Conference Program

WSEAS

Editors: Vincenzo Niola, Michel Kadoch, Alexander Zemliak

Recent Researches in Automatic Control and Electronics

Recent Researches in Automatic Control and Electronics

- Proceedings of the 14th International Conference on Automatic Control, Modelling & Simulation (ACMOS '12)
- Proceedings of the 11th International Conference on Microelectronics, Nanoelectronics, Optoelectronics (MINO '12)

WSEAS

Saint Malo & Mont Saint-Michel, France, April 2-4, 2012

ISBN: 978-1-61804-080-0

Editors: Vincenzo Niola, Michel Kadoch, Alexander Zemliak

Recent Researches in Communications, Signals and Information Technology

Recent Researches in Communications, Signals and Information Technology

- Proceedings of the 11th International Conference on Telecommunications and Informatics (TELE-INFO '12)
- Proceedings of the 11th International Conference on Signal Processing (SIP '12)

Saint Malo & Mont Saint-Michel, France, April 2-4, 2012

WSEAS

ISBN: 978-1-61804-081-7

Editors: Vincenzo Niola, Michel Kadoch, Alexander Zemliak

MODELS and METHODS in APPLIED SCIENCES

MODELS and METHODS in APPLIED SCIENCES

Proceedings of the 2nd International Conference on Environment, Economics, Energy, Devices, Systems, Communications, Computers, Mathematics (EDSCM '12)

Saint Malo & Mont Saint-Michel, France, April 2-4, 2012

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ISBN: 978-1-61804-082-4
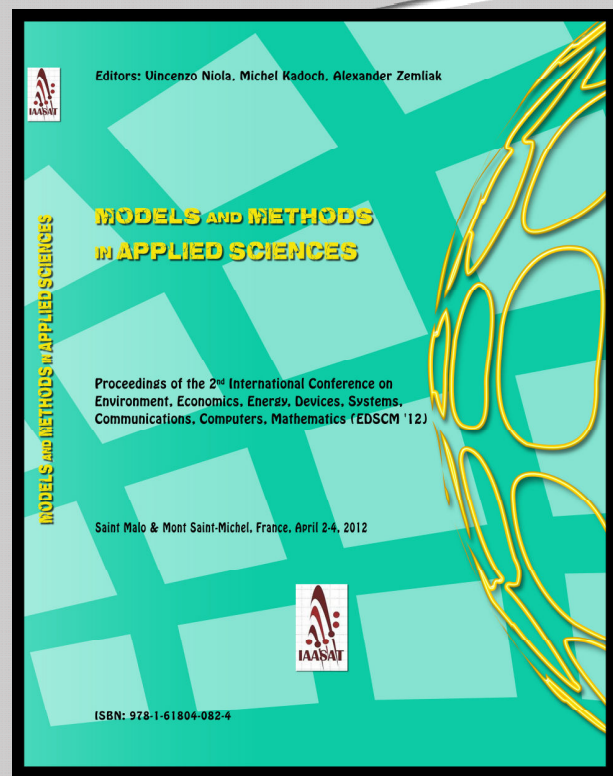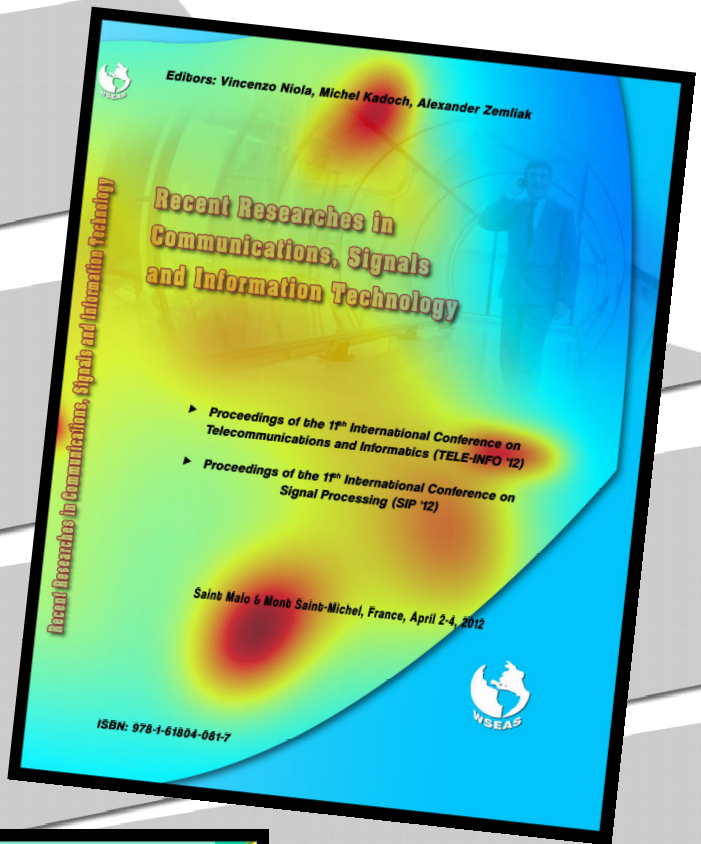
Saint Malo & Mont Saint-Michel
France, April 2-4, 2012

