

Hanse-Wissenschaftskolleg  
Institute for Advanced Study

# Workshop

## Advanced Solid-State Batteries – Challenges and Opportunities of Interface Science

Delmenhorst, 22-23 June 2023

**Dr. Julian Schwenzel**  
Fraunhofer–Institute Manufacturing Technology  
and Advanced Materials IFAM, Bremen  
**Prof. Dr. Venkataraman Thangadurai,**  
University of Calgary and HWK Fellow

**Venue:**


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Program

## Thursday, 22 June 2023

11:30 - 12:00	<b>Registration and Welcome</b>
12:00 - 13:00	<i>Lunch</i>
13:00 – 13:05	<b>Opening Remarks - Michael Kastner, Head of Program Energy, HWK (host)</b>
	<b>Chairs: Drs. Venkataraman Thangadurai and Julian Schwenzel</b>
13:05 - 13:35	Interfaces of Solid Electrolytes in Galvanic Cells – The View from Solid-State Electrochemistry <b>Prof. Werner J.F. Weppner, Christian-Albrechts University, Kiel, Germany</b>
13:35 - 14:15	Understanding (effective) ionic transport in solids and solid-state batteries <b>Prof. Wolfgang Zeier, University of Munster, Germany</b>
14:15 - 14:55	Fast, faster, fastest: Ionic conduction in NaSICON materials <b>Dr. Frank Tietz, Forschungszentrum Jülich GmbH, Germany</b>
14:55 – 15:20	<i>Coffee Break</i>
15:20 - 16:00	“All” or “Almost” – How Solid will Batteries become? <b>Prof. Jürgen Janek, Justus Liebig University, Gießen, Germany</b>
16:00 – 16.30	ON a Quest: Holy Grail of Solid-State Batteries <b>Dr. John G. Muldoon, Toyota Research Institute of North America, USA</b>
16:30 – 17:00	Nature Communications <b>Dr. Prateek Dongare, Nature Communications, Berlin, Germany</b>
17:00 - 18:00	Poster Viewing and Networking
18:00 - 19:30	<i>Dinner</i>

## Friday, 23 June 2023

**Chair: Dr. Julian Schwenzel**

- 9:00 - 9:40 Ta-doped LLZO based solid state battery prepared by tape-casting  
**Prof. John Irvine, University of St. Andrews, United Kingdom**
- 9:40 - 10:20 Ultrathin Composite Solid Electrolytes for Stable Solid State Batteries  
**Prof. Stefan Adams, National University of Singapore, Singapore**
- 10:20 - 10:40 *Coffee Break*
- 10:40 - 11:20 Lithium, Interfaces & Action: Designing Solid Battery Materials  
**Prof. Jennifer Rupp, Technical University Munich, Germany**
- 11:20 - 12:00 Conductivity Mechanisms in Advanced Solid-State Electrolytes for Secondary Batteries  
**Dr. Gioele Pagot, University of Padova, Italy**
- 12:00 - 13.30 *Lunch / poster*

**Chair: Prof. Jennifer Rupp**

- 13:30 - 14:10 Fairy Tale – The Li Stuffed Garnets  
**Prof. Venkataraman Thangadurai, University of Calgary, Canada**
- 14:10 - 14:40 Dynamic impedance spectroscopy on batteries: acquiring new insights on materials and cells  
**Prof. Fabio La Mantia, University of Bremen, Germany**
- 14:40 - 15:40 Subgroup discussion with Coffee
- 15:45 - 15:55 Report from Group 1 (Cathode Interface) (Stefan Adams)
- 15:55 - 16:05 Report from Group 2 (Elemental anode) (Frank Tietz)
- 16:05 - 16:15 Report from Group 3 (Solid Electrolytes: Oxides-Halides-Sulfides-Hybrid) (Jennifer Rupp)
- 14:00 - 16:15 *Poster Presentation*
- 16:15 - 16:30 Final remarks: Dr. Venkataraman Thangadurai
- 16:30 *End of workshop and departure*

