

This symposium was organized  
by Innovative Energy Research Center of IFS and Collaboration Research Centers and Facilities of IMR

**OS1: The Sixth International Symposium on Innovative Energy Research I:  
=Advanced Materials and its Energy Application=**

Chair: **Seiji Samukawa**

14:00-14:15

- OS1-1 **Energy-Material Project in World Leading Research Center** pp.  
Shin-ichi ORIMO and Seiji Samukawa (Tohoku University, Japan)

14:15-15:00

- OS1-2 **Hydrogen Energy Applications Developed in Taiwan** (*Invited Talk*)  
Chao-Ho Lan and Der-Ray Huang (National Chiao-Tung University / Taiwan  
Hydrogen Industry Development Association/MOST, Taiwan)

15:00-15:30

- OS1-3 **Thermal Conductivity of Silicon Nanowire Using Landauer Approach for  
5654-2 Thermoelectric Applications** (*Invited Talk*)  
Ming-Yi Lee, Yiming Li (National Chiao Tung University, Taiwan) and Seiji  
Samukawa (Tohoku University, Japan)

15:40-16:10

- OS1-4 **Hydrogen Energy Supply System and Supply Chain Model by using Renewable  
Energy** (*Invited Talk*)  
Tatsuoki Kono (Tohoku University, Japan)

<Break (10 min)

Chair: **Shinichi Orimo**

16:10-16:40

- OS1-5 **Large Scale Molecular Simulations of Mass Transport Phenomena in PEFC**  
(*Invited Talk*)  
Takashi Tokumasu and Takuya Mabuchi (Tohoku University, Japan)

16:40-17:10

- OS1-6 **Lithium Ion Battery and Solar Cell Materials Synthesis via Supercritical Fluid  
Processes** (*Invited Talk*)  
T. Tamai and Itaru Honma (Tohoku University, Japan)

17:20-17:50

- OS1-7 **Acoustic Phonon Thermal Transport in Corrugated Silicon Nanowires** (*Invited  
Talk*)  
Junichi Hattori, Vladimir Poborchii and Tetsuya Tada (National Institute of  
Advanced Industrial Science and Technology, Japan)

<Break (10 min)

17:50-18:20

- OS1-8 **Electricity Generation by Water Flow on Nitrogen-doped Graphene** (*Invited  
Talk*)  
Takeru Okada (Tohoku University, Japan), Golap Kalita, Masaki Tanemura  
(Nagoya Institute of Technology, Japan), Ichiro Yamashita (Osaka University,  
Japan), M. Meyyappan (NASA Ames Research Center, USA) and Seiji  
Samukawa (Tohoku University, Japan)