

New Views on the Earth's Interior

A joint BGA and Mineralogical Society Meeting

February 12-13, 2009

Burlington House, Piccadilly, London W1J 0BQ

<http://www.minersoc.org/pages/groups/minphys/minphys.html#views>

Thursday, February 12, 2009

09:30 - 10:00 a.m. Registration, coffee and poster hanging.

10:00 - 10:05 a.m. Introduction to meeting

Session 1

Session Chair: Dave Dobson

10:05 a.m. Don Weidner (Invited)

Effect of phase transformations on seismic velocities

10:35 a.m. Ana Ferreira

How well can we constrain global radial anisotropy in the Earth's upper mantle and transition zone?

10:55 a.m. Sergei Lebedev

Seismic structure and dynamics of continental lithosphere: New constraints from broad-band surface-wave dispersion

11:15 a.m. Stuart Crampin

A new understanding of fluid-rock deformation in crust and upper mantle

11:35 a.m. Andreas Rietbrock (Invited)

Dehydration processes in the subducting slab: Seismological observations from the Andean subduction zone

12:00 - 1:30 p.m. **Posters and Lunch**

Session 2

Session Chair: Richard Harrison

1:30 a.m. Graham Pearson (Invited)

Depleted domains in the convecting upper mantle – constraints from Os isotopes

1:55 p.m. Dave Prior

Grain-boundary sliding and the development of anisotropy

2:15 p.m. Jeannot Trampert

Global variations of temperature and water content in the mantle transition zone from higher mode surface waves

Session 3

Session Chair: Andrew Walker

- 2:35 p.m. Thorne Lay (Invited)
Complex reflectivity of P-wave and S-wave structure in the D" Region
- 3:05 p.m. Dan Shim
The thickness of the post-perovskite boundary
- 3:25 p.m. Laura Cobden
Thermo-chemical interpretation of 1-D seismic reference models for the lower mantle
- 3:45 p.m. Lars Stixrude
Thermodynamics of silicate liquids in the deep Earth
- 4:05 p.m. **Posters & Tea**

William Bullerwell annual lecture of the British Geophysical Association

Session Chair: Mike Kendall

- 4:45 p.m. Sebastian Rost
Seismic constraints on Earth's small-scale structure
- 5:45 - 6:45 p.m. **Posters & Wine reception**

Friday, February 13, 2008

09:00 - 09:30 a.m. Registration

Session 4

Session Chair: James Wookey

- 9:30 a.m. Dan Frost (Invited)
Chemical Reactions at the core-mantle boundary
- 10:00 a.m. Arwen Deuss (Invited)
Structure of the Earth's core
- 10:25 a.m. Lidunka Voadlo (Invited)
The effect of light elements on iron stability in the inner core
- 10:50 a.m. Alex Halliday (Invited)
The origin of the Moon, core formation, and the loss of Earth's volatiles
- 11:15 a.m. Guillaume Fiquet (Invited)
TBA

11:45 - 1:00 p.m. **Posters** and coffee

1:00 – 2:00 p.m. Lunch and British Geophysical Association AGM

Session 5

Session Chair: Mike Walter

2:00 p.m. Paul Tackley (Invited)
Coupled models of mantle thermo-chemical evolution, plate tectonics, magmatism and core evolution incorporating self-consistently calculated mineralogy

2:30 p.m. J. Huw Davies
Is the interior of Venus drier than Earth because of a Mega-collision?

2:50 p.m. Carolina Lithgow-Bertelloni (Invited)
Dynamical origin and consequences of chemical heterogeneity in Earth's mantle

3:15 - 4:00 p.m. **Posters & Tea**

4:00 - 6:00 p.m. Royal Astronomical Society Ordinary Meeting