

HITEC Theme Day

Title: Next-Generation Li Batteries – Experiment and Theory

Date: 9th November 2016

Time: 9:15 – 15:45

Location: [Forschungszentrum Jülich](#) ► Bld. 04.7, Room 338

Batteries are an integral part of modern communications technology and thus enabler of today's information society. Current Li-Ion based batteries are almost developed to their maximum theoretical performance. Therefore, next generation technologies are needed to satisfy the increasing demand of future portable electronic devices. Additionally, the transformation of personal mobility, from gasoline powered to electric, adds new challenges and fields of development to existing and next generation batteries. Starting from Hoverboards and Pedelcs, fully electric cars could help to reach a cleaner and healthier environment, especially in large cities.

Fundamental research as well as application driven development of next generation batteries is thus required to realize their full potential and commercialization.

This workshop will give you insights into current research on next generation batteries by renowned experts in the field. Starting with the future developments of "state-of-the-art" Lithium ion batteries, it will introduce multiple concepts of next generation technologies, and cover the theoretical background and implications that need to be considered to successfully fabricate and analyze next generation batteries.

You will learn about:

- State-of-the-art Lithium ion batteries as well as concepts of next generation technologies

Contents:

- Lithium Ion Batteries – current limitations and future prospects
- Controlling interfaces to enable advanced Li-ion Technology
- Scale bridging modeling of material properties
- Meso-scale modeling of components and cells
- Characterization and modeling of all-solid-state batteries
- All-solid-state-batteries – materials synthesis and cell fabrication

Who should attend:

HITEC Ph.D.-fellows;

Postgraduate-, Ph.D.- and postdoctoral fellows from the fields of energy and climate research

HITEC Days

HITEC Days are an inherent part of the graduate school Helmholtz Interdisciplinary Doctoral Training in Energy and Climate Research (HITEC). They devote a whole day to a method or a scientific topic with lectures and discussions. The methodological days serve to encourage scientific interdisciplinarity and will enable the PhD students to extend their range of methods with respect to their own scientific work. HITEC Days always end with a 'Get together', some snacks and drinks. HITEC Days are open for HITEC Ph.D. students and other interested young scientists.