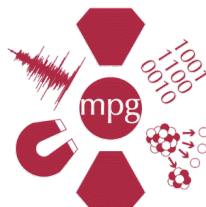


Mineral Physics Group Research in Progress Meeting

Schedule



Wednesday 1st November

13:00 - 13:10: Welcome

13:10 - 13:40: Geoff Bromiley *The formation of metallic cores in terrestrial planets: novel, time-resolved, in-situ observation of percolation under extreme conditions*

13:40 - 13:55: Marisa Wood *Sound velocities of fcc-Fe at lunar core conditions: result from ab initio calculations*

13:55 - 14:10: Fred Wilson *Thermochemical solution properties of silicate liquids at extreme conditions and implications for the magma ocean*

14:10 - 14:25: Nicci Potts *The lunar interior as a window into the early Earth*

14:25 - 14:40: Tea

14:40 - 15:10: Elisabetta Mariani *The rheology of bridgmanite analogues: implications for the strength of the lower mantle*

15:10 - 15:25: Simon Hunt *Rheology of olivine and ringwoodite/spinel structures in Co_2SiO_4 and Ni_2SiO_4*

15:25 - 15:40: Kiran Chotalia *Water, viscosity and mantle convection: the effects of weakening and mixing*

15:40 - 17:00 Posters (over)

Thursday 2nd November

09:00 - 09:20: Coffee

09:20 - 09:50: Richard Harrison *Magnetic microscopy of metallic meteorites: probing the magnetic state of the early solar system*

09:50 - 10:05: Isra Ezad *Grain growth kinetics of ringwoodite and majorite garnet mixtures and implications for the rheology of the transition zone.*

10:05 - 10:20: Sandra Piazzolo *Making and Breaking of Minerals, Rocks and Planets: A Textural Perspective*

10:20 - 10:35: Jack van Driel *Effect of pressure on shear coupled grain boundary migration*

10:35 - 10:55 Coffee

10:55 - 11:10: John Wheeler *Stress and mineral transformation*

11:10 - 11:25: Josh Einsle *The potential for mineralogical mapping through machine learning*

11:25 - 11:40: Benedict Heinen *Solubility of water in Ca-rich perovskite under lower mantle conditions*

11:40 - 12:20: Lidunka Vočadlo *Ab initio calculations on and iron alloys at inner core conditions*

12:20 - 12:30: Discussion and close of meeting

Thursday afternoon

Although not part of the formal meeting schedule, we have some activities planned that can take place during the afternoon, after the meeting.

Lunch we will provide lunch (12:30 - 13:00) for anybody choosing to stay in Leeds in the afternoon and to encourage discussion after the meeting.

Strategic discussion we have set aside space and time (13:00 - 14:00, and 15:00 - 17:00 if needed) to allow discussion of strategic issues of relevance to the mineral physics community. In particular, we are interested in scoping the possibility of establishing an atom probe tomography facility for geoscience in the UK. Please contact the organisers if you would like to see discussion of any other matter.

The weekly Institute of Geophysics and Tectonics seminar will take place from 14:00 - 16:00 on Thursday 2nd November. This week Sami Mikhail will present a seminar on *The relationship between volcanism, tectonism, and atmospheric development on billion-year timescales*. Delegates should feel free to attend this seminar.

Posters

The poster session runs from 15:40 on Wednesday 1st November.

Poster 1: Helen Chappell *The Structure of Naturally Hydrated Ferrihydrite*

Poster 2: Chris Gregson *Novel microstructural analysis of slip systems in olivine and orthopyroxene*

Poster 3: Joshua Muir *The effect of water on the postspinel transition*

Poster 4: Philipp Prasse *Deforming salt bodies and seismic anisotropy*

Poster 5: Ben Todd *Simulating the thermal conductivity of lower mantle bridgmanite as a function of temperature, pressure, and composition*

Poster 6: Andrew Thomson *Storage of hydrogen in ringwoodite*

Poster 7: Andrew Walker *Towards mineralogical models to constrain temperature variation in the lowermost mantle*