



## CONFERENCE PROGRAM

### The 10<sup>th</sup> IASTED European Conference on Power and Energy Systems (EuroPES 2011)

June 22 - 24, 2011

Crete, Greece

#### LOCATION

Aldemar Knossos Royal Village  
Anissaras, L. Hersonissou  
700 14 Crete, Greece

#### POWER AND ENERGY SYSTEMS (EuroPES 2011)

##### SPONSORS

The International Association of Science and Technology for  
Development (IASTED)

- Technical Committee on Energy and Power Systems

##### CONFERENCE CHAIR

**Prof. Perikles Bourkas** – National Technical University of  
Athens, Greece

##### CONFERENCE CO-CHAIR

**Dr. Emmanuel Koufakis** – Public Power Corporation S.A.,  
Greece

##### KEYNOTE SPEAKER

**Prof. T. Korakianitis** - Queen Mary University of London,  
UK

##### INTERNATIONAL PROGRAM COMMITTEE

**N.A. Ahmed** – College of Technological Studies, Kuwait

**I. Al-Bahadly** – Massey University, New Zealand

**M. Al-Dabbagh** – International Power Consulting and  
Training, Australia

**T. Alexander** – Queen Mary University of London, UK

**M. Al-Nimr** – Jordan University of Science and Technology,  
Jordan

**L. Aye** – University of Melbourne, Australia

**O. Barambones** – University of the Basque Country, Spain

**J. Barros-Guadalupe** – University of Cantabria, Spain

**M.M. Begovic** – Georgia Tech, USA

**J.P. Catalão** – University of Beira Interior, Portugal

**L.R. Chang-Chien** – National Cheng Kung University,  
Taiwan

**J. Choi** – Chungbuk National University, Korea

**M. Cordeiro** – University of Trás-os-Montes and Alto  
Douro, Portugal

**D. Cruz** – Federal University of Santa Catarina, Brazil

**D. Czarkowski** – Polytechnic Institute of NYU, USA

**J. Desmet** – Howest, Belgium

**P. Erickson** – University of California, Davis, USA

**R. Faranda** – Politecnico di Milano, Italy

**J. Ferreira** – Institute Polytechnic of Porto, Portugal

**E. Fuchs** – University of Colorado at Boulder, USA

**A.M. Gadomski** – Italian National Agency for New  
Technologies, Energy and the Environment, Italy

**T. Gómez San Román** – Comillas Pontifical University,  
Spain

**J.M. Guerrero** – Escola Universitària d'Enginyeria Tècnica  
Industrial de Barcelona, Spain

**C. Halevidis** – National Technical University of Athens,  
Greece

**T. Hammons** – University of Glasgow, UK

**M. Heidenreich** – University of Applied Sciences Wiener  
Neustadt, Austria

**H. Inhaber** – Risk Concepts, USA

**S. Jangamshetti** – Basaveshwar Engineering College, India

**N. Jenkins** – Cardiff University, UK

**B.K. Johnson** – University of Idaho, USA

**D. Jovcic** – University of Aberdeen, UK

**A. Kalam** – Victoria University, Australia

**S. Kaplanis** – Technological Educational Institute of Patras,  
Greece

**C. Karagiannopoulos** – National Technology University of  
Athens, Greece

**Y. Karnavas** – Technological Educational Institution of  
Crete, Greece

**H. Kim** – SoonChunHyang University, Korea

**J.L. Kirtley** – Massachusetts Institute of Technology, USA

**W. Kling** – Eindhoven University of Technology, The Netherlands  
**E. Koufakis** – Public Power Corporation S.A., Greece  
**L.L. Lai** – City University, UK  
**Z. Leonowicz** – Wroclaw University of Technology, Poland  
**Y.C. Liang** – National University of Singapore, Singapore  
**T. Lin** – Wuhan University, PR China  
**M. Majstrovic** – Energy Institute Hrvoje Pozar, Croatia  
**J.A. Martinez Velasco** – Polytechnical University of Catalonia, Spain  
**J. Milanovic** – The University of Manchester, UK  
**V. Miranda** – INESC Porto and University of Porto, Portugal  
**M. Moghavvemi** – University of Malaya, Malaysia  
**J. Munda** – Tshwane University