

Summer school and 3rd meeting of the French-Singaporean research network on Renewable Energy (SINERGIE)

Aix-les-Bains, Le Bourget du Lac, France, July 2nd - 5th 2018.



The 3rd meeting of the French-Singaporean research network on Renewable Energy (GdRI SINERGIE*) will be held in Aix-les-Bains, France, from July 2nd to July 5th 2018.

The first 3 days of the meeting will be devoted to a Summer School on "Integrated Renewable energy solutions and environmental footprint minimization". Despite their low environmental footprint as compared to fossil energy, Renewable energy technologies present non-zero CO₂ emissions and may induce non-negligible environmental impacts. Several important issues such as materials recycling, substitution of rare by more abundant elements, Life cycle analysis... will be addressed in lectures given by recognized experts, either members or non-members of the network. The 4th day of the meeting will be dedicated to a review of the network topics by its scientific coordinators and PhD students.

The summer school is opened to scientists, PhD and post-doctoral students from the laboratories of the network.

** 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*

PROGRAM OVERVIEW

	Sunday 1 July	Monday 2 July	Tuesday 3 July	Wednesday 4 July	Thursday 5 July
9:00 - 10:30 am		Lecture 1	Lecture 5	Lecture 7	GdRI topic leaders' presentations
11:00 - 12:30 am		Lecture 2	Lecture 6	Lecture 8	Illustrative PhD's presentations
		<i>Lunch</i>	<i>Lunch</i>	<i>Lunch</i>	<i>Lunch</i>
2:30 - 4:00 pm		Lecture 3	Seminars (4)	Lecture 9	Next to do & Wrap-up
4:30 - 6:00 pm		Lecture 4	Trip to lake	INES visit	<i>Departure to airport</i>
Evening	<i>Reception</i>	<i>Dinner</i>	<i>Special dinner</i>	<i>Dinner</i>	

Main contacts & registrations:

Alain DOLLET (CNRS) alain.dollet@promes.cnrs.fr, Claude GUET (NTU) CGuet@ntu.edu.sg

Local organisation:

Christophe Menezo (USMB) christophe.menezo@univ-smb.fr

PROGRAM

Sunday, July 1st

3:00 pm	Shuttle departure from Geneva airport (Singaporean attendees)
4:00 pm	Arrival at Aix-les-Bains
7:00 pm	Dinner at Bristol Hotel

SUMMER SCHOOL

Monday, July 2nd (Campus Polytech-USMB, Le Bourget du Lac)

8:30 am	Departure from Hotel to USMB Campus
9:00-9:15 am	Welcome address <i>Dr Alain Dollet, CNRS, & Prof Claude Guet, NTU</i> <i>Prof Monika Woloszyn & Prof Christophe Menezes, LOCIE, Université Savoie Mont-Blanc</i>
9:15-10:45 am	Lecture 1. "The mineral resources energy nexus: dynamic modeling of needs and supply at the global scale" <i>Dr Olivier VIDAL, CNRS, ISTERre, UGA</i>
10:45-11:15 am	Coffee break
11:15-12:45 pm	Lecture 2. "Organic Materials for Next Generation Renewable Technologies: What's Possible?" <i>Ass. Prof Leong Wei Lin, School of Electrical & Electronic Engineering, NTU</i>
12:45 pm-2:30 pm	Lunch
2:30-4:00 pm	Lecture 3. "Circular economy approach in the field of plastics" <i>Dr. Daniel Froelich, Arts et Métiers- Paritech</i>
4:00-4:30 pm	Coffee break
4:30 pm-6:00 pm	Lecture 4. "Scalable Framework for Holistic Optimization of District Cooling Systems". <i>Ass. Prof Arvind Easwaran, School of Computer Science & Engineering, NTU</i>
6:30 pm	Departure for Hotel
7:30 pm	Dinner at Bristol Hotel

Tuesday, 3rd (Campus Polytech-USMB, Le Bourget du Lac)

