

## HITEC Methods Day

**Title: Materials and Compounds: Surface analysis**

**Date: 07.12.2011**

**Time: 8:45 – 17:00 o'clock**  
afterwards ***get together*** with snacks and drinks

**Location: Großes Senatssitzungszimmer, RWTH Aachen University,  
Templergraben 55**

Surfaces and surface interactions are essential for Energy and Climate Research. Ph.D.-students in the field therefore often deal with surfaces and surface effects, which have to be characterized by specific technologies. Therefore understanding these technologies is one key to success in daily life.

### You will learn:

- to receive an overview of the analytical technologies used;
- their physical basis;
- the practical implementation and application fields, as well as
- sampling;
- sample preparation;
- the requirements for the samples to avoid errors in sampling.

The objective is to gain a basic understanding of the technologies used in characterization of surfaces. In addition you will learn to understand:

- the interface between sample generation and measurement;
- the planning of experiments, taking into account the analysis and the meaningful interpretation of data to be communicated.

### Contents:

Presentation of techniques incl. application in energy and climate for

1. Surface and Thin Film Characterization using Mass- and Electron- Spectrometric Techniques, *Dr. U. Breuer, Jülich*
2. Application of surface technologies – tribology, *Prof. K. Bobzin, RWTH Aachen*
3. Electron microscopy; *Dr. E. Wessel, Jülich*
4. AFM of surfaces /solar cells/optical thin layers; *Dr. S. Pust, Jülich*
5. SNOM at surfaces /solar cells/optical thin layers; *Dr. K. Bittkau, Jülich*

### 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.