

UCT 2018 - Conference Program

Program Overview of the UECT 2018

Monday, November 12th

Meet Your Future

ECS Student Chapter and Get Together

Panel discussion with select experts about career paths for young scientists followed by a get together at the Maritim Hotel Ulm.

Please find detailed information under menu item [Events - Get Together](#)

Tuesday, November 13th - Day 1

09:00 - 09:10 **Welcome**

Werner Tillmetz, ZSW Ulm

09:10 - 09:30 **Energy Turnaround in Transport through Hydrogen**

Steffen Bilger, Parliamentary State Secretary at the Federal Ministry of Transport and Digital Infrastructure (BMVI)

Session 1:

Critical Raw Materials for Batteries and Fuel Cells

Chair: Klaus Brandt, Lithium Battery Consultant

Co-Chair: Torsten Brandenburg, DERA/BGR

09:30 - 09:50 **Key Note:**

A Roadmap for xEV Propulsion and Energy Storage Systems and their Impact on Critical Raw Materials - an Outlook

Klaus Brandt, Lithium Battery Consultant

09:50 - 10:10 **Lecture 1.1.:**

Skyrocketing E-Mobility - Challenge for the Supply of Raw Materials?

Torsten Brandenburg, DERA/BGR

10:10 - 10:40 **Coffee Break**

10:40 - 11:00 **Lecture 1.2.:**

Cathode Materials Production vs. Raw Materials Supply - a Chinese Strategic Perspective

Elbert Loois, HiTech Materials Advisory

11:00 - 11:20 **Lecture 1.3.:**

The Impact of Fuel Cell and Battery Electric Vehicles on Critical Materials and Energy Supply

Reinhold Wurster, LBST; Werner Tillmetz, ZSW

11:20 - 11:40 **Lecture 1.4.:**

Raw Materials for Batteries - Mapping global transformations

Peter Zisch, BMW

11:40 **Opening Poster Session**

(open for both days)

12:00 - 13:30 **Lunch Break**

Session 2:

Advanced Lithium-Ion Batteries

Chair: Peter Lamp, BMW

- 13:30 - 13:50 **Key Note:**
Next Generation High Energy Li-ion Batteries
Margret Wohlfahrt-Mehrens, ZSW Ulm
- 13:50 - 14:10 **Lecture 2.1.:**
Approaches to Improvement of Silicon Anode Performance
Dee Strand, Wildcat Discovery Technologies
- 14:10 - 14:30 **Lecture 2.2.:**
Reducing the Demand for Critical Metals in Cathode Materials
Manuel Mendez, BASF
- 14:30 - 14:50 **Lecture 2.3.:**
Possibility of Safe Electrolytes - Road from Liquid to Solid
Paul Homburger, NOHMs Technologies
- 14:50 - 15:10 **Lecture 2.4.:**
Optimization of the anode structure to improve the fast charging capability of Li-ion Batteries
Ulrich Mähr, Volkswagen AG
- 15:10 - 15:30 **Coffee Break**

Session 3:

Lithium-Ion-Batteries: System Design, Production and Recycling Aspects

Chair: Arnold Lamm, Daimler AG

Co-Chair: Peter Birke, University Stuttgart

- 15:30 - 15:50 **Key Note:**
E.-Mobility 4.0 - What Characterizes an eDrive in 2025?
Arnold Lamm, Daimler AG; Peter Birke, University of Stuttgart
- 15:50 - 16:10 **Lecture 3.1.:**
Advantages and Challenges Designing Batteries with Bipolar Electrodes
Nicolas Lewkowicz, University of Berlin
- 16:10 - 16:30 **Lecture 3.2.:**
Sustainable Resource Management for Lithium-ion-Batteries
Paul Spurk, Umicore AG
- 16:30 - 16:50 **Lecture 3.3.:**
Batterie Strategy & Evolution
Bernd-Peter Elgas, EvoBus GmbH
- 17:00 **Poster Session Evaluation**
Jury to evaluate Poster Session
Organized by Olaf Böse
- 18:00 **UECT Award and Poster Award Ceremony**
Evening Event & Farewell Party for Werner Tillmetz
Dinner Speech by Herbert Zeisel
Federal Ministry of Education and Research

