

Juliane Dannberg

⌘ Education

- 2012 – 2016 **Ph.D.** in Geophysics, GFZ German Research Centre for Geosciences/University of Potsdam, Germany, on “Dynamics of mantle plumes: Linking scales and coupling physics”
Advisors: Stephan V. Sobolev and Volker John
- 2007 – 2012 **Diplom** (B.Sc. & M.Sc.), Geophysics, Friedrich-Schiller-University Jena, Germany (Grade 1.0)

⌘ Professional Appointments

- 2019 – 2024 **Assistant Professor** at University of Florida, Gainesville, USA
- 7/2018 – 9/2018 **Visiting Scholar** at Cambridge University, UK
- 2018 – 2019 **Assistant Project Scientist** at University of California, Davis, USA
- 2017 – 2018 **Postdoctoral Fellow** at Colorado State University, Fort Collins, USA
- 2016 – 2017 **Postdoctoral Research Associate** at Texas A&M University, College Station, USA
- 2015 – 2016 **Research Assistant** at Texas A&M University, College Station, USA

⌘ Publications in Refereed Journals

^g supervised graduate student

^p supervised post-doc

^u supervised undergraduate student

- [20] 2024 **Dannberg, J.**, Gassmüller, R., Thallner, D.^p, LaCombe, F.^u and Sprain, C. Changes in core-mantle boundary heat flux patterns throughout the supercontinent cycle. *Geophysical Journal International*, **ggae075**.
- [19] 2023 **Dannberg, J.**, Chotalia, K.^p and Gassmüller, R. How lowermost mantle viscosity controls the chemical structure of Earth’s deep interior. *Communications Earth & Environment*, **4(1)**, 493.
- [18] 2023 Monaco, M.^g, **Dannberg, J.**, Gassmoeller, R. and Pugh, S. Linking geodynamic models of basalt segregation in mantle plumes to the X-Discontinuity observed beneath hotspots. *Journal of Geophysical Research: Solid Earth*, **128**, e2022JB025036.
- [17] 2023 Saxena, A.^p, **Dannberg, J.**, Gassmüller, R., Fraters, M., Heister, T. and Styron, R. High-Resolution Mantle Flow Models Reveal Importance of Plate Boundary Geometry and Slab Pull Forces on Generating Tectonic Plate Motions. *Journal of Geophysical Research: Solid Earth*, **128**, e2022JB025877.
- [16] 2023 Myhill, R., Cottaar, S., Heister, T., Rose, I., Unterborn, C., **Dannberg, J.** and Gassmoeller, R. BurnMan—a Python toolkit for planetary geophysics, geochemistry and thermodynamics. *Journal of Open Source Software*, **8(87)**, p.5389.
- [15] 2023 Heron, P.J., Gün, E., Shephard, G.E., **Dannberg, J.**, Gassmüller, R., Martin, E., Sharif, A., Pysklywec, R.N., Nance, R.D. and Murphy, J.B. The role of subduction in the formation of Pangean oceanic large igneous provinces. *Geological Society, London, Special Publications*, **542(1)**, pp.SP542-2023.