of Technology, S. Africa  
**P. Niklas** – Gdansk University of Technology, Poland  
**C. Papageorgiou** – National Technical University of Athens, Greece  
**I. Papic** – University of Ljubljana, Slovenia  
**J.K. Park** – Seoul National University, Korea  
**J. Pasupuleti** – Universiti Tenaga Nasional, Malaysia  
**A. Pigazo Lopez** – University of Cantabria, Spain  
**A. Plesca** – Gheorghe Asachi Technical University of Iasi, Romania  
**G.A. Plokamakis** – Public Power Corporation S.A., Chania Region, Greece  
**K. Polykrati** – National Technical University of Athens, Greece  
**C. Psomopoulos** – Technological and Educational Institution of Piraeus, Greece  
**I.J. Ramirez-Rosado** – University of Zaragoza, Spain  
**N.H. Rashidi** – Virginia State University, USA  
**G. Redlarski** – Gdansk University of Technology, Poland  
**C. Romualdo-Torres** – Institute of Electrical Research, Mexico  
**A.K. Saha** – University of KwaZulu-Natal, S. Africa  
**Z. Salameh** – University of Massachusetts-Lowell, USA  
**E. Santini** – Sapienza University of Rome, Italy  
**S. Santoso** – University of Texas at Austin, USA  
**H. Shaalan** – US Merchant Marine Academy, USA  
**Y.I. Sharaf-Eldeen** – Florida Institute of Technology, USA  
**K. Sheng** – Rutgers, the State University of New Jersey, USA  
**I. Smith** – Loughborough University, UK  
**O. Soares** – Polytechnic Institute of Bragança, Portugal  
**T.J. Sobczyk** – Krakow University of Technology, Poland  
**H. Sugihara** – Osaka University, Japan  
**J. Talaq** – University of Bahrain, Bahrain  
**C.C. Tong** – Chienkuo Technology University, Taiwan  
**P. Tusaliu** – University of Craiova, Romania

**P. Van Rhyn** – University of Johannesburg, S. Africa  
**I.A. Wasiak** – Technical University of Lodz, Poland  
**K.L. Wen** – Chienkuo Technology University, Taiwan  
**C. Yu** – The Hong Kong Polytechnic University, PR China

## ADDITIONAL PAPER REVIEWERS

**D. K. Chaturvedi** – DEI, India  
**R. Cossent** – Instituto Investigacion Tecnológica, Spain  
**C. Dias** – Politénico do Porto, Portugal  
**T. Jin** – Texas State University, USA  
**C. Mateo** – Instituto Investigacion Tecnologica - Comillas U., Spain  
**S. Okamoto** – Shimane University, Japan  
**J. Puga** – ISEP-IPP, Portugal  
**S. Rimkevicius** – Lithuanian Energy Institute, Lithuania  
**T. Siewierski** – Electrical Power Engineering Institute, Poland  
**H. Zhou** – Yushulin Oilfield Company Limited of Daqing, PR China

## PLEASE NOTE

- ❖ Paper presentations are 15 minutes in length with an additional 5 minutes for questions.
- ❖ Report to your Session Chair 15 minutes before the session is scheduled to begin.
- ❖ Presentations should be loaded onto the presentation laptop in the appropriate room prior to your session.
- ❖ End times of sessions vary depending on the number of papers scheduled.

## PROGRAM OVERVIEW

### Wednesday, June 22, 2011

- 07:00 – Registration  
(Lobby)
- 08:00 – EuroPES Welcome Address  
08:15 (Hermes Room)
- 08:15 – EuroPES Session 11 – Strategies and Electricity  
Markets  
(Grand Room)
- 08:30 – EuroPES Session 9 – Reliability Modelling and  
Simulation  
(Hermes Room)
- 10:00 – Coffee Break  
10:30 (Lobby)
- 10:30 – EuroPES Session 9 Continued  
(Hermes Room)
- 10:30 – EuroPES Session 12 – Testing of Electrotechnical  
Apparatus  
(Grand Room)
- 12:30 – Lunch Break  
(Self-Catered)
- 14:00 – EuroPES Keynote Speaker – “Global Energy Review,  
and the Role of Future Biofuels and Surrogate Fuels”  
– Prof. T. Korakianitis  
(Hermes Room)
- 15:00 – Coffee Break  
15:30 (Lobby)
- 15:30 – EuroPES Session 4 – Distribution Systems  
(Hermes Room)

