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Monday, 19.03.2012

REPS1 Energy generation

Time: 10:00-11:30

Room: A

Chair(s): Vincent Debusschere

**REPS1.1 “Economic Viability Analysis of Investment
Alternatives for the Use of Biogas in a Pig Farming
in the Middle East Area of Brazil” ****

Elder Geraldo Domingues, Tauler Teixeira Borges, Wilson
Bueno Garces Junior

**REPS1.2 “Energy Harvesting Input Stage Model for
Piezoelectric Materials Involved in Road Traffic
Applications” *****

Manuel Vázquez-Rodríguez, Francisco Javier Jiménez,
José de Frutos

**REPS1.3 “Energy Transference Maximization in Permanent
Magnet Synchronous Generators” *****

Guillermo Catuogno, Daniel Forchetti, Guillermo Garcia,
Roberto Leidhold, Cristian Ruschetti

Monday, 19.03.2012

RM1 Motion and Path Planning

Time: 10:00-11:30

Room: B

Chair(s): Anthony Tzes, Gabriel Oliver

**RM1.1 “Combining Obstacle Avoidance and Robocentric
Localization in a Reactive Visual Navigation Task”** ...

Francisco Bonin-Font, Antoni Burguera, Alberto Ortiz,
Gabriel Oliver

**RM1.2 “Experimental fuzzy visual control for trajectory
tracking of a Khepera II mobile robot”** ...

El-Hadi Guechi, Alexandre Abellard, Maurice Franceschi

**RM1.3 “Connectivity-aware Coordination of Robotic
Networks for Area Coverage Optimization”** ...

Yiannis Stergiopoulos, Yiannis Kantaros, Anthony Tzes

**RM1.4 “Trajectory Selection for a Rigid/Flexible
Manipulator”** ...

Atef Ata

Monday, 19.03.2012

FAII1 Middleware or Industrial Informatics

Time: 10:00-11:30

Room: C

Chair(s): Athanasios Kalogeras

FAII1.1 “Adaptive Manufacturing Utilizing Ontology-driven Multi-Agent Systems: Extending Pabadis' Promise Approach” ****

Christos Alexakos, Manos Georgoudakis, Athanasios Kalogeras, Spiridon Likothanassis

FAII1.2 “Towards a collaborative MRP for supply chain coordination” ****

Yue Ming, Bernard Grabot, Raymond Houé

FAII1.3 “Multi-Platform User Interface Models by means of the Abstract Platform Concept” ****

Matthias Freund, Annerose Braune

FAII1.4 “Controllability of holistic production control” ***

Miha Glavan, Dejan Gradisar

FAII1.5 “Input variable selection algorithms for HPC “ ***

Dejan Gradišar, Miha Glavan

FAII1.6 “On the Development of Sustainable Visualization Solutions in Industrial Automation through Domain Specific Languages” ****

Stefan Hennig, Annerose Braune

FAII1.7 “Re-Use of IEC 61131-3 Structured Text for IEC 61499” ****

Monika Wenger, Alois Zoitl

Monday, 19.03.2012

ICTSG1 Load Monitoring

Time: 10:00-11:30

Room: D

Chair(s): Efthimios Housos

ICTSG1.1 “Load Identification Method for Residential Building Applications” ****

Mario Gonzalez, Vincent Debusschere, Seddik Bacha

ICTSG1.2 “Signature of Residential Low Voltage Loads” ***

Aggelos S. Bouhouras, Georgios T. Andreou, Apostolos N. Milioudis, Dimitris P. Labridis

ICTSG1.3 “A Comparison of Support Vector Machines and Artificial Neural Networks for Mid-Term Load Forecasting” ****

Xinxing Pan, Brain Lee

ICTSG1.4 “A Novel Search Scheme for Nonintrusive Load Monitoring Systems” ***

Yi-Sheng Lai, Yung-Chi Chen, Shiao-Li Tsao, Tzung-Cheng Tsai

Monday, 19.03.2012

SISP1 Signal and Image processing

Time: 12:00-13:30

Room: A

Chair(s): Koushik Maharatna

SISP1.1 “An automated method for understanding road traffic signs in a video scene captured by a mobile camera”

Tomoya Uchida, Hiroshi Hanaizumi

SISP1.2 “A Flexible Method for Recognizing Four-Digit Numbers on A License-Plate in A Video Scene”

Kotaro Haneda, Hiroshi Hanaizumi

SISP1.3 “A Time-Domain Morphology and Gradient based Algorithm for ECG Feature Extraction”

Evangelos Mazomenos, Taihai Chen, Amit Acharyya, Arnab Bhattacharya, James Rosengarten, Koushik Maharatna

SISP1.4 “A New CAVLC Algorithm for Higher Bit Compression by Introducing the Concept of Position Coding of the Coefficients in H.264/AVC”

Amit Acharyya, Saransh Kothari, Jeff Reeve

Monday, 19.03.2012

ECSIA1 Hardware Aspects of Cyber-Physical Systems

Time: 12:00-13:30

Room: B

Chair(s): Sebastian Faltinski

**ECSIA1.1 “A Customizable Processor Architecture for a
Design Space Exploration Framework” *****

Filipe Salgado, Paulo Garcia, Tiago Gomes, Jorge Cabral,
Jose Mendes, Mongkol Ekpanyapong, Adriano Tavares

**ECSIA1.2 “MPSoC Design Approach of FPGA-based
Controller for Induction Motor Drive” *****

Slim Ben Othman, Ahmed Karim Ben Salem, Hedi
Abdelkrim, Slim Ben Saoud

**ECSIA1.3 “A Customizable and ARINC 653 Quasi-compliant
Hypervisor (CPU and Memory virtualization)” *****

Adriano Tavares, Adriano Carvalho, Pedro Rodrigues,
Paulo Garcia, Tiago Gomes, Jorge Cabral, Paulo Cardoso,
Sergio Montenegro, Mongkol Ekpanyapong