- [14] 2022 **Dannberg, J.**, Gasmöller, R., Li, R.^g, Lithgow-Bertelloni, C., Stixrude, L. An entropy method for geodynamic modelling of phase transitions: capturing sharp and broad transitions in a multiphase assemblage. *Geophys. J. Int.*, **231(3)**, 1833–1849.
- [13] 2022 van Zelst, I., Cramer, F., Pusok, A.E., Glerum, A., **Dannberg, J.** and Thieulot, C. 101 Geodynamic modelling: How to design, interpret, and communicate numerical studies of the solid Earth. *Solid Earth*, **13**, 583–637.
- [12] 2021 **Dannberg, J.**, Myhill, R., Gasmöller, R., Cottaar, S. The morphology, evolution and seismic visibility of partial melt at the core-mantle boundary: Implications for ULVZs. *Geophys. J. Int.*, **227(2)**, 1028–1059.
- [11] 2021 Bredow, E., Steinberger, B., Gasmöller, R., **Dannberg, J.**, Mantle convection and possible mantle plumes beneath Antarctica – insights from geodynamic models and implications for topography. *Geological Society, London, Memoirs*, **56**, <https://doi.org/10.1144/M56-2020-2>.
- [10] 2020 Leshner, C., **Dannberg, J.**, et al. Iron isotope fractionation at the core-mantle boundary by thermodiffusion. *Nature Geoscience*, **13**, 382–386.
- [9] 2020 Gasmöller, R., **Dannberg, J.**, Bangerth, W., Heister, T., Myhill, R. On Formulations of Compressible Mantle Convection. *Geophys. J. Int.*, **221(2)**, 1264–1280.
- [8] 2019 **Dannberg, J.**, Gasmöller, R., Grove, R., Heister, T. A new formulation for coupled magma/mantle dynamics. *Geophys. J. Int.*, **219(1)**, 94–107.
- [7] 2018 **Dannberg, J.**, Gasmöller, R., Chemical trends in ocean islands explained by plume– slab interaction. *Proceedings of the National Academy of Sciences*, **115(17)**, 4351–4356.
- [6] 2017 Bredow, E., Steinberger, B., Gasmöller, R., **Dannberg, J.**, How plume-ridge interaction shapes the crustal thickness pattern of the Réunion hotspot track. *Geochem. Geophys. Geosyst.*, **18**, 2930–2948.
- [5] 2017 **Dannberg, J.**, Eilon, Z., Faul, U., Gasmöller, R., Moulik, P., Myhill, R., The Importance of Grain Size to Mantle Dynamics and Seismological Observations. *Geochem. Geophys. Geosyst.*, **18**, 3034–3061.
- [4] 2017 Heister, T., **Dannberg, J.**, Gasmöller, R., Bangerth, W., High Accuracy Mantle Convection Simulation through Modern Numerical Methods. II: Implications from Solving Realistic Problems. *Geophys. J. Int.*, **210(2)**, 833–851.
- [3] 2016 **Dannberg, J.**, Heister, T. Compressible magma/mantle dynamics: 3-D, adaptive simulations in ASPECT. *Geophys. J. Int.*, **207(3)**, 1343–1366.
- [2] 2016 Gasmöller, R., **Dannberg, J.**, Bredow, E., Steinberger, B., Torsvik, T.H. Major influence of plume-ridge interaction, lithosphere thickness variations, and global mantle flow on hotspot volcanism—The example of Tristan. *Geochem. Geophys. Geosyst.*, **17**, 1454–1479.
- [1] 2015 **Dannberg, J.**, Sobolev, S.V. Low-buoyancy thermochemical plumes resolve controversy of classical mantle plume concept. *Nature Communications* **6**.

⌘ Other Publications

- [13] 2024 Heron, P.J., Gün, E., Shephard, G.E., **Dannberg, J.**, Gasmöller, R., Martin, E., Sharif, A., Pysklywec, R.N., Nance, R.D. and Murphy, J.B. From Ocean Subduction to Ocean Island. Feature in *Geoscientist—The magazine of the Geological Society of London*. <https://geoscientist.online/sections/features/from-ocean-subduction-to-ocean-island/>
- [12] 2023 Bangerth, W., **Dannberg, J.**, Fraters, M., Gasmöller, R., Glerum, A., Heister, T., Myhill, R. & Naliboff, J. ASPECT v2.5.0. [software]. <https://doi.org/10.5281/zenodo.8200213>.

