

# International Workshop on

# Industrial research using synchrotron and neutron methods



**Dec. 3, 2013, Berlin, Germany**

at HZB, Kekuléstr. 7, 12489 Berlin-Adlershof

## **Invited speakers**

Tobias Enzenhofer, Berner & Mattner

Ingwer Denks, Salzgitter Mannesmann

Thorsten Manns, Walter AG

José Garcia, Sandvik

Roberto Coppola, ENEA



## **Industrie Workshop HZB, 3. Dez. 2013**

Helmholtz-Zentrum Berlin, Kekuléstr. 7, 12489 Berlin-Adlershof, Geb. 13.10, Raum 6

Innovation requires best analytical methods to study structure and function of novel materials. Synchrotron radiation and neutron scattering are complementary analytical methods to investigate any kind of matter, to probe structure, composition and interaction in order to improve and understand materials. Application of synchrotron and neutron methods for industrial research include the analysis of chemical compositions by diffraction and spectroscopy, non-invasive measurement of stress and strain in mechanical components, high resolution imaging of working systems and many other topics.

To present and discuss current state of the art usage of synchrotron and neutron methods in industrial research an international workshop is organized by the Helmholtz Zentrum Berlin für Materialien und Energie GmbH operating and offering access to the synchrotron source BESSY II and the neutron source BER II. A number of invited presentations are given by industrial users and researchers highlighting state of the art investigations with synchrotrons and neutrons in important areas as e-mobility, smart materials or photovoltaics. The presentations are given in English and german.

The one day workshop is a satellite workshop to the 5th Joint BER II and BESSY II User Meeting on Dec. 4-6 at HZB and is free of charge to the participants. The organizers acknowledge kindly the financial supported by the FP7 EU Access Programs Calipso and NMI3-II to the workshop.

Manuela Klaus

Christoph Genzel

Thomas Gutberlet

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### Program

10:00	<b>Welcome</b>
10:10	Manuela Klaus, HZB <i>Einsatz von Röntgen-, Synchrotron- und Neutronenmethoden in der industriellen Materialforschung: Von der Oberfläche bis ins Bauteilvolumen</i>
10:40	Tobias Enzenhofer, Berner & Mattner <i>Innovative engineering services for E-Mobility – investigations of energy storage systems with synchrotron x-rays</i>
11:00	Ingwer Denks, Salzgitter Mannesmann <i>Designing Microstructure in High Strength Steels</i>
11:20	<b>Coffee break</b>
11:40	Thorsten Manns, Walter AG <i>Advantages of Synchrotron Radiation for the Development of Modern Cutting Materials</i>
12:00	José Garcia, Sandvik <i>Current Developments in Hard Metal Industry – Challenges for a Complete Micro Structure Characterization</i>
12:20	Roland Mainz, HZB <i>Real-time diffraction and fluorescence analysis for the development of thin film fabrication processes</i>
12:40	<b>Lunch</b>
13:30	Ingo Manke, HZB <i>Tomographie und Radiographie mit Synchrotronstrahlung und Neutronen</i>
14:00	Mathias Richter, PTB <i>t.b.a.</i>
14:20	Giovanni Bruno, BAM <i>Evaluating Porosity and Properties in Diesel Particulate Filter Ceramics: a Problem to solve with Neutrons and Synchrotron Radiation.</i>
14:40	<b>Coffee break</b>
15:00	Arne Kromm, BAM <i>Capabilities of Diffraction Techniques in Welding Research</i>
15:20	Roberto Coppola, ENEA <i>t.b.a.</i>
15:40	Rodrigo Coelho, HZB <i>t.b.a.</i>
16:00	<b>End of Workshop</b>