



7th Workshop on Modeling and Simulation of Cyber-Physical Energy Systems (MSCPES)

Workshop Program

April 15, 2019

Hotel Fairmont The Queen Elizabeth, Room 202, Montréal, Canada

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| 08:30 – 08:40 | Opening |
| 8:40 – 10:00 | Morning Session I |
| 8:40 | S. Liu, X. Wang: <i>Analysis of Frequency Control in Microgrids with Multiple Phasor Measurement Unit Delays</i> |
| 9:00 | M. Podlaski, L. Vanfretti, J. Pesente, P. H. Galassi: <i>Automated Parameter Identification and Calibration for the Itaipu Power Generation System using Modelica, FMI, and RaPId</i> |
| 9:20 | P. Pileggi, J. Verriet, J. Broekhuijsen, C. Van Leeuwen, W. Wijbrandi, M. Konsman: <i>A Digital Twin for Cyber-Physical Energy Systems</i> |
| 9:40 | L. Vanfretti, B. Mukherjee, K. M. Moudgalya: <i>Automatic Re-synchronization Controller Analysis within a Multi-Domain Gas Turbine and Power System Model</i> |
| 10:00 – 10:30 | Break |
| 10:30 – 12:10 | Morning Session II |
| | Live Demo |
| 10:30 | S. Li (OPAL-RT TECHNOLOGIES), L. Wihl (SCALABLE Network Technologies): <i>Real-Time Cyber-Physical Simulation of the Electric Power Grid for Cybersecurity studies</i> |
| 11:10 | C. F. Mugombozi, R. Zgheib, T. Roudier, A. Kemmeugne, D. Rimorov, I. Kamwa: <i>Collaborative Simulation of Heterogenous Components as a Means Toward a More Comprehensive Analysis of Smart Grids</i> |
| 11:30 | J. Kölsch, C. Grimm, A. Ratzke: <i>Co-Simulating the Internet of Things in a Smart Grid use case scenario</i> |
| 11:50 | E. Widl, M. Panagiotis-Timolewn, A. Davros, O. Gehrke, T. V. Jensen, G. Kiokes, N. Hatziaargyriou: <i>An FMI-compliant Co-simulation Approach for Smart Grid ICT Assessments</i> |
| 12:10 – 13:30 | Lunch |
| 13:30 – 15:10 | Afternoon Session I |
| | Tutorial & Live Demo |
| 13:30 | T. Roth: <i>Universal CPS Environment for Federation (UCEF)</i> |
| 13:50 | P. Puerto, E. Widl, J. Page: <i>ZerOBNL: A framework for distributed and reproducible co-simulation</i> |
| 14:10 | B. Azimian, P. M. Adhikari, L. Vanfretti, H. Hooshyar: <i>Cross-Platform Comparison of Standard PowerSystem Components used in Real Time Simulation</i> |
| 14:30 | J. S. Schwarz, C. Steinbrink, S. Lehnhoff: <i>Towards an Assisted Simulation Planning for Co-Simulation of Cyber-Physical Energy Systems</i> |
| 14:50 | M. Navarro Catalan, L. Vanfretti: <i>Over Current Relay Modeling using Modelica with Cross-Verification against a Validated Model</i> |



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| 15:10 – 15:40 | Break |
| 15:40 – 17:20 | Afternoon Session II |
| 15:40 | J. Lamp, C. R. Medrano, Z. Zhao, G.-J. Ahn: <i>ExSol: Collaboratively Assessing Cybersecurity Risks for Protecting Energy Delivery Systems</i> |
| 16:00 | M. F. M. Arani, A. A. Jahromi, D. Kundur, M. Kassouf: <i>Modeling and Simulation of the Aurora Attack on Microgrid Point of Common Coupling</i> |
| 16:20 | Y. Zhang, S. Eisele, A. Dubey, A. Laszka, A. Srivastava: <i>Cyber-Physical Simulation Platform for Security Assessment of Transactive Energy Systems</i> |
| 16:40 | H. Neema, H. Vardhan, C. Barreto, X. Koutsoukos: <i>Web-Based Platform for Evaluation of Resilient and Transactive Smart-Grids</i> |
| 17:00 | E. Griffor, M. Balduccini, M. Huth, C. Vishik, D. Wollman, P. Kamongi: <i>Decision Support for Smart Grid: Using Reasoning to Contextualize Complex Decision Making</i> |
| 17:20 – 17:30 | Closing |