

CALL FOR PAPERS

ADVANCED BATTERY POWER CONFERENCE 2018

APRIL 10-11, 2018 IN MÜNSTER/GERMANY

www.battery-power.eu
DEADLINE: 10/31/2017


Conference Chairs

Prof. Dr. Martin Winter, HI MS - Helmholtz Institute Münster, IEK-12, Forschungszentrum Jülich & MEET - Münster Electrochemical Energy Technology, WWU Münster

Prof. Dr. Dirk Uwe Sauer, ISEA - Institut für Stromrichtertechnik und Elektrische Antriebe, RWTH Aachen & HI MS - Helmholtz Institute Münster, IEK-12, Forschungszentrum Jülich

The conference „Advanced Battery Power Conference – Battery solutions for automotive and energy supply sector“ will take place in Münster on April 10-11, 2018. With 500 participants in the past years, Advanced Battery Power is one of the largest international scientific battery conferences in Germany and is the established meeting point for scientists and engineers from academia and industry. The conference covers the whole value chain from (new) materials to applications including cells, battery packs and system integration, with focus on performance, synthesis, characterization, manufacturing, engineering and recycling. Once again we expect more than 200 scientific contributions, which will make the conference another time a unique chance to learn about the latest trends in battery research and application.

The conference will also provide the opportunity to get to know the basics of battery technology during a tutorial-like parallel session. Experienced lecturers will present fundamental and techno-

logy specific issues of batteries, especially lithium-ion batteries. This goes along the whole value chain from the electrochemical essentials to production aspects and integration into applications. This mix of fundamentals and state of the art in research and development will be an excellent occasion to gain a broad insight into the field of battery storage systems. You may join the whole seminar or just selected lectures.

An utmost goal of the conference is fostering the networking between academia and industry. Therefore, we encourage especially representatives from the industry to submit contributions focusing on the requirements of the industry thus helping the interested academia to address these requirements in their research.

We invite you to share your recent scientific results, research projects, as well as industrial developments and strategies, either in oral or poster presentations, during our Symposium. **Conference language is English.**

Between the lecture sessions, sufficient time will be provided for poster sessions and for informal communication between symposium attendees. Members of universities and students will be granted significant discounts on conference fees.



TOPICS

1. Lithium ion cells: materials and improvements on properties

- › Active components (positive electrode materials, negative electrode materials)
- › Inactive components: electrolytes (solid, liquid, polymer and hybrid electrolyte systems), separators, housings, binders, additives, current collectors
- › Advances in power and energy density
- › Progress in cost reduction
- › New electrode and cell design: concepts and performance
- › Calendar life and cycle life
- › Safety: analysis and improvements on material and cell level
- › Theoretical, fundamental and microscopic models
- › New and advanced analytic methods in laboratories

2. Beyond and beside lithium-ion technology

- › Lithium/air, lithium/sulfur, lithium metal batteries
- › Non-lithium technologies (aluminum, calcium, potassium, sodium, magnesium, zinc, dual ion, etc.)
- › Progress on other battery technologies (any technology potentially suited for automotive or stationary applications)
- › Flow-batteries
- › Supercapacitors (incl. hybrids)

3. Batteries for 12 V and 48 V power systems

- › Requirements
- › Functional safety
- › Advances in lead-acid batteries, incl. technology, management, and diagnostics
- › Field experience and results of SLI batteries
- › Lithium-based batteries for SLI applications
- › Hybrids of lead-acid and lithium-based batteries
- › Hybrids of batteries and supercapacitors

4. Battery systems

- › Battery aging (experimental investigations, modeling, lifetime prediction, etc.)
- › Battery modeling (electrical, thermal, mechanical, performance, lifetime, parameterization, etc.)
- › Parametrization: impedance and physico-chemical approaches
- › Battery diagnostics (SOC, SOH, aging, performance, etc.)
- › Battery management: cell balancing, charge and thermal management, etc.)
- › Test procedures and results from field and laboratory tests on lifetime, performance and safety
- › Reliability of different battery pack designs

5. Automotive and mobile applications

- › Novel use of battery storage systems in automotive applications (requirements, solutions, future technologies, etc.)
- › Advances in battery electric vehicles and plug-in hybrid electric vehicles
- › Future on-board power supply technologies (12 V, 48 V, micro and mild hybrids, topologies, etc.)
- › Impact of ultra-fast charging on battery cell and system design
- › Combined battery systems (lead-acid, supercapacitors, li-ion, etc.)
- › Heavy-duty, public transport and off-road applications
- › Field experience, lifetime and reliability data, new technologies/applications, requirements and solutions to new applications

6. Stationary battery systems

- › Storage systems for grid stabilization, PV home storage, power supply for fast charging, teaming-up several services to one system, etc.
- › Second life / second use concepts, long-term storage of batteries
- › Field experience, operational strategies, lifetime, sizing tools, etc.
- › Vehicle to grid (PHEV and EV as grid elements)
- › Hardware challenges beyond the battery system (power electronics, safety, BMS hardware, EMV, etc.)

7. Production and recycling of battery systems and cells

- › Machinery and procedures for battery and cell manufacturing
- › Production process design
- › Optimized battery pack design (efficient production, new technologies)
- › Recycling (all relevant battery materials)
- › Scenarios for battery costs, production capacities, markets

8. Markets

- › Market overview (capacity, manufacturer, chemistries, cell designs, etc.)
- › Market forecast (automotive, stationary, consumables) for different regions and the world
- › Availability of raw materials

Please send your abstract at latest by October 31th, 2017 via upload on www.battery-power.eu