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4-9 July, Porticcio, Corsica, France

1st meeting and summer school
of the French-Singaporean network in

Renewable Energy

SINERGIE

Monday, July 4, 2016

- 2:30-3:30 pm **Reception/Coffee**
- 3:30-3:45 pm Welcome address (Pr. Lam Khin Yong, vice-president of NTU, Pr. Alain Dollet, deputy director of INSIS/CNRS, Pr. Marc Muselli, vice-president of Université de Corte)
- 3:45-4:30 pm News and review of the GdRI's activities (S. Mhaisalkar, NTU/ERI@N and A Dollet, CNRS, co-directors of the GdRI)
- Review of GdRI's topics - 4:30-6:30 pm**
- 4:30-5:30 pm Smart grids and power systems (N. HadjSaid, G2Elab, Grenoble INP, Koh Leong Hai, NTU/ERI@N)
- 5:30-6:30 pm Energy Storage (Alex Yan Qingyu & Alessandro Romagnoli, NTU/ERI@N M. Morcrette, X. Py and O. Joubert (LRCS/PROMES/IMN, CNRS))
- 7:00 pm **Cocktail & dinner**

Tuesday, July 5, 2016

- 8:30-12:00 am Review of GdRI's topics (cont.)
- 8:30-9:30 am Wind & Marine Energies (P. Ferrant, LHEEA, Ecole Centrale Nantes and Dong Zhili, NTU/ERI@N)
- 9:30-10:30 am Photovoltaics (P. Roca, LPICM/CNRS and N. Mathew, NTU/ERI@N)
- 10:30-11:00 am **Coffee break**
- 11:00-12:00 am Green/Smart Buildings (C. Ménézo, LOCIE/Univ. Savoie and Swapnil Dubey, NTU/ERI@N)
- 12:00 am **Lunch**
- 2:15-2:30 pm Opening of the Summer School on Smart Grid and Power Systems (N. HadjSaid, G2Elab, Grenoble INP, Koh Leong Hai, NTU/ERI@N)
- 2:30-6:00 pm Lectures Part 1: Electromobility in SmartGrids
- 2:30-3:30 pm Lecture 1.1 «Impact of EV charging on electrical grids and V2G services» (M. Petit & M. Hennebel, GeePs, CentraleSupélec)
- 3:30-4:30 pm Lecture 1.2 «EV flexibility for balancing: example of V2G projects (P. Codani, Chaire Armand Peugeot, CentraleSupélec)
- 4:30-5:00 pm **Coffee break**
- 5:00-6:00 pm Lecture 1.3 «EV charging station for smart charging and V2G services» (D. Frey, G2ELab, Univ. J. Fourier)
- 7:00 pm **Dinner**

Wednesday, July 6, 2016

- 8:30-12:00 pm Lectures Part 1: Electromobility in SmartGrids (cont.)
- 8:30-9:30 am Lecture 1.4 «Special purpose Electromobility applications and challenges» (V.B. Sriram, NTU/ERI@N)
- 9:30-10:30 am Lecture 1.5 «Next generation grids for seamless power routing» (V.B. Sriram, NTU/ERI@N)
- 10:30-11:00 am **Coffee break**
- 11:00-12:00 am Lecture 1.6 «Modern Power Electronics in smart grids» (Tang Yi, NTU/ERI@N)
- 12:00 pm **Lunch**
- 1:30-6:00 pm Technical tour to Myrte experimental Platform (P. Poggi, SPE/Univ. Corte)
Travel to Ajaccio harbour by Ferry and bus from Ajaccio to Myrte Platform
(Mission hYdrogène Renouvelable pour l'Intégration au réseau Electrique)
- 7:00 pm **Dinner**

Thursday, July 7, 2016

- 8:30-12:00 am Lectures Part 2: Impact of Renewable Energies on Power Grids & Micro grids
- 8:30-9:15 am Lecture 2.1 «Integration of Renewable Energy Sources in DC and AC low voltage micro-grid, how to manage the intermittency» (Corinne Alonso, LAAS/CNRS)
- 9:15-10:00 am Lecture 2.2 «Flexibility levers to manage the intermittency of renewable energy sources, technical-economic characteristics» (V. Debusschere, G2ELab/Grenoble INP)
- 10:00-10:30 am **Coffee break**
- 10:30-11:15 am Lecture 2.3 «Micro-grid Observability. Objectifs and implementation» (O. Wailly, SPE/Univ. Corte)
- 11:15-12:00 am Lecture 2.4 «Design and planning of a smart microgrid: case study of Galapagos island» (Y. Besanger, G2ELab/Grenoble INP)
- 12:00 am **Lunch**
- 2:30-6:00 pm Lectures Part 2: Impact of Renewable Energies on Power Grids & Micro grids (cont.)
- 2:30-4:30 pm Lecture 2.5 «Hybrid AC/DC Microgrid integration and control» (F.H. Choo, NTU/ERI@N)
- 4:30-5:00 pm **Coffee break**
- 5:00-6:00 pm Lecture 2.6 « Reliability Evaluation of Microgrid for Renewable Energy Sources» (Koh Leong Hai, NTU/ERI@N)
- 7:00 pm **Dinner**

Friday, July 8, 2016

- 8:30-12:00 am Lectures Part 3: Cyber physical Systems Modeling for SmartGrids
- 8:30-9:30 am Lecture 3.1 « ICT and Smart Grid, toward the need of multi-disciplinary modeling and associated use cases (SGAM modeling)» (R. Caire, G2ELAB/Grenoble INP)
- 9:30-10:30 am Lecture 3.2 « Cybersecurity of 61850 networks: intrusion detection and resilience» (S. Mocanu, GIPSA Lab/Grenoble INP)
- 10:30-11:00 am **Coffee break**
- 11:00-12:00 am Lecture 3.3 «Cyber Physical Systems, an advanced topological approach for multi-infrastructure analysis» (R. Caire/N. Retiere, G2ELAB/Grenoble INP)
- 12:00 am **Lunch**
- 2:30-6:00 pm Lectures Part 3: Cyber physical Systems Modeling for SmartGrids (cont.)
- 2:30-4:00 pm Lecture 3.4 «Formal Verification of Smart Grids using Timed Automata» (A. Easwaran, NTU)
- 4:00-4:30 pm **Coffee break**
- 4:30-6:00 pm Lecture 3.5 «Worst-Case Security Analysis Enabled by Smart Grid Modeling» (Rui Tan, NTU)
- 7:00 pm **Dinner**



Saturday, July 9, 2016

- 8:30-9:30 am Closing remarks (A. Dollet, CNRS and C. Guet, NTU)
- 9:30 am End of the meeting and departure to Ajaccio airport