



**NANYANG
TECHNOLOGICAL
UNIVERSITY**
SINGAPORE



SINERGIE

5th - 8th

Nov 2019

4th Meeting of the French-Singaporean Research Network on Renewable Energy (SINERGIE)

The 4th meeting of the French-Singaporean research network on Renewable Energy (IRN SINERGIE*) will be held in Singapore, from November 5th to November 8th 2019.

After an internal review of the network topics by their coordinators, the main core of the meeting will be devoted to Fall School entitled "Sustainable and resilient cities: energy considerations". The cities of tomorrow should not only be sustainable, they should also be resilient in order to mitigate the consequences of various types of stresses or incidents and recover quickly from these undesirable effects. In this context, many energy issues ought to be addressed such as security of energy supply, robustness of networks, minimization of environmental footprint, clean and smart transport models. The technical and scientific challenges related to this topic will be addressed in lectures given by recognized experts, either members or non-members of the network. The last day of the meeting will be dedicated to a presentation of the work performed by joint PhD students.

The school is open to scientists, PhD students and Postdocs from SINERGIE network's laboratories.

* The SINERGIE network gather researchers from Nanyang Technological University (NTU), CNRS, CEA and several French Universities/High Schools (CentraleSupélec, USMB, UCPP, UGA, ...) as well as ENGIE.

Meeting Programme Overview

5th Nov: Review of SINERGIE network topics

5th-7th Nov:

- Fall School on "Sustainable and resilient cities: energy consideration"
- Lectures on security of energy supply, urban waste recycling, new modes of transport urban risk analysis, new building materials

6th Nov: Local visits

8th Nov: Presentations by joint PhD students

For more information and to pre-register, please contact:

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PROGRAMME OVERVIEW

Venue: Reality Theatre @ Research Techno Plaza Level 2

Time/ Day	Tuesday, 5 November	Wednesday, 6 November	Thursday, 7 November	Friday, 8 November
9.00am	Welcome Address by Prof Subodh Mhaisalkar, Prof Claude Guet and Dr Alain Dollet	'Solid State Transformers for Energy Grid 2.0' Anshuman Tripathi, ERI@N	'Electrochemical Capacitors for Public Transportation: an alternative to Batteries' Olivier Crosnier, IMN, U. Nantes	'Underground LNG storage and efficient use of its waste cold' Bakytzhan Akhmetov, MAE
10.00am	GDRI Topic Leaders' Presentation <ul style="list-style-type: none"> HADJSAID Nourredine, G2Elab Alessandro Romagnoli, MAE Narasimalu Srikanth, ERI@N Annalisa Bruno, ERI@N Grynberg Yann, ERI@N 	'Resilience of secure sensor networks' Jun Zhao, SCSE	'Sense-City innovation lab supporting recent advances on Monitoring of urban operations' Monsséf Drissi Habti, COSYS, IFSTTAR	PhD Presentations 'Transition metal oxides for oxygen electrocatalysis' Duan Yan 'New Approaches for Monitoring Microplastics in Water' Ahmed ELSAYED
10.30am	TEA BREAK			
11.00am	'Interdependencies of infrastructures in Smart Cities and advanced topological approach for the resiliency of coupled systems - example of Power and ICT systems' Raphael Caire, G2Elab, Grenoble INP/UGA	'Advanced energy metering in existing buildings: methods and applications' Eyes Nefzaoui, Esycom, U. Paris-Est	'Efficient Techniques for Holistic Operational Optimisation of Urban Energy Systems' Arvind Easwaran, SCSE	PhD Presentations 'Power System Inertia Enhancement by Grid-Connected Converters' Deng Han 'Optimization of HiPIMS metal coating interface and properties by in-situ plasma etching pretreatment' Chabanon Angelique 'Quadrupolar flow in internal shear flows' Wang Zhe 'Coating of large scale perovskite solar cells' Mathilde FIEVEZ 'Inverse spinel oxide LiCoVO4 with unique Co2+ ions stabilized in octahedral sites exhibits spin polarized channels that promote OER performance' Chen Ruixi 'Optimal operation for energy intensive industry wasted heat recovery' Sacha Hodencq
12.00pm	'Energy Supply and Demand Side Management in Industrial Microgrid Context' Laurent George, LIGM, U. Paris-Est	'Energy and Waste valorization from construction and building materials' Florian Huchet, IFSTTAR, U. Gustave Eiffel	'Significance of Embodied Energy for Sustainable Built Environment' Justin Dauwels, EEE	
12.30pm	NETWORKING LUNCH			
1.30pm	'Research on Power Electronics and Applications' Josep Pou, EEE	'On the path toward decentralisation: a Combined perspective from operational, technical and market design challenges' Cheriff ASSAF, Ranchere Anne-Soizic and Remy Rigo-Mariani , ERI@N	'EV fleets in sustainable cities: flexible resources for a more resilient power grid' Marc Petit, GeePS, CentraleSupélec	'Understanding Molecular Mechanism of Barnacles' Underwater Adhesion through Cement Protein Studies' SunYoung Hur 'Smart Composites Large Dimensions Wind-Blade' Venkadesh Raman 'A tropical urban microclimate case study in Singapore - experimental and numerical results' D E V S Kiran Kumar
2.30pm	'Resilient Power Grids: Learning From Other Complex Systems' Cheong Siew Ann, SPMS		'Power transform for solar irradiation time series and prediction intervals' Cyril Voyant, SPE, U. Corte	Closing Remarks by Prof Subodh Mhaisalkar, Prof Claude Guet and Dr Alain Dollet
3.00pm	'Energy and climate resiliency from building to urban scale : Paris as a case study' Martin Hendel, ESIEE, U. Paris-Est			TEA BREAK
4.00pm - 4.30pm	'From accurate prediction to diagnosis of the performances of the solar systems in urban environment' Leon Gaillard, LOCIE/Start-up Hélocity	City Tour 3.00pm – 6.00pm	Lab Tour 3.00pm – 4.30pm	
6.30pm	Welcome Dinner @ NTU Peach Garden	Dinner @ Hotel Grand Pacific (Sophia Function Room)	BBQ @ Campus Clubhouse	