**ECSIA1.4 “Design and Implementation of a Home and
Building Gateway with Integration of
Nonintrusive Load Monitoring Meters” ******

Ming-Chun Lin, Yung-Chi Chen, Shiao-Li Tsao, Wenshiang
Tang

Monday, 19.03.2012

CSCI1 Robust Control and Motion

Time: 12:00-13:30

Room: C

Chair(s): Haitham Abu-Rub, Noriaki Hirose

**CSCI1.1 "Suppression of Roll Vibration for Personal
Mobility Robot using Driving Torque of Wheels"******

Noriaki Hirose, Kazutoshi Sukigara, Yuji Tsusaka

**CSCI1.2 "Hybrid Reinforcement Learning-based Approach
for Agent Motion Control" ******

Albert Albers, Hermann Sommer Obando, Christoph
Gudernatsch

**CSCI1.3 "An Approach for Fuzzy Frequency Response
Estimation of Flexible Robot Arm From
Experimental Data"******

Carlos Cesar Teixeira Ferreira, Ginalber Luiz de Oliveira
Serra

Monday, 19.03.2012

SSSSMIA1 Smart systems, harvesters and actuators

Time: 12:00-13:30

Room: D

Chair(s): Stoyan N. Nihtianov

SSSSMIA1.1 “Experimental Evaluation of Arm Motion Using Tri-axial Accelerometers based on Factorized Quaternion Approach” ****

Kay-Soon Low, Guo-Xiong Lee

SSSSMIA1.2 “Design, Modeling and Simulation of a Miniaturized Gas Ionization Sensor: Optimization of Structure and Operation” ****

Nicoleta Chivu, Mojtaba Kahrizi

SSSSMIA1.3 “Integrated design of a smart analog sun sensor with CMOS technology” ****

Francisco Delgado, Juan Garcia, Jose Manuel Quero, Cristina L. Tarrida, Pablo Ortega, Lluís Teres, Francesc Serra-Graells, Enric Cabruja

SSSSMIA1.4 “Antenna-based “Smart Skin” Sensors for Sustainable, Wireless Sensor Networks” ***

Hoseon Lee, George Shaker, Vasileios Lakafosis, Rushi Vyas, Trang Thai, Sangkil Kim, Xiaohua Yi, Yang Wang, Manos Tentzeris

SSSSMIA1.5 “AC analysis and simulation of smart electro-thermal microactuators” ****

Khaled Aggour, Lijie Li

Monday, 19.03.2012

REPS2 Energy management

Time: 14:30-16:00

Room: A

Chair(s): Efthimios Housos, Roberto Leidhold

REPS2.1 “Embedded Energy Management based on DC/DC Converters - Ultracapacitors and Fuel Cell” ****

Abdallah Tani, Mamadou Bailo Camara, Brayima Dakyo, Yacine Azzouz

REPS2.2 “Control Strategy for Photovoltaic-Wind Hybrid System Using Sliding Mode Control and Linear Parameter Varying Feedback” ****

Lila Croci, André Martinez, Patrick Coirault, Gérard Champenois

REPS2.3 “A new approach to model energy consumption of servers in Data Centers” ****

Ghaith Warkozek, Elisabeth Drayer, Vincent Debusschere, Seddik Bacha

REPS2.4 “Distributed Generation Power System Modeling in Nonlinear Hamiltonian form” ****

Konstantinos Krommydas, George Konstantopoulos, Michael Bourdoulis, Antonio T. Alexandridis

REPS2.5 “A Performance Analysis of Three Potential Control Network for Monitoring and Control of Power Electronics Converter” ****

Chuen Ling Toh, Lars E Norum

REPS2.6 “Multiport Converter with Integrated Energy Storage for Hydrogen Buffer Interfacing with Renewable Energy Systems” ****

Anna Andrijanovits, Andrei Blinov, Oleksandr Husev, Dmitri Vinnikov

Monday, 19.03.2012

- SSFDT2** **Process Control and Intelligent algorithms**
Time: 14:30-16:00
Room: B
Chair(s): Zeljko Djurovic
- SSFDT2.1** **“Parameter Estimation and Iterative Set-point Optimization of Continuous Annular Electrochromatography”** ****
Malte Behrens, Yi Yu, Sebastian Engell
- SSFDT2.2** **“To Robust Identification of Water Steam-separator Process in Thermal Power Plants”** ****
Goran. S Kvascev, Aleksandra Lj. Marjanovic, Predrag R. Tadic, Zeljko M. Djurovic
- SSFDT2.3** **“Fault Diagnosis for Steam Separators Based on Parameter Identification and CUSUM Classification”** ****
Predrag Tadić, Željko Đurović, Branko Kovačević, Veljko Papić
- SSFDT2.4** **“Polygonal Approximation of Digital Curves Using Genetic Algorithms”** ****
Paola B. Alvarado-Velazco, Victor Ayala-Ramirez
- SSFDT2.5** **A Classification of Mutational Approaches for Genetic Search”** ***
Drazen Draskovic, Bosko Nikolic, Veljko Milutinovic
- SSFDT2.6** **“A Classification and Comparison of Data Mining Algorithms for Wireless Sensor Networks”** ***
Staša Vujčić Stanković, Goran Rakočević, Nemanja Kojić, Dragan Milićev
- SSFDT2.7** **“A Survey on the Use of Mobile Agents in Wireless Sensor Networks”** ****
Ivan Vukasinovic, Zoran Babovic, Goran Rakocevic