### Thursday, June 23, 2011

- 08:15 – EuroPES Session 5 – Power Electronics  
(Hermes Room)
- 10:30 – Coffee Break  
11:00 (Lobby)
- 11:00 – EuroPES Session 13 – Applications  
(Grand Room)
- 11:00 – SIPA/EuroPES Keynote Speaker – “Imaging  
Industrial Processes by Electrical Capacitance  
Tomography” – Prof. Wuqiang Yang  
(Orpheas Room)
- 12:00 – Lunch Break  
(Self-Catered)
- 14:00 – EuroPES Session 2 – Renewable Energy I  
(Hermes Room)
- 14:00 – EuroPES Session 6 – Energy Storage  
(Grand Room)
- 15:00 – Coffee Break  
15:30 (Lobby)
- 15:30 – EuroPES Session 6 Continued  
(Grand Room)
- 16:15 – EuroPES Session 7 – Electrical Safety  
(Grand Room)
- 18:45 – Dinner Banquet  
(Meet at the Hotel Lobby)

## Friday, June 24, 2011

- 8:30 – EuroPES Session 3 – Renewable Energy II  
(Hermes Room)
- 10:30 – Coffee Break  
11:00 (Lobby)
- 11:00 – EuroPES Session 3 Continued  
(Hermes Room)
- 12:00 – Lunch Break  
(Self-Catered)
- 14:00 – EuroPES Session 1 – Power System Operation  
(Grand Room)
- 14:00 – EuroPES Session 10 - FACTS  
(Hermes Room)
- 15:30 – Coffee Break  
16:00 (Lobby)
- 16:00 – EuroPES Session 1 Continued  
(Grand Room)
- 16:00 – EuroPES Session 8 – Energy Efficiency  
(Hermes Room)

## Saturday, June 25, 2011

- 8:45 – Aldemar Knossos Royal Tour  
(Meet at Hotel Lobby)

## Wednesday, June 22, 2011

### 07:00 – REGISTRATION

Location: Lobby

### 08:00 – 08:15 EUROPE'S WELCOME ADDRESS

Location: Hermes Room

### 08:15 – EUROPE'S SESSION 11 – STRATEGIES AND ELECTRICITY

Chair: Prof. G. Malabias (Greece) & Mr. Ryo Eto (Japan)

Location: Grand Room

714-101

Environmental/Economic Load Dispatch under Carbon Reduction Policies with Particle Swarm Optimization

Jae-Kun Lyu, Wook-Won Kim, Yong-Tae Yoon, and Jong-Keun Park (Korea)

714-159

An Investigation of Strategic Behavior by a Reserve Provider in the Joint Energy and Reserve Market

Kai Liu, Jin Zhong (PR China), David P. Camara (Spain), and Yunbe Hou (PR China)

714-161

Co-Benefits of Internalizing Local Air Pollution Costs in India's Power Sector

Ryo Eto, Akinobu Murata, Yohji Uchiyama, and Keiichi Okajima (Japan)

714-013

A Fuzzy Controller based Demand-Side Management System Design for Optimization of Induction Furnaces

Lungile Nyanga and Samson Mblanga (Zimbabwe)

714-077

A Statistical Approach in Determining the Electrical Short Term Demand in a Rapid Railway System

Grant Manuel and Jan-Harm C. Pretorius (S. Africa)

714-084

Determination of Tariff for Wheeling Contracts considering Fairness Congestion Cost Allocation

Amir Bashian, Toktam Sharifian Attar,

Mohammad Hossein Javidi, and Mehrdad Hojat (Iran)

**08:30– EUROPE SESSION 9– RELIABILITY  
MODELLING AND SIMULATION**

*Chair: Dr. Ron Herman (South Africa)*

*Location: Hermes Room*

714-044

Procedure for Investigating the Planned and Operational Reliability of Transmission Networks with

*Ron Herman, Charles T. Gaunt, and*

*Milton Edimu (S. Africa)*

714-050

Appropriate Statistical Load Models for Light Industrial Electrification

*Pierre van Rhyen, Jan-Harm Pretorius, and Ronald Herman*

*(S. Africa)*

714-051

Derivation of Electrical Design Algorithms for Light Industrial Parks

*Pierre van Rhyen, Jan-Harm Pretorius, and Ronald Herman*

*(S. Africa)*

714-087

Physical Modeling and Laboratory Testing of Cairo-Aswan 3-Phase High Voltage Transmission Line

*Rania M. Sharkawy (Egypt)*

714-129

Development of Methodology for Assessment of Reliability of Pipeline Networks

*Sigitas Rimkevicius, Algirdas Kaliatka, Mindaugas Valincius,*

*Gintautas Dundulis, Albertas Grybenas,*

*and Inga Žutautaitė-Šeputiene (Lithuania)*

714-178

Modelling and Simulation of Combined Cycle Power Plants Participating in Network Frequency

