evangelos Dermatas</i>	
<b>BINARY-PATTERNS BASED FLOOR RECOGNITION SUITABLE FOR URBAN SCENES</b> .....	1574
<i>J. A. De Jesús Osuna-Coutiño ; Jose Martinez-Carranza</i>	
<b>TOWARDS UNIFIED GRAPHICAL MODELING OF SYSTEM OF SYSTEMS ENGINEERING</b> .....	1580
<i>Ahmad Koubeissi ; Rochdi Merzouki</i>	
<b>VEHICLE TO VEHICLE DISTANCE MEASUREMENT FOR SELF-DRIVING SYSTEMS</b> .....	1587
<i>Abdelmoghith Zaarane ; Ibtissam Slimani ; Abdellatif Hamdoun ; Issam Atouf</i>	
<b>VEHICLE LICENSE PLATE LOCALIZATION AND RECOGNITION SYSTEM FOR INTELLIGENT TRANSPORTATION APPLICATIONS</b> .....	1592
<i>Ibtissam Slimani ; Abdelmoghith Zaarane ; Abdellatif Hamdoun ; Issam Atouf</i>	
<b>OPTIMAL NETWORK CODING BASED ON MACHINE LEARNING METHODS FOR COLLABORATIVE NETWORKS</b> .....	1598
<i>Javier Mendoza-Almanza ; Francisco De Asís López-Fuentes</i>	
<b>EFFICIENT CONTENT DISTRIBUTION AND STORAGE P2P SYSTEM BASED ON INFORMATION DISPERSAL</b> .....	1604
<i>Francisco De Asís López Fuentes ; Javier Mendoza Almanza ; Ricardo Marcelín-Jiménez ; Betzayda Velázquez-Méndez</i>	
<b>ACCURACY IMPROVEMENT OF SEMANTIC SEGMENTATION USING APPROPRIATE DATASETS FOR ROBOT NAVIGATION</b> .....	1610
<i>Ryusuke Miyamoto ; Miho Adachi ; Yuta Nakamura ; Takeshi Nakajima ; Hiroki Ishida ; Shingo Kobayashi</i>	
<b>TRAJECTORY TRACKING FOR A COMMERCIAL QUADROTOR</b> .....	1616
<i>M. A. Rosaldo-Serrano ; E. Aranda-Bricaire</i>	
<b>GABRIEL GRAPH TRANSDUCTIVE APPROACH TO DATASET SHIFT</b> .....	1622
<i>Carla C. Takahashi ; Luiz C. B. Torres ; Antônio P. Braga</i>	
<b>A STACKELBERG GAME THEORETIC APPROACH FOR OPTIMAL ELECTRICITY PRICING DYNAMICS EMPLOYING TIME-OF-USE ALGORITHM</b> .....	1628
<i>J. Koonamparampath ; M. Sawant ; K. Atharva ; A. Sheikh</i>	
<b>A NEW MIXED-INTEGER LINEAR PROGRAMMING FORMULATION FOR MULTIPLE RESPONSES REGRESSION CLUSTERING</b> .....	1634
<i>Ebru Angün ; Alper Altinoy</i>	
<b>A COMPARATIVE STABILITY ANALYSIS OF UNDERACTUATED VERSUS FULLY-ACTUATED ROTORCRAFTS HAVING TIME-DELAY FEEDBACK</b> .....	1640
<i>J. López-Hernandez ; J. Escareno ; C.-F. Méndez-Barrios ; O. Labbani ; V. Ramírez-Rivera ; J. Coronado ; H. Méndez-Azúa</i>	
<b>PRICE MANIPULATION FRAUD DETECTION BY INTELLIGENT VISUAL FRAUD SURVEILLANCE SYSTEM</b> .....	1646
<i>Abbas Bagherian Kasgari ; Mohammad Taghi Taghavifard ; Saeideh Golchin Kharazi</i>	