Important Notes:
(1) You may register at any time during the conference.
(2) The Invoice of payment can be collected at the registration desk at any time.
(3) The Certificate of Participation can be collected at the registration desk only after your presentation.
(4) Session chairmen can ask for a special Certificate at the registration desk after the session
(5) The duration of a presentation slot is 20 minutes for a regular paper and 45 minutes for a plenary speech, including questions.
(6) All authors should give their biographies to the chairmen before the beginning of the session.
(7) Authors can upload their presentations to the available computers 10 minutes before the beginning of their session.

14th International Conference on Automatic Control, Modelling & Simulation (ACMOS '12)

11th International Conference on Microelectronics, Nanoelectronics, Optoelectronics (MINO '12)

11th International Conference on Telecommunications and Informatics (TELE-INFO '12)

11th International Conference on Signal Processing (SIP '12)

2nd International Conference on Environment, Economics, Energy, Devices, Systems, Communications, Computers, Mathematics (EDSCM '13)

Saint Malo & Mont Saint-Michel France, April 2-4, 2012

The WSEAS staff welcome you to another prestigious event.

Since 1996, the World Scientific and Engineering Academy and Society has proudly organized a vast number of successful conferences and published the work of hundreds of scientists from all over the world. We and our affiliates would like to express our sincere gratitude to you for helping us continue our mission by honoring us with your presence in this conference.

WSEAS publications have succeeded in joining most important International Scientific Indexes and Libraries. Thanks to our latest efforts of adopting strict deadlines and a more rigorous review process, the quality of our proceedings and journals is continuing to rise exponentially.

We trust that you will enjoy discussing the latest scientific developments with your peers during these three days, and that you will find your stay as pleasant as possible.

The WSEAS Team

Monday April 2nd 2012

Registration: 08:15-09:15

Conference Room A:
Time: 09:15-10:00
Plenary Lecture 1:

On the Application of New Fuzzy Technologies in the Methods of Expert Knowledge Engineering and Decision Making for the Modelling and Prediction of Weakly Structurable Processes
by Prof. Gia Sirbiladze, Iv. Javakhishvili Tbilisi State University, GEORGIA.

Conference Room B:
Time: 09:15-10:00
Plenary Lecture 2:

On the Automated Localization of Retinal Optic Disk as a Support to Ophthalmic Analysis and Biometric Feature Extraction
by Prof. Leonarda Carnimeo, Politecnico di Bari, ITALY.

Conference Room A:
Time: 10:00-10:45
Plenary Lecture 3:

Design and Performance Evaluation of Solar Assisted Chemical Heat Pump Dryer
by Prof. Kamaruzzaman Sopian, Universiti Kebangsaan Malaysia, MALAYSIA.

Conference Room B:
Time: 10:00-10:45
Plenary Lecture 4:

To Do Data Compression not only to Compress Data
by Prof. Bruno Carpentieri, Universita di Salerno, ITALY.

Conference Room A:
Time: 10:45-11:30
Plenary Lecture 5:

Modeling and simulation complex dynamical systems in Rand Model Designer
by Prof. Yuri B. Senichenkov, Saint Petersburg State Polytechnical University, RUSSIA.

