

**Conference Program
MCSI 2016**



**Chania, Greece
August 27-29, 2016**

Conference Location:

**Technological Educational Institute of Crete
School of Applied Science
Romanou 3, Helepa 73135, Chania, Crete**

Saturday 27th August 2016

Opening

Conference Room: A

Time: 08:30-09:00

Dean of the School of Applied Science: Professor Manolis Antonidakis

Head of the Department of Electronic Engineering: Associate Professor, Ioannis Vardiambasis

Conference Room: A

Time: 09:00-11:00

MSCI 2016: Computers in Electrical Circuits and Motors

Chair: Yannis L. Karnavas, Vincenzo Niola

Advanced Laser Processes for Photovoltaic Energy Production	Konstantinos Petridis, Emannuel Kymakis	086
Synthesis the Complex of RNase a Solution and Hhal with UO ₂ ²⁺ and Th Ions	Aibassov Erkin, Yemelyanova Valentina, Shakieva Tatyana, Nakisbekov Narymzhan, Tussupbaev Nessipbay, Bulenbayev Maxat, Dossumova Binara, Blagikh Evgeniy	045
Optimization of Standard PMDC Motors Used in Automotive Applications for Higher Power Density	Yannis L. Karnavas, Ioannis D. Chasiotis, Emmanouil D. Peponakis	034
Post-Implementation Evaluation of a University Management Information System (UMIS)	E. Symeonaki, M. Papoutsidakis, D. Tseles, M. Sigala	024
Shaft-Generators in Ships: Techno-Economic Sensitivity Analysis Study	Konstantina Gkotzia, George J. Tsekouras, Fotios D. Kanellos, Panayiotis Michalopoulos, John M. Prousalidis, Nikolaos E. Mastorakis	080
Nonlinear Models for the Vibrational Analysis of a Complex Dynamical System	Vincenzo Niola, Giuseppe Quaremba, Gennaro Pellino, Angelo Montanino	067
Heading Control of Unmanned Submersible Vehicle	Nenad Popovich, Rajul Singh	022

11:00-11:30: Coffee Break

Saturday 27th August 2016

Conference Room: A

Time: 11:30-13:30

2016: Mathematics in Mechanical Engineering and Industry

Chair: Constantin Rotaru, Hossein Hosseini

Mathematical Modeling for Heat-Shrinkable Polymeric Article Production	Hossein Hosseini, Boris V. Berdyshev, Igor V. Iskopintsev	039
Kinetic Modeling of Hydrocracking Process	Mohammad Mosaddegh, Hossein Hosseini	033
The Role of Computational Fluid Dynamics to Solve Wind Engineering Problems	Neihad Hussen Al-Khalidy	055
New Solutions for Aircraft Wing and Helicopter Blade Airfoils	Constantin Rotaru, Mihai Mihaila-Andres	074
Aspects Regarding Aerodynamic Shape of Turbojet Combustion Chamber	Constantin Rotaru	060
Thermally Induced Vibrations in Orthotropic Rectangular Plates: The ANOVA Approach	Tripti Johri, Indu Johri	047
Exact Solution of Boundary Value Problem of Elasticity for Domain Bounded by Parabola with Normal Load	Natela zirakashvili	051
Linear Complexity Cubic Sequences over Finite Fields	Vladimir Edemskiy, Nikita Sokolovskiy	071