Monday, 19.03.2012

CSCI2 Intelligent Tracking and Control

Time: 14:30-16:00

Room: C

Chair(s): Yen Shin Lai, Olivier Steiger

**CSCI2.1 "Tracking Control of Underactuated Mechanical
Systems Based on Controlled Lagrangians" *****

Zijun Liao, Wei Huo

**CSCI2.2 "Robustness Analysis of Indirect Adaptive Model
Predictive Control Supervised by Fuzzy Logic" *****

Jerry Mamboundou, Nicolas Langlois

**CSCI2.3 An ADALINE Neural Network with Truncated
Momentum for System Identification of Linear
Time Varying Systems" ******

Jung Kim, Wenle Zhang, Seung-Ki Ryu, Yoon-Seuk Oh

Monday, 19.03.2012

SSMBTE1 Model Based Testing

Time: 14:30-16:00

Room: D

Chair(s): Juergen Jasperneite

**SSMBTE1.1 “Software Product Line Testing: a Feature
Oriented Approach” *****

Beatriz Pérez, Oscar Díaz, Maider Azanza, Macario Polo

SSMBTE1.2 “Practical Model-Based Testing of User Scenarios”****

Vitaly Kozyura, Sebastian Wieczorek, Matthias Schur,
Andreas Roth

**SSMBTE1.3 “Externalizing Business Rules from Business
Processes for Model Based Testing” ******

Sujithra Sriganesh, Chandrashekar Ramanathan

**SSMBTE1.4 “Experiences in Setting up Domain-Specific
Model-Based Testing” ******

Teemu Kanstrén, Olli-Pekka Puolitaival, Veli-Matti Rytky,
Asmo Saarela, Janne Keränen

**SSMBTE1.5 “Quality Model based on ISO/IEC 9126 for
Internal Quality of MATLAB/Simulink/Stateflow
Models” ******

Wei Hu, Tino Loeffler, Joachim Wegener

SSMBTE1.6 “Flexible Debugging of Behavior Models” ****

Alexander Krasnogolowy, Stephan Hildebrandt, Sebastian
Wätzoldt

Monday, 19.03.2012

SISP2 Sensor Signal Processing

Time: 16:30-18:00

Room: A

Chair(s): Kostas Berberidis

**SISP2.1 “A Sensor Positioning Algorithm for the EMMON
Large Scale Wireless Sensor Network
Architecture” ******

Theodoros Fronimos, Loukas Petrou, George Hassapis

**SISP2.2 “Failure Detection and Validation of
Multifunctional Self-validating Sensor Using
WRVM Predictor” ******

Qi Wang, Zhengguang Shen, Fengyu Zhu

**SISP2.3 “Wireless Sensor Network Based Localization and
Threat Estimation of Hazardous Landfill Gas
Source” *****

Saurav Mitra, Siddhartha Dutttagupta, Kushal Tuckley,
Samsul Ekram

**SISP2.4 “Cooperative Transmission of Measurements in
WSN for Monitoring Applications” ******

Nikola Bogdanovic, Dimitris Ampeliotis, Kostas Berberidis

**SISP2.5 “A Network Reliability Oriented Event Detection
Scheme for Wireless Sensors and Actors
Networks” ******

Sofia-Maria Dima, Christos Antonopoulos, John Gialelis,
Stavros Koubias

**SISP2.6 “MAP Estimation of Two-Sided Gamma Random
Vectors in AWGN” ******

Pichid Kittisuwan, Thitiporn Chanwimaluang

Monday, 19.03.2012

- ECSIA2** **Aspects of Cyber-Physical Systems**
Time: 16:30-18:00
Room: B
Chair(s): Christos Koulamas
- ECSIA2.1** **“Developing Wireless Sensor Network Applications Based on a Function Block Programming Abstraction”** ***
Fotis Kerasiotis, Christos Koulamas, George Papadopoulos
- ECSIA2.2** **“AutomationML: From Data Exchange to System Planning and Simulation”** ****
Sebastian Faltinski, Natalia Moriz, Andre Mankowski, Oliver Niggemann
- ECSIA2.3** **“Use of Template Metaprogramming to Address the Heterogeneity of Video Surveillance Systems”** ***
Nuno Cardoso, Joao Vale, Jorge Cabral, Jose Mendes, Paulo Cardoso, Adriano Tavares, Joao Monteiro
- ECSIA2.4** **“A Layered E-Maintenance Architecture Powered by Smart Wireless Monitoring Components”** ****
Christos Emmanouilidis, Petros Pistofidis, Christos Koulamas, Dimitris Karampatzakis, Nikos Papathanassiou
- ECSIA2.5** **“Tolerating Transient Communication Faults with Online Traffic Scheduling”** ****
Luis Marques, Verónica Vasconcelos, Paulo Pedreiras, Luis Almeida

Monday, 19.03.2012

ICTSG2 Standards and Technologies

Time: 16:30-18:00

Room: C

Chair(s): Efthimios Housos

**ICTSG2.1 “Standards-compliant Event-driven SOA for
Semantic-enabled Smart Grid Automation:
Evaluating IEC 61850 and DPWS Integration” ******

Stjepan Sučić, Bernard Bony, Laurent Guise

**ICTSG2.2 “Utilizing Standards-based Semantic Services for
Modeling Novel Smart Grid Supervision and
Remote Control Frameworks” ******

Stjepan Sučić, Ante Martinić, Ana Kekelj

**ICTSG2.3 “Smart Grid Evolution through the exploitation of
Future Internet Networking concepts” ******

Athanasios Liakopoulos, Anastasios Zafeiropoulos,
Panagiotis Gouvas

**ICTSG2.4 “Hardware-In-The-Loop Validation of Energy
Managed Home Thermal Zone” ******

Rim Missaoui, Ghaith Warkozek, Stephane Ploix, Seddik
Bacha, Vincent Debusschere

Monday, 19.03.2012

SSFDT1 Processing and Estimation: Software and Hardware

Time: 16:30-18:00
Room: D
Chair(s): Veljko Milutinovic

SSFDT1.1 "Comparative Study of Two Robust Online Rotor Resistance Estimators for Induction Machine Adaptive Control" ***

