

# 1<sup>st</sup> Int. Workshop on Smart Grid Modeling and Simulation

09:00-10:45 : Opening + S1 - Electrical Vehicles

Chair: Chris Develder

**Invited presentation by Craig Rodine (Electric Power Research Institute (EPRI), USA) on OpenSG Sims WG**

**Market-Based Coordinated Charging of Electric Vehicles on the Low-Voltage Distribution Grid**  
Mattijs Ghijsen (University of Amsterdam, The Netherlands); Reinhilde D'hulst (VITO, Belgium)

**Exploiting V2G to Optimize Residential Energy Consumption with Electrical Vehicle (Dis)Charging**

Kevin Mets (Ghent University, Belgium); Tom Verschueren (Ghent University, Belgium); Filip De Turck (Ghent University, Belgium); Chris Develder (Ghent University - IBBT, Belgium)

**Activity Based Models for Countrywide Electric Vehicle Power Demand Calculation**

Luk Knapen (Universiteit Hasselt, Belgium); Bruno Kochan (Universiteit Hasselt, Belgium); Tom Bellemans (Universiteit Hasselt, Belgium); Davy Janssens (Universiteit Hasselt, Belgium); Geert Wets (Universiteit Hasselt, Belgium)

**Modeling of a Charging Network for Electric Vehicles**

Keisuke Nakano (Niigata University, Japan); Kazuyuki Miyakita (Niigata University, Japan); Masakazu Sengoku (Niigata University, Japan); Shoji Shinoda (Chuo University, Japan)

11:15-13:00 : S2 – Models for Smart Grids

Chair: Craig Rodine

**Dynamic One Step Ahead Prediction of Electricity Loads At Suburban Level**

Jelena Milojković (University of Niš, Faculty of Electronic Engineering, Serbia); Vančo Litovski (University of Niš, Faculty of Electronic Engineering, Serbia)

**A Linear Dynamic Model for Microgrid Voltages in Presence of Distributed Generation**

Saverio Bolognani (University of Padova, Italy); Guido Cavraro (University of Padova, Italy); Federico Cerruti (University of Padova, Italy); Alessandro Costabeber (University of Padova, Italy)

**Towards Improved Scalability in Smart Grid Modeling: Simplifying Generator Dynamics Analysis Via Spectral Graph Sparsification**

Daehyun Ban (North Carolina State University, USA); George Michailidis (University of Michigan, USA); Michael Devetsikiotis (North Carolina State University, USA)

**Traffic Generation of IEC 61850 Sampled Values**

Jakub Wojciech Konka (University of Strathclyde & Centre for Intelligent Dynamic Communications, United Kingdom); Colin Michael Arthur (Agilent Laboratories, United Kingdom); Francisco Javier Garcia (Agilent Technologies & Visiting Prof. Strathclyde University, United Kingdom); Robert Caddell Atkinson (University of Strathclyde, United Kingdom)

**Switched System Models for Coordinated Cyber-Physical Attack Construction and Simulation**

Shan Liu (Texas A&M University, USA); Xianyong Feng (Texas A&M University, USA); Deepa Kundur (Texas A&M University, USA); Takis Zourntos (Texas A&M University, USA); Karen Butler-Purry (Texas A&M University, USA)

## 14:00-15:45 : S3 - Simulators for Smart Grids

Chair: Amit Narayan

### **Mosaik: A Framework for Modular Simulation of Active Components in Smart Grids**

Steffen Schütte (OFFIS – Institute for Information Technology, Germany); Stefan Scherfke (OFFIS – Institute for Information Technology, Germany); Martin Tröschel (OFFIS – Institute for Information Technology, Germany)

### **Analysis Environment for Low Voltage Networks - Analysis of LV Network Model Parameters by Smart Meter Measurements**

Matthias Stifter (AIT Austrian Institute of Technology, Austria); Benoit Bletterie (AIT - Austrian Institute of Technology, Austria); Daniel Burnier (AIT - Austrian Institute of Technology, Austria); Helfried Brunner (AIT - Austrian Institute of Technology, Austria); Andreas Abart (Energie AG OOE Netz GmbH, Austria)

