

# Oral Presentation

## Symposium 5. Spectral Conversion Materials for Energy Applications

### February 22 (WED)

Time	Program	
	<b>[Session 5-1]</b> Spectral Conversion Materials for Energy Applications	
	<b>Chair:</b> Eva Hemmer (University of Ottawa), Kang TaekLee (GIST)	
15:50-16:30	[SO5-1] Rare Earth Doped Materials as Photonic Markers for Plastics Recycling and Anti-Counterfeiting Applications (Keynote presentation)	Bryce Richards (Karlsruhe Institute of Technology)
16:30-17:00	[SO5-2] Developments of photocatalytic and photoelectrochemical water splitting systems (Invited Talk)	Masao Katayama (The University of Tokyo)
17:00-17:30	[SO5-3] Photo-sensitization of TiO <sub>2</sub> nanostructures by polyol-made II-VI QDs for hydrogen generation (Invited Talk)	Souad Ammar (Paris Diderot University)

### February 23 (THU)

Time	Program	
	<b>[Session 5-2]</b> Spectral Conversion Materials for Energy Applications	
	<b>Chair:</b> Eva Hemmer (University of Ottawa), Bryce Richards (Karlsruhe Institute of Technology)	
09:00-09:30	[SO5-4] The frequency-dependent upconversion mechanisms in lanthanide ion-doped upconverting nanoparticles (Invited Talk)	Kang Taek Lee (GIST), Kyujin Shin, Taeyoung Jung
09:30-10:00	[SO5-5] Absolute Quantum Yield Measurements of Spectral Conversion Materials - Instrumentation and Applications (Invited Talk)	Christian Würth (BAM(Federal Institute for Materials Research and Testing))
10:00-10:30	[SO5-6] Semiconductor Nanocrystals with vis and NIR Emission - Spectroscopic Properties and Surface Group Analysis (Invited Talk)	Ute Resch-Genger (BAM(Federal Institute for Materials Research and Testing))
Time	Program	
	<b>[Session 5-3]</b> Spectral Conversion Materials for Energy Applications	
	<b>Chair:</b> Eva Hemmer (University of Ottawa), Clara Santato (Polytechnique Montréal)	
10:50-11:30	[SO5-7] Tuning charge dynamics in composite systems for solar energy applications (Keynote presentation)	Alberto Vomiero (ICFO-Institut de Ciències Fotòniques)
11:30-12:00	[SO5-8] Fluorescence Quantum Yield in Perovskite Thin Films and Solar Cell Devices (Invited Talk)	Johann Toudert (ICFO-Institut de Ciències Fotòniques)
Time	Program	
	<b>[Session 5-4]</b> Spectral Conversion Materials for Energy Applications	
	<b>Chair:</b> Eva Hemmer (University of Ottawa), Alberto Vomiero (Luleå University of Technology)	
13:30-14:00	[SO5-9] Enhanced Wavelength Conversion Efficiency by Upconversion and Down Conversion Phosphors: Application in Dye Sensitized Solar Cell (Invited Talk)	Young Soo Kang (Sogang University)
14:00-14:30	[SO5-10] Insights on the chromophoric properties of the pigment eumelanin for solar energy conversion (Invited Talk)	Clara Santato (Polytechnique Montréal)
14:30-15:00	[SO5-11] Complex Ln-containing films and 3D structures from solution for up-conversion devices (Invited Talk)	Gunnar Westin (Uppsala University)
15:00-15:30	[SO5-12] Nanocrystals for Solar Flux Management: Luminescent Concentrators, Core-Shell Particles, and Plasma Synthesis (Invited Talk)	Noah Bronstein (National Renewable Energy Laboratory)
Time	Program	
	<b>[Session 5-5]</b> Spectral Conversion Materials for Energy Applications	
	<b>Chair:</b> Eva Hemmer (University of Ottawa) / Gunnar Westin (Uppsala University)	
15:50-16:20	[SO5-13] Photonic Crystal Assisted Spectral Conversion in Lanthanide Doped Sol-gel Materials (Invited Talk)	Rui Almeida (Instituto Superior Técnico)
16:20-16:50	[SO5-14] Rare earth-doped Y <sub>3</sub> Al <sub>5</sub> O <sub>12</sub> (YAG) nanophosphors: Synthesis and applications in energy-savings devices and nanomedicine (Invited Talk)	Gustavo A. Hirata (UNAM)
16:50-17:10	[SO5-15] Synthetic Strategies for Upconverting and Near-Infrared Emitting Lanthanide-doped Nanostructures	Eva Hemmer (University of Ottawa)