<b>NONLINEAR ATTITUDE CONTROL DESIGN AND VERIFICATION FOR A SAFE FLIGHT OF A SMALL-SCALE UNMANNED HELICOPTER</b> .....	1652
<i>Omar A. Jasim ; Sandor M. Veres</i>	
<b>BIRD DETECTION IN AGRICULTURE ENVIRONMENT USING IMAGE PROCESSING AND NEURAL NETWORK</b> .....	1658
<i>Seolhee Lee ; Miran Lee ; Hyesun Jeon ; Anthony Smith</i>	
<b>ON THE CONTROLLABILITY OF A CUBIC SEMI-LINEAR WAVE EQUATION</b> .....	1664
<i>Carlos Barrón-Romero</i>	
<b>CAPACITOR VOLTAGE BALANCING IN FLYING CAPACITOR MULTILEVEL INVERTERS CONSIDERING LOAD POWER FACTOR BY SHE TECHNIQUE</b> .....	1670
<i>Lazhar Manai ; Faouzi Armi ; Mongi Besbes</i>	
<b>HEURISTICS TO OPTIMIZE THE READING OF RAILWAY SENSORS DATA</b> .....	1676
<i>Fayez Al Fayez ; Loai Kayed B. Melhim ; Mahdi Jemmali</i>	
<b>NEW ALGORITHMS FOR ONLINE TIME SERIES SEARCH WITH INTERRELATED PRICES</b> .....	1682
<i>Pascal Schroeder ; Imed Kacem</i>	
<b>LOW VOLTAGE RIDE THROUGH CONTROL FOR GRID-CONNECTED INVERTER BASED ON SECOND ORDER GENERALIZED INTEGRATOR UNDER UNBALANCED FAULTS</b> .....	1688
<i>Sabir Ouchen ; Daniel Lebsanf ; Heinrich Steinhart</i>	
<b>IMPROVING INDUSTRIAL COMPUTING CAPACITY WITH FOG COMPUTING AND SMART SYSTEMS</b> .....	1693
<i>Anderson Carvalho ; Niall O'Mahony ; Lenka Krpalkova ; Sean Campbell ; Pat Doody ; Joseph Walsh</i>	
<b>A REVIEW OF INTRUSION DETECTION SYSTEMS FOR INDUSTRIAL CONTROL SYSTEMS</b> .....	1699
<i>Mohamad Kaouk ; Jean-Marie Flaus ; Marie-Laure Potet ; Roland Groz</i>	
<b>BOND GRAPH BASED MODELING APPROACH WITH APPLICATION FOR TRAFFIC FLOW</b> .....	1705
<i>Milka Uzunova ; Nikolaj Linkov ; Rositsa Velichkova ; Konstantin Dimitrov</i>	

<b>IMPLEMENTATION OF A PARKING STATE MACHINE ON VISION-BASED AUTO PARKING SYSTEMS FOR PERPENDICULAR PARKING SCENARIOS</b> .....	1711
<i>Saeid Sedighi ; Duong-Van Nguyen ; Klaus-Dieter Kuhnert</i>	
<b>DYNAMICAL ANALYSIS, SYNCHRONIZATION AND CIRCUIT IMPLEMENTATION OF A NEW HYPERCHAOTIC SYSTEM WITH LINE EQUILIBRIUM</b> .....	1717
<i>Khaled Benkouider ; Toufik Bouden ; Meriem Halimi</i>	
<b>AN IMPROVED K-MEDOIDS ALGORITHM BASED ON BINARY SEQUENCES SIMILARITY MEASURES</b> .....	1723
<i>Fahdah Alalyan ; Nuha Zamzami ; Manar Amayri ; Nizar Bouguila</i>	
<b>FAULT DIAGNOSIS OF A DIRECT DRIVE WIND TURBINE USING A BANK OF GOERTZEL FILTERS</b> .....	1729
<i>Lavinius I. Gliga ; Bogdan D. Ciubotaru ; Houcine Chafouk ; Dumitru Popescu ; Ciprian Lupu</i>	