Kenne Godpromesse, Lamnabhi-Lagarrigue Francoise

SSFDT1.2 "Operation Analysis of a Frequency Converter with Control Realized in LabView" ***

Ioan Baci, Corina Daniela Cuntan

SSFDT1.3 "Highlighting the Effects of an Active Filter on the Power Supply Lines of an Electric Locomotive, by Using the PSCAD Software" **

Corina Daniela Cuntan, Ioan Baci

SSFDT1.4 "An overview of Selected Hybrid and Reconfigurable Architectures" ***

Sasa Stojanovic, Dragan Bojic, Miroslav Bojovic, Mateo Valero, Veljko Milutinovic

SSFDT1.5 "A Survey of Dual Data Cache Systems" ****

Zivojin Sustran, Sasa Stojanovic, Goran Rakocevic, V. M. Milutinovic, Mateo Valero

Tuesday, 20.03.2012

REPS3 Grid operation and monitoring

Time: 10:00-11:30

Room: A

Chair(s): Yen-Shin Lai

REPS3.1 “Statistical Analysis for the Detection of Voltage Fluctuations in Distributed Synchronous Generation Using Extended Participations Factors” ****

Anna Giuglia M. Moraco, Tatiane C. C. Fernandes, Gabriel S. Garcia, Rodrigo A. Ramos

REPS3.2 “Harmonics Extraction of Nonlinear load operating in wide Frequency Variation” ****

Subhash Joshi T G, Aby Joseph, Unnikrishnan A Keloth

REPS3.3 “Look-Ahead Based Method for Selection of Preventive Control for Voltage Stability Analysis”****

Moussa R. Mansour, Luis F. C. Alberto, Rodrigo A. Ramos

REPS3.4 “Frequency Measurement with High Accuracy and Method for Harmonics Identification in Polluted Distribution Power Networks”****

Gwladys Chanedeau, Jean-Paul Gaubert, Laurent Rambault, Jean-François Tissier

REPS3.5 “Electrothermal Analysis of Overhead Power Lines” ****

Antonis Papagiannakis, Vasilis Chatziathanasiou, Ioannis Papagiannopoulos, Gilbert DeMey, Boguslaw Wiecek

Tuesday, 20.03.2012

RM2 Robotic Applications

Time: 10:00-11:30

Room: B

Chair(s): Stamatios Manesis, Saïd Seghloul

RM2.1 “The Artist Robot: A robot drawing like a human artist” ****

Jean-Pierre Gazeau, Saïd Zeghloul

RM2.2 “Improving the Accuracy of Industrial Robots by offline Compensation of Joints Errors” *****

Adel Olabi, Mohamed Damak, Richard Bearee, Olivier Gibaru, Stephane Leleu

RM2.3 “Building Wall Maintenance Robot Based on Built-in Guide Rail” *****

Sung-Min Moon, Daehie Hong, Sung-Won Kim, Sora Park

RM2.4 “Toward New Minimally Invasive Surgical Robotic System” ****

Med Amine Laribi, Marc Arsicault, Thomas Riviere, Saïd Zeghloul

Tuesday, 20.03.2012

**CSCI3 Applications of Computational Intelligence
and Control**

Time: 10:00-11:30

Room: C

Chair(s): Priyanka Darke, Francisco Bonin-Font

**CSCI3.1 Inverse Dynamics Control of Needle in Prostate
Brachytherapy" ******

Arash Maghsoudi, Mehran Jahed

**CSCI3.2 "Delay Identification and Control of Irrigation
Channels Using Pattern Search Algorithms" ******

Jorge Herrera, Asier Ibeas, Manuel de la Sen

**CSCI3.3 "Distributed Event-Triggered Robot Control
System over Controller Area Network" ******

Haklin A Kimm

**CSCI3.4 "A Real-time Control of Maglev System Using
Neural Networks and Genetic Algorithms" ******

Zhoobin Daghooghi, Mohammad Bagher Menhaj, Artin
Zomorodian, Ali Akramizadeh

**CSCI3.5 "Lessons Learned from a Simulated Environment
for Trains Conduction" *****

Denise Sato, André Borges, Allan Leite, Osmar Dordal,
Bráulio Ávila, Fabrício Enembreck, Edson Scalabrin

Tuesday, 20.03.2012

SSSSMIA2 MEMS, device characterization, and sensor elements

Time: 10:00-11:30

Room: D

Chair(s): Antonia Luque

SSSSMIA2.1 “Dynamic Analysis of an SOI based CMUT” ****

Tugrul Zure, Jonathan Hernandez, Sazzadur Chowdhury

SSSSMIA2.2 “Advanced Dielectric Charging Characterization in Capacitive MEMS” ****

Matroni Koutsourelis, Loukas Michalas, George Papaioannou

SSSSMIA2.3 “Minimization of Charge Sharing Effect in Silicon Hybrid Pixel X-Ray Detectors Based on Pattern Recognition Algorithm” ****

Piotr Maj, Alan Baumbaugh, Grzegorz Deptuch, Paweł Gryboś, Robert Szczygieł

Tuesday, 20.03.2012

SISP3 Sensor Instrumentation

Time: 12:00-13:30
Room: A
Chair(s): Alexios Birbas

**SISP3.1 “A Digitally Configurable Reference Capacitance
with Mismatch Compensation for Biosensor
Readout Circuits” ”**

Nikolaos Petrellis, Alexios Birbas

**SISP3.2 “Design and Implementation of a SHA-3
Candidate Skein-512 Hash/MAC Hardware
Architecture” ”**

George Athanasiou, Elias Tsingkas, Chara Chalkou, Harris
Michail, George Theodoridis, Costas Goutis