Conference Room B:
Time: 10:45-11:30
Plenary Lecture 6:

Analytical Synthesis Method in Analog Circuit Design
by Prof. Chun-Ming Chang, Chung Yuan Christian University, R. O. CHINA.

Coffee Break: 11:30-12:00

Conference Room: A
Time: 12:00-14:00
ACMOS Session: Simulation and Modelling I
Chair: Gia Sirbiladze, Azar Khosravani

Transformation Invariance of Benford Variables and their Numerical Modeling	A. Khosravani, C. Rasinariu	6761-011
Fuzzy Modeling of Minimal Crediting Risks in Investment Decisions	Gia Sirbiladze, Irina Khutsishvili, Bezhan Ghvaberidze	6761-005
Performance Control for Manufacturing Sustainability: A Cellular Neural Network-based Approach	Leonarda Carnimeo, Michele Dassisti	6761-112
An Approach to Model the European Interchange Energy Network as a Small World Net	Leonarda Carnimeo, Michele Dassisti	6761-167
Prediction Problem's Solution for the Finite Possibilistic Model of Expert Knowledge Streams	Mikheil Kapanadze, Gia Sirbiladze, Anna Sikharulidze	6761-004
Information Modelling of the Complex System of the Parallel Manufacturing Process	Robert Bucki, Petr Suchánek, Dominik Vymĕtal	6761-009
Modified WQI Model using Fourier series and Genetic Algorithm Technique	Somkid Amornsamankul, Busayamas Pimpunchat, Sartja Duangchai-Yoosook, Wannapong Triampo	6761-015

Conference Room: B
Time: 12:00-14:00
TELE-INFO Session: Computers and Communications
Chair: Mirela-Catrinel Voicu, Adriana Georgieva

Parallel Processing Model for XML Parsing	Adriana Georgieva, Bozhidar Georgiev	6762-007
Illustrating the Impediments for Widespread Deployment of IPv6	Ala Hamarsheh, Marnix Goossens	6762-001
An Investigation of Approaches to Set Up a Kanban Board, and of Tools to Manage it	Erika Corona, Filippo Eros Pani	6762-017
Filtering Erroneous Positioning Data with Moving Window Approach	Ha Yoon Song, Han Gyoo Kim	6762-013
Secret Message in a Ping: Creation and Prevention	Lavinia Mihaela Dinca	6762-008
Website as Tool for Compare Credit Card Offers	Mirela-Catrinel Voicu, Izabela Rotaru	6762-073
An Adaptive Clustering-based Resource Discovery Scheme for Large Scale MANETs	Saad Al-Ahmadi, Abdullah Al-Dhelaan	6762-069

Break: 14:00-14:30

Conference Room: A
Time: 14:30-16:30
SIP Session: Image, Sound and Speech Processing I
Chair: Leonarda Carnimeo, Vaclav Skala

Sound Source Localization for Real-World Humanoid Robots	Georgios Athanasopoulos, Henk Brouckxon, Werner Verhelst	6764-009
A Composite Architecture for an Automatic Detection of Optic Disc in Retinal Imaging	Leonarda Carnimeo, Anna Cinzia Benedetto	6764-077
Adaptive Processing and Archiving of Compound Scanned Documents	Roumen Kountchev, Roumiana Kountcheva	6764-008
An Efficient Space Partitioning Method Using Binary Maps	Vaclav Skala	6764-005
Multiple Sound Source Location on 2D Plane with a Neural System	Yumi Takizawa, Atsushi Fukasawa	6764-002
Multiple Sound Source Location in 3D Space with a Synchronized Neural System	Yumi Takizawa, Atsushi Fukasawa	6764-003

Conference Room: B
Time: 14:30-16:30
EDSCM Session: Energy, Environment and Development I
Chair: Azami Zaharim, Kamaruzzaman Sopian

