

# 4<sup>th</sup> International Seminar “High-Pressure Mineralogy: Theory and Experiment”

Conveners: Toru Inoue, Andrey Bobrov

**Date: January 17th (Mon) and 18th (Tue), 2022**

**7:00-10:35 (France and Italy time)**

**9:00-12:35 (Moscow time)**

**15:00-18:35 (Japan time)**

**Zoom online seminar (by using Hiroshima University Zoom)**

**1<sup>st</sup> day: January 17 (Mon) , 2022**

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**Russia-Japan online Seminar (1st day) January 17 (Mon)**

**Zoom Meeting (Open from 8:30 in Moscow time, 14:30 in Japan time)**

**Meeting ID:**

**Pass code:**

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**(shown by Japan time)**

**15:00-15:05** Opening remarks

**15:05-15:25** (20 min) Dr. Fukuyama (Ehime University)

Increase of nitrogen solubility with increasing iron concentration in lower-mantle minerals:  
formation of deep nitrogen reservoir through solidification of magma ocean

**15:25-15:45** (20 min) Master's Stud. Ohta (M2 in Hiroshima University)

Effect of Al on high pressure hydrous minerals stable under mantle transition zone P-T condition

**15:45-16:05** (20 min) PhD Stud. Kawamura (D2 in Tohoku University)

Carbon isotope fractionation during the formation of Diamond from Stearic acid under HP-HT  
condition

**Break (15 min)**

**16:20-16:40** (20 min) PhD Stud. Ohashi (D2 in Tohoku University)

Structure of basaltic glass at pressures up to 18 GPa by in-situ X-ray and neutron diffraction  
experiments

**16:40-17:20** (40 min) Prof. Hirata (Tokyo University)

Recent Progress in Laser Ablation-ICPMS Technique for Geochemistry and Geochronology

**Break (15 min)**

**17:35-17:55** (20 min) PhD Stud. Ikeda (D1 in Tohoku University)

Elastic properties of  $\epsilon$ -FeOOH across the spin transition of iron under pressure

**17:55-18:35** (40 min) Dr. Angelika Rosa (ESRF, France & Hiroshima University)

Where are the missing volatiles? - The Earth's lower mantle as a possible reservoir

## 2<sup>nd</sup> day: January 18 (Tue) , 2022

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Russia-Japan online Seminar (2nd day) January 18 (Tue)

Zoom Meeting (Open from 8:30 in Moscow time, 14:30 in Japan time)

Meeting ID:

Pass code:

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(shown by Japan time)

**15:00-15:20** (20 min) Prof. Nikolai Eremin (Moscow State University)

Estimates of isomorphic substitutions in mantle phases: Methodological aspects and predictive instruments of atomistic simulation

**15:20-15:40** (20 min) Prof. Dmitry Zedgenizov (Zavaritskii Institute of Geology and Geochemistry)

Geochemical heterogeneity of diamondiferous substrates of sublithospheric mantle

**15:40-16:00** (20 min) Prof. Andrey Bobrov (Moscow State University)

Interphase REE partitioning in the model hydrous/carbonate-bearing pyrolite at the transition zone/lower mantle boundary

Break (15 min)

**16:15-16:35** (20 min) PhD Stud. Anastasiya Kalugina (Novosibirsk State University)

Raman spectroscopy of coesite inclusions in natural diamonds

**16:35-16:55** (20 min) PhD Stud. Anastasiia Iskrina (Moscow State University)

Post-spinel phases in the Earth's mantle: Natural and experimental data

**16:55-17:15** (20 min) Dr. Ekaterina Matrosova (Vernadsky Institute of Geochemistry and Analytical Chemistry)

Titanium-bearing phases in the MgO–SiO<sub>2</sub>–TiO<sub>2</sub>±Al<sub>2</sub>O<sub>3</sub> system at 10–24 GPa and 1600°C: Phase relations, structural features and solid solutions

Break (15 min)

**17:30-17:50** (20 min) PhD Stud. Aleksandra Bendeliani (Moscow State University)

Ti and Cr in mantle phlogopite

**17:50-18:10** (20 min) Prof. Konstantin Litasov (Institute for High Pressure Physics)

Trace element composition of moissanite (SiC) found in different natural environments: Local super-reduced conditions in the Earth's mantle and crust or accidental anthropogenic contamination

**18:10-18:30** (20 min) Prof. Luca Bindi (University of Firenze, Italy)

Iron-Magnesium Silicates in Rocky Planetary Interiors: Have we really discovered it all?

**18:30-18:35** Closing remarks

**1st International Seminar “High-Pressure Mineralogy: Theory and Experiment”  
(Moscow State University, Russia, October 22, 2015)**



**2nd International Seminar (Miass, Russia, August 5, 2017)**



**3rd International Seminar (Moscow, Russia, September 3, 2018)**





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**Co-sponsors: Hiroshima Institute of Plate Convergence Region Research (HiPeR), Department of Geology, Moscow State University**

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