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**Thursday, September 12, 2013**

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- 12:00 Registration  
13:00 Welcome  
*A.-C. Dippel, DESY, Hamburg, Germany*  
13:05 Photon Science at DESY  
*H. Franz, DESY, Hamburg, Germany*

**13:30 - 14:15 Lecture**

- 13:30 Intensity - Resolution - Energy,  
triggers for advanced analysis of phase transitions from XRPD data  
*R. Dinnebier, Max Planck Institute for Solid State Research, Stuttgart, Germany*

**14:15 - 14:45 Frontiers of high energy powder diffraction I**

- 14:15 Photon-counting pixel detectors with "high-Z" sensors for high-energy experiments  
*D. Pennicard, DESY, Hamburg, Germany*

14:45 Coffee break

**15:15 - 16:45 Synchrotron powder diffraction beamlines**

- 15:15 High resolution powder diffraction at ESRF  
*A. Fitch, ESRF, Grenoble, France*  
15:45 The X-ray powder diffraction wiggler project beamline at NSLS-II  
*E. Doryhee, NSLS-II, Brookhaven National Lab, Upton, New York, USA*  
16:15 The high resolution powder diffraction beamline P02.1 at PETRA III  
*A.-C. Dippel, DESY, Hamburg, Germany*

16:45 Coffee break

**17:00 - 18:00 Energy materials in situ and in operando**

- 17:00 *In operando* studies on battery materials - capabilities of the beamline P02.1 and recent results  
*M. Herklotz, Technical University Dresden, Germany*  
17:30 Gas-solid reactions and novel hydrogen storage materials investigated by in-situ SR-PXD  
*T. Jensen, Aarhus University, Denmark*

18:00 Tours of P02.1 and PETRA III

19:00 Dinner

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**09:30 - 10:20 Frontiers of high energy powder diffraction II**

- 09:30 Exploring P02.1 beam quality for PXRD  
*J. Als-Nielsen, Copenhagen University, Denmark*  
09:55 Experimental determination of core electron deformation in diamond  
*N. Bindzus, Aarhus University & iNANO, Denmark*

10:20 Coffee break

**10:30 - 12:00 Dynamics of chemical reactions**

- 10:30 *In-situ* X-ray scattering studies of nanoparticle formation and growth  
*B. Brummerstedt-Iversen, Aarhus University & iNANO, Denmark*  
11:00 *In situ* investigation on the crystallization of metal phosphonocarboxylates  
*N. Hermer, Christian-Albrechts-Universitaet Kiel, Germany*  
11:20 Evolution of Crystalline Order during Nucleation of ZnO Nanoparticles via in-situ PDF  
*M. Zobel, University Erlangen, Germany*  
11:40 Ultrafast in-situ SAXS/WAXS investigation of nucleation and growth of CdS quantum dots  
*A. Schiener, University of Erlangen-Nuernberg, Germany*

12:00 Lunch & poster session

**14:00 - 15:20 Structure of materials under real conditions in real time**

- 14:00 Tempering performance of the world's first bulk nanocrystalline steel  
*C. Hulme-Smith, University of Cambridge, UK*  
14:20 Influence of oxygen on the  $\omega$  phase and  $\alpha''$  martensitic transformation in aged gum metal  
*J. Zhang, Max Planck Institute for Iron Research, Düsseldorf, Germany*  
14:40 In-situ XRD study of ion irradiated Fe-Cu-Nb-Si-B based metallic alloys  
*S. Michalik, Academy of Sciences of the Czech Republic, Prague*  
15:00 Following Crystallisation of Metal Organic Framework Materials in situ Using Time-Resolved High Energy X-ray Diffraction  
*R. Walton, University of Warwick, UK*

15:20 Discussion

16:00 End of workshop