

HITEC Lab

Title: Characterization of materials and devices
Date: 11 + 12 December 2019
Time: 9 a.m. – 4:30 p.m.
Location: [Forschungszentrum Jülich](#) ► ZEA-3, Build. 04.8, R tbd

Part of the work at Jülich is the development of new materials as well as the use of new materials for energy applications. In these cases a detailed analysis of composition, the surface, modifications and changes within the materials (for example by aging) is necessary

The 2 day hands-on training course will provide basic information on the analytical techniques available at ZEA-3 including ICP-OES/-MS; SIMS, Atomprobe, XPS, Chemisorption and NMR. Requirements of samples as well as possibilities and limitations of the techniques will be discussed and the projects of the Ph.D. will be discussed with respect of possible contributions by the ZEA-3 techniques.

You will learn:

- Introduction into the analytical techniques and partial examples of contributions of analytics to the research in projects at Jülich
- First basic on your project in analytical characterization will be discussed and started.

Methods:

- 1) 1 day theoretical background, application fields and project discussions (see programme on the next page)
- 2) 1 day hands-on training on your projects

The HITEC Labs are hands-on periods of practical training lasting 2 to 3 days, in which small groups of students from various institutes concentrate on one method that is applied in various fields. The aim of the HITEC Labs is to enable the PhD students to appreciate that a method originating from an unrelated field may also be applied in their own work. If students should discover that they require more intensive instruction in applying the method than can be imparted during the HITEC Lab, then they can make arrangements with PhD students at the institute in question to work at the institute for a limited period.

HITEC Method Day

Title: Characterization of materials and devices

Date: 11 December 2019

Time: 09:00 – 15:45
afterwards *get-together*

Location: [Forschungszentrum Jülich](#) ► Bld. 04.8, Room 365 (lecture hall)

09:00 – 9:10	Welcome and Introduction
9:10 – 10:10	Bulk and trace element analytics
	Coffee break
10:30 – 11:30	Surface/layer characterization techniques I
	Lunch-break – at own costs for Docs
12:30 – 13:30	Surface/layer characterization techniques II
	Coffee break
13:45 – 14:45	Material Characterization by NMR-techniques
14:45 – 15:30	Discussion of examples and project ideas of the participants
15:30 – 15:45	Questions, Answers & Feedback
15:45	Get-Together