

Ingo Leonardo Stotz Canales

Birth date: February 11, 1986 – **Nationality:** German, Chilean –
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Research Areas of Interests

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| * 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

2020 – now	Two PhD students (Berta Vilacis and Nicolas J. Hayek)
2021 – 2022	Two master students: Zhirui Wang and Josef Niedermaier, both enrolled now as PhD students.
2019 – 2020	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.