Sustainable Development of Security Dimensions	Aelenei Victor, Cavaropol Dan Victor, Chirila Mihai	6765-141
Environment and Sustainable Development, Coordinate of the Planetary Security	Aelenei Victor, Chirila Mihai, Cavaropol Dan Victor	6765-131
Potential of Renewable System Powering a Mosque in Libya	Alshrif Mustafa, M. A. Alghoul, Nilofar Asim, Kh. Glaisa, Kh. Abulqasem, M. N. Mohammed, A. Zaharim, K. Sopian	6765-181
The Rural Development: One of the Most Important Challenges for Romania	Andreea Drăgoi, Neculai Cristina	6765-046
Environmental Risk Caused by Dangerous Substances and Hazmat Crimes - A Case Study for Romania	Dan Victor Cavaropol, Victor Aelenei, Mihai Chirila	6765-136
Drying Kinetics of Malaysian Canarium Odontophyllum (Dabai) Fruit	Dayang Fredalina Basri, Ahmad Fudholi, M. H. Ruslan, M. A. Alghoul	6765-291
A Numerical Analysis for the Performance Improvement of a Channel Heat Exchanger	Byung-Hyun Jang, Byeong-Ha Jeon, Kwon-Hee Lee	6765-201

Coffee Break: 16:30-17:00

Conference Room: A
Time: 17:00-19:00
ACMOS Session: Systems and Control
Chair: Carlos Alberto Reyes-Garcia, Jaan Lellep

Optimization of Distribution of Centers in the Supply Chain using Genetic Algorithms	Héctor Domínguez Martínez, Carlos Alberto Reyes García, Alejandro Rosales Perez	6761-092
Inelastic Spherical Caps with Defects	Jaan Lellep, Ernst Tungel	6761-062
Non-Axisymmetric Vibrations of Stepped Cylindrical Shells	Jaan Lellep, Larissa Roots	6761-012
Associative Search Method in System Identification	Natalia N. Bakhtadze, Vladimir A. Lototsky, Evgeny M. Maximov	6761-010
Balance Control of Biped Robot Running with One Arm in Task Motion	See Myoung Choi, Je Sung Yeon, Jong Hyeon Park	6761-127
Natural Control of Energy Material Processes and Theory of Relativity	V. Tydnjuk, V. Kravchenko, O. Mul, I. Dzenite	6761-016

Conference Room: B
Time: 17:00-19:00
EDSCM Session: Business and Economics
Chair: Dan Constantinescu, Ovidiu Stoica
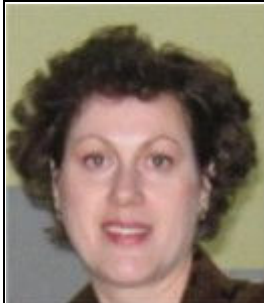
The Portfolio Management of Pension Funds Faced with the Crisis' Challenges	Dan Constantinescu, Ciprian Antoniade Alexandru	6765-236
Optimal Insurance Contracts under Moral Hazard	Daniela-Viviana Raileanu, Mihai Daniel Roman	6765-226
Public Debt Policy in Romania – A Critical Review	Florin Oprea, Irina Bilan, Ovidiu Stoica	6765-266
The Human Capital – Foundation National System of Innovation in the Innovative Economy	Mirela Stoican, Adina Liana Camarda, Mihai Mares, Culai Dascălu, Nelly Filip, Lina Vlăsceanu	6765-286
Data Envelopment Analysis (DEA) Evaluation Framework of Hotel Services	N. A. Deraman, J. M. Said, F. I. Saman, S. Shafie, N. R. Paujah Ismail	6765-121
The Impact of Monetary Policy on Stock Prices in Eastern European Markets	Ovidiu Stoica, Delia-Elena Diaconasu, Anca Elena Nucu	6765-261
An Application of Dynamic Optimization in Economics	R. Cervello-Royo, J.-C. Cortes, R. Villanueva, R. Shoucri	6765-101

Conference Room A:
Time: 09:15-10:00
Plenary Lecture 7:

Modelling the Deterioration of the Polluting Emission Factor for the Internal Combustion Engines
by Assoc. Prof. Krisztina Uzuneanu, "Dunarea de Jos" University of Galati, ROMANIA.

Conference Room B:
Time: 09:15-10:00
Plenary Lecture 8:

Scattered Data Interpolation in n dimensional Space
by Prof. Vaclav Skala, University of West Bohemia & VSB-Technical University of Ostrava, CZECH REPUBLIC.