Wednesday, November 14th - Day 2

- 09:00 - 09:10 **Welcome**
Werner Tillmetz, ZSW Ulm
- 09:10 - 09:30 **Electric Aircraft - Requirements on Fuel Cells and Batteries**
Josef Kallo, University of Ulm

Session 4:

Fuel Cell and Battery Mobility - Experiences in Daily use

Chair: Oliver Hoch, NOW GmbH

Co-Chair: Lars Peter Thiesen, Opel Automobile GmbH

- 09:30 - 09:50 **Key Note:**
Overview on Fuel Cells and Batteries in Mobility Applications
Oliver Hoch, NOW GmbH
- 09:50 - 10:10 **Lecture 4.1.:**
Electric Mobility and Fuel Cells - an OEMs Perspective
Lars Peter Thiesen, Opel Automobile GmbH
- 10:10 - 10:40 **Coffee Break**
- 10:40 - 11:00 **Lecture 4.2.:**
2nd Generation of Fuel Cell Vehicles - Experience from 5 Years ix35
Kyung-Won Suh, Hyundai
- 11:00 - 11:20 **Lecture 4.3:**
Charging Concepts for E-Mobility - Actual Solutions and Challenges
Ursel Willrett, IAV GmbH

Session 5:

Post and Beyond Lithium-Ion Batteries

Chair: Andreas Hintennach, Daimler AG

Co-Chair: Maximilian Fichtner, HIU

- 11:20 - 11:40 **Key Note:**
Post and Beyond Lithium-ion Batteries
Andreas Hintennach, Daimler AG
- 11:40 - 12:00 **Lecture 5.1.:**
Polymer-Based Electrodes
Michael Buchmeiser, University Stuttgart
- 12:00 - 13:00 **Lunch Break**
- 13:00 - 13:20 **Lecture 5.2.:**
Silicon Anode Materials and Safety of Lithium-ion Batteries
Xinping Qiu, Tsinghua University
- 13:20 - 13:40 **Lecture 5.3:**
Next generation of automotive batteries
Peter Lamp, BMW

13:40 - 14:00 **Lecture 5.4:**
Solid-State Batteries - Solid Electrolytes, Electrode Interfaces and Full Cells
Dr. Felix Richter, Universität Giessen

Session 6:

Status and Challenges of Advanced Automotive Fuel Cell & Stack Technologies

Chair: André Martin, Powercell Sweden

Co-Chair: Thomas Mertens BMW

14:00 - 14:20 **Key Note:**
Global Status and Key Challenges of Automotive Fuel Cell Commercialization
André Martin, Powercell Sweden/Autostack Industrie

14.20 - 14:40 **Lecture 6.1.:**
Advanced Bipolar Plates for Automotive Applications
Joachim Scherer, DANA

14:40 - 15:00 **Lecture 6.2.:**
Status and Development of Fuel Cell Mass Manufacturing Processes
Thomas Mertens, BMW AG

15:00 - 15:20 **Lecture 6.3.:**
Influence of catalyst layer composition on MEA performance
Paritosh Kumar Mohanta

15:20 -15:50 **Coffee Break**

Session 7:

Fuel Cells for Future Mobility

Chair: Manuel Schaloske, e-Mobil BW

Co Chair: Alexander Kabza, ZSW Ulm

15:50 - 16:10 **Key Note:**
Efficient and Emissionfree: Fuel Cells Future Mobility
Alexander Kabza, ZSW

16:10 - 16:30 **Lecture 7.1.:**
High Performance PEMFC Modules for Transport Application
Michael Götz, ElringKlinger

16:30 - 16:50 **Lecture 7.2.:**
Durable Fuel Cells for Heavy Mobility
Bernd Pitschak, Hydrogenics

16:50 - 17:10 **Lecture 7.3.:**
Optimization of Overall Efficiency and Lifetime of Fuel Cell and Battery in the Coradia iLINT - The First Emission Free Regional Train for Non Electrified Tracks
Stefan Schrank, Alstom SA

17:10 **Closing of Conference**

Please note that parts of the program may still change. These are marked with "n.n." or "tbc".