<b>ON LINE APPOINTMENT SYSTEMS IN A PATIENT CENTRIC STRATEGY: A QUALITATIVE APPROACH IN A CASE STUDY FOR HOSPITALS IN MOROCCO</b> .....	1735
<i>Said Bensbih ; Otmane Bouksour ; Said Rifai</i>	
<b>BETA-LIOUVILLE REGRESSION AND APPLICATIONS</b> .....	1740
<i>Divya Ankam ; Nizar Bouguila ; Manar Amayri</i>	
<b>MINIMUM FLOWS IN DIRECTED PLANAR DYNAMIC NETWORKS</b> .....	1746
<i>Eleonor Ciurea ; Camelia Schiopu</i>	
<b>ON MODELLING AND EVALUATION OF CORRECTIVE AND PREVENTIVE MAINTENANCE POLICIES OF UNRELIABLE MANUFACTURING SYSTEMS</b> .....	1752
<i>Rym Meriah ; Kamel Barkaoui ; Gaiyun Liu ; Olfa Belkahla Driss</i>	
<b>CONTRACTION-BASED METHOD FOR COMPUTING A LOWER BOUND ON THE CLIQUE NUMBER OF A GRAPH</b> .....	1758
<i>Assia Gueham ; Hacene Ait Haddadene ; Anass Nagih</i>	
<b>BIO-INSPIRED OLSR ROUTING PROTOCOL</b> .....	1763
<i>Nassir Harrag ; Abdelghani Harrag</i>	
<b>TOWARDS THE AUTOMATIC IMPLEMENTATION OF REDUCED-SIZE AND HIGH THROUGHPUT MPC ON FPGAS</b> .....	1768
<i>Aitor Del Rio Ruiz ; Koldo Basterretxea</i>	
<b>A COMPARATIVE ANALYSIS OF MOTORCYCLE ATTITUDE ESTIMATION IN A TRAJECTORY RECONSTRUCTION FRAMEWORK</b> .....	1774
<i>S. Smaiah ; R. Sadoun ; A. Elouardi ; B. Larnaudie ; S. Bouaziz ; A. Boubezoul ; B. Vincke ; S. Espie</i>	
<b>SENSORLESS BLDC MOTOR SLIDING MODE CONTROLLER DESIGN FOR INTERFERENCE RECOVERY</b> .....	1780
<i>Peter I-Tsyuen Chang ; Xin-You Lin ; I-Jui Yu</i>	
<b>ON/OFF PRODUCTION RATE CONTROL MODEL UNDER FIXED MAXIMUM STOCK LEVEL AND MARKOV-MODULATED COMPOUND POISSON DEMAND</b> .....	1786
<i>Klimentii I. Livshits ; Anna V. Kitaeva ; Ekaterina S. Ulyanova</i>	
<b>SECURE ENERGY MARKET AGAINST CYBER ATTACKS USING BLOCKCHAIN</b> .....	1792
<i>V. Kamuni ; U. Asfia ; S. Sutavani ; A. Sheikh ; D. Patel</i>	
<b>PATTERN RECOGNITION TECHNIQUE FOR SYNTHESIS FRACTAL PETRI NETS</b> .....	1798
<i>Alexander Semenov</i>	
<b>INVESTIGATING THE INTERRELATIONSHIPS AMONG VULNERABILITY FACTORS IN SUPPLY CHAIN: AN ANALYSIS WITH DEMATEL METHOD IN AGRI-FOOD INDUSTRY</b> .....	1804
<i>Elleuch Hatem ; Dafaoui El Mouloudi ; El Mhamedi Abderrahman ; Chabchoub Habib</i>	
<b>LITERATURE REVIEW ON SMART LIGHTING SYSTEMS AND THEIR APPLICATION IN INDUSTRIAL SETTINGS</b> .....	1811
<i>M. Fuchtenhans ; E. H. Grosse ; C. H. Glock</i>	
<b>INTEGRATED FOREST MONITORING SYSTEM FOR EARLY FIRE DETECTION AND ASSESSMENT</b> .....	1817
