

# LUCKY #13: International Workshop on Modelling of Mantle and Lithosphere Dynamics

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## PS 1 Numerical Techniques + Subduction and plume dynamics

Agrusta et al.	Effects of partial melting on the dynamic of small-scale convection developing in a plume-fed layer beneath a moving plate
Austmann & Govers	The role of elastic compressibility in dynamic subduction models
Bina	Comparative Buoyancy Anomalies from Metastable Minerals during Subduction
Bottrill et al.	Slab tearing and lateral variation in the exhumation of ultra-high pressure terranes with application to the Norwegian Caledonides
Čížková et al.	Effects of realistic material properties on slab deformation in the mantle
Cox et al.	Simulation of mantle convection via novel adaptive finite element methods
Cramer & Tackley	Spontaneous trench migration and mantle flow in self-consistent mantle dynamics
Dannberg & Sobolev	Modelling type diversity of thermo-chemical plumes: Asymmetry, ponding, finger-like structures and wide tails
Fischer & Gerya	History and evolution of Subduction in the Precambrium
Garel et al.	Quantifying the role of downgoing and overriding plates on the deformation of subducting slabs within the mantle transition zone: a thermo-mechanical modelling approach
Gassmüller & Steinberger	Spatial characteristics and clustering of hotspot positions and mantle plumes: A comparison between observations and convection models
Glerum et al.	Subduction modelling with ASPECT
Gurnis et al.	Trench Rollback: From the Birth of Subduction to Global Plate Motions
Hassan et al.	Three dimensional regional models of mantle plumes
Huettig et al.	A novel and "cheap" pre-conditioner for Stokes-flow with varying viscosities
Huettig et al.	Can we approximate non-Newtonian rheology?
Kaus et al.	Evolution of Earth's early crust: lessons learned from coupled petrological and geodynamic modelling
Khaleque et al.	Strongly Temperature and Pressure-Dependent Viscous Convection
Lawton & Davies	Modelling subduction zone magmatism due to hydraulic fracture
Lehmann et al.	A Discontinuous Galerkin Method for Variable-Viscosity Stokes Flow
Magni et al.	Slab dehydration in the early Earth: insights from numerical models integrated with thermodynamic data
Naliboff et al.	Constraints on the dynamics of outer rise deformation: 2-D numerical modeling of the Tonga subduction system
Petersen et al.	Controls on two-sided subduction on dry planets
Plesa et al.	Sheet-like and plume-like thermal flow in a spherical convection experiment performed under microgravity
Thieulot et al.	Multiphase geodynamical modelling using Aspect
van Heck & Davies	Modeling melting with particles in whole mantle convection