

Ingo Leonardo Stotz Canales

Birth date: February 11, 1986 – **Nationality:** German, Chilean –
e-mail: ingo.stotz@lmu.de – **Website:** [Research Gate](#)
ORCID: <https://orcid.org/0000-0002-0760-8276>



Research Areas of Interests

- | | |
|--|------------------------------|
| * Geodynamics | * Tectonics (Crustal models) |
| * Numerical Modelling | * Data Assimilation |
| * Mantle convection (Fluid dynamic models) | * Geology |

Employment and Education

- | | |
|-------------|--|
| 2020 – now | Wissenschaftlicher Mitarbeiter, Ludwig-Maximilians-Universität München, Deutschland
DFG <i>Eigene Stelle</i> (STO 1271/2-1): Bewertung des Beitrags von Plattengrenzen und Mantelkonvektionskräfte in der späten känozoischen Nordamerikanischen Plattenbewegungsgeschichte mit gekoppelte globale Modellen der Mantel- und Lithosphärendynamik. |
| 2019 | Post Doc, University of Copenhagen, Denmark |
| 2018 | Teaching assistant at the University of Copenhagen, Denmark |
| 2013 – 2017 | PhD, University of Copenhagen, Denmark
Thesis: Coupled Global Models of Mantle and Lithosphere Dynamics: Identifying the Forces Governing Pacific Plate Motions since the mid-Miocene.
Supervisor: Giampiero Iaffaldano
Research association with the Australian National University to collaboration with D. Rhodri Davies. |
| 2010 – 2012 | MSc Geophysics, University of Concepción, Chile
Thesis: South American plate motion, asthenospheric flow and its implications for Andean orogeny since the late Cretaceous.
Supervisor: Andres Tassara |
| 2005 – 2009 | BSc Geophysics, University of Concepción, Chile |

Awards

- | | |
|-------------|---|
| 2020 – 2023 | DFG <i>Eigene Stelle</i> (STO 1271/2-1) |
| 2013 – 2017 | CONICYT Becas-Chile Scholarship |
| 2011 – 2012 | Scholarship given by Technische Universität München (TUM) |
| 2005 – 2012 | University of Concepción Sport Scholarship
Only 1 scholarship for Athletics is given each year University wide. |

Reviewing Activities

- | | |
|------------|---|
| 2019 – now | Scientific reviewer for journals: e.g., Geology, EPSL, AGU-Solid Earth and Nature Geoscience. |
| 2021 | External Reviewer, National Science Foundation (NSF). |

Organisation of Scientific Meetings

- | | |
|------------|--|
| 2020 – now | Session organiser at the yearly EGU meeting in Vienna (Virtual and in-Person). |
| 2024 | Session organiser 84. Jahrestagung der Deutschen Geophysikalischen Gesellschaft. |

Invited Talks

- | | |
|------|--|
| 2023 | Universidad de Chile, Chile. titled: <i>Exploring the deep mantle through surface observations</i> |
| 2023 | Friedrich Schiller University Jena, Germany. titled: <i>Plume driven plate tectonics: observations and theory</i> |
| 2022 | SCRIPPS University of California San Diego, USA. titled: <i>Theoretical estimates of upper mantle flow and their link to horizontal and vertical plate motions</i> |
| 2018 | Ecole Normale Supérieure, Paris, France. titled: <i>Coupled Global models of mantle and lithosphere dynamics: Identifying the forces governing Pacific plate motions since the mid-Miocene</i> |
| 2018 | GFZ Helmholtz Centre Potsdam, Germany. titled: <i>Coupled Mantle and lithosphere dynamic models: the role of convection on recent Pacific plate motions</i> |

Supervision of Students

- | | |
|-------------|--|
| 2023 – now | Co-Supervision of one PhD students in Denmark (Valentina Espinoza) |
| 2020 – now | Supervision of four PhD students (Hamish Brown, Berta Vilacis and Nicolas J. Hayek) |
| 2021 – 2022 | Supervision Two master students: Zhirui Wang and Josef Niedermaier, both enrolled now as PhD students. |
| 2019 – 2020 | Supervision One master student: Valentina Espinoza, now a PhD student in Copenhagen. |