*Mohammad Hadi Mazhab Jafari, Ali Mazhab Jafari, and*

*Kamal Saidabadi (Iran)*

714-191

Model Structure of Generalized Load and Combined Method for Parameter Determination

*Yuqing Jin, Changpei Gao, Bin Sun, Guosong Wang, Ping Ju,*

*and Xiaowen Gu (PR China)*

714-197

Numeric Oscillations Decreasing in Electromagnetic Transient Simulations due to the Variation of the Circuit Quantity used for the Transmission Line Representation

*Leonardo S. Lessa, Afonso J. Prado, Sérgio Kurokawa,*

*José Pissolato Filho, and Luiz F. Bovolato (Brazil)*

**10:00 – 10:30 - COFFEE BREAK**

*Location: Lobby*

**10:30 – EUROPE SESSION 9 CONTINUED**

*(Hermes Room)*

**10:30 – EUROPE SESSION 12 – TESTING OF  
ELECTROTECHNICAL APPARATUS**

*Chair: Dr. Peris Halaris (Greece) &*

*Miss Fotini Karagrigoriou (Greece)*

*Location: Grand Room*

714-017

Determination of Overvoltages in High Voltage Networks at Single Phase Faults by Numerical Simulation and Experiments

*Curcanu George, Toader Dumitru, and Toaxen Vasile*

*(Romania)*

714-086

Application of Modified Sequential Floating Forward Feature Selection to Partial Discharge Patterns

*Rania M. Sharkawy and Karim I. Mohamedeen (Egypt)*

714-162

Partial Discharges Measurements on Coated and Non-Coated Solid Dielectric in Air

*George K. Soulinaris, Constantinos D. Halevidis,*

*Fotini S. Karagrigoriou, Peris G. Halaris, and*

*Perikles D. Bourkas (Greece)*

714-109

Consumed Electrical Power in Fuse Cases of Low Voltage Electrical Boards

*Fotini S. Karagrigoriou, Panagiotis I. Mouzakitis,*

*John D. Koustellis, Emmanuel I. Koufakis, and*

*Constantinos G. Karagiannopoulos (Greece)*

714-169

The Average Value of Electronic Energy during Dielectric Ageing of Polymeric Solid Insulators under HVAC Stress

*Peris G. Halaris, John S. Katsanis, George K. Soulinaris, John D. Koustellis, and Aikaterini D. Polykrati (Greece)*

### 12:30 – LUNCH BREAK

*Self-Catered*

### 14:00 – EUROPE'S KEYNOTE SPEAKER – “GLOBAL ENERGY REVIEW, AND THE ROLE OF FUTURE BIOFUELS AND SURROGATE FUELS”

*Presenter: Prof. T. Korakianitis (UK)*

*Location: Hermes Room*

The current global power use is about 15 TW (annual energy use about 500 EJ), and about 14% of this use is for transportation. The global potentials are as follows: 1-2 TW hydroelectric; less than 1 TW wave and tidal; 70 TW wind; well over 100 TW solar photovoltaic; and much larger amounts in geothermal energy. Air, sea, and long-distance land transportation needs require the use of high power-density powerplants, and liquid fuels of energy density similar to current fossil fuels. Only about 25% of future transportation needs can be met with second- and higher-generation biofuels. In the future we will likely generate surrogate liquid fuels from electricity, derived in turn from sustainable energy sources (wind, solar and geothermal). It is concluded that: we have adequate sustainable-energy supply to meet the future global energy demands; and the real threat is future lack of water and food as a result of unsustainable human population growth.

**Professor Theodosios Korakianitis** (a.k.a. Theodosios Alexander) accepted the Chair of Energy Engineering at Queen Mary, University of London in 2006. From 2001-2006 he was the James Watt Professor of Mechanical Engineering at the University of Glasgow, Scotland, United Kingdom. Before Glasgow he was on the faculty of the Mechanical Engineering Department at Washington University in St. Louis, Missouri, USA. His research concentrates in thermal/fluid sciences and applications on the design of power and propulsion systems, energy conversion systems, renewable energy, engineering systems and components, with emphasis on analysis; design; and their steady, unsteady and transient performance. His personal research concentrates on unsteady thermo-fluid dynamics and unsteady transport phenomena within the above themes. He is active in several international consulting activities.

