

RAS Specialist Discussion: Solid-Liquid Interactions in Deep Planetary Interiors

Schedule

Friday 14th October

Morning

Chairs: Fred Wilson and Dario Alfe

10.00 - 10.20 Tea and Posters

10.20 - 10.30 Introduction

10.30 – 11.10 **Invited:** Tina Ruckriemen (DLR)

Freezing metallic cores: Where do all the solids go?

11.10 – 11.30 Ludo Huguet

A laboratory model for iron snow in planetary cores

11.30 – 11.50 Andrew Walker

A non-equilibrium model of slurries in planetary cores

11.50 – 12.10 Kathryn Dodds

Inwards core crystallization: Insights from analogue experiments.

12.10 – 12.30 Quentin Kriaa

Compositional convection from iron snow: laboratory modelling with dissolving sugar

12.30 – 12.50 Jac van Driel

Composition of the Martian Core

12.50 – 13.50 Lunch and Posters

Afternoon

Chairs: Andrew Walker and Fred Wilson

13.50 – 14.30 **Invited:** Charles-Édouard Boukaré

Beyond 1D magma ocean models

14.30 – 14.50 Maxim Ballmer

Reactive Crystallization of the Basal Magma Ocean: Consequences for present-day mantle structure

14.50 – 15.10 Helen Williams

Iron isotopes trace primordial magma ocean material in the Earth's upper mantle

15.10 – 15.30 Hannah Rogers

Investigating regional heterogeneity at the core-mantle boundary and its impact on outer core flow

15.30 – 16.00 Tea and Posters

16:00 – 17:00 RAS Ordinary Meeting; all welcome

Posters:

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| Wilson | Homogeneous nucleation of Earth's solid inner core. |
| Lim | Investigating the effects of chemical buoyancy on two phase flows at the core-mantle boundary |
| Wilczynski | Two-phase model of a slurry at the base of Earth's outer core |
| Ismael | The consequences of fractional crystallization of the Basal Magma Ocean on present-day mantle structure |