**SISP3.3 “Network Driven Cache Behavior in Wireless
Sensor Networks” ”**

Christos Antonopoulos, Christos Panagiotou, Georgios
Keramidas, Stavros Koubias

**SISP3.4 “Instrumentation system and digital signal
processing for studying the characteristics of the
acoustic and electrical signals generated by
partial discharges” ”**

Jesus Rubio-Serrano, Jose A. Garcia-Souto, Julio E. Posada

**SISP3.5 “Instrumentation system for acoustic detection of
multiple sources of partial discharges” ”**

Carlos Boya, Julio E. Posada, Jesus Rubio-Serrano, Jose A.
Garcia-Souto, Marta Ruiz-Llata

**SISP3.6 “Software radio FM Broadcast Receiver for Audio
Indexing Applications” ”**

Brunel Happi, Olivier Romain, Bruce Denby, Laurent
Benaroya, Francois De Dieuleveult, Bertrand Granado,
Houssein Kherimi, Gerard Chollet, Dijana Petrovska-
Delacretaz, Raphael Blouet

Tuesday, 20.03.2012

ECSIA3 Algorithmic Aspects of Cyber-Physical Systems

Time: 12:00-13:30
Room: B
Chair(s): Oliver Niggemann

ECSIA3.1 “A Blind Spot Warning System for Daytime and Nighttime Driver Assistance” ***

Bing-Fei Wu, Hao-Yu Huang, Ying-Han Chen, Chao-Jung Chen, Yen-Lin Chen

ECSIA3.2 “An empirical study of permutational genetic crossover and mutation operators on the fixed priority assignment in distributed real-time systems” ****

Ekain Azketa, Juan Pedro Uribe, Marga Marcos, Luis Almeida, J. Javier Gutiérrez

ECSIA3.3 “Diagnosis and Diagnosability Based on a Symptom Propagation and Transformation Model” ***

Dennis Klar, Michaela Huhn

ECSIA3.4 “Communication security and privacy in pervasive user-centric e-health systems using Digital Rights Management and side channel attacks defense mechanisms” ****

Andreas Papalambrou, Anastasios Fragopoulos, Dimitrios Tsitsipis, John Gialelis, Dimitrios Serpanos, Stavros Koubias

ECSIA3.5 “State Space Generation for Petri nets-based GALS Systems” **

Filipe Moutinho, Luís Gomes

Tuesday, 20.03.2012

CSCI4 Electro/mechanical Control Systems

Time: 12:00-13:30

Room: C

Chair(s): Bijnan Bandyopadhyay, Kay-Soon Low

**CSCI4.1 "Bandwidth-based Analysis and Controller Design
of Power Factor Corrector for Universal
Applications" *****

Yen-Shin Lai, Kung-Min Ho, Bo-Yuan Chen

**CSCI4.2 "Comparison of Robust Control Laws for a DC/DC
Ladder Multilevel Converter" *****

Andres Lopez, Diego Patino, Rafael Diez, Gabriel Perilla

**CSCI4.3 "Novel Dynamic Nonlinear Control Scheme for
Three-Phase AC/DC Voltage Source Converters" *****

George Konstantopoulos, Antonio T. Alexandridis

**CSCI4.4 "New Voltage Mode Control Method for the
Quasi-Z-Source-Based Isolated DC/DC
Converters" *****

Indrek Roasto, Dmitri Vinnikov

**CSCI4.5 "A Switching Observer Design Scheme for a
Double Effect Evaporator" *****

Fotis N. Koumboulis, Dimitrios G. Fragkoulis

Tuesday, 20.03.2012

SSMBTE2 Test Case Generation

Time: 12:00-13:30
Room: D
Chair(s): Barath Kumar

**SSMBTE2.1 “Model Based Test Case Generation for
Distributed Embedded Systems”** ***

Valentin Chimisliu, Franz Wotawa

SSMBTE2.2 “Test Generation for Large Automotive Models” ***

Venkatesh R., Ulka Shrotri, Priyanka Darke, Prasad Bokil

**SSMBTE2.3 “Model Based Testing using an Extended Context
Free Grammar”** ***

Pvr Murthy, M Mahesh

**SSMBTE2.4 “Using TTCN-3 as a Modeling Language for Web
Penetration Testing”** ***

Bernard Stepien, Liam Peyton, Pulei Xiong

**SSMBTE2.5 “Test Generation For Model Based Fieldbus
Profiles”** ****

Stephan Magnus, Christian Diedrich, Jan Krause

Tuesday, 20.03.2012

REPS4 Photovoltaics

Time: 15:00-17:00

Room: A

Chair(s): Seddik Bacha

REPS4.1 “PV powered water well in Rajasthan- India” ††

Dipesh D. Patel, Ziyad Salameh

**REPS4.2 “Ant Colony System Based PI Maximum Power
Point Tracking for Stand Alone Photovoltaic
System” †††**

Ahmad Besheer, Moustafa Adly

**REPS4.3 “Solar Irradiation Forecasting using RBF Networks
for PV Systems with Storage” ††**

Lucio Ciabattoni, Sauro Longhi, Gianluca Ippoliti, Marco Rocchetti, Matteo Cavalletti

**REPS4.4 “Experimental validation of PV power output
prediction models” ††**

André Coelho, Rui Castro

**REPS4.5 “Siting and Sizing of Photovoltaic Systems Subject
to Several Parameters” †††**

Aggelos S. Bouhouras, Kallisthenis I. Sgouras, Varvara N. Katsanou, Apostolos N. Milioudis, Dimitris P. Labridis