- [11] 2022 Bangerth, W., **Dannberg, J.**, Fraters, M., Gassmüller, R., Glerum, A., Heister, T., Myhill, R. & Naliboff, J. ASPECT v2.4.0. [software]. <https://doi.org/10.5281/zenodo.6903424>.
- [10] 2021 Bangerth, W., **Dannberg, J.**, Gassmüller, R., & Heister, T. ASPECT v2.3.0. [software]. <https://doi.org/10.5281/zenodo.5131909>.
- [9] 2021 **Dannberg, J.** “Thermodynamics and Geodynamics: The perfect couple? Part II”, *blog of the Geodynamics Division of the European Geosciences Union* (<https://blogs.egu.eu/divisions/gd/2021/10/13/thermodynamics-and-geodynamics-the-perfect-couple-part-ii/>).
- [8] 2020 Bangerth, W., **Dannberg, J.**, Gassmüller, R., & Heister, T. ASPECT v2.2.0. [software]. <https://doi.org/10.5281/zenodo.3924604>.
- [7] 2019 **Dannberg, J.** “Geodynamics 101: Magma dynamics”, *blog of the Geodynamics Division of the European Geosciences Union*. (<https://blogs.egu.eu/divisions/gd/2019/09/25/magma-dynamics/>)
- [6] 2019 Bangerth, W., **Dannberg, J.**, Gassmüller, R., & Heister, T. ASPECT v2.1.0 [software]. <https://doi.org/10.5281/zenodo.2653531>.
- [5] 2018 *As member of the CTSP Writing Committee. Whitepaper Reporting Outcomes from NSF-Sponsored Workshop: ‘CTSP: Coupling of Tectonic and Surface Processes’.* (https://csdms.colorado.edu/mediawiki/images/CTSP_WhitePaper_Final.pdf)
- [4] 2018 Bangerth, W.; **Dannberg, J.**; Gassmoeller, R.; Heister, T., ASPECT v2.0.0 [software], doi:[10.5281/zenodo.1244587](https://doi.org/10.5281/zenodo.1244587).
- [3] 2017 **Dannberg, J.**, Shephard, G. “On the influence of grain size in numerical modelling”, *blog of the Geodynamics Division of the European Geosciences Union*. (<https://blogs.egu.eu/divisions/gd/2017/11/29/on-the-influence-of-grain-size-in-numerical-modelling/>)
- [2] 2016 Bangerth, W., **Dannberg, J.**, Gassmüller, R., & Heister, T. Computational Modeling of Convection in the Earth’s Mantle, *SIAM News*, **49**, 2.
- [1] 2012 **Dannberg, J.**, Goepel, A., Jahr, T., Ude, M. und Viereck, M. “Geomagnetic characterization of the Volcanic Complex Gompertshausen in the Heldburger Gangschar”, *commemorative publication on occasion of the 25th anniversary of the German Volcanological Society*.

⌘ Funded Research

- 2023 Co-PI of Subaward “**Computational Infrastructure for Geodynamics Phase IV**” (NSF Geoinformatics)
Anticipated: \$705,150
- 2022 Co-PI of Subaward “**Computational Infrastructure for Geodynamics Phase III**” (NSF Geoinformatics)
\$165,398
- 2021 Co-PI of “**CSEDI: Understanding the influence of mantle dynamics on the generation of Earth's magnetic field throughout the plate tectonics cycle**”
Anticipated: \$428,655
- 2019 Principal Investigator of “**Collaborative Research: Development and Application of a Framework for Integrated Geodynamic Earth Models**” (NSF-FRES)
Anticipated: \$1,216,619
- 2014 Cooperative Institute for Dynamic Earth Research (NSF CIDER) for the project “**Investigating mantle dynamics using a composite rheology with grain size evolution, tested using seismology**”, \$3700

2014, 2015, 2016 Project “**Plume-Plate interaction in 3D mantle flow – Revealing the role of internal plume dynamics on global hot spot volcanism**” and two continuation proposals at the North-German Supercomputing Alliance
 Computing time in CPU hours: 4.8 million (103,000 Euro), 3.3 million (70,460 Euro), 3.7 million (79,300 Euro)

