

Energy Conversion and Storage

Proposed Research Topics

Coordinators

Prof. **Madhavi Srinivasan** (ERI@N/NTU) - Dr. **Mathieu Morcrette** (LRCS/CNRS)

Electrochemical Storage

Ass. Prof. **Alex Yan Qingyu**, email: AlexYan@ntu.edu.sg

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TO BE UPDATED

(PIs could not attend the workshop)

Hydrogen & Fuel Cells

Main contact: Prof. **Chan Siew Hwa**, email: MSHCHAN@ntu.edu.sg

Main contact: Prof. **Olivier Joubert**, email: Olivier.Joubert@univ-nantes.fr

Prof. **Daniel Hissel**, email: daniel.hissel@univ-fcomte.fr

Dr. **Farouk Tedjar**, email: Farouk.Tedjar@ntu.edu.sg

Prof. **Rose-Noëlle Vannier** (UCCS-Lille, France)

→ **New Member**

→ **New Member**

Thermal Energy Storage & Conversion

Main contact: Asst. Prof. **Alessandro Romagnoli**, email: a.romagnoli@ntu.edu.sg

Main contact: Prof. **Xavier Py**, email: py@univ-perp.fr

Dr. **Farouk Tedjar**, email: Farouk.Tedjar@ntu.edu.sg

New sub-topic: Hybridation for Optimized H₂-Power-Water cogeneration

Main contact: Prof. **Daniel Hissel**, email: daniel.hissel@univ-fcomte.fr

Main contact: Asst. Prof. **Alessandro Romagnoli**, email: a.romagnoli@ntu.edu.sg

Hydrogen Fuel Cells

Thermal Energy
Storage

PolyGen Systems
(H₂ based)



NANYANG
TECHNOLOGICAL
UNIVERSITY
SINGAPORE

Hydrogen & Fuel Cells

Main contacts:

Prof. **Siew Haw Chan** (ERI@N/NTU), Prof. **Olivier Joubert** (IMN/CNRS)

New Members

- Prof. Rose-Noelle VANNIER- UCCS-Lille (France)
- Dr. Farouk Tedjar (ERI@N/NTU)

Proposed Research Topics

- Amonia production by high temperature co-electrolysis of air / water
- Life Cycle Assessment of Fuel Cell Systems (in terms of energy & costs)

Funding/Proposals

- next joint call ANR/NRF 2018

Mobility (Staff/Students exchange)

- Sharing PhD students, Internship, participation of French members at **HYPOTHESIS XIII** conference organized by Prof. CHAN SIEW HWA in **Singapore in July, 2018**.
- **½ PhD funding from FEMTO-ST/FCLAB CNRS (for co-supervised Phd students)**

Hydrogen Fuel Cells

Thermal Energy
Storage

PolyGen Systems
(H₂ based)



Thermal Energy Storage & Conversion

Main contacts:

Asst. Prof. **Alessandro Romagnoli** (ERI@N/NTU), Prof. **Xavier Py** (PROMES/CNRS)

New Members

- Dr. Farouk Tedjar (ERI@N/NTU)

Proposed Research Topics

- Sea Water Desalination using low grade heat recovery (around 85°C)
- Cold energy storage >> focus on district cooling applications
- LNG cold energy recovery

Funding/Proposals

- Seek participation in CREATE/NRF programme
- ANR/NRF grant call

Mobility (Staff/Students exchange)

- Internships
- Ms. **Haoxin Xu** to continue in bridging the activity between French/Singapore teams
- Dr. **Lin Wenlin Yvonne** to support the research collaboration between French/Singapore teams

Hydrogen Fuel Cells

Thermal Energy
Storage

PolyGen Systems
(H2 based)



New Sub-Topic: Hybridation for Optimized H₂-Power-Water cogeneration

Proposers/Main contacts:

Prof. **Daniel HISSEL** (FEMTO-ST/FCLAB, CNRS), Prof. **Xavier Py** (PROMES/CNRS), Asst. Prof. **Alessandro Romagnoli** (ERI@N/NTU), Prof. **Siew Hwa Chan** (ERI@N/NTU),
Dr. **Farouk Tedjar** (ERI@N/NTU)

Proposed Research Topics

- Micro Tri-Generation (Production / Storage of Electricity / Heat / Cold) based on H₂-energy systems
- Thermal Energy Storage & Conversion (waste heat valor.)
 - Sea water desalination as fuel cell waste heat valorization (providing fresh water for H₂)
- Life Cycle Assessment of Fuel Cell Systems (in terms of energy & costs) and H₂ generation from WtE plant

Funding/Proposals

- ANR, CNRS (Energy prg.)
- **½ PhD funding from FEMTO-ST/FCLAB CNRS (for co-supervised Phd students)**

Mobility (Staff/Students exchange)

- Master and PhD
- Staff

Hydrogen Fuel Cells

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