Tuesday, 20.03.2012

- EMD1** **Fault diagnosis and sensorless methods**
Time: 15:00-17:00
Room: B
Chair(s): Vitor Pires
- EMD1.1** **“Implementation of Sensorless Speed Control for Industrial Material Handling and Processing Applications based on Short Primary Linear Induction Motor”** ...
Tobias Rafael Fernandes Neto, Peter Mutschler
- EMD1.2** **“A New Approach for Overcoming Failure of Current Sensors in States Estimation of an Induction Motor”** ...
Hamed Tebianian, Behzad Moshiri, Seyyed Mohammad Taghi Nabavi
- EMD1.3** **“Sensorless Variable Speed Single-Phase Induction Motor Drive System”** ...
M. Caruso, V. Cecconi, A.O. Di Tommaso, R. Rocha
- EMD1.4** **“Fault Detection and Diagnosis of Voltage Source Inverter using the 3D Current Trajectory Mass Center”** ...
Vitor Fernao Pires, Tito Amaral, Joao Martins
- EMD1.5** **“Comparison Study between a Simple Sensorless Method and Adaptive Observer for DTC-SVM Five-Phase Induction Motor Drive”**
Belgacem Said Khaldi, Haitham Abu-Rub, Atif Iqbal, Ralph Kennel, Mohand Oulhadj Mahmoudi, Djamel Boukhetala
- EMD1.6** **“Rotor Fault Diagnosis in Induction Motors using S-Transform”** ...
Vitor Pires, Tito Amaral, Daniel Foito, Rastko Fiser, Vanja Ambrozicand, João Martins

Tuesday, 20.03.2012

FAII2 Applications & Reliability

Time: 15:00-17:00

Room: C

Chair(s): John Gialelis

FAII2.1 “Automatic detection of the truck position using stereoscopy” ***

Jernej Mrovlje, Damir Vrančić

FAII2.2 “Design and Implementation of HW/SW Platform for Electric Motorcycle” ***

Sung-Suk Jung, Jin-Ho Kim, Ho-Young Chung, Key-Ho Kwon, Jae-Wook Jeon

FAII2.3 "Physical Diagnostic For Profibus Dp Networks Based On Artificial Neural Networks" ***

Rafaela Souza, Eduardo Mossin, Dennis Brandão

FAII2.4 "Intelligent Diagnostic for PROFIBUS DP Networks" ***

Eduardo André Mossin, Dennis Brandão

FAII2.5 “Common Cause Failure Analysis of Fault Tolerance Systems with Diversity Defense Mechanism” ***

Kai Wang, Aidong Xu, Hong Wang, Yan Song, Zhanyuan Bai

FAII2.6 “Fault-Tolerant Controllers in Wireless Networked Control System using 802.11g” ***

Tarek K. Refaat, Ramez M. Daoud, Hassanein H. Amer

FAII2.7 “Safety monitoring system for a manufacturing workstation using Web Service Technologies” ***

Prasad Reddy Karipireddy, Axel Vidales Ramos, Jani Jokinen, Jose L. Martinez Lastra

Wednesday, 21.03.2012

REPS5 Power electronics control I

Time: 10:00-11:30

Room: A

Chair(s): Vitor Fernão Pires

**REPS5.1 “Direct Power Control for Various Topologies of
Three Phase Grid-Connected Voltage Sources
Converters Using Sliding Mode Control” *****

Senad Huseinbegović, Branislava Peruničić, Čedomir
Milosavljević, Boban Veselić

**REPS5.2 “Integration of individual DC/DC converters in a
renewable energy distributed architecture” ******

Pierre Petit, Michel Aillerie

**REPS5.3 “Development of Static Switch with High Speed
Algorithm to Fault Detection” *****

Carlos Bianchin, Matheus Silva Filho

**REPS5.4 “Effect of Redundant Sub-module Utilization on
Modular Multilevel Converters” *****

Georgios Konstantinou, Mihai Ciobotaru, Vassilios
Agelidis

**REPS5.5 Non-Linear Control of a Three-phase Front End
Converter” *****

Federico M. Serra, Cristian H. DeAngelo, Daniel G.
Forchetti, Guillermo O. Garcia

**REPS5.6 “Steady State Analysis of the Galvanically Isolated
DC/DC Converter with a Commutating LC Filter” *****

Janis Zakis, Dmitri Vinnikov, Ivars Rankis

Wednesday, 21.03.2012

RM3 Modelling and Control

Time: 10:00-11:30

Room: B

Chair(s): George Nikolakopoulos, M.Y. Ibrahim

**RM3.1 “A Switched System Modelling Approach for a
Pneumatic Muscle Actuator”** ***

George Andrikopoulos, John Arvanitakis, George
Nicolakopoulos, Stamatis Manesis

**RM3.2 “Modelling and Control Simulation of an
Unmanned Tilt Tri-Rotor Aerial Vehicle”** ***

Christos Papachristos, Anthony Tzes

**RM3.3 “Robust Control of Rotary Cranes under Rope
Length Variance via LMI Optimization”** ***

Shigenori Sano, Huimin Ouyang, Naoki Uchiyama

**RM3.4 “Kinematic Analysis of a Single Link Flexible
Manipulator”** **

Atef Ata, Eman Haraz, Abdel Fattah Rizk, Sarwat Hanna

**RM3.5 “Energy-Efficient Power Assisting Methods for
Periodic Motions and its Experimental
Verification”** **

Kazuyoshi Hatada, Kentaro Hirata

**RM3.6 “A Bio-Inspired Computational Language for
Kinesin Nanomotor”** ***

Hamidreza Khataee, Yousef Ibrahim

Wednesday, 21.03.2012

CSCI5 Optimum Tuning and Controllers

Time: 10:00-11:30

Room: C

Chair(s): Fotis Koumboulis, Ahmed Beskeer

CSCI5.1 "On the Automatic Tuning of PID Type Controllers via the Magnitude Optimum Criterion" ..

