

Conference Program

22.09.2015 Tuesday

16:00 Registration

18:00-22:00 Dinner

23.09.2015 Wednesday

7:30-8:30 Breakfast

8:30 Conference opening

09:00-11:00 Session: Critical electron properties and their role in energy conversion and storage

09:00 **Józef Spałek** – *Critical Behavior of Electronic Structure in Correlated Electronic Systems: Mott Localization and from Classical to Quantum Criticality*

09:30 **Arumugam Manthiram** - *Structural and Electronic Stabilities of Oxide Cathodes for Lithium-Ion Batteries*

10:00 **Janina Molenda** – *Electronic Structure “Engineering” in the Na_xCoO_{2-y} Cathode System*

10:30 **Janusz Tobała** - *Calculation of Electronic Band Structure Complexity and Electron Transport Properties in Disordered Systems*

11:00-11:30 Coffee break

11:30-13:00 Session: Ionic and electronic processes in energy applications (Chairman: Arumugam Manthiram)

11:30 **Li Lu** - *Spinel-based cathode with extended capacity for high energy lithium-ion batteries*

12:00 **Christian Masquelier** - *Operando Neutron Diffraction Studies of Li-Ion Battery Electrodes*

12:30 **Tomasz Story** - *IV-VI Semiconductor Nanocomposites and Multilayers for Thermoelectricity and Infrared Optoelectronics*

13:00-15:00 Lunch

15:00-17:00 Session: Young Scientists Forum (Chairman: Janusz Tobała)

Anita Trenczek-Zajac, Michał Świętosławski, Beata Bochentyn, Marcin Małys, Wojciech Zajac, Marcin Kryński

17:00-18:30 Poster Session + Coffee (Chairman: Krzysztof Wojciechowski)

19:00 – Conference Banquet

24.09.2015 Thursday

7:30-9:00 Breakfast

09:00-10:30 Session: Energy conversion at high temperatures (Chairman: Constantinos Vayenas)

- 09:00 **Mogens Mogensen** - *Mechanism of electrode processes in SOFC*
- 09:30 **Thomas Graule** - *Y-doped Barium Zirconate prepared by Flame Spray Synthesis as Electrolyte for Intermediate Temperature Proton Conducting Fuel Cells*
- 10:00 **Krzysztof Wojciechowski** - *Thermoelectric Materials for Waste Heat Recovery*

10:30-11:00 Coffee break

11:00-12:30 Session: Hydrogen as an energy carrier (Chairman: Li Lu)

- 11:00 **Constantinos Vayenas** - *Proton conducting fuel cells and the hydrogenation of CO₂ to hydrocarbons*
- 11:30 **Ru-Shi Liu** - *Generation of Hydrogen by Solar Water Splitting of Photoelectrodes*
- 12:00 **Andrzej Czerwiński** - *Influence of temperature and electrolyte composition on hydrogen electrosorption in AB₅ alloy*

12:00-14:00 Lunch

- 14:00** – selection of:
- excursion to Morskie Oko (limited number of participants)
 - excursion to Dolina Kościeliska
 - thermal pools

19:00 Grill party

25.09.2015 Friday

7:30-9:00 Breakfast

09:00-10:30 Session: New materials for energy conversion systems (Chairman: Mogens Mogensen)

- 09:00 **Władysław Wiczorek** - *Designing New Electrolytes For Ambient Temperature Batteries*
- 09:30 **Paweł Kulesza** - *Nanostructured Hybrid Electrocatalytic and Photovoltaic Systems for Efficient Energy Conversion and Storage*
- 10:00 **Elżbieta Frąckowiak** - *Advances in Supercapacitor Operating in Aqueous Medium*

10:30-11:00 Coffee break

11:00-12:00 Session: Hydrogen – theory and applications (Chairman: Elżbieta Frąckowiak)

- 11:00 **Jerzy Kaleta** - *Monitoring of a New Generation of High Pressure Vessels for Hydrogen Storage*
- 11:30 **Czesław Pawlaczyk** - *Universal features of conductivity spectra in superprotonic (NH₄)₃H(SO₄)₂ single crystals*

12:00 Closing of the conference

12:15-14:00 Lunch