

# IRTG Doctoral Seminar, 14.-15. September 2017

## Program

### Thursday, 14.09.

	0900	Frost	Welcome
1	0900-0920	<b>J. Polednia</b> , K. Marquardt, R. Dohmen	Grain boundary diffusion and its relation to grain boundary segregation of multiple elements in Yttrium Aluminum Garnet (YAG) - an experimental study using the bicrystal setup, TEM and numerical modeling
2	0920-0940	<b>F. Ferreira</b> , K. Marquardt	Strain effects on the grain boundary plane distribution of olivine
3	0940-1000	<b>Y. Huang</b> , T. Nakatami, M. Nakamura, C. McCammon	Experimental constraints on the dihedral angle between olivine and multicomponent aqueous fluids in the upper mantle conditions
4	1000-1020	L. Wang	The effect of water on dislocation mobility in olivine
5	1020-1040	J. Immoor	Experimental deformation of (Mg,Fe)O ferropericline at conditions of the lower mantle
	<b>1040-1110</b>	<b>Coffee Break</b>	
6	1110-1130	J. Buchen	Single-crystal elasticity of iron-bearing wadsleyite at high pressures and high temperatures: Seismic signals of water in the shallow transition zone
7	1130-1150	K. Schulze	Elastic properties of Ringwoodite and the effect of hydration at transition zone pressures
8	1150-1210	N.-C. Siersch	Elastic wave velocities of Fe- and Al-bearing akimotoite by means of ultrasonic measurements
9	1210-1230	R. Huang	The density of bridgmanite as a function of chemical composition and oxygen fugacity
	<b>1230-1330</b>	<b>Lunch Break</b>	
10	1330-1350	D. Vasiukov	Investigation of the oxidation state of Fe in iron-aluminum-bearing silicate perovskites synthesized in laser heated DACs at conditions of Earth lower mantle
11	1350-1410	J. Yao	Liquid and glass structure of Mg <sub>2</sub> SiO <sub>4</sub> and MgSiO <sub>3</sub> under high pressure

12	1410-1430	<b>F. Maeda</b> , S. Kamada, E. Ohtani, N. Hirao, T. Mitsui, R. Masuda, M. Miyahara, C. McCammon	Mössbauer study of basaltic glass at lower mantle conditions
13	1430-1450	<b>K. Armstrong</b> , D.J. Frost, D.C. Rubie, C.M. McCammon, T. Boffa-Ballaran	The effect of pressure on iron speciation in silicate melts at a fixed oxygen fugacity: the possibility of a redox profile through a terrestrial magma ocean
14	1450-1510	<b>N. Araya</b> , M. Nakamura, S. Okumura	Incubation processes of the historic Plinian eruptions at Sakurajima Volcano inferred from phenocrystic and inclusion magnetite
	<b>1510-1540</b>	<b>Coffee Break</b>	
15	1540-1600	<b>P. Eichheimer</b> , M. Thielmann, G.J. Golabek	Towards modelling of water inflow into the mantle
16	1600-1620	<b>W. Fujita</b> , M. Nakamura	Grain growth-induced fluid expulsion in synthetic quartzite
17	1620-1640	G. Rustioni	Experimental constraints on trace element mobility in subduction zone fluids
18	1640-1700	D. Druzhbin	Low water solubility in wadsleyite at mantle transition zone redox state
	1700-1800	Pierre Cartigny <i>Institut de Physique du Globe de Paris</i>	The Deep Carbon Cycle evaluated through stable carbon and nitrogen isotopic analyses of diamonds
	ca. 18:00	<b>Finish</b>	
		<b>Beer and Bretzel</b>	

## Friday, 15.09

19	0900-0920	<b>D. Simonova</b> , E. Bykova, M. Bykov, T. Kawazoe, L.S. Dubrovinsky	High pressure behaviour of $\delta$ -AlOOH
20	0920-0940	<b>I. Ohira</b> , J. M. Jackson, W. Sturhahn, G. J. Finkelstein, S. Kamada, T. Kawazoe, F. Maeda, N. Hirao, S. Nakano, A. Suzuki, E. Ohtani	X-ray diffraction and nuclear resonance scattering measurements $\delta$ -(Al, Fe)OOH at lower mantle pressures
21	0940-1000	S. Chariton	Looking for carbonates in the deep Earth: An experimental approach at extreme conditions
22	1000-1020	E. Koemets	Synthesis of high pressure iron carbonate from elements above 1 megabar
23	1020-1040	<b>F. Wagle</b> , G. Steinle-Neumann	Electrical resistivity of liquid iron with high concentration of light element impurities
	<b>1040-1110</b>	<b>Coffee Break</b>	
24	1110-1130	<b>L. Yuan</b> , E. Ohtani, D. Ikuta, S. Kamada, H. Naohisa, Y. Ohishi, A. Suzuki	Chemical reactions between Fe and H <sub>2</sub> O up to megabar pressures and implications for water storage in the Earth's mantle and core
25	1130-1150	G. Aprilis	Chemical interaction of iron with diamond anvils in pulsed and continuous wave laser heated diamond anvil cells

26	1150-1210	S. Khandarkhaeva	Single crystal diffraction above 200 GPa
27	1210-1230	A. San Jose Mendez	Superfast X-Ray diffraction of (MgFe)O across the spin transition under dynamic compression
	<b>1230-1330</b>	<b>Lunch Break</b>	
	<b>1330 !!</b>	<b>Departure Excursion</b>	<b>parking area in front of BGI entrance</b>

## Poster:

<b>A</b>		R. Arato	FeTiMM - a simple method to reconstruct magmatic $fO_2$	
<b>B</b>		L. Eberhard	Fluid-induced decarbonation reactions in subduction zones	
<b>C</b>		H. Guo	Transfer of volatiles and metals from mafic to felsic magmas in composite magma chambers	
<b>D</b>		T. Yoshioka	Nitrogen solubility in transition zone and lower mantle minerals	
<b>E</b>		N. Satta	High pressure elasticity of hydrous minerals	
<b>F</b>		M. Putak-Juricek	Amphibole stability in the mantle	

## Excursion:

Friday, Sept. 15

	from 1330	<b>Exkursion</b>	
	14:30	Arrival Museum Parkstein	Dr. A. Peterek/Geopark-Ranger <a href="http://www.vulkanerlebnis-parkstein.de/en/">http://www.vulkanerlebnis-parkstein.de/en/</a>
	14:30-16:10	Geopath, Rock cellars, volcano „eruption“	2 Geopark-Rangers
	16:10-16:30	Transfer to GeoZentrum KTB, Windischeschenbach (former deep drilling site)	<a href="http://www.geozentrum-ktb.de/frameset-Infos.htm">http://www.geozentrum-ktb.de/frameset-Infos.htm</a>
	16:30-18:00	Introduction, film, exhibition drilling equipment drilling rigg, recovered samples	Dr. F. Holzförster/Geo-Zentrum an der KTB
	18:30	Zoigl-Stube Fiedlschneider in Windischeschenbach (typical regional family run pub)	
	20:00	Departure	
	21:00-21:30	Return to Bayreuth	