### **Evaluation and Test Environment for Automation Concepts in Smart Grids Applications**

Christian Landsteiner (AIT Austrian Institute of Technology, Austria); Filip Andren (AIT Austrian Institute of Technology, Austria); Thomas Strasser (AIT Austrian Institute of Technology, Austria)

### **Simulation for the Design of Smart Grid Controls**

Ferdinanda Ponci (RWTH Aachen University, Germany); Antonello Monti (RWTH Aachen University, Germany)

### **Social Interaction Interface for Performance Analysis of Smart Grids**

Jerom de Haan (Eindhoven University of Technology, The Netherlands); Phuong Nguyen (Eindhoven University of Technology, The Netherlands); Wil Kling (Eindhoven University of Technology, The Netherlands); Paulo Ribeiro (Eindhoven University of Technology, The Netherlands)

## 16:15-18:00 : S4 - Demand Response

Chair: Craig Rodine

### **Simulating Integrated Volt/Var Control and Distributed Demand Response Using GridSpice**

Kyle Anderson (Stanford University, USA); Amit Narayan (Stanford University & AutoGrid Systems, USA)

### **Optimal Real-Time Price Based on a Statistical Demand Elasticity Model of Electricity**

Rongshan Yu (Institute for Infocomm Research, Singapore); Wenxian Yang (Institute for Infocomm Research, A\*STAR, Singapore); Susanto Rahardja (Institute for Infocomm Research, Singapore)

### **Optimization Models for Consumer Flexibility Aggregation in Smart Grids: The ADDRESS Approach**

Alessandro Agnetis (University of Pisa, Italy); Gabriella Dellino (Università degli Studi di Siena, Italy); Gianluca De Pascale (Università degli Studi di Siena, Italy); Giacomo Innocenti (Università degli Studi di Siena & Università degli Studi di Firenze, Italy); Marco Pranzo (Università degli Studi di Siena, Italy); Antonio Vicino (Università degli Studi di Siena, Italy)

### **Modeling Quality of Service Vs. Peak Reduction Trade-Offs in a/c-based Demand-Side Management**

Fabrice Saffre (ETISALAT BT Innovation Centre & Khalifa University, UAE); Hanno Hildmann (Etisalat BT Innovation Centre & Khalifa University, UAE); Sebastien Nicolas (EBTIC, UAE)

## **Feasibility Study of Applying LTE to Smart Grid**

Peng Cheng (Huawei Technologies & Tsinghua University, P.R. China); Li Wang (Huawei Technologies Co. Ltd., P.R. China); Bin Zhen (Huawei Technologies Co., LTD, P.R. China); Shihua Wang (Queen Mary University of London, United Kingdom)

## **Committee**

### **Workshop Chairs**

Chris Develder (Ghent University - IBBT, Belgium)

Amit Narayan (Stanford University, USA)

Craig Rodine (Electric Power Research Institute (EPRI), USA)

### **TPC Members**

Rakesh B. Bobba (University of Illinois at Urbana-Champaign, USA)

Duncan Callaway (UC Berkeley, USA)

Bert Claessens (VITO, Belgium)

Michel De Paepe (Ghent University - UGent, Belgium)

Filip De Turck (Ghent University - IBBT, Belgium)

Koen De Turck (Ghent University, Belgium)

Geert Deconinck (KULeuven, Belgium)

Alejandro Dominguez-Garcia (University of Illinois at Urbana-Champaign, USA)

Kellie Erickson (NEC Laboratories Europe, Germany)

Tim Godfrey (EPRI, USA)

David Gregoratti (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC), Spain)

Wouter Haerick (Ghent University - IBBT, Belgium)

Garud Iyengar (Columbia University, USA)

Michael Koch (Devol AG, Germany)

Lutz Lampe (University of British Columbia, Canada)

Javad Lavaei (Stanford University, USA)

Marco Levorato (Stanford University, USA)

Scott Locklin (Lugos Consulting, USA)

Daniel O'Neill (Stanford University, USA)

Kameshwar Poolla (University of California at Berkeley, USA)

Anna Scaglione (University of California, Davis, USA)

Heidi Steendam (Ghent University, Belgium)

Matthias Strobbe (Ghent University - IBBT, Belgium)

Lieven Vandeveld (Ghent University, Belgium)

Adam Wigington (EPRI, USA)