

Scientific Program

2014 German-Swiss Geodynamics workshop

SUNDAY October 5

18:00-19:00	Dinner
19:00-	Icebreaker & wine tasting

MONDAY October 6

08:00-09:00	Breakfast
09:00-12:00	Free time to explore the region
10:00-12:00	Registration
12:00-13:00	Lunch
13:15-13:30	Welcome and introduction
13:30-15:30	Talks 1: Early Earth
15:30-16:00	Coffee break
16:00-17:20	Talks 2: Planetary processes
18:00-19:00	Dinner
19:00-22:00	Poster session

TUESDAY October 7

08:00-09:00	Breakfast
09:00-10:20	Talks 3: Mantle convection I
10:20-11:00	Coffee break
11:00-12:00	Talks 4: Mantle convection II
12:00-13:00	Lunch
13:30-15:30	Talks 5: Mantle-lithosphere interaction
15:30-16:00	Coffee break
16:00-17:40	Talks 6: Emerging methods and techniques
18:00-19:00	Dinner
19:00-22:00	Poster session

WEDNESDAY October 8

08:00-09:00	Breakfast
09:00-10:20	Talks 7: Lithospheric deformation I
10:20-11:00	Coffee break
11:00-11:40	Talks 8: Lithospheric deformation II
12:00-13:00	Lunch & end of meeting

Talks

Monday, October 6

1. Early Earth

13:30-13:45	Noack	Simulation of Subduction and Crust Formation
13:50-14:05	Fischer	Early Earth tectonics: A high-resolution 3D numerical modelling approach
14:10-14:25	Lourenço	Early evolution and dynamics of Earth from a molten initial stage
14:30-14:45	Maas	Crystal Settling in a terrestrial Magma Ocean under Rotation
14:50-15:05	Maurice	Evolution and Consequences of Magma Ocean Solidification
15:10-15:25	Baes	Subduction initiation: Insights from numerical models

Coffee Break

2. Planetary processes

16:00-16:15	Tackley	Venus: Intrusive magmatism causes a thin, weak lithosphere and global overturn events
16:20-16:35	Tosi	Mercury's low-degree geoid and topography from insolation-driven elastic deformation.
16:40-16:55	Plesa	How large are heat flow variations across Mars' surface?
17:00-17:15	Golabek	Towards Coupled Giant Impact and Long Term Interior Evolution Models

Dinner

19:00-22:00	Poster session
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Tuesday, October 7

3. Mantle Convection I

09:00-09:15	Dude	Double-Diffusive Layers and Phase Transitions
09:20-09:35	Hansen	Self-consistent evolution of a rough Core-Mantle Boundary through double-diffusive convection
09:40-09:55	Stein	CMB topography and surface mobility in thermochemical mantle convection models
10:00-10:15	Fomin	Melting and phase properties in the Earth's lower mantle

4. Mantle Convection II

11:00-11:15	Jain	The effect of plumes and a free surface on mantle dynamics with continents and self-consistent plate tectonics
11:20-11:35	Prinz	Numerical Modeling of Mantle Convection with Heat-pipe Melt Transport
11:40-11:55	Shahraki	Mechanisms of anisotropic material behavior in mantle dynamic models: Preliminary results

5. Mantle-Lithosphere interactions

13:30-13:45	Sobolev	Dynamics of low-buoyancy thermo-chemical plumes and their interaction with lithosphere
13:50-14:05	Wallner	Numerical models of melting and melt extraction on lithospheric scale: preliminary findings with full compaction formulation
14:10-14:25	Petrugin	Interplay between weak plate boundaries, strong lithosphere, and their impact on geoid and dynamic topography.
14:30-14:45	Steinberger	Dynamic topography: A comparison between observations and models based on seismic tomography.
14:50-15:05	Haas	Geoid anomalies at passive continental margins from satellite gravity data and modelled as isostatic anomalies.
15:10-15:25	Kaus	Effect of lithospheric structure and rheology on flow patterns beneath the Alps

6. Emerging Methods and Techniques

16:00-16:15	Wiesenhöfer	Simulation of Fully Compressible Convection: Optimization for the Intel MIC Architecture
16:20-16:35	Rüpke	Simulating hydrothermal convection in 3D - solution strategies and applications.
16:40-16:55	Duretz	Thermo-mechanical shear localisation: length scale and thermal imprint.
17:00-17:15	Popov	How to compute stress and effective viscosity for visco-elasto-plastic rheologies in geodynamic codes.
17:20-17:35	Baumann	Geodynamic inversion to quantify the rheological parameters of the lithosphere.
19:00-22:00	Poster session	

Wednesday, October 8

7. Lithospheric Deformation I

09:00-09:15	Liao	On craton destruction: Insight from 2D thermal-mechanical numerical modeling
09:20-09:35	Riedel	Viscous Dissipation and Criticality of Subducting Slabs: A Reappraisal
09:40-09:55	Marques	Tectonic overpressure in the Earth's lithosphere
10:00-10:15	Reuber	Tectonic overpressure during subduction and collision

Coffee Break

8. Lithospheric Deformation II

11:00-11:15	Fuchs	Numerical models on thermal and rheological sensitivity of deformation pattern at the lithosphere-asthenosphere boundary
11:20-11:35	Püsök	The development of topographic plateaus in an India-Asia-like collision zone using 3D numerical simulations

11:40-12:00 Concluding remarks

Final Lunch