### 15:00 – 15:30 COFFEE BREAK

*Location: Lobby*

### 15:30 – EUROPE'S SESSION 4 – DISTRIBUTION SYSTEMS

*Chair: Prof. Thales Papazoglou & Mr. George Soulinaris (Greece)*

*Location: Hermes Room*

714-003

Fuzzy Modeled Load Flow Solution for Unbalanced Radial Power Distribution System

*Mini S. Thomas, Rakesh Ranjan (India), and Roma Raina (UAE)*

714-034

A New BPSO based Approach for Locating of Fault Indicators in Distribution Networks

*Vahid Rashtchi, Ahmad Ashouri, and Amir Bagheri (Iran)*

714-045

Considerations about a New Type of High Breaking Capacity Fuses

*Adrian Plesca and Alina Scintee (Romania)*

714-068

Research and Practise of Intelligent service restoration on county distribution system

*Huajian Hu, Huan Qi, and Xuncheng Huang (PR China)*

714-071

Review of Magnetic Ballast Discharge Lamp Models

*Julio Molina (Venezuela), Juan Jose Mesas, and Luis Sainz (Spain)*

714-072

Experimental Measurements of Fluorescent Lamp Harmonic Current Emissions and Their Impact on Neutral Current

*Jordi Cunill-Solà, Juan Jose Mesas, and Luis Sainz (Spain)*

714-056

The Economical PQMS Construction Case in the Distribution Power System

*Yong-Up Park, Byung-Sung Lee, and Won-Suk Choi (Korea)*

714-200

The inclusion of a fuel cell model in a power flow algorithm

*Gladis G. Suarez-Velazquez, Jazmin Ortiz- Guerrero, and Cesar Angeles-Camacho (Mexico)*



**Thursday, June 23, 2011**

**08:15 – EUROPE'S SESSION 5 – POWER ELECTRONICS**

*Chair: Dr. Jiri Kubin (Czech Republic)*

*Location: Hermes Room*

714-012

Study of a Three-Phase Shunt Active Power Filter Controlled using the Method of "Equivalent Sinusoid"

*Mihail H. Antchev, Vanjo T. Gourgoulitsov, Mariya P. Petkova, and Hristo M. Antchev (Bulgaria)*

714-116

Application of Wavelet Packets in Power Line Communications

*Ehsan Sheybani and Nasser Rashidi (USA)*

714-145

Consumption of the Electric Energy at Tramway with Resistors and Transistors Control

*Jiri Kubin (Czech Republic)*

714-156

Study, Design and Implementation of A High Efficiency AC-DC-AC SMPS with Soft Switching Characteristics

*Fernando L. Tofoli and Carlos A. Gallo (Brazil)*

714-175

A Marine Electric Propulsion System with Poly-Phase Permanent Magnet Synchronous Motor under Full and Partial-Phase Operation

*Mikhail V. Pronin, Aleksey G. Vorontsov, Grigorii A. Gogolev, and Lidia I. Osipova (Russia)*

714-179

A Decaying DC-Offset Filtering Scheme based on the Stationary Wavelet Transform

*Adedayo A. Yusuff, Adisa A. Jimoh, and Josiah L. Munda (S. Africa)*

**10:30 – 11:00 COFFEE BREAK**

*Location: Lobby*

**11:00 – EUROPE'S SESSION 13 - APPLICATIONS**

*Chairs: Mr. Panagiotis Mouzakitis (Greece)*

*Location: Grand Room*

714-067

H<sub>2</sub>S Removal Capacity and Structural Properties of Iron-based Composite Sorbent

*Ailing Ren, Junyan Sun, Bin Guo, Yuhui Zhao, and Miaomiao Zhang (PR China)*

714-076

Nano-Pt(Ni)/TiO<sub>2</sub>-NTs Electrocatalysts for Borohydride Oxidation

*Loreta Tamašauskaite-Tamašiunaite, Rasa Cekaviciute, Dijana Šimkunaite, and Algirdas Selskis (Lithuania)*

714-158

Conversion of Glycerol to Gasoline Additive

*Michio Ikura (Canada)*

**11:00 – SIPA/EUROPE'S KEYNOTE SPEAKER – "IMAGING INDUSTRIAL PROCESSES BY ELECTRICAL CAPACITANCE TOMOGRAPHY"**

*Presenter: Prof. Wuqiang Yang (UK)*

*Location: Orpheas Room*

Electrical capacitance tomography (ECT) is an imaging technique for industrial applications. The basic principle of ECT is to measure capacitance from multiple capacitance electrodes, which surround a dielectric process, and to reconstruct cross-sectional images, aiming to visualise the dielectric process. The internal information, which can be obtained by ECT, is valuable for understanding complicated processes, verifying computational fluid dynamic (CFD) models, measurement and control. Compared with other industrial tomography modalities, ECT is the most mature and offers advantages of no radiation, rapid response, non-intrusive and non-invasive, withstanding high temperature and high pressure and low-cost.