Saturday 27th August 2016

Conference Room: A

Time: 13:30-15:30

MSCI 2016: Mathematics in the Wireless Networks

Chair: Theodoros N. Kapetanakis, Ludek Lukas

Solving Bi-Objective Two-Dimensional Rectangle Packing Problem Using Binary Cuckoo Search	Amandeep Kaur Virk, Kawaljeet Singh	044
ERP Systems Created to Support Academic Management in Contexts of Geographic Dispersion: A Case Study in Regional Higher Education	Moreno Luis Gabriel, Salimas Martha Janneth, Anzola Diego, López V. Juan D.	078
The Key Theoretical Models for the Safety and Security Ensuring	Ludek Lukas, Martin Hromada, Lukas Pavlik	064
Molecular Dynamics Simulation of Lysine Dendrimer and Oppositely Charged Semax Peptides	Igor Neelov, Elena Popova	054
A Novel Stochastic ADC Topology with Wide Input Range	Fadi Nessir Zghoul, Suat U. Ayy, Ismail Cevikz, Ahmad A. Ababnah, Saher A. Albatran, Abdallah Y. Alma'aitah	085
Under-actuated Finger Driven by Un-extendible Tendons Grasping Tests by WM 2D™	Vincenzo Niola, Cesare Rossi, Sergio Savino, Francesco Timpone	069
Classification-Based VQ Model for Simulation of Binary Error Process on the Wireless Channel	Tibor Csóka, Jaroslav Polec, Filip Csóka, Kvetoslava Kotuliaková	031
Radiation Performance of Satellite Reflector Antennas Using Neural Networks	Theodoros N. Kapetanakis, Ioannis O. Vardiambasis	091

15:30-16:00: Coffee Break

Saturday 27th August 2016

Conference Room: A

Time: 16:00-18:00

MSCI 2016: Analysis of Communications' Networks

Chair: Bendato Ilaria, Mingyue Ding

Calibration of Nonlinear Radix in Pipelined Analog-to-Digital Converters Using a Correlation	Hamed Aminzadeh, Morteza Rajabzadehy	041
Maximum Power Point Tracking of Photovoltaic Modules: Comparison of Fuzzy Logic and Artificial Network Controllers' Performances	Jemaa Aymen, Zarrad Ons, Mansouri Mohamed Nejib, Aurelian Crăciunescu	053
Modeling the Probabilities of Failures of 22 nm CMOS Logic Cells	Azam Beg	029
Optimization of Stochastic Discrete Event Simulation Models using "AFO" heuristic	Bendato Ilaria, Cassettari Lucia, Fioribello Simone, Giribone Pier Giuseppe	027
Real-time Load Identification by Active Power Feature Extraction and Switching Detection	Mingyue Ding, Jinxiao Huang, Jiazhen Li, Nikos E. Mastorakis, Xiaodong Zhuang	038
DTN Networks : Stochastic Analysis of Bundles Distribution	El Arbi Abdellaoui Alaoui, Said Agoujil, Moha Hajar	002
Improving the Delivery Rate of Data with : DTN Routing Hierarchical Topology (DRHT)	E. A. Abdellaoui, S. Agoujil, M. Hajar, Y. Qaraai	001

Poster:

High Throughput Software Multithreshold Decoder on GPU	Zolotarev V., Ovechkin G., Ovechkin P., Satybaldina D., Tashatov N., Sankibayev D.	063
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Sunday 28th August 2016

Conference Room: A

Time: 09:00-11:00

MSCI 2016: Applications of Fuzzy Logic and Optimazation Problems

Chair: G. A. Leonov, Naohisa Otsuka

Lyapunov Dimension of Attractors of the Lorenz-like Differential Equations	G. A. Leonov, S. M. Seledzhi	020
Quadratic Stabilization and Transit Problems for Switched Linear Systems via State Feedback	Naohisa Otsuka, Shota Sekiguchi	017
Fuzzy Multimeasures in Birkhoff Weak Set-Valued Integrability	Anca Croitoru, Alina Iosif, Nikos Mastorakis, Alina Gavrilut	036
The Notion of Duality in Fully Intuitionistic Fuzzy Linear Programming (FIFLP) Problems	Izaz Ullah Khan, Mohsin Khan	052
Efficient Combination of Two Lower Bound Functions in Univariate Global Optimization	Ouanes Mohand, Chebbah Mohammed, Zidna Ahmed, Le Thi Hoai	058
Numerical Solution of Fuzzy Control Problems Using Linear Programming	F.Nobakht, Gh. Atazandi, A. V. Kamyad, A. Zare	008
Detection and Localisation Method System Industrial by Bond Graph Model Using Luenberger Observer	Abderrahmene Sellami, Nadia Zanzouri	065
General Methods Generate Fuzzy Equivalence Relations of the Form nxn Matrices	M. A. Shakhathreh, T. A. Qawasmeh	010
Presenting a Mathematical Model for Joint Availability-Redundancy Optimization in a Multi-State Series-Parallel System	Mani Sharifi, Amir Hossein Borhani	006

