

Program Wednesday 23rd of May

07:30 – 08:45 **Registration**

08:45 – 09:00 Welcome (**Petr Novák**)

Session 1. Water-based batteries (Chairman: Petr Novák)

09:00 – 09:30 Keynote lecture: **Stefano Passerini** (HIU - KIT, Germany)

Towards Sustainable Batteries

09:40 – 10:00 **Maximilian Schuster** (PSI, Switzerland)

Investigation of Carbonophosphates as Cathode Material for Water-in-Salt Sodium-Ion Batteries

10:00 - 10:20 **David Reber** (EMPA, Switzerland)

A High-Voltage Aqueous Electrolyte for Sodium-Ion Batteries

10:20 – 10:50 **Coffee Break**

Session 2. Modelling (Chairman : Stefano Passerini)

10:50 – 11:30 Keynote lecture: **Marie-Liesse Doublet** (ICGM, France)

The Reversibility of Anionic Redox

11:30 – 11:50 **Aris Marcolongo** (EPFL, Switzerland)

Molecular Dynamics Simulations of Ionic Diffusion in Solid State Electrolytes

11:50 – 12:10 **Katja Fröhlich** (AIT Austrian Institute of Technology, Austria)

Electronic Structure Calculations of $\text{LiNi}_{1/3}\text{Mn}_{1/3}\text{Co}_{1/3}\text{O}_2$ Cathodes

12:10 – 14:00 **Lunch Break**

Session 3. Design of Electrodes (Chairman : Marie Liesse Doublet)

14:00 – 14:40 Keynote lecture: **Valérie Pralong** (CNRS Caen, France)

Design of Materials with Original Structures, Ionic Conducting Properties Materials for Energy Storage

14:40 – 15:00 **Elena Marelli** (PSI, Switzerland)

How to Overcome the P2-Phases Na Deficiency: a Proof of Concept

15:00 - 15:20 **Joanna Conder** (IS2M, France)

Electrode Engineering – a Key to Successful Implementation of the Hard Carbons into Na-ion Batteries

15:20 – 15:50 **Coffee Break**

Session 4. Na-ion Batteries (Chairman : Valérie Pralong)

15:50 – 16:20 Invited lecture: **Cyril Marino** (PSI, Switzerland)

Is There a Future for Na-ion Batteries?

16:20 – 16:40 **Fanni Juranyi** (PSI, Switzerland)

17:00 – 19:00 **Poster session & Apéro**

Program Thursday 24th of May

Session 5. Solid-State Electrolyte (Chairman : Cyril Marino)

09:00 – 09:40 Keynote lecture: **Renaud Bouchet** (LEPMI, France)

Block Copolymer Electrolytes

09:40 – 10:00 **Fabrizio Murgia** (Uni Genève, Switzerland)

Mixed Anion Sodium closo-carborane-borane as Electrolyte for All-Solid-State Batteries

10:00 - 10:20 **Marie Lachal** (University of Montreal, Canada)

Optimization of Perovskite-type Electrolytes for All-Solid-State Batteries using Spark Plasma Sintering

10:20 – 10:50 **Coffee Break**

Session 6. Battery Engineering (Chairman : Renaud Bouchet)

10:50 – 11:20 Invited lecture: **Ali Coskun** (Uni Fribourg, Switzerland)

Tailoring Supramolecular Polymers for High Capacity Electrodes in Lithium-ion Batteries

11:20 – 11:40 **Fabian Jeschull** (PSI, Switzerland)

Challenges and Limitations of Silicon as a Capacity Enhancing Additive in Graphite Electrodes

11:40 – 12:00 **Kostiantyn Kravchyk** (ETHZ/EMPA, Switzerland)

Anode Materials with High Areal Capacities for Lithium-Ion Batteries

12:00 – 12:20 **Josefa Vidal Laveda** (EMPA, Switzerland)