ECT has been used for many challenging industrial applications, such as gas/oil/water flows in oil pipelines, wet gas separators, pneumatic conveyors, cyclone separators and fluidised beds. In particular, fluidised beds in the pharmaceutical industry are currently operated by trial-and-error, because of the lack of online measurement tools. As a result, the operation of the pharmaceutical fluidised beds cannot be optimised, the operation efficiency is low, and more importantly the product quality cannot be guaranteed. ECT has been used in pharmaceutical fluidised beds

successfully. Test results of drying, granulation and coating processes on lab-scale, semi-industrial-scale and production-scale fluidised beds are promising.

In this keynote, the principle of ECT, including image reconstruction algorithms, will be briefly introduced. Some industrial applications, in particular pharmaceutical fluidised beds, and issues related to image processing will be discussed, together with a demonstration of an ECT system.

**Professor Wuqiang Yang** received BEng (with Distinction), MSc and PhD (with Distinction) degrees from Tsinghua University in Beijing. After 3 years Lecturer at Tsinghua University, he joined UMIST in 1991 and currently he is a Professor at The University of Manchester. His main research interests include industrial process tomography, especially electrical capacitance tomography (ECT), image reconstruction, sensing and data acquisition systems, electronic circuit design, instrumentation and multiphase flow measurement. Professor Yang is a Chartered Engineer, Fellow of IEE and Senior Member of IEEE. He has published 250 papers, including review articles and he reviews papers for 30 journals. He is a Visiting Professor/Science Advisor in 6 universities/organisations and an editorial board member of 4 journals. He received 1997 IEE Measurement Prize, 1997 Honeywell Prize from the Institute of Measurement and Control, 2000 IEE Ayrton Premium and 2009 IET Innovation Award Finalist. His biography has been included in Who's Who in the World, Who's Who in Science and Engineering and Who's Who in America since 2002. He is recognised by International Center for Scientific Research (France) as one of top 30 technology researchers in the world. In 2010, he was appointed IEEE Instrumentation and Measurement Society Distinguished Lecturer.

## 12:00 – LUNCH BREAK

*Self-Catered*

## 14:00 – EUROPE'S SESSION 2 – RENEWABLE ENERGY I

*Chair: TBA*

*Location: Hermes Room*

714-021

TejWell Dam

*Tejinder Singh (India)*

714-026

Case Study: Hydroelectric Generation Employing the Water Distribution Network in Pato Branco, Brazil

*Bruno Leonardo Alves da Silva, Jean-Marc S. Lafay, Fernando L. Tofoli, and Luiz Silvio Scartazzini (Brazil)*

714-052

Floating Solar Chimney Technology Scale Analysis

*Christos D. Papageorgiou, Michael Psalidas, and Sotiris Sotiriou (Greece)*

714-064

Floating Solar Chimney Technology with Multi-Pole Generators

*Christos D. Papageorgiou, Sotiris Sotiriou, and Michael Psalidas (Greece)*

714-083

Geo-Spatial Planning and Optimal Placement of Renewable Energy Systems

*Sergey Malinchik (USA)*

714-147

Wind Farm Placement in Order to Congestion Management using Generation Shift Distribution Factors

*Seyyed Zeinolabedin Moussavi, Ali Badri, and Fazlollah Rastegar Kashkooli (Iran)*

714-167

A Preliminary Study of Oil Palm Fronds for Gasification Process

*Shaharin A. Sulaiman, Samson M. Atnaw, and Mohamad N.Z. Moni (Malaysia)*

714-181

The Main Features of Treska Cascade Control Center

*Vangel V. Fustik and Nevenka Kiteva Rogleva (FYROM)*

714-120

Evaluation of Industrial Wastes and Effluents for Biomass Production under a New Process

*João C.A.R. Claro and Darinka Costa-Gonzalez (Portugal)*

## 14:00 – EUROPE'S SESSION 6 – ENERGY STORAGE

*Chair: Dr. A.K. Saha (S. Africa) & Miss Shuang Yu (UK)*

*Location: Grand Room*

714-024

Modelling and Simulation of SOFC System

*Jabulisile S. Mavundla, Akshay K. Saha, Nelson M. Ijumba, Leon Chetty, and Edward Chikuni (S. Africa)*



