



**UNITED** Scientific  
Group

*International Conference on*

# **Clean Energy for the World's Electricity Grids**

**November 20-22, 2017**

## **Venue**

Crowne Plaza Geneva  
Avenue Louis-Casari 75-77  
1216 Cointrin, Genève  
Switzerland

## Day 1 | November 20, 2017

09:00-09:40 **Opening, Welcome and Announcements**

### Plenary Talk

09:40-10:10 Brent Wanner, *International Energy Agency, France*

### Keynote Talk

10:10-10:40 **How to Bridge the Gap between the World's Developmental Aspirations and a Finite Energy Supply**  
Branko Milicevic, *United Nations Economic Commission for Europe, Switzerland*

**10:40-11:10 Coffee Break**

### Session 1

11:10-11:30 **Global Challenges of Clean Energy: The Elephant(s) in the Room**  
Diala Beinke, *Independent Energy Advisor, Europe (Netherlands)*

11:30-11:50 **Highly Stable Precious Metal-Free Cathode Catalyst for Fuel Cell Application**  
Barr Zulevi, *Pajarito Powder, LLC, USA*

11:50-12:10 **Nuclear energy as a renewable**  
Claude Degueldre, *Lancaster University, UK*

**12:10-13:30 Lunch**

13:30-14:00 **Photovoltaic Solar Cooker with Thermal Energy Storage Based on PCM**  
Antonio Lecuona-Neumann, *Universidad Carlos III de Madrid, Spain*

14:00-14:20 **A Generalized Likelihood Ratio Approach to Detecting Faults of Wind Turbines**  
Hsu-Hao Yang, *National Chin-Yi University of Technology, Taiwan*

**14:00-14:40 Slot Available for Hydro Energy**

**14:40-15:00 Coffee Break**

15:00-15:20 **Thermo-Chemical Storage for Renewable Energies: Getting a Uniform Injection into the Grid**  
Maria del Carmen Rodriguez Hidalgo, *Universidad Politécnica de Madrid, Spain*

15:20-15:40 **The Role of Design in Energy Storage System of Electric Vehicle**  
Jian Zhang, *Shantou University, China*

15:40-16:00 **Operation of Distribution Systems Considering the Diffusion of Photovoltaic Microgeneration in Residential Consumers**  
Daniel Pinheiro Bernardon, *Federal University of Santa Maria, Brazil*

**16:00**      **Tours to:**  
1) Fusion R&D Facility at EPFL  
2) Solar Farm and Waste-to-Energy plant at SIG

**19:30**      **Welcome Cocktail** at Crowne Plaza

## *Day 2 | November 21, 2017*

### **Keynote Talk**

**09:00-09:40**    **The Why and the How of Fusion Based Electricity Generation (FBEG)**  
Howard Hornfeld, *Fusion Advocates, Switzerland*

### *Session 2*

**09:40-10:00**    **The ITER Project**  
Spencer Pitcher, *ITER Organisation Central Team, France*

**10:00-10:20**    **LINK-technology for a complete Smart Grid solution**  
Albana Ilo, *TU Wien, Austria*

**10:20-10:40**    **Non-Intrusive Load Monitoring Technology – The Final Objective of Smart Meter for Efficient Electric Network**  
Trung Kien Nguyen, *University Nice Sophia Antipolis, France*

**10:40-11:10**    **Coffee Break**

**11:10-11:30**    **Slot available**

**11:30-11:50**    **Distributed Generation with Photovoltaic Grid Connected Systems: Drivers and a Brazilian Case Study**  
Haroldo de Faria Jr, *Federal University of ABC, Brazil*

**11:50-12:10**    **Methods for Analyzing Operational Data of Wind Turbines for Enabling an Enhancement in Economic Viability**  
Michael Pagitsch, *RWTH Aachen University, Germany*

**12:10-13:30**    **Lunch**

**13:30-13:50**    **Title to be announced**  
Gerald Sheble, *Iowa State University, USA*

**13:50-14:10**    **Grid-forming VSC control in four-wire systems with unbalanced nonlinear loads**  
Ruben Ronald Lliuyacc Blas, *University of Seville, Spain*