⌘ Awards

2022/2023 **Distinguished Speaker** (Computational Infrastructure for Geodynamics Speaker Series)
 2021 **Jason Morgan Early Career Award** of AGU’s Tectonophysics Section
 10/2017 KlarText – **Prize for Science Communication** awarded by the German foundation Klaus Tschira Stiftung

⌘ Invited Talks

04/2024 **“Sub-Lithospheric Small-Scale Convection as a Window into the Asthenosphere: Insights from Integrating Models Of Mantle Convection, Grain Size Evolution and Seismic Tomography”** at the EGU General Assembly, Vienna, Austria (virtual)
 03/2024 **“From Surface to Core: How Plate Tectonics Affects Material Cycling through Earth’s Deep Interior and the Generation of Earth’s Magnetic Field”** in the seminar of the Department of Geological Sciences at the University of Florida, Gainesville
 02/2024 **“Changes in core-mantle boundary heat flux patterns throughout the supercontinent cycle and implications for the geodynamo”** at the ASPECT virtual user meeting (virtual)
 01/2024 **“From Surface to Core: How Plate Tectonics Affects Material Cycling through Earth’s Deep Interior and the Generation of Earth’s Magnetic Field”** in the Earth and Environmental Sciences department at Michigan State University, East Lansing, Michigan
 12/2023 **“Understanding Sub-Lithospheric Small-Scale Convection By Linking Models Of Grain Size Evolution, Mantle Convection and Seismic Tomography”** at the AGU Fall Meeting, San Francisco
 11/2023 **“Subducted Slabs, Mantle Plumes and Material Recycling in the Earth’s Interior: Insights from Geodynamic Modeling”** in the K. Douglas Nelson Seminar at Syracuse University, Syracuse, NY
 09/2023 **“Subducted Slabs, Mantle Plumes and Material Recycling in the Earth’s Interior: Insights from Geodynamic Modeling”** in the School of the Earth, Ocean and Environment seminar at the University of South Carolina
 06/2023 **“Geodynamic Modeling of a Heterogeneous Lower Mantle: Implications for LLSVPs and ULVZs”** at the Earth’s Interior Gordon Research Conference at Mt. Holyoke College, Massachusetts
 05/2023 **“Mantle plumes and Material Recycling in the Earth’s Interior: Insights from connecting geodynamic models to seismic observations”** in the Bullard Seminar at the University of Cambridge, UK
 05/2023 **“Subducted Slabs, Mantle Plumes, and the Plate Tectonic Cycle”** in the School of Geographical & Earth Sciences seminar at Glasgow University

