



## NIS Colloquium

### Photo and Electrochemical Cells for Solar Fuels (Materials and Eco Friendly Technologies for Artificial Photosynthesis)

Torino, Friday, March 28th, 2014

Castello del Valentino, Salone d'Onore (c/o Politecnico di Torino, Viale Mattioli, 39 Torino)

Organizers: L. Boarino, S. Bordiga, C. Minero, C. Nervi, P. Quagliotto, G. Saracco

#### PROGRAM

9.00 – 9.10 **Claudio Minero and Carlo Nervi** – NIS Università di Torino  
Introduction to the Colloquium

Chair: **Silvia Bordiga** (NIS Università di Torino, INSTM Consortium)

9.10 – 9.50 **Johan Martens** (Centre for Surface Chemistry and Catalysis – University of Leuven - Belgium)  
"Monolithic Photoelectrochemical cells for Solar Fuel Production"

9.50 – 10.20 **Stefano Caramori** (Dipartimento di Scienze Chimiche e Farmaceutiche – Università di Ferrara)  
"Functionalization of Surfaces with Fe(III) Water Oxidation Catalysts"

10.20-10.40 **Guido Saracco** (Dipartimento di Scienza Applicata e Tecnologia – Politecnico di Torino)  
"High-efficiency PEC reactors for solar fuels production"

10.40 – 11.00

**Coffee Break**

11.00 – 11.30 **Francesc Sastre Calabuig** (Dept. of Chemical Engineering – TU DELFT, The Netherlands)  
"Design of new photo-electrolysis cell toward the kinetics of CO<sub>2</sub> conversion"

11.30 – 11.50 **Chiara Gionco** (NIS and Dipartimento di Chimica – Università di Torino)  
"Defects and photochemical properties of bare and cerium doped zirconium dioxide"

11.50 – 12.10 **Teresa Andreu** (Advanced Materials for Energy Area, IREC – Barcellona, Spain)  
"CEOPS project: CO<sub>2</sub> - loop for Energy storage and conversion to Organic chemistry Processes through advanced catalytic Systems"

12.10 – 12.30 **Alberto Credi** (Photochemical Nanosciences Lab and Interuniversity Center for the Chemical Conversion of Solar Energy, Dipartimento di Chimica "G. Ciamician" – Università di Bologna)  
"Semiconductor nanocrystals: tunable chromophores for photoactive assemblies"

12.30 – 12.50 **Carlo Nervi** (NIS and Dipartimento di Chimica – Università di Torino)  
"Rhenium-based Photo- and Electro-catalysts for selective reduction of CO<sub>2</sub> to CO"

**Lunch**

Chair: **Roberto Gobetto** (NIS and Dipartimento di Chimica – Università di Torino)

14.10 – 14.50 **Alceo Macchioni** (Dipartimento di Chimica, Biologia e Biotecnologie – Università di Perugia)  
"Homogeneous and Heterogenized Iridium Catalysts for Water Oxidation"

14.50 – 15.10 **Alessandro Boni** (Dipartimento di Chimica "G. Ciamician" – Università di Bologna)  
"C-based Nanocomposite for electrocatalytic hydrogen evolution"

15.10 – 15.40 **Julio Lloret** (Departament de Química – Universitat de Girona, Catalunya, Spain)  
"Water Oxidation Catalysis with Nonheme Iron Complexes"

15.40 – 16.00 **Fabrizio Sordello** (NIS and Dipartimento di Chimica – Università di Torino)  
"Complexity in the photocatalytic hydrogen production on Pt-loaded TiO<sub>2</sub>"

16.00 – 16.20

**Coffee Break**

16.20 – 16.50 **Siglinda Perathoner** (Dipartimento DIECI, CASPE/INSTM and ERIC – Università di Messina)  
"Key issues in the development of exploitable PEC cells for solar fuels"

16.50 – 17.10 **Luca Boarino** (Quantum Research Labs & Nanofacility Piemonte, Electromagnetism Division – INRiM, Torino)  
"Nanostructured silicon electrodes and nanomembranes for energy applications"

17.10 – 17.30 **Massimiliano D'Arienzo** (Dipartimento di Scienza dei Materiali – Università di Milano - Bicocca)  
"Shape controlled TiO<sub>2</sub> and ZnO particles for the photocatalytic reduction of CO<sub>2</sub>"

17.30 – 17.50 **Gloria Berlier** (NIS and Dipartimento di Chimica – Università di Torino, INSTM Consortium)  
"CdS and Me<sub>x</sub>Zn<sub>1-x</sub>S photocatalysts for hydrogen production: synthesis, characterization and catalytic activity"

**Conclusion**

Registration is free but required: please send an e-mail to [pierluigi.quagliotto@unito.it](mailto:pierluigi.quagliotto@unito.it) by March 24<sup>th</sup>, 2014.