11:00-11:30: Coffee Break

Sunday 28th August 2016

Conference Room: A

Time: 11:30-13:30

MSCI 2016: Applications of Computers in Sensors Networks

Chair: Emmanuel Antonidakis, Tomasz Praczyk

The Influence of Parameters of Biomimetic Underwater Vehicle Control System on the Ability of the Vehicle to Avoid Obstacles	Tomasz Praczyk	016
Analysis of Various Protocols in Wireless Body Area Networks (WBAN)	Narayana Swamy R.	077
Wagner-Whiten Algorithm Applied for Joint Replenishment Problem	Bassem H. Roushdy	037
Sensors Networks - Localization and Topology	Marios Sfendourakis, Rajagopal Nilavalan, Emmanuel Antonidakis	072
A Bibliometric Study on RFID and Supply Chain Management	Anil Kumar, Divya Prakash Shrivastava	050
Functional Virtual Prototyping Environment for a Family of Map-Reduce Embedded Accelerators	Călin Bîră, Mihaela Malița, Gheorghe M. Ștefan	057
Performance Enhancement of Underlay Cognitive Radio Networks by Intelligent Multiple Relay Selection	Kiran Sultan, Bassam A. Zafar, Muhammad Zubair, Zeeshan Shafi Khan	049
Performance Optimization of Underlay Cognitive Radio Networks through Relay Selection and Evolutionary Computing	Kiran Sultan, Bassam A. Zafar, Babar Sultan, Muhammad Zubair, Zeeshan Shafi Khan	083

Sunday 28th August 2016

Conference Room: A

Time: 13:30-15:30

MSCI 2016: Applications of Signal Processing

Chair: Mohamed A. Fadeel, Nikolaos V. Karadimas

An Efficient Segmentation Algorithm for Arabic Handwritten Characters Recognition System	Mohamed A. Fadeel	040
Applications of Chaotic Maps and Coding for Secure Transmission of Images over Wireless Channels	Mona F. M. Mursi, Ayman H. Abd El-Aziem	068
Real Emotion Recognition Algorithm by Detecting Symmetry Patterns with Dihedral Group	Mehdi Ghayoumi, Arvind K. Bansal	056
Speech Intent Recognition for Robots	Borui Shen, Diana Inkpen	059
Grayscale Image Compression Based on Probabilistic Run Length Encoding Algorithm	Hassan K. Albahadily, Alaa A. Jabbar Altaay, Viktor U. Tsviatkou, Valery K. Kanapelka	011
A Distributed Approach for Traffic Signal Synchronization Problem	Ludovica Adacher, Marco Tiriolo	043
An Optimizing Algorithm to Minimize the Delay Signal Setting Problem	Ludovica Adacher, Andrea Gemma	042
Graphics Visualization of Specific Dashboards in Transport Technologies	Pavel Pokorný, Kamil Stokláška	046
Panspermia of GeoData in Support Systems for Design and Execution of Operational Procedures	George Tsavdaridis, Elias Koukoutsis, Nikolaos V. Karadimas	092