<i>George Georgiades ; Xanthi S. Papageorgiou ; Savvas G. Loizou</i>	
<b>FUZZY SLIDING MODE CONTROLLER DESIGN USING SCALAR SIGN FUNCTION FOR A CLASS OF T-S FUZZY MODELS</b> .....	1823
<i>Lotfi Chaouech ; Moez Soltani ; Abdelkader Chaari</i>	
<b>A NOVEL HYBRID ARCHITECTURE FOR CLASSIFICATION OF POWER QUALITY DISTURBANCES</b> .....	1829
<i>Arshiya Aggarwal ; Nisheet Das ; Mansi Arora ; M. M. Tripathi</i>	
<b>A METHODOLOGY FOR MODELLING OF TAKAGI-SUGENO FUZZY MODEL BASED ON MULTI-PARTICLE SWARM OPTIMIZATION: APPLICATION TO GAS FURNACE SYSTEM</b> .....	1835
<i>Jaouher Chroua ; Fethi Farhani ; Abderrahmen Zaafouri ; Mohamed Jemli</i>	
<b>EVALUATION OF UNAVAILABILITY OF THE RAILWAY SERVICE USING AHP METHODOLOGY</b> .....	1841
<i>A. M. Mangini ; I. Precchiazzi ; V. Sangiorgio ; M. P. Fantì</i>	
<b>TILT ANGLE OPTIMIZATION OF PHOTOVOLTAIC PANELS</b> .....	1847
<i>Z. Rasouli Dogahneh ; V. Puig</i>	
<b>ENERGY MANAGEMENT OF FUEL CELL VEHICLE WITH HYBRID STORAGE SYSTEM: A FREQUENCY BASED DISTRIBUTION</b> .....	1853
<i>Hajer Marzougui ; Ameni Kadri ; Mansour Amari ; Faouzi Bacha</i>	
<b>FACILITY LAYOUT PROBLEM USING SALP SWARM ALGORITHM</b> .....	1859
<i>Ahmed M. Elkassas ; Mohamed Elwakil</i>	
<b>PREDICTION OF LITHIUM-ION BATTERY CAPACITY IN UAVS</b> .....	1865
<i>Erick F. Costa ; Darelson A. Souza ; Vandilberto P. Pinto ; Miquéias S. Araújo ; Artur M. Peixoto ; Erivaldo P. Da Costa</i>	
<b>FRACTURE TOUGHNESS PREDICTION OF COMPOSITE MATERIALS</b> .....	1870
<i>Bethany Jones ; Kary Thanapalan ; Ewen Constant</i>	

<b>DEEP REINFORCEMENT LEARNING-BASED CONTINUOUS CONTROL FOR MULTICOPTER SYSTEMS</b> .....	1876
<i>Anush Manukyan ; Miguel A. Olivares-Mendez ; Matthieu Geist ; Holger Voos</i>	
<b>ANALYSIS FOR VISUALIZING ACTORS' EXPERIENCES IN E-LEARNING SPACES TO CREATE AN ACTIVE LEARNER'S PROFILE</b> .....	1882
<i>Liana Stanca ; Ramona Lacurezeanu ; Cristina Felea</i>	
<b>A DECISION SUPPORT SYSTEM FOR DRUG INVENTORY MANAGEMENT WITHIN AN EMERGENCY DEPARTMENT: A CASE STUDY</b> .....	1889
<i>Faten Ben Chihaoui ; Nouha Maddeh ; Saja Bhar Layeb ; Chokri Hamouda ; Jouhaina Chaouachi</i>	
<b>INNOVATIVE SINGLE SENSOR NEURAL NETWORK PV MPPT</b> .....	1895
<i>Abdelghani Harrag ; Sabir Messalti ; Yacine Daili</i>	
<b>HYBRID GENETIC ALGORITHM FOR HOME HEALTHCARE ROUTING AND SCHEDULING PROBLEM</b> .....	1900