Stabilizing NMC811 in Full Cells

12:20 – 14:00 **Lunch Break**

Session 7. Electrolyte (Chairman : Ali Coskun)

14:00 – 14:30 **Corsin Battaglia** (EMPA, Switzerland)

Electrolytes for Next-Generation Rechargeable Batteries

14:30 – 14:50 **Laura Höltschi** (PSI, Switzerland)

Electrochemical Performance of High Voltage Cathodes in Sulfur based All-solid-state Batteries

14:00 - 15:10 **Petr Novák** (PSI, Switzerland)

In Situ Monitoring of F Formation in Lithium-ion Batteries by OEMS

15:10 – 15:40 **Coffee Break**

Session 8. Solid-State-Electrolyte (Chairman : Corsin Battaglia)

- 15:40 – 16:20 Keynote lecture: **Wolfgang Zeier** (Justus-Liebig-Universität Gießen, Germany)
On the Structural Chemistry of Thiophosphate Ionic Conductors and the Mechanochemical Influences in Solid-State Batteries
- 16:20 – 16:40 **Xiaohan Wu** (PSI, Switzerland)
Interfacial Reaction Mechanism between Amorphous $(Li_2S)_3-P_2S_5$ Solid Electrolyte and $LiCoO_2$ in All-Solid-State Batteries Elucidated by Operando XPS
- 16:40 – 17:00 **Leo Duchêne** (EMPA, Switzerland)
A Stable 3 V All-Solid-State Sodium-ion Battery based on a closo-borate Electrolyte
- 19:00 **Gala Dinner (Restaurant Hotel du Parc)**

Program Friday 25th of May

Session 9. Beyond Li-ion Batteries (Chairman : Kostiantyn Kravchyk)

- 08:30 – 09:10 Keynote lecture: **Alexandre Ponrouch** (CSIC, Spain)
The Challenges and Promise of Ca Metal Anode based Battery
- 09:10 – 09:30 **Shutao Wang** (ETHZ/EMPA, Switzerland)
Efficient Aluminum Chloride–Graphite Battery and Its Current Collector
- 09:30 – 10:00 **Sigita Trabesinger** (PSI, Switzerland)
Unappreciated Complexity of Li–S Battery
- 10:00 – 10:20 **Ismael Gracia** (CIC Energigune, Spain)
Cathode Development of All-Solid-State Li–S Batteries at CIC Energigune

10:20 – 10:50 **Coffee Break**

Session 10. Battery Characterizations (Chairman : Alexandre Ponrouch)

- 10:50 – 11:10 **Magali Cochet** (PSI, Switzerland)
Operando Neutron Imaging to Investigate Li-ion Transport in All-Solid-State Batteries
- 11:10 – 11:30 **Juliette Billaud** (PSI, Switzerland)
Visualisation of Hidden Stress in Li-rich Ni, Mn, Co Oxides upon Cycling using X-ray Ptychographic Tomography
- 11:30 – 11:50 **Marta Mirolo** (PSI, Switzerland)
XPEEM Nanoscale Surface Spectroscopy Applied to Li-ion Battery Electrodes: the Case of NCA cycled vs. LTO

11:50 – 13:30 **Lunch Break**

Session 11. Redox Flow Batteries (Chairman : Sigita Trabesinger)

- 13:30 – 14:00 Invited lecture: **Lorenz Gubler** (PSI, Switzerland)
Membranes for All-Vanadium Redox Flow Batteries – Current Development Trends

14:00 – 14:20 **Alexandra Patru** (PSI, Switzerland)

Insights into Performance and Degradation of Carbon based Negative Electrode in the All Vanadium Redox Flow Cell

14:20 – 14:40 **Elena Zanzola** (EPFL, Switzerland)

Enhanced Energy Storage in Aqueous Flow Batteries

14:40 – 15:00 Closing (**Petr Novák**)

15:00 – 16:00 **Farewell Coffee Break**