714-085  
Effect of Round Trip Efficiency (RTE) on the Economic Performance of Energy Storage Systems  
*Basem R. Alamri (Saudi Arabia)*

714-088  
Improvement of Stability of Large Scale Wind Power Plant by Grading Energy Storage System  
*Yuanyuan Xu, Huan Qi, and Suqin Sun (PR China)*

714-089  
Effects on Grid Usage and Sizing of a Battery Model using Persistence Estimation Optimization  
*Filip Andrén, Matthias Stifter, and Johannes Kathan (Austria)*

714-128  
Long-Term Hydrogen Storage Approach for 5MW Micro-Power Generator using Wind Turbines  
*Shuang Yu, Tim J. Mays, and Roderick W. Dunn (UK)*

### **15:00 – 15:30 COFFEE BREAK**

*Location: Lobby*

### **15:30 – EuroPES Session 6 Continued**

*(Grand Room)*

### **16:15 – EUROPE SESSION 7 – ELECTRICAL SAFETY**

*Chair: Dr. Katerina Polykrati (Greece) & Mr. Constantinos Halevidis (Greece)*

*Location: Grand Room*

714-114  
Protection of Technical Personnel from Electromagnetic Field during the Electrical Devices Overheating Test  
*John D. Koustellis, Fotini S. Karagrigoriou, Panagiotis I. Mouzakitis, Aikaterini D. Polykrati, and Perikles D. Bourkas (Greece)*

714-190  
Protective Measures against Electrical Hazards of Consumer Installations  
*John D. Koustellis, Aikaterini D. Polykrati, John S. Katsanis, Peris G. Halaris, and Perikles D. Bourkas (Greece)*

714-062  
Protection from the Abruption of the Concentric Supply Cable  
*Constantinos D. Halevidis, Aikaterini D. Polykrati, Constantinos G. Karagiannopoulos, and Perikles D. Bourkas (Greece)*

714-063  
Causes of Conductor Abruption during Normal Weather Conditions  
*Constantinos D. Halevidis, Constantinos G. Karagiannopoulos, and Perikles D. Bourkas (Greece)*

714-118  
Causes of the Melting Image of a Conductor of Low Voltage Power Line Network  
*Aikaterini D. Polykrati, Constantinos D. Halevidis, Eleftherios G. Psarros, Emmanuel I. Koufakis, and Perikles D. Bourkas (Greece)*

714-193  
Feasibility of Fire Ignition from Molten Particles of Electrical Appliances  
*Panagiotis I. Mouzakitis, Constantinos D. Halevidis, George K. Soulinaris, John D. Koustellis, and Emmanuel I. Koufakis (Greece)*

714-187  
Electrical Energy Consumptions in Hospitals - The Case of Lifts  
*John S. Katsanis, George N. Malahias, John D. Koustellis, and Peris G. Halaris (Greece)*

### **18:45 – DINNER BANQUET**

*Meeting Place: Hotel Lobby*

## Friday, June 24, 2011

### 08:30 – EUROPE SESSION 3 – RENEWABLE ENERGY II

*Chair: Dr. Yahia Baghzouz (USA)*

*Location: Hermes Room*

714-009

A Grid-Connected PV System based on the Buck Converter

*Joyce O. Gaio, Filipe R. Motta, João P.A. Grastiquini, Fernando L. Tofoli, and Carlos A. Gallo (Brazil)*

714-061

Developmental and Grid-Parity Analysis of the Photovoltaic Industry of Taiwan

*Yenhaw Chen, Eve Hoadley, Chunto Tso, and Yen-Lin Chen (Taiwan)*

714-073

The Contribution of a PV Inverter in a Microgrid

*Anastasia Adamopoulou, Wolf G. Früh (UK), and Maria Samarakou (Greece)*

714-098

Isolated Small Wind Power System

*Pieter Ehlers, Coneth G. Richards, and Dan V. Nicolae (S. Africa)*

714-146

Development of a DC-DC Converter with Symmetrical Output Applied in Renewable Energy Sources

*Humberto T. Coelho, Vanessa C. de Sá, Carlos A. Gallo, and Roberto M. Finzi Neto (Brazil)*

714-166

A Framework for Analyzing Load-Carrying-Capacity of Plug-In Electric Vehicles and Impact on Solar Generators

*Soumyo V. Chakraborty, Sandeep K. Shukla, and James Thorp (USA)*

714-198

Air Conditioning Load Control in Residential Feeders under the Presence of Distributed PV Systems