- 04/2023 **“Coupling Models of Plate Motion History, Mantle Convection and the Geodynamo to explain long-term Geomagnetic Field Behavior”** at the EGU General Assembly, Vienna, Austria
- 03/2023 **“Subducted Slabs, Mantle Plumes, and the Plate Tectonic Cycle”** as part of the CIG Distinguished Speaker Series (presented in the Hewett Club Seminar at UC Riverside Earth and Planetary Sciences, the Earth Sciences Hybrid Seminar at SOEST/University of Hawai’i at Manoa, and the Department of Earth & Environmental Sciences at University of Ottawa)
- 01/2023 IRIS webinar on the **“Dynamics and composition of mantle plumes: Insights from connecting geodynamic models to seismic observations”** (virtual)
- 12/2022 **“How subduction history and lowermost mantle viscosity control the thermal and chemical structure of Earth’s deep interior”** at the AGU Fall Meeting, Chicago
- 11/2022 **“The Plate Tectonic Cycle and Material Recycling in the Earth’s Interior: Insights from connecting geodynamic models to seismic observations”** in the Department of Earth Sciences at ETH Zürich
- 11/2022 **“How subduction history and lowermost mantle viscosity control the evolution of thermochemical structures at the core-mantle boundary”** at the Earth’s History, Dynamics, and Planetary Habitability workshop in Sundvollen, Norway
- 11/2022 **“Subducted Slabs, Mantle Plumes, and the Plate Tectonic Cycle”** at Envisioning the Future of Geophysics: A Celebration of the Centennial of the Seismological Laboratory at the California Institute of Technology, Pasadena
- 10/2022 **“Dynamics of Tectonic Plates, Subducted Slabs, and Mantle Plumes”** in the Department of Earth, Environmental & Planetary Sciences at Brown University
- 09/2022 **“Interactions between Mantle Convection, Plate Tectonics, and Material Recycling in the Earth’s Interior”** in the Institute for Geophysics at UT Austin
- 08/2022 **“Mantle plumes and their chemical composition: Insights from geodynamic modeling”** at GEOMAR Helmholtz Centre for Ocean Research Kiel, Germany
- 06/2022 **“Dynamics and composition of mantle plumes: Insights from connecting geodynamic models to seismic observations”** at the SAGE/GAGE workshop in Pittsburgh
- 03/2022 **“Mantle plumes and their interaction with tectonic plates: Insights from geodynamic modeling”** in the Department of Geology Colloquium at University of Georgia
- 11/2021 **“Modeling phase transitions in the Earth’s mantle: Implications for partial melt at the core-mantle boundary and layering of convection”** in the Geophysics Colloquium at the University of Münster/Germany (virtual)
- 10/2021 **“Modeling phase transitions by coupling geodynamics and thermodynamics: Implications for partial melt at the core-mantle boundary and layering of convection”** in the Geodynamics Seminar at Columbia University/Lamont-Doherty Earth Observatory (virtual)
- 10/2021 **“Coupling of computational thermodynamics and fluid dynamics: Implications for partial melt at the core-mantle boundary and layering of convection”** in the GFD seminar series at ETH Zürich (virtual)

- 02/2021 **"The morphology, evolution and seismic visibility of partial melt at the core-mantle boundary: Implications for ULVZs"** at the Berkeley Seismo Lab (virtual)
- 12/2020 **"Quantifying the influence of an evolving mineral grain size on the characteristics of mantle flow"** at the AGU Fall Meeting (virtual)
- 10/2020 **"Mantle plumes and their interaction with tectonic plates: Insights from geodynamic modeling"** in the University of Miami's Rosenstiel School of Marine and Atmospheric Science Geotopics Seminar (virtual)
- 09/2020 **"Dynamics, evolution and seismic visibility of melting zones in the lowermost mantle"** at the Mini-Workshop on Feedbacks Between Mantle Composition, Structure, and Evolution (virtual)
- 07/2020 **"Dynamics, evolution and seismic visibility of melting zones in the lowermost mantle"** in the University of Kentucky Geophysics and Tectonics seminar (virtual)
- 03/2020 **"Plumes and their interaction with a heterogeneous mantle: Insights from geodynamic modeling"** in the Tectonics and Seismology Seminar at UCLA, Los Angeles, USA
- 12/2019 **"Mantle plumes and their interaction with tectonic plates: Insights from geodynamic modeling"** in the weekly seminar of the Institute of Geosciences, Friedrich-Schiller-University Jena, Germany
- 12/2019 **"Plume formation across scales: The influence of subducted slabs, chemical heterogeneities and a partially molten boundary layer"** at the AGU Fall Meeting, San Francisco, USA
- 11/2019 **"Numerical Modeling of Coupled Magma/Mantle Dynamics Using the Community Code ASPECT"** in the Applied and Numerical Analysis seminar at University of Florida, Gainesville, USA
- 08/2019 **"Modelling mantle convection with chemical and rheological heterogeneities"**, keynote talk at the Ada Lovelace Workshop on Modeling of Mantle and Lithosphere Dynamics, Siena, Italy
- 05/2019 **"Mantle plumes and their interaction with tectonic plates: Insights from geodynamic modeling"** at Goethe University Frankfurt, Germany
- 04/2019 **"Linking chemical trends in ocean islands to the complex interaction between starting plumes and the core-mantle boundary"** at the EGU General Assembly, Vienna, Austria
- 03/2019 **"Mantle plumes and their interaction with tectonic plates: Insights from geodynamic modeling"** at University of Delaware, Newark, Delaware, USA
- 01/2019 **"Mantle plumes and their interaction with tectonic plates: Insights from geodynamic modeling"** at University of Florida, Gainesville, Florida, USA
- 12/2018 **"Convection Simulations Explain the Compositional Heterogeneity of Oceanic Island Chains"** and **"Modeling Melt Generation and Transport by Integrating Thermodynamic Models in Geodynamic Simulations Using the Community Code ASPECT"** at the AGU Fall Meeting, Washington D.C., USA
- 11/2018 Guest lecture on **"The importance of subduction history and mineral grain size evolution to mantle dynamics"** at CEED – University of Oslo, Norway
- 08/2018 **"Advances in the geodynamic modelling code ASPECT"**, keynote talk at the German-Swiss Geodynamics Workshop 2018 in Noer, Germany

