

**Programm des 1. Workshops des SPP 1236
„Strukturen und Eigenschaften von Kristallen bei extrem
hohen Drücken und Temperaturen“**

Ort: Bonifatiuskloster, Hünfeld

Dienstag, 31 Oktober:

12:00 Mittagessen

14:00 **-Prof. B. Winkler:** Organizational

14:15 **-Dr. A. Friedrich:** Central laser-heating facility (20 min. incl. Diskussion)

14:35 Vorstellungsblock: *Oxonitride*

-Prof. R. Dronskowski: Quantum-chemical prediction and computational characterization of high-pressure transition metal nitrides and oxonitrides

-Prof. J. Kortus, Prof. E. Kroke, Prof. G. Heide: The system Si-Al-O-N at extreme pressures: A synthetic and computational route to novel materials?

-PD.Dr. H. Huppertz, Dr. I. Kinski: High-pressure synthesis of gallium oxonitrides and indium oxonitrides and their solid solutions

-PD.Dr. P. Kroll, Prof. W. Schnick: High-pressure phases of nitrido-silicates and oxonitridosilicates

16:00 Kaffeepause

16:30 Vorstellungsblock: *Carbide und nitride*

-Prof. R. Niewa, PD.Dr. U. Schwarz: Nitride chemistry of geomaterials: Formation, crystal structures and properties of multinary metal nitrides prepared at high pressures

-Prof. B. Winkler: High-(P,T) properties of tantalum and titanium carbides and nitrides

-Dr. L. Dubrovinsky: Synthesis and in-situ characterization of boron-doped superhard nanodiamond materials

17:50 Organization der Cluster

18:00 Diskussionsrunde über die Instrumentierung der "extreme conditions beamline" an Petra III

18:30 Abendessen

19:30 Treffen der „Cluster“

20:00 Klosterstube

Mittwoch, 1 November:

8:00 Frühstück

8:45 Vorstellungsblock: *Mineralien*

-Prof. W. Heinrich: Ammonium in high-pressure minerals - a sink for hydrogen and nitrogen in the Earth's mantle

-PD.Dr. K. Knorr, Dr. S. Jahn: Synthesis, structure and properties of carbonates at earth-mantle conditions

-PD.Dr. M. Koch-Müller: Water partitioning between coexisting olivine (*ol*) and wadsleyite (*wads*) and the effect of the OH-defect concentrations on the P-T-x coordinates of the *ol/wads* phase transformation

-Dr. C. Mc Cammon: High-pressure high-temperature ^{57}Fe Mössbauer spectroscopy in laser-heated diamond anvil cells: Applications for the mineralogy of Earth's lower mantle and core

-Prof. F. Schilling: Synthesis, *in situ* characterisation and quantum mechanical modelling of Earth materials, oxides, carbides and nitrides at extremely high pressures and temperatures

10:30 Pause

10:50 Vorstellungsblock: *Weitere Verbindungen*

-Prof. V. Schnüremann: Iron dynamics in earth mantle minerals probed by Mössbauer spectroscopy using synchrotron radiation

- **Prof. M. Jansen:** High-pressure high-temperature synthesis and *in situ* characterization of new compounds with special electronic transport properties, using "lone-pair" oxides, fluorides and selenides of elements from groups 14-16

-Prof. B. Mihailova: High-pressure-induced renormalization phenomena in lead scandium niobates and tantalates with relaxor behaviour

12:00 Mittagsessen

13:00 Abfahrt