Conference Room A:
Time: 10:00-10:45
Plenary Lecture 9:

Problem of Analog Circuit Optimization as Controllable Dynamic System
by Prof. Alexander Zemliak, Autonomous University of Puebla, MEXICO & National Technical University of Ukraine, UKRAINE.

Conference Room B:
Time: 10:00-10:45
Plenary Lecture 10:

Integrated and Real-Time Optimization: Models, Algorithms and Applications
by Prof. Claudio Alves, Universidade do Minho, PORTUGAL.

Conference Room A:
Time: 10:45-11:30
Plenary Lecture 11:

	Integration of High-Power Light Emitting Diodes (LED's) and High-Resolution Colour Camera into Endoscopes for Medical Applications by Prof. Noel Y. A. Shammas, Staffordshire University, UK.

Conference Room B:
Time: 10:45-11:30
Plenary Lecture 12:

	The Noise Analysis in Gear Whine by Prof. Vincenzo Niola, University of Naples Federico II, ITALY.

Coffee Break: 11:30-12:00

Conference Room: A
Time: 12:00-14:00
SIP Session: Signal Processing and Applications
Chair: Hiroshi Yasukawa, Tõnu Trump

Implementation of OFDM Receiver Using Rotating Circular Array Antenna for Vehicle Communications	Hironori Ogihara, Hiroshi Yasukawa	6764-082
Using Mean Shift Algorithm in the Recognition of Industrial Data Matrix Codes	Ion-Cosmin Dita, Vasile Gui, Marius Otesteanu, Franz Quint	6764-067
Customization of Wavelet Function for Pupil Fluctuation Analysis to Evaluate Levels of Sleepiness	Ruben-Dario Pinzon-Morales, Yutaka Hirata	6764-004
An Adaptive Sensor Array Using an Affine Combination of Two Filters	Tonu Trump	6764-037
Scattered Data Interpolation in N-Dimensional Space	Vaclav Skala	6764-010
Estimation Method of Lower Frequency Spectrum in Short Time Window	Yumi Takizawa, Masaji Abe	6764-032

Tuesday April 3rd 2012

Conference Room: B
Time: 12:00-14:00
EDSCM Session: Solar Energy
Chair: Azami Zaharim, Kamaruzzaman Sopian

Development of Diffused Solar Radiation Maps using GIS Software for Malaysia	A. W. Azhari, M. A. Alghoul, S. H. Zaidi, A. H. Ibrahim, J. M. Abdulateef, A. Zaharim, K. Sopian	6765-161
Mathematical Modeling for the Drying Characteristics of Seaweed Gracilaria Cangii in a Solar Dryer	Ahmad Fudholi, M. H. Ruslan, M. A. Alghoul, M. Y. Othman, A. Zaharim, K. Sopian	6765-166
Second Law Thermodynamic Analysis of a Solar Single-Stage Absorption Refrigeration System	J. M. Abdulateef, M. A. Alghoul, Ranj Sirwan, A. Zaharim, K. Sopian	6765-206
Design and Performance Evaluation of Solar Assisted Chemical Heat Pump Dryer	K. Sopian, M. I. Fadhel, W. R. W. Daud, M. A. Alghoul, A. Zaharim	6765-156
Economic Analysis of Solar Assisted Chemical Heat Pump Dryer	M. I. Fadhel, W. R. W. Daud, M. A. Alghoul, A. Zaharim, K. Sopian	6765-171

Break: 14:00-14:30

Conference Room: A
Time: 14:30-16:30
ACMOS Session: Mathematical Models and Techniques in Applied Sciences
Chair: Najib Altawell, Erik Lindström

Inference for Non-Linear Diffusions and Jump-Diffusions: A Monte Carlo EM Approach	Erik Lindstrom	6761-102
Dynamic OD Matrix Estimation Exploiting Bluetooth Data in Urban Networks	J. Barceló, L. Montero, M. Bullejos, O. Serch, C. Carmona	6761-107
MCDM for Off-Grid Rural Electrification Projects: Application of Renewable Energy Analyser Two (REA2)	Najib Altawell	6761-132
One-Against-All Multiclass Classification Based on Multiple Complementary Neural Networks	Pawalai Kraipeerapun, Somkid Amornsamankul	6761-014
A Simple Derivation of Right Interactor for Tall Transfer Function Matrices and its Application to Inner-Outer Factorization — Continuous-Time Case —	Wataru Kase	6761-006