**14:10-14:30**    **Slot Available**

**14:30-15:00** *Coffee Break*

**15:00-15:20** **iThEC – Thorium ADS Initiative**

Ranjana Nath M, *University of Geneva, Switzerland*

**15:20-15:40** **Thorium as a New Primary Source of Clean and Sustainable Energy**

Jose R. Maiorino, *Federal University of ABC, Brazil*

**15:40-16:00** **Value-Driven Design Process: A Systematic Decision-Making Framework Considering Different Attribute Preferences From Multiple Stakeholders**

Ming Hu, *University of Maryland, USA*

**16:00-16:20** **Strategies to Optimize Sustainable Management of Spent Nuclear Fuel from Fission Nuclear Power Plants**

Laura Rodríguez-Penalonga, *Universidad Pontificia Comillas, Spain*

**16:20-16:40** **Photovoltaic and Micro-Hydroelectric Proposed Plant for Stand Alone Electric Generation in a Sixty-Floor Skyscraper (P60)**

Raffaello Cirillo, *Delft University of Technology, Netherlands*

**16:40-17:00** **An Efficient Abnormal System Call Detection Method for the Smart Grid Devices using Community Structure Technique**

Incheol Shin, *Mokpo National University, South Korea*

**17:00-17:30** **Poster Presentations**

**19:30** **Gala Dinner**

## **Day 3 | November 22, 2017**

**09:00-09:20** **Hourly Ensemble Forecast for Purchased Photovoltaic Generation**

Hisashi Takeda, *Tokyo Electric Power Company Holdings, Inc., Japan*

**09:20-09:40** **The Effect of Even and Uneven Span on the Energy Conservation of PVT Integrated Passive Greenhouse Solar Pond**

Sugandha Singh, *Indian Institute of Technology Delhi, India*

**09:40-10:0** **Compact and Low Cost Design for Accurate Two Axis Solar Tracking of Concentrated Photovoltaic (CPV) System**

Muhammad Burhan, *King Abdullah University of Science & Technology, Saudi Arabia*

**10:00-10:20** **Facilitated Li Insertion into TiO<sub>2</sub> Based Ternary Oxides for Battery Application**

Marketa Zúkalová, *J. Heyrovsky Institute of Physical Chemistry, Czech Republic*

**10:20-10:40** **INCA(IonomerNc Analyses) Method: A New Approach to the Study of perfluorinatedionomers**

Riccardo Narducci, *University of Rome Tor Vergata (URoma2), Italy*

**10:40-11:10** **Coffe Break**

- 11:10-11:30 **Root Cause Analysis of Power Grid Faults Using a Machine Learning Algorithm**  
Badrul Chowdhury, *University of North Carolina at Charlotte, USA*
- 11:30-11:50 **Some Peculiarities of Fission Products Release from CP.**  
Alexander S. Ivanov, *NRC "Kurchatov Institute", Russia*
- 11:50-12:10 **New Topology of Multiple-input Single-output PV System for DC Load Applications**  
Zeinab Elkady, *Electronic Research Institute (ERI), Egypt*
- 12:10-13:30 Lunch**
- 13:30-14:00 **DNA (Detecting Neutron Agent) signature of bulk warfare: explosive, chemical and biological with the application of high energy gamma emitted from IEC**  
Yasser R. Shaban, *Southern Medical University, China*
- 14:00-14:20 **Novel Structure for Reactive Power Market by Considering Reactive Losses Caused by Active Power Flow**  
Mohsen Kalantar, *Iran University of Science & Technology, Iran*
- 14:20-15:30 **Closure and Plans for the Future**

## Poster Presentations

- P-01 **1-D Numerical Simulation of a Counter-current Two-phase Flow Layout Inside a Parabolic Trough Solar Collector Used for Absorption Cooling/ Heating**  
Antonio Lecuona-Neumann, *Universidad Carlos III de Madrid, Spain*
- P-02 **Dairy wastewater recycling possibilities to biogas production applying lactic acid fermentation in the acidification stage**  
Grazina Juodeikiene, *Kaunas University of Technology, Lithuania*
- P-03 **Smart Synthesis of New Liquid Crystals with Thiophene Units for Lithium-Ion Batteries and Solar Cells**  
Krzysztof A. Bogdanowicz, *Military Institute of Engineer Technology, Poland*
- P-04 **Performance Evaluation of Semitransparent Photovoltaic Thermal (PVT) Integrated Thermoelectric Cooler (TEC) Air Collector based on an Artificial Neural Network Model**  
Neha Dimri, *Indian Institute of Technology, New Delhi, India*

*Note : This is tentative program subject to change*



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