Konstantinos G. Papadopoulos, Nikolaos D. Tselepis, Nikolaos I. Margaritis

CSCI5.2 "Analytical Tuning Rules for Digital PID Type Controllers via the Magnitude Optimum Criterion" ..

Konstantinos G. Papadopoulos, Nikolaos D. Tselepis, Nikolaos I. Margaritis

CSCI5.3 "Automatic Tuning of PID Type-III Control Loops via the Symmetrical Optimum Criterion" ...

Konstantinos G. Papadopoulos, Eirini N. Papastefanaki, Nikolaos I. Margaritis

CSCI5.4 "Novel Iterative Formulation of Correlation-Based Tuning" ...

Mircea-Bogdan Radac, Bogdan-Stefan Cerveneak, Radu-Emil Precup, Alexandra-Iulia Stinean, Emil M. Petriu, Stefan Preitl, Claudia-Adina Dragos

CSCI5.5 "Periodic Output Feedback based Discrete-Time Sliding Mode Control for Multivariable Systems" ..

Lal Priya P S, Bijnan Bandyopadhyay

CSCI5.6 "Application of Feedforward Model Inverse Control Using MPC on a Non-Minimum Phase System" ...

Jerry Mamboundou, Nicolas Langlois

Wednesday, 21.03.2012

**SSCMD1 SS1 Condition Monitoring & Diagnostics -
Part 1**

Time: 10:00-11:30

Room: D

Chair(s): Abhisek Ukil

**SSCMD1.1 "Application of Multi-Fuzzy System for Condition
Monitoring of Liquid Filling Machines" ''**

Hafiz M Wasif, Farshad Fahimi, David Brown, Luke Axel-
Berg

**SSCMD1.2 "Multi-Domain Model of Induction Motor with
Stator Core Faults" ''''**

Pablo M. de la Barrera, Luis I. Silva, Cristian H. De Angelo,
Guillermo R. Bossio

**SSCMD1.3 "Toward Embedded Broken Rotor Bars Detection
in Induction Machines" ''**

Daniele Angelosante, Abhisek Ukil, Andrea Andenna

**SSCMD1.4 Power Quality Analysis Using Piecewise Adaptive
Prony's Method" ''**

Md. Shamim Reza, Mihai Ciobotaru, Vassilios G. Agelidis

Wednesday, 21.03.2012

REPS6 Power electronics control II

Time: 12:00-13:30

Room: A

Chair(s): Kay-Soon Low

REPS6.1 “Direct Model Predictive Control for Medium Voltage Modular Multi-level STATCOM with and without Energy Storage” ...

Fainan Hassan, Will Crookes

REPS6.2 “A Bi-directional, Isolated, Single-Stage, DAB-based AC-DC converter with Open-loop Power Factor Correction and Other Advanced Features” ...

Gysler Castelino, Kaushik Basu, Nathan Weise, Ned Mohan

REPS6.3 “An Alternative PI Controller Design Approach for PWM-regulated ac/dc three-phase Converters” ...

Ioannis Konstantakopoulos, Michael Bourdoulis, Antonio T. Alexandridis

REPS6.4 “Analysis and evaluation of power switch losses for three-port bidirectional DC-DC converter” ...

Laureano Enrique Piris-Botalla, Germán Gustavo Oggier, Andrés Miguel Airabella, Guillermo Oscar García

REPS6.5 “A Novel High-Voltage Half-Bridge Converter with Phase-Shifted Active Rectifier” ...

Andrei Blinov, Dmitri Vinnikov, Volodymyr Ivakhno, Oleksandr Husev, Volodymyr Zamaruev

Wednesday, 21.03.2012

- EMD2** **General design and drives**
Time: 12:00-13:30
Room: B
Chair(s): Jose Salvado
- EMD2.1** **“Improved Output Power Capability of Hybrid Excited Flux-Switching DC-Alternators: Analysis and Experiments”** ***
Benjamin Gaussens, Emmanuel Hoang, Philippe Manfe, Michel Lecrivain, Mohamed Gabsi
- EMD2.2** **“Hybrid Cascade Multilevel Inverter Using a Single DC Source for Open-End Winding Induction Motors”** **
Vitor Fernao Pires, Jose Fernando Silva
- EMD2.3** **“3D FEM Characterization of a Switched Reluctance Motor from Direct Experimental Determination of the Material Magnetization Curve”** **
Francisco Jose Perez-Cebolla, Abelardo Martinez-Iturbe, Bonifacio Martin-del-Brio, Eduardo Laloja Monzón, Sylvia Méndez Prince, Carlos Eduardo Montaña Salcedo
- EMD2.4** **“Magnetic Forces and Vibration in Permanent Magnet Machines with Non-Overlapping Concentrated Windings: A Review”** ***
Mostafa Valavi, Arne Nysveen, Robert Nilssen
- EMD2.5** **“Random Discontinuous Space Vector Modulation for Variable Speed Drives”** ***
Hamid Khan, El-Hadj Miliani, Hichame Ouzaarou, Khalil El Khamlichi Drissi
- EMD2.6** **“Improved Distributed System for Analysis of Vibrations in Linear Switched Reluctance Actuators”** **
Jose Salvado, Antonio Espirito Santo, Maria Calado