Tuesday April 3rd 2012

Conference Room: B
Time: 15:00-16:30
MINO Session: Circuits and Network Optimization
Chair: Alexander Zemliak, Jia Di

Comparative Analysis of DDR and DAR IMPATT Diodes Frequency Characteristics	Alexander Zemliak, Fernando Reyes, Jaime Cid, Sergio Vergara, Evgeniy Machusskiy	6763-003
Comparison of Characteristics of Lyapunov Function for Different Strategies of Circuit Optimization	Alexander Zemliak, Fernando Reyes, Jaime Cid, Tatiana Markina	6763-002
Network Optimization by Generalized Methodology	Alexander Zemliak, Ricardo Peña, Fernando Reyes	6763-001
MTD3L – A Secure IC Design Methodology with Reduced Overhead	Michael Linder, Jia Di, Scott C. Smith	6763-008

Coffee Break: 16:30-17:00

Conference Room: A
Time: 17:00-19:30
TELE-INFO Session: Advances in Telecommunications and Information Science
Chair: Juliana Georgieva, Paulo Garcia

A Scanning Method for Industrial Data Matrix Codes Marked on Spherical Surfaces	Ion-Cosmin Dita, Marius Otesteanu, Franz Quint, Nagaraju Annamdevula	6762-009
Improving the Completeness and Timeliness by Horizontal Fragmentation of Data Warehouse Tables	Ljiljana Brkić, Mirta Baranović, Igor Mekterović	6762-053
SOA Management and Security Enforcement	Mariana Goranova, Juliana Georgieva, Bogdan Schischedjiev	6762-029
Correlation between PSNR and Size Ratio in Audio Steganography	Mazdak Zamani, Azizah Bt Abdul Manaf, Shahidan M. Abdullah	6762-057
Energy Efficient based on Mechanism Unequal Clustering Routing Protocol Wireless Sensor Networks	Nurhayati	6762-041
Analysis of Electromagnetic Wave Propagation in Indoor Environments	Paulo G. Esperante, Raquel Cymrot, Paulo A. Garcia, Marcos S. Vieira, Marcelo Perotoni	6762-077
A New Equivalent Circuit Model for RF Microstrip Disk Resonator	Sang-Tai Yu, Tharoeun Thap, Young-Soo Choi, Koan Houng, Samnang Kuong, Baatarkhuu Dorjsuren, Dal Ahn	6762-012
A Novel Spectrum Sensing Algorithm in Cognitive Radio	Yang Ou, Yi-Ming Wang	6762-049

Tuesday April 3rd 2012

Conference Room: B
Time: 17:00-19:00
EDSCM Session: Mathematical Modelling
Chair: Azami Zaharim, Huey Voon Chen

Complete Decompositions of some Finite Groups	H. V. Chen, A. Y. M. Chin	6765-002
Synthesis and Characterization of Aluminum Matrix Composites Reinforced with Various Ratio of TiC for Light Devices	Malek Ali, M. I. Fadhel, M. A. Alghoul, A. Zaharim, K. Sopian	6765-211
Multimedia Standard in UGC	Maria Ilaria Lunesu, Giulio Concas	6765-296
Efficient Embedding for Audio Steganography	Mazdak Zamani, Azizah Bt Abdul Manaf, Shahidan M. Abdullah	6765-251
The Multi-Meta Model Aimed for Schema Reuse in Conceptual Database Design	Mirta Baranović, Slaven Zakošek, Damir Kalpić	6765-256

Conference Banquet: 20:00

Wednesday April 4th 2012

Conference Room: A
Time: 09:00-11:00
ACMOS Session: Simulation and Modelling II
Chair: Oleg Kosorukov, Arnold Brener