8:30 am	Departure from Hotel to USMB Campus
9:00-10:30 am	Lecture 5. "Novel photovoltaic mechanisms" <i>Ass. Prof Nripan Mathews, School of Materials Science and Engineering, NTU</i>
10:30-11:00 am	Coffee break
11:00-12:30 am	Lecture 6. "Organics and biomaterials for batteries" <i>Dr Steven RENAULT, IMN, Université de Nantes-CNRS</i>
12:30 am - 2:30 pm	Lunch
2:00-2:30 pm	Seminar 1. " SCARCE: a French-Singaporean program on Circular Economy" <i>Dr Jean-Christophe Gabriel, CEA Grenoble</i>
2:30-3:00 pm	Seminar 2. "Sustainability Challenges for "Waste to Energy" Segment" <i>Dr Farouk Tedjar, ERI@N, NTU</i>
3:00-3:30 pm	Seminar 3. "On the inertia of future renewable dominated power systems " <i>Ass. Prof Tang Yi, School of Electrical and Electronic Engineering, NTU</i>
3:30-4:00 pm	Seminar 4. "GIS and BIM for City Energy Management" <i>Dr Catherine Gauthier, GEOMAP - IMAGIS</i>
4:00-4:30 pm	Seminar 5. "Biomimetic and Bio-inspired Materials" <i>Ass. Prof Yu Jing, School of Materials Science and Engineering, NTU</i>
4:30-5:00 pm	Coffee break
5:00 pm-7:30 pm	Boat trip on the Lac du Bourget
7:30 pm.	Departure for Hotel
8:00 pm.	Special dinner (Regional specialties) at Bristol Hotel

Wednesday, 4th (Campus Polytech-USMB, Le Bourget du Lac)

8:30 am	Departure from Hotel to USMB Campus
9:00-10:30 am	Lecture 7. " Liquid Air as Novel Zero Emissions Energy Vector: an overview from techno-economic perspective" <i>Ass. Prof. Alessandro ROMAGNOLI, School of Mechanical & Aerospace Engineering, NTU</i>
10:30-11:00 am	Coffee break
11:00-12:30 am	Lecture 8. "Material resource efficiency in new technology for energy" <i>Dr Etienne BOUYER, CEA-LITEN</i>
12:30 am-2:00 pm	Lunch
2:00-3:30 pm	Lecture 9. "Perovskite solar cells - A perspective on materials and challenges" <i>Dr Philip SCHULZ, CNRS</i>
3:30-6:00 pm	Visit of INES (Institut National de l'Energie Solaire)



6:30 pm	Departure for Hotel
7:30 pm	Dinner at Bristol Hotel

WORKSHOP

Thursday, 5th (Campus Polytech-USMB, Le Bourget du Lac)

8:30 am

Departure from Hotel to USMB Campus

9:00-10:45 am

GdRI topics review

Topics' leaders (5 x 20 min)

Topic 1. Smart Grids and Power systems

Nouredine HadjSaid, G2Elab, Grenoble INP

Prof. Choo Fook Hoong, ERI@N, NTU

Topic 2. Energy storage

Mathieu Morcrette, LRCS, CNRS & Olivier Joubert, IMN, Université de Nantes

Topic 3. Wind and Marine Energies

Narasimalu Srikanth, ERI@N, NTU

Topic 4: Photovoltaics

Nripan Mathews, School of Materials Science and Engineering ,NTU

Topic 5: Green & Smart Buildings

Christophe Ménézo, LOCIE, Université de Savoie Mont-Blanc

Yann Grynberg, ERI@N, NTU

10:45-11:15 am

Coffee break

11:15 am-1:00 pm

Illustrative presentations

Singaporean and French PhD's students, all topics (10 x 10 min)

Presentation 1: "Perovskite : How to reduce toxicity"

Biplab Ghosh, CEA

Presentation 2: "Inertia Design of Inverter-dominated Power Systems"

Subramanian Lalitha, NTU

Presentation 3: "Colloidal semiconductor quantum dots A theoretical study"

Tan Nguyen, NTU

Presentation 4: "Enhancing M 3d - O 2p covalency via metal cation substitution for boosting oxygen evolution reaction on transition metal oxides"

Duan Yan, NTU

Presentation 5: "Optimization of District Cooling Systems"

Chiam Zhonglin, NTU

Presentation 6: "Urban solar production in a context of city densification"

Benjamin Govehovitch, CETHIL

Presentation 7: "Indoor Air quality and cognitive health—a study in the tropics"

Shmitha D/O Arikrishnan; NTU

Presentation 8: "Let there be light! Illuminating the Future with Perovskite-based Light-Emitting Devices"

Nur fadilah jamaludin , NTU

Presentation 9: "electrolyte ceramic material BCZY: conventional vs cold sintering process"

Kawther Thabet, IMN

Presentation 10: "Title to be defined"

Author to be defined

1:00-2:45 pm

Lunch

2:45-3:45 pm

Wrap-up and Concluding remarks

Prof. Subodh Mhaisalkar, ERI@N, NTU, Dr Alain Dollet, CNRS, & Prof Claude Guet, NTU

4:00 pm

Departure from Le Bourget du Lac (Bus to Geneva airport)