*Yahia Baghzouz and Mehdi Etezadi-Amoli (USA)*

714-008

Small Scale Photovoltaic-Wind Hybrid Systems in D.R. Congo: Status and Sustainability

*Kanzumba Kusakana and Herman Vermaak (S. Africa)*

### 10:30 – 11:00 COFFEE BREAK

*Location: Lobby*

### 11:00 – EUROPE SESSION 3 CONTINUED

*(Hermes Room)*

### 12:00 – LUNCH BREAK

*Self-Catered*

### 14:00 – EUROPE SESSION 1 – POWER SYSTEM OPERATION

*Chair: Prof. Vangel Fustik (FYROM)*

*Location: Grand Room*

714-028

Experimental Study of Steam Turbine Blade Performance Operating in Partial Admission

*Hyong-Jun Choi, Young-Ha Park, and Soo-Yong Cho (Korea)*

714-029

DC Ring Topology – A Comprehensive Solution to Mega City Power Grids

*Mohamed Y. Haj-Maharsi (USA)*

714-082

Investment Perspectives on the Interconnection of Isolated Systems with the Mainland Grid: Crete Case Study

*Emmanouil Loukarakis, Konstantinos Kalaitzakis, Eftichios Koutroulis, and Georgios Stavrakakis (Greece)*

714-115

Experimental Investigation of EHD Flow in Wire to Cylinder Electrode Configuration

*Konstantinos N. Kiouisis and Antonios X. Moronis (Greece)*

714-126

Urban Power Supply System's Development in Conditions of Uncertain Information

*Svetlana Guseva, Nataly Skobeleva, Oleg Borscevskis, and Lubov Petrichenko (Latvia)*

714-141

Overview of Voltage Control and Potential Applications of Secondary Voltage Regulations in Malaysia Tenaga Nasional Berhad Grid System

*Sheikh Kamar B. Sheikh Abdullah, Nik Sofizan B. Nik Yusuf, Danial B. Mohd Nor, Ismail B. Musiri, and Izham B. Zainal Abidin (Malaysia)*

714-192  
Risk Management Methods for Service Oriented Architecture  
Implementation in Electric Power System  
*Nevenka Kiteva Rogleva, Vangel Fustik, and Vladimir Trajkovic  
(FYROM)*

**14:00 – EUROPE SESSION 10 - FACTS**

*Chair: TBA*  
*Location: Hermes Room*

714-030  
Novel Designs for a DC Breaker  
*Mohamed Y. Haj-Maharsi (USA)*

714-031  
Improving Power System Stability by the Use of SSSC-Static  
Synchronous Series Compensator  
*Ali Rahnamaei, Payam Farhadi, Davoud Mostafa,  
Mohammad Karimi, and Mina Vajdi (Iran)*

714-103  
The Enhancement of Industrial Power System Operation  
using STATCOM Equipment with Fuzzy Logic  
and Genetic Algorithm  
*Javad Khodabakhsh and Ehsan S. Parizy (Iran)*

714-125  
Description of the Internal State of TCSC  
*Amos O. Anele, John T. Agee, and Adisa A. Jimoh  
(S. Africa)*

**15:30 – 16:00 COFFEE BREAK**

*Location: Lobby*

**16:00 – EUROPE SESSION 1 CONTINUED**

*(Grand Room)*

**16:00 – EUROPE SESSION 8 – ENERGY  
EFFICIENCY**

*Chair: Mr. Ioannis Koustellis (Greece)*  
*Location: Hermes Room*

714-016  
Energy Gain in a Cold Season using Gunny Insulation in  
Concrete Buildings  
*Jahangir Payamara (Iran)*

714-055  
Energy Management System for Smart Grid Consumers with  
Advanced Usage Information  
*Tongdan Jin, Yijuan Lu (USA), and Chongqing Kang  
(PR China)*

714-174  
The Natural Radioactivity of Waste Materials and their Use  
as Building Materials: An Italian Case  
*Massimo Zucchetti (USA) and Hysen Mankolli (Albania)*

**Saturday, June 25, 2011**

**08:45 – ALDEMAR KNOSSOS ROYAL TOUR**

*Meeting Place: Hotel Lobby*

\*\*\*\*\*  
**IASTED would like to thank you for attending EuroPES  
2011. Your participation helped make this international  
event a success, and we look forward to seeing you at  
upcoming IASTED events.**

\*\*\*\*\*