Model of State and Moving of Workforce in the Region	Alexey Stepanov, Oleg Kosorukov	6761-057
Asymptotic Model of Clusters Aggregation in Media with Memory	Arnold Brener, Leila Musabekova, Nurlibek Zhumataev	6761-117
Modeling a Solar Energy System for Required Heat and Electricity of a House	Cătălin Mocanu, Krisztina Uzuneanu, Joaquim Carlos Freitas, Jorge Martins, Daniela Tasma	6761-147
Modeling and Optimization of Frequencies on Congested Bus Lines	Esteve Codina, Angel Marin, Francisco Lopez	6761-097
Modeling the Deterioration of the Polluting Emissions Factor for the Internal Combustion Engines	Krisztina Uzuneanu, Eugen Golgotiu	6761-082
Modeling the Thermoeconomic Analysis of the Marine Propulsion Systems	Krisztina Uzuneanu, Mariana Lupchian	6761-137

Conference Room: B
Time: 09:00-11:00
SIP Session: Image, Sound and Speech Processing II
Chair: Nor Ashidi Mat Isa, Lamyaa Taha

Fuzzy Multipass Filter for Impulse Noise Removal in Digital Images	Kenny Kal Vin Toh, Nor Ashidi Mat Isa	6764-022
Automatic Feature Detection based on Classification of Combination of Orthoimage from Digital Camera and Lidar DSM	Lamyaa Gamal El-Deen Taha Solyman	6764-087
Correlation between PSNR and Bit per Sample Rate in Audio Steganography	Mazdak Zamani, Azizah Bt Abdul Manaf, Shahidan M. Abdullah, Saman Shojae Chaeikar	6764-042
Automatic Segmentation and Detection of Mass in Digital Mammograms	Nor Ashidi Mat Isa, Ting Shyue Siong	6764-017
Visual Comparison of Perceptual Degradation Indicators in Two Listening Speech Quality Models	Sibiri Tiemounou, Regine Le Bouquin Jannes, Vincent Barriac	6764-052

Coffee Break: 11:00-11:30

Conference Room: A
Time: 11:30-13:30
EDSCM Session: Energy, Environment and Development II
Chair: Lucian Mihaescu, Zdenek Riha

Failure Analysis Capabilities for PV Systems	Florin Ancuta, Costin Cepisca	6765-281
Problems Regarding the Endurance of Boilers when using Straw from North-Eastern Region of Romania	L. Mihaescu, G. Lazaroiu, T. Prisecaru, I. Pisa, E. Pop, V. Berbece, G. P. Negreanu	6765-196
An Experimental Study of Kit Fuel Cell Car to Supply Power	Mustafa I. Fadhel	210-148
Grouping the Romanian Rural Areas after the Economic Dimensions of Quality of Life at NUTS 3 Level	Neculai Cristina, Andreea Drăgoi	6765-096
Spectral Transmittance Under Cloudless Sky Over Bangi-Malaysia	Yousef A. Eltbaakh, M. H. Ruslan, M. A. Alghoul, M. Y. Othman, M. I. Fadhel, A. Zaharim, K. Sopian	6765-191
Peak-Period Models and 24-Hour Models Comparison	Zdeněk Říha, Marek Honců	6765-216
Environmental Kuznets Curve in Road Transport	Zdeněk Říha, Marek Honců	6765-221

Conference Room: B
Time: 11:30-13:00
MINO Session: Latest Advances in Electronics
Chair: Eduard Dan Franti, Kohji Mitsubayashi

Intelligent Sensory Interface for Articulated Mechanical Structure of Artificial Arms	Eduard Franti, Cristinel Alexandriu, Mihail Teodorescu, Dan Coroama, Lucian Milea, Paul Schiopu	6763-017
Wearable Biosensor for Monitoring Rabbit Tear Glucose	M. K. Chu, K. Miyajima, T. Arakawa, H. Kudo, K. Mitsubayashi	6763-020
Frequency Characteristics of Dielectric Periodic Structures	Rasoul Mehrnejad, Reza Razmjoueian	6763-005
Characteristics of Dielectric Grating of Left-Handed and Right-Handed Materials	Rasoul Mehrnejad, Reza Razmjoueian	6763-023

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