- 07/2018 **“Chemical trends in ocean islands explained by plume–slab interaction”**, research talk at the 16th Symposium of SEDI, Study of the Earth's Deep Interior, Edmonton, Canada
- 05/2018 CIG Webinar about **“ASPECT 2.0: Improved architecture, new features”** (with the ASPECT team)
- 01/2018 **“Geodynamic modelling with ASPECT: Applications for magma/mantle dynamics, grain size evolution and chemical zonation in mantle plumes”** in the Global Geophysics seminar, University College London, UK
- 10/2017 **“Forward and inverse problems in geodynamic modelling: Part II -- Thermochemical Convection”** in the Inverse Problems seminar at Colorado State University, Fort Collins, USA
- 09/2017 **“Coupling mantle convection and melt migration: 3-D, adaptive simulations”** in the MathLab Seminar at SISSA (Scuola Internazionale Superiore di Studi Avanzati), Trieste, Italy
- 09/2017 **“Compressible magma/mantle dynamics: 3D adaptive simulations”** at the SIAM Conference on Mathematical and Computational Issues in the Geosciences in Erlangen, Germany
- 09/2017 **“Geodynamic models of coupled magma/mantle dynamics: Towards integrating thermodynamic data”** in the Department of Geoscience Seminar at Aarhus University, Denmark
- 05/2017 **„Geodynamic modeling with ASPECT: Applications for magma/mantle dynamics, grain size evolution and chemical zonation in mantle plumes“** and **ASPECT Hands-on Tutorial** at UT Austin, Texas, USA
- 04/2017 **„Compressible Magma/Mantle Dynamics: 3d, Adaptive Simulations in ASPECT“** at the UC Davis Earth and Planetary Sciences Department Seminar Series in Davis, California, USA
- 04/2017 **„Methods and Applications of the Finite-Element Software ASPECT in Geodynamics“** in the Computer Science Colloquium at UC Boulder, Colorado (USA)
- 01/2017 **“Coupling of computational thermodynamics and fluid dynamics – a magma/mantle dynamics perspective”** at the CIDER Workshop on interoperability of modeling tools in Honolulu, USA
- 06/2016 **“3D Numerical Modelling of Compressible Coupled Magma/Mantle Dynamics With Adaptive Mesh Refinement”** as part of the Melt in the Mantle programme at the Isaac Newton Institute for Mathematical Science in Cambridge, UK
- 05/2016 **“Magma dynamics and grain size evolution in mantle convection models: Numerical methods and applications”** in the GFD seminar series at ETH Zürich, Switzerland
- 06/2014 **“State of the art mantle convection modelling with ASPECT”** in the seminar series of the GeoComputing group of LMU München, Germany
- 04/2014 **“Geodynamic modeling of eclogite-bearing mantle plumes using ASPECT”** in the CIG webinar as part of the presentation about **“ASPECT: Science highlights”**
- 11/2012 **“Numerical modeling of thermo-chemical mantle plumes and their influence on dynamic topography”** at the certificate award ceremony of the faculty of Chemistry and Earth Sciences of the University of Jena, Germany, awarded for the best diploma thesis of the year