<i>Rahma Borchani ; Malek Masmoudi ; Bassem Jarboui</i>	
<b>CLUSTER HEAD RECOVERY ALGORITHM FOR WIRELESS SENSOR NETWORKS</b> .....	1905
<i>Chafiq Titouna ; Hamouma Moumen ; Ado Adamou Abba Ari</i>	
<b>CLOUD: PRIVACY FOR LOCATIONS BASED-SERVICES' THROUGH ACCESS CONTROL WITH DYNAMIC MULTI-LEVEL POLICY</b> .....	1911
<i>Anwar Chitheer Jasim ; Imad Ali Hassoon ; Nicolae Tapus</i>	
<b>IMPLEMENTATION OF TYPE-2 FUZZY CONTROL OF PMSM POSITION DRIVE WITH FLEXIBLE COUPLING</b> .....	1917
<i>Galina L. Demidova ; Dmitry V. Lukichev ; Konstantin Denisov</i>	
<b>COLLISIONS AVOIDANCE AND DEADLOCKS PREVENTION, FOR DYNAMIC ROUTING OF TRAINS IN A RAILWAY NODE</b> .....	1923
<i>P. Cazenave ; M. Khlif-Bouassida ; A. Togyéni</i>	
<b>ACCURACY AND LOCALIZATION-AWARE RESCHEDULING FOR FLEXIBLE FLOW SHOPS IN INDUSTRY 4.0</b> .....	1929
<i>Bouziane Brik ; Belgacem Bettayeb ; M'hammed Sahnoun ; Anne Louis</i>	
<b>SENSORLESS CONTROL APPLYING SIGNAL INJECTION METHODOLOGY ON MODIFIED MODEL OF PERMANENT MAGNET SYNCHRONOUS MACHINE</b> .....	1935
<i>Vasilios C. Ilioudis</i>	
<b>ROBUST FAULT DETECTION &amp; ISOLATION IN DISTRIBUTED DYNAMIC SYSTEMS</b> .....	1941
<i>Sam Nazari ; Bahram Shafai</i>	
<b>NON-HOLONOMIC FLIGHT MODELING AND CONTROL OF A TILT-ROTOR MAV</b> .....	1947
<i>D. Nieto-Hernández ; C.-F. Méndez-Barrios ; J. Escareno ; V. Ramírez-Rivera ; L. A. Torres ; H. Méndez-Azúa</i>	
<b>UNIT COMMITMENT: AN ESCORT DYNAMICS APPROACH</b> .....	1953
<i>U. Suryawanshi ; M. Sawant ; J. Moyalán ; A. Sheikh ; S. Bhil</i>	
<b>ON THE FIRST- AND SECOND-ORDER CONDITIONS IN OPTIMAL CONTROL PROBLEMS RELATED TO AUTONOMOUS OBJECTS GROUP LIFECYCLE</b> .....	1959
<i>Ivan A. Samylovskiy ; Anastasia K. Samylovskaya</i>	
<b>MULTI-SOURCES ENERGY PLANTS LOCATION USING GOAL-PROGRAMMING AND FLOW CONTROL ANALYSIS APPROACH</b> .....	1964
<i>Abbas Hamze ; Yassine Ouazene ; Nazir Chebbo ; Iman Maatouk</i>	
<b>A NEW METHOD OF ANALYSIS OF THREE-WAY CONTINGENCY TABLES</b> .....	1970
<i>Philippe Casin</i>	
<b>THE DISCRETE AND DYNAMIC BERTH ALLOCATION PROBLEM IN BULK PORT</b> .....	1976
<i>Rokaya Lassoued ; Abdelkarim Elloumi</i>	
<b>TRACKING CONTROL OF PIEZOELECTRIC ACTUATORS USING FEEDFORWARD/FEEDBACK LEARNING-BASED CONTROLLER</b> .....	1981
<i>Ashraf Saleem ; Musabah Al Hattali ; Mohammed Shafiq ; Issam Bahadur</i>	