Wednesday, 21.03.2012

SISP4 Sensor Systems Applications

Time: 12:00-13:30

Room: C

Chair(s): Artur Krukowski

**SISP4.1 “Confirmation-Based Routing For Convergent
Traffic Intended for Urban Networks” ...**

Rodrigo Pantoni, Dennis Brandao

**SISP4.2 “Wireless Critical Process Control in Oil and Gas
refinery plants”**

Stefano Savazzi, Sergio Guardiano, Umberto Spagnolini

**SISP4.3 “A generic, cheap and portable platform for signal
processing experiments” ...**

Olivier Steiger, Bruno Grentzinger

**SISP4.4 “Segmentation and Reassembly Data Merge
(SaRDaM) Technique for Wireless Sensor
Networks” ...**

Dimitris Tsitsipis, Sofia-Maria Dima, Angeliki Kritikakou,
Christos Panagiotou, Stavros Koubias

**SISP4.5 “A Laboratory System to Produce a Highly
Accurate and Uniform Magnetic Field for Sensor
Calibration” ...**

Galina Mirzaeva, Robert Betz, Terrence Summers

**SISP4.6 Multi-sensor module for an unattended
surveillance system of public transportation
infrastructures” ...**

Panagiotis Foundas, Athanasios Kalogeras

Wednesday, 21.03.2012

**SSCMD2 SS1 Condition Monitoring & Diagnostics -
Part 2**

Time: 12:00-13:30
Room: D
Chair(s): Daniele Angelosante

**SSCMD2.1 "Sensor system for monitoring the planar tool
flange contact on the basis of ceramic resonators
and circular waveguide structures" ****

Stefan Bonerz, Wolfgang Bechteler, Josef Greif, Thomas
Eibert

**SSCMD2.2 "Electronic Front End for Rogowski Coil Current
Transducers with Online Accuracy Self
Monitoring" *****

Joris Pascal, Richard Bloch, Stéphane Isler, Lucas Georges

**SSCMD2.3 "Monitoring of Complex Industrial Processes
based on Self-Organizing Maps and Watershed
Transformations" ******

Christian Frey

**SSCMD2.4 "A Diagnostics Framework based on Abductive
Description Logic Reasoning" ****

Thomas M. Hubauer, Stephan Grimm, Steffen Lamparter,
Mikhail Roshchin

Wednesday, 21.03.2012

REPS7 Wind, Hydraulics

Time: 15:00-17:00

Room: A

Chair(s): Haitham Abu-Rub

**REPS7.1 “Nonlinear Head-Sensitive Hydroelectric
Generation Scheduling in Competitive Electricity
Market”** ***

Silvio Mariano, António Cerejo da Silva, Maria do Rosário
Calado, Luís Ferreira

**REPS7.2 “Dynamic Response of a Skystream Wind Turbine
to a Wind gust”** ***

Ambrosio Cultura II, Ziyad Salameh

**REPS7.3 “Investigation of the Operational Behaviour of a
Wind Energy Conversion System including Double
Fed Induction Generator in converter’s faulty
conditions”** ***

Dimitrios G. Giaourakis, Athanasios N. Safacas, Savvas N.
Tsotoulidis

**REPS7.4 “PR-Controller in a 2MW Grid Side Windpower
Converter”** ***

Andreas Uphues, Kilian Nötzold, Ralf Wegener, Stefan
Soter

Wednesday, 21.03.2012

EMD3 Control methods

Time: 15:00-17:00

Room: B

Chair(s): Dmitri Vinnikov

**EMD3.1 “High-Speed Positioning of a Linear Stage Using
Feedback Error Learning Control: Improvement of
Learning Time and Accuracy”** ..

Yukinori Nakamura, Kazuki Morimoto, Shinji Wakui

**EMD3.2 “Design of a Scalable FPGA Based Inverter for
Complex Drive Systems”** ...

Alexander Bartsch, Florian Senicar, Stefan Soter

**EMD3.3 “Dynamic Behavior of Two Power Supplies for a
FFC NMR Relaxometer”** ...

António Roque, Sónia Pinto, João Santana, Duarte Sousa,
Elmano Margato, José Maia

**EMD3.4 “Control of a Pneumatic Anti-Vibration Apparatus
under Long-Period Earthquake Ground Motion
Using SI Value”** .

Takahito Ogasahara, Yukinori Nakamura, Shinji Wakui

**EMD3.5 “Implementation of Floor Vibration Feedforward
Using an Absolute Displacement Sensor
Combined with Acceleration PI Feedback”** ...

Takashi Kai, Yukinori Nakamura, Shinji Wakui

**EMD3.6 “Flux Estimation of Permanent Magnet
Synchronous Motors based on a Graphical
Signature Generation Tool”**

Bilal Youssef, Jeremy Malaize, Wissam Dib

Wednesday, 21.03.2012

**CSCI6 Computational Intelligence in Regulation
and Forecasting**

Time: 15:00-17:00

Room: C

Chair(s): Diego Patino, Atef Ata

CSCI6.1 "Nonlinear PI Regulators" ...

Aldo Balestrino, Emanuele Crisostomi

**CSCI6.2 "State Feedback Control of Uncertain Networked
Control Systems with Disturbance attenuation" ..**

Masoumeh Azadegan, Mohammad T. H. Beheshti

**CSCI6.3 "Hourly server workload forecasting up to 168h
ahead using Seasonal ARIMA model" ...**

Van Giang Tran, Vincent Debusschere, Seddik Bacha

**CSCI6.4 "Finite Time Stabilization of Fractional Order
Uncertain Chain of Integrator: A Sliding Mode
Approach" ...**

Shyam Kamal, Arun Raman, Bijnan Bandyopadhyay

**CSCI6.5 "Short-Term Traffic Flow Forecasting by Mutual
Information and Artificial Neural Networks" ...**

Seyed Mohammad Hadi Hosseini, Behzad Moshiri,
Ashkan Rahimi-Kian, Babak Araabi

**CSCI6.6 "A Multistage Fuzzy Controller: Toolbox for
Industrial Applications" **

Bruno Costa, Clauber Bezerra, Luiz Affonso Oliveira