15:30-16:00: Coffee Break

Sunday 28th August 2016

Conference Room: A

Time: 16:00-18:00

MSCI 2016: Mathematical models in Environmental Sciences

Chair: Monika Maciejewska, Irina Astashova

Energy Efficient Designs: Cleaner and Greener Energy Technologies, Sustainable Development and Environment	Abdeen Mustafa Omer	012
On One Model of Temperature Control In Hothouses	Irina Astashova, Alexey Filinovskiy, Dmitriy Lashin	076
Numerical Analysis and Reconstruction of the Temperature Regime of the Lena River Segment	Igor Zhilyaev, Vera Fofonova	025
Sedimentology and Geochemistry of the Makran Coastal Sediments Located in Southeastern Iran	Ahrari-Roudi Moyeddin, M. A. Zainudini	014
Models of Protection the Rare and Disappearing Kinds: Estimations of Number of Predators of Ecosystem Reserves	Mahmadyusuf Yunusi	015
Detection of Occupancy Events from Indoor Air Monitoring Data	Anadrzej Szczurek, Monika Maciejewska	073
System Identification Method by Structural Similarity for Seismic Migration	Hernando Castañeda M., Manuel Jose Maldonado Ortega, Pamplona N. S., Jairo Torres Peña	004

21:00: Conference Dinner

Monday 29th August 2016

Conference Room: A

Time: 09:00-11:00

MSCI 2016: Applications of Mathematics in Sciences

Chair: Stylianos Scarlatos, Samer Mansour

Average Domain Size Scales like Population Size in the Absorbing Configurations of the One-Dimensional Axelrod Model with Three Features and Three States	Stylianos Scarlatos	021
Minimizing Averaged Error for Dynamic Matrix Control	Samer Mansour, Jalal Karam	048
Parallel Version of the Mirror Descent Algorithm for the Two-Armed Bandit Problem	Alexander Kolnogorov, Dmitry Shiyan	084
The Accounting Equation and Claims on Assets Value Change	Fernando Juárez	082
Application of the Hybrid Methods to Solving Integro-Differential Equations of the Second Order	Mehdiyeva Galina, Ibrahimov Vagif, Imanova Mehriban	028
Distributed Backstepping Control with Actuator Delay for Active Suspension System	Aziz Sezgin, Yuksel Hacioglu, Nurkan Yagiz	009
A More Efficient Card-Based Protocol for Generating a Random Permutation Without Fixed Points	Takuya Ibaraki, Yoshifumi Manabe	032
A Non-Blocking Online Cake-Cutting Protocol	Koki Kubo, Yoshifumi Manabe	030
Fast Extremum Seeking of Model Predictive Control Based on Hammerstein Model	Chagra Wassila, Degachi Hajer, Ksouri Moufida	035

11:00-11:30: Coffee Break

Monday 29th August 2016

Conference Room: A

Time: 11:30-13:30

MSCI 2016: Mathematical Models for Internet of Things and Web

Chair: Nikolaos Bardis, Henrique Vicente

Mathematical Model of Underwater Vehicle with Undulating Propulsion	Piotr Szymak	023
Developing the Product Strategy via Product Life Cycle Simulation According to System Dynamics Method	Sepideh Tavassoli, Naghmeh Khajeh Nassir Toussi	005
Age Prediction through Pelvis X-Ray Images - A Case Based Approach to Problem Solving	Diana Martins, Victor Alves, Henrique Vicente, José Neves	079
Fast Empirical Mode Decomposition Based on Gaussian Noises	Risheng Wang, Jianjun Zhou, Jie Chen, Yanjie Wang	066
Using Collaborative Based Algorithm for Efficient Management of Limited Resources on Social Networks	Valon Xhafa, Korab Rrmoku, Blerim Rexha	007
Erasure Code for Efficient Error Correction in Block Data Transmission	Nikolaos Bardis, Nikolaos Doukas, Oleksandr P. Markovskyi	087
Availability and Security Assessment of Smart Building Automation Systems: Combining of Attack Tree Analysis and Markov Models	Al-Sudani Mustafa Qahtan Abdulmunem, Vyacheslav S. Kharchenko	088
Assurance Case Driven Design for Computer Systems: Graphical Notations versus Mathematical Methods	Vladimir Sklyar, Vyacheslav Kharchenko	089
Reliability and Security Issues for IoT-Based Smart Business Center: Architecture and Markov Model	Vyacheslav Kharchenko, Maryna Kolisnyk, Iryna Piskachova, Nikolaos Bardis	090