⌘ Teaching

Fall 2023	Instructor for the class <i>Quantitative Methods in Earth Sciences</i> (GLY 4862/GLY 6862) at University of Florida, USA
Fall 2021, 2022	Instructor for the class <i>Introduction to Simulations and Computational Techniques for Earth Sciences</i> (GLY 4930/GLY 6932) at University of Florida, USA
7/2020	Co-Organizer and Instructor for the CIG <i>Tectonics Modeling Tutorial</i> (virtual, ~50 participants)
Spring 2020, 2021	Instructor for the class <i>Introduction to Geophysics</i> (GLY 4450/GLY 5255) at University of Florida, USA
8/2019	Co-Organizer of the <i>Computational Methods for PDEs Summer School</i> at Colorado State University, Fort Collins, CO, USA
11/2018	Instructor for the <i>ASPECT tutorial</i> at CEED – University of Oslo, Norway
6/2018	Instructor for the <i>ASPECT tutorial</i> at the CIG/CGU Meeting, Niagara Falls, Canada
5/2018	Instructor for the <i>ASPECT tutorial</i> at UC Davis, USA
1/2018	Instructor for the <i>2018 EON-ELSI Winter School</i> in Earth-Life Sciences, January 22 - February 2, 2018, Earth-Life Science Institute, Tokyo Institute of Technology Tokyo, Japan
10/2017	Instructor for the Deep Earth Systems PhD Course “ <i>Forging links between petrology and geophysics</i> ”, October 2-13, 2017 Aarhus University, Aarhus, Denmark
6/2016	Instructor for the <i>ASPECT tutorial</i> at the CIG All Hands Meeting, Davis, USA
1/2016 – 5/2016	Co-Instructor (with W. Bangerth) for the class <i>Mathematical Modeling (MATH 442)</i> at Texas A&M University, USA
9/2014	Organizer and Instructor for the hands-on tutorial on “ <i>ASPECT: a next-generation geodynamic modelling software</i> ” at the Geomod conference in Potsdam, Germany
3/2013, 2014, 2015	Instructor for the course “ <i>Computational Geodynamics</i> ”, University of Potsdam, Germany

⌘ Mentorship/Student & Postdoc Supervision

Graduate Students: Ranpeng Li (2021–2024, M.S., graduation in May 2024)
Martina Monaco (2021–2024)

Member of graduate student Supervisory Committee for:

Brian Kelly (University of Florida, 2020–2024)
Carson Beattie (University of Florida, 2021–2024)
Gabriel Johnston (University of Florida, 2021–2024)
Liz Pesar (University of Florida, 2021–2024)
Danilo Cruz (University of Florida, 2021–2024)
Daniel Astudillo (University of Florida, 2022–2024)
Daniel Douglas (New Mexico Tech, since 2021)
Erin Heilman (University of Texas, Austin, 2022–2023)
Molly Anderson (University of Florida, 2023)
Laura Mulrooney (University of Florida, 2022–2023)
Han Byul “Aiden” Woo (University of Florida, 2020–2021)

Postdocs:
Kiran Chotalia (2020–2022)
Arushi Saxena (2020–2023)
Daniele Thallner (since 2022, co-supervised)
Menno Fraters (since 2023)

Undergraduate researchers:

Liberty Mallison (2023–2024)
David Stanford (2023–2024)
Frederick LaCombe (2021–2023)

