

HITEC Theme Day

- Title:** Electromobility
- Date:** 2013 November 28
- Time:** 09:00 – 16:30 o'clock
afterwards *get together* with snacks and drinks
- Location:** ► **Jülich, Building 14.6, Room 241**

Transportation worldwide is currently dominated by fossil fuels with high local emissions. A shift to electrification of road transport can offer options for resource protection, enhancing security of supply, zero local emissions, better energy efficiency and reduction of greenhouse gas emissions. At the same time the “Energiewende” in Germany sets increasing requirements for management of electric grids and power plant scheduling due to increasing share of renewable energies in electricity generation. If in the future a significant number of electric vehicles are in use, these offer the options to use their traction batteries for storing electricity from fluctuating sources and to control the time of charging. However the use for transportation as main purpose induces different operational conditions than for stationary energy storages. This raises the questions which restrictions apply to a concept like this and which effects are imposed on the power production and distribution by the use of electric vehicles.

You will learn:

Acquiring basic knowledge of vehicles and battery technology, electricity transportation and production infrastructures and energy supply systems with high penetration of renewable energy.

This information day will provide an overview of

- Electric vehicle and battery technologies
- Charging strategies and vehicle use
- Concepts of grid integration of electric vehicles
- Energy supply systems and scenarios

Contents:

- 1) Introduction of Electric Mobility and Vehicle to Grid Concept, J. Linssen, FZJ, IEK-STE
- 2) Conventional and Novel Power Trains for Road Vehicles: Which Options are Reasonable?, Prof. S. Marker, TU-Berlin
- 3) Batteries for Electric vehicles and new concepts, C. Günther, ZSW Ulm
- 4) Ford strategy of drivetrain electrification, H. Maas, Ford Forschungszentrum Aachen
- 5) Charging infrastructure and user behaviour, W. Hennings FZJ, IEK-STE
- 6) Electric grids and integration of electric vehicles, F. Gromann, TU Berlin
- 7) Energy Systems Analysis and Scenarios for EV integration, J. Linssen, FZJ-IEK-STE

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.