Teaching Activities

- | | |
|-------------|---|
| 2023 – now | Teaching course "Modern Interpretation of Plate Tectonics", Ludwig-Maximilians-Universität München, Deutschland. |
| 2015 – 2018 | Teaching assistant in the course "Introduction to Solid Earth Geophysics", University of Copenhagen, Denmark. |
| 2014 | Teaching assistant in the course "EARTH: The chemistry and physics of our Planet", Australian National University, Australia. |
| 2013 | Teaching assistant in the course "Physics of the Earth", Australian National University, Australia. |
| 2011 | Teaching assistant in the course "Geophysics of the Solid Earth", University of Concepción, Department of Geophysics. |
| 2009 | Teaching assistant in the course "Physics", University of Concepción, Chile. |

List of Publications

- 2024 **Stotz I. L.**, S. Carena, B. Vilacís, J. N. Hayek, H.-P. Bunge and A. M. Friedrich (2023), Kerguelen plume drives the Eocene change in Australia plate motion. *Under review in Lithosphere*.
- 2023 Wang Z. R., **I. L. Stotz**, H.-P. Bunge, B. Vilacís, J. N. Hayek, S. Ghelichkhan, S. Lebedev (2023) Cenozoic upper mantle flow history of the Atlantic realm based on Couette/Poiseuille models: towards Paleo-Mantle-Flowgraphy. *PEPI*. <https://doi.org/10.1016/j.pepi.2023.107045>.
- 2023 **Stotz I. L.**, B. Vilacís, J. N. Hayek, S. Carena and H.-P. Bunge (2022), Plume driven plate motion changes: New insights from the South Atlantic realm. *Journal of South American Earth Sciences*, <https://doi.org/10.1016/j.jsames.2023.104257>.
- 2022 **Stotz I. L.**, B. Vilacís, J. N. Hayek, H.-P. Bunge, A. M. Friedrich (2022), Yellowstone Plume Drives Neogene North American Plate Motion Change. *Geophysical Research Letters*, <https://doi.org/10.1029/2021GL095079>.
- 2022 Paolo A. Sossi, **I. L. Stotz**, Seth A. Jacobson, Alessandro Morbidelli, Hugh St.C. O'Neill (2022) Stochastic accretion of the Earth. *Nature Astronomy*, <https://doi.org/10.1038/s41550-022-01702-2>.
- 2021 Vilacís B., J. N. Hayek, **I. L. Stotz**, H.-P. Bunge, A. M. Friedrich, Sara Carena and Stuart Clark (2021) Evidence for active upper mantle flow in the Atlantic and Indo-Australian realms since the Upper Jurassic from hiatus maps and spreading rate changes. *The Royal Society: Proceedings A*. <https://doi.org/10.1098/rspa.2021.0764>.
- 2020 **Stotz I. L.**, A. Tassara, G. Iaffaldano (2020), Pressure-driven Poiseuille flow inherited from Mesozoic mantle circulation led to the Eocene separation of Australia and Antarctica. *Journal of Geophysical Research: Solid Earth*, <https://doi.org/10.1029/2020JB019945>.
- 2018 **Stotz I. L.**, G. Iaffaldano, D. R. Davies (2018), Pressure Driven Poiseuille Flow: A Major Component of the Torque-Balance Governing Pacific Plate Motion. *Geophysical Research Letters*, 45, 117–125 doi:10.1002/2017GL075697.
- 2017 **Stotz I. L.**, G. Iaffaldano, D. R. Davies (2017), Late–Miocene Pacific plate kinematic change explained with coupled global models of mantle and lithosphere dynamics. *Geophysical Research Letters*, 44, 7177–7186, doi:10.1002/2017GL073920.
- 2014 Colli L., **I. L. Stotz**, H.-P. Bunge, M. Smethurst, S. Clark, G. Iaffaldano, A. Tassara, F. Guillocheau, and M. C. Bianchi (2014), Rapid South Atlantic spreading changes and coeval vertical motion in surrounding continents: Evidence for temporal changes of pressure-driven upper mantle flow. *Tectonics*, 32, doi:10.1002/2014TC003612.