⌘ Outreach

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| 02/2024 | Presentation in the Futures in STEM Club at Buchholz High School in Gainesville, Florida |
| 10/2020, 10/2022 | Virtual visit to Herbert Ammons Middle School/Ponce de Leon Middle School in Miami-Dade County as part of the “Scientist in Every Florida School” program |
| 12/2018 | “Why Are the Pieces of Land in the Wide Water that Breathe out Fire and Smoke Made of Different Types of Rocks?”, talk in the Education session “The Up-Goer Five Challenge” at the AGU Fall Meeting (https://youtu.be/SAxO2nzhvZ0) |
| 6/2018 | Invited talk “Ein Blick ins Innere der Erde – Wie Gesteins-bewegungen unseren Planeten formen” (Looking into the Earth’s Interior – How Moving Rocks Shape Our Planet) at Schule mit Wissenschaft Thüringen (School MIT Science), a workshop for high-school teachers organized by the MIT Club of Germany, Erfurt, Germany (https://youtu.be/Rh2yn5sxMeM) |
| 2017 | Dannberg, J. (2017). “Auf und Ab im Erdmantel” (Up and Down in the Earth’s Mantle), <i>special supplement to the weekly journal “Die Zeit”</i> . (https://www.klartext-preis.de/meldungen/auf-und-ab-im-erdmantel/) |

⌘ Professional Service

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| since 2023 | Member of the Early Career/OSPA committee of AGU’s Tectonophysics Section |
| since 2020 | Topical Editor of Solid Earth |
| since 2016 | Principal Developer and Official Maintainer of the Open Source mantle convection code ASPECT |
| since 2014 | Reviewer for SIAM Journal of Scientific Computing; Geochemistry, Geophysics, Geosystems; Gondwana Research; Geophysical Journal International; Physics of the Earth and Planetary Interiors; Journal of Geophysical Research: Solid Earth; Tectonophysics; Frontiers in Earth Science; Nature; Nature Geoscience; Nature Communications; Geophysical Research Letters; Science Advances; NSF EAR and NASA |
| 2023, 2024 | Member of the CIG Speakers Committee |
| 2016, 2023 | Session Convener at the EGU General Assembly |
| 2018 – 2023 | Member of the Expert Panel for the KlarText – Prize for Science Communication awarded by the German foundation Klaus Tschira Stiftung |
| 2016 – 2022 | Session Convener at the AGU Fall Meeting |
| 2019 – 2022 | Elected member of the Science Steering Committee of the Computational Infrastructure for Geodynamics (CIG), Vice Chair in 2021, Chair in 2022 |
| 2014 – 2022 | Committee Member of the Mantle Convection working group of the Computational Infrastructure for Geodynamics (CIG) |
| 2017 – 2021 | Session OSPA Liaison at the AGU Fall Meeting |
| 2020 | Member of the CIG Search/Special Committee for a new vision and leadership for CIG-IV |

- 2016 **Judge** for the Outstanding Student Poster and PICO Award at the EGU General Assembly
- 2013-2014 **Elected Student Representative** of the graduate school GeoSim involving communicating the student's interests to the executive board

⌘ Organization of Workshops and Seminars

- 2023 **Co-Organizer** of the 10th *ASPECT Hackathon* in Lincoln City, USA
- 2022 **Co-Organizer** of the 9th *ASPECT Hackathon* in Cody, USA
- 2021 **Co-Organizer** of the 8th *ASPECT Hackathon* (virtual)
- 2020 **Organization committee member** of the CIG Community Workshop (virtual)
- 2020 **Co-Organizer** of the seventh *ASPECT Hackathon* (virtual)
- 2019 **Co-Organizer** of the sixth *ASPECT Hackathon* near Heber City, USA
- 2018 **Co-Organizer** of the fifth *ASPECT Hackathon* near Petaluma, USA
- 2017 **Co-Organizer** of the fourth *ASPECT Hackathon*, Blue Ridge, USA
- 2016 **Co-Organizer** of the third *ASPECT Hackathon*, Lake Tahoe, USA
- 10/2014 **Organizer** of the *GeoSim Fall school "Software development"*
- 2013 **Organization committee member** of the *GeoSim seminar series*, Potsdam, Germany
- 11/2012 **Organization committee member** of the *Annual workshop of the graduate school GeoSim*
- 8/2011 **Management team** of the *12th International Workshop on Modeling of Mantle Convection and Lithospheric Dynamics*, Potsdam, Germany