<b>IMPACT OF USING AGILE METHODS IN SOFTWARE ENGINEERING EDUCATION: A CASE STUDY</b> .....	1986
<i>Serein Al-Ratrout</i>	
<b>STATE OBSERVER-BASED CURRENT SENSOR-LESS HYSTERESIS CURRENT CONTROL FOR STAND-ALONE INVERTERS</b> .....	1992
<i>Triet Nguyen-Van ; Kenji Tanaka</i>	
<b>COMPOSABILITY MODELING FOR THE USE CASE OF DEMAND-CONTROLLED VENTILATION AND HEATING SYSTEM</b> .....	1998
<i>Ali Behravan ; Nadra Tabassam ; Osama Al-Najjar ; Roman Obermaisser</i>	
<b>ADAPTIVE SYNCHRONIZATION OF UNCERTAIN FRACTIONAL-ORDER CHAOTIC TRIANGULAR SYSTEMS VIA FUZZY BACKSTEPPING CONTROL</b> .....	2004
<i>A. Boubellouta ; A. Boulkroune</i>	
<b>IMPROVING ELECTRICITY NETWORK EFFICIENCY AND CUSTOMER SATISFACTION IN GENERATION CONSTRAINED POWER SYSTEM</b> .....	2010
<i>Julius Quarshie Azasoo ; Triantafyllos Kanakis ; Ali Al-Sherbaz ; Michael Opoku Agyeman</i>	
<b>DATA PRE-PROCESSING TECHNIQUES IN THE REGIONAL EMISSION'S LOAD PROFILES CASE</b> .....	2016
<i>Angreine Kewo ; Pinrolinvic Manembu ; Per Sieverts Nielsen</i>	
<b>2-DIMENSIONAL PACKING ALGORITHMS ON A VARIABLE-SIZE RECTANGULAR INTERFACE</b> .....	2022
<i>Imed Kacem ; Ilyes Kadri ; Benoit Martin ; Isabelle Pecci</i>	
<b>IMPROVED SMC APPROACH FOR ROTOR-SIDE CONVERTER OF DFIG-BASED ON STATOR FLUX ESTIMATOR USING A PROGRAMMABLE LOW PASS FILTER</b> .....	2027
<i>Ameni Kadri ; Hajer Marzougui ; Faouzi Bacha</i>	

<b>A NEW ADAPTIVE PROGNOSTIC STRATEGY BASED ON ONLINE FUTURE EVALUATION AND EXTENDED KALMAN FILTERING .....</b>	<b>2033</b>
<i>Salma Harrath ; Jaouher Ben Ali ; Taoufik Zouaghi ; Noureddine Zerhouni</i>	
<b>TRAJECTORY TRACKING OF WHEELED MOBILE ROBOT USING ADAPTIVE SECOND ORDER SLIDING MODE CONTROLLER .....</b>	<b>2039</b>
<i>Turki Owaid Aienizi ; Naif Swialem Aienizi ; Zyad Atig Rouili ; Slim Ibrahim Dhahri</i>	
<b>MONITORING MENTAL HEALTH USING SMART DEVICES WITH TEXT ANALYTICAL TOOL.....</b>	<b>2046</b>
<i>Norah Saleh Alghamdi</i>	
<b>USING OF MULTI-PHYSICAL MODELS TO EVALUATE THE INFLUENCE OF POWER MANAGEMENT STRATEGIES ON THE AGEING OF HYBRID ENERGY STORAGE SYSTEM .....</b>	<b>2052</b>
<i>Laid Degaa ; Nassim Rizoug ; Bachir Bendjedia ; Abdelkader Saidane ; Cherif Larouci ; Abdelkader Belaidi</i>	
<b>FAULT DETECTION AND IDENTIFICATION VIA BOUNDED-ERROR PARAMETER ESTIMATION USING DISTRIBUTION THEORY .....</b>	<b>2058</b>
<i>Nathalie Verdière ; Carine Jauberthie</i>	
<b>Author Index</b>	