

CURRICULUM VITAE

Dr. Miriam Christina Reiss

Education

08/2014 -10/2017	Ph.D. Degree in Geosciences (Seismology) at Goethe-University Frankfurt, Germany Title: “Probing the Earth’s Interior with Shear-Wave Splitting: Methodological Advances and Application in Different Tectonic Settings”
10/2007-10/2013	Staatsexamen (Master equivalent) in English and Physics at Goethe-University Frankfurt, Germany

Appointments

Since 12/2018	Researcher at Goethe University Frankfurt, Department for Geosciences
06/2018-11/2018	PostDoc at Yale University, Department of Geology & Geophysics
08/2014 – 04/2018	Research Associate at Goethe-University Frankfurt, Department for Geosciences
09/2012-10/2013	Student assistant at Goethe-University Frankfurt, Department for Geosciences

Research Grants

12/2018-12/2021	SEISVOL – Seismic and Infrasonic Networks to study the volcano Oldoinyo Lengai 3-year DFG (German Research Council) research grant
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Scientific Papers

- Link, F., **Reiss, M.C.**, & Rumpker, G. (2020). An automatized XKS-splitting procedure for large data sets: Extension package for SplitRacer and application to the USArray. *Computers & Geoscience*, to be submitted.
- Reiss, M.C.**, Muirhead, J.D., Laizer, A.S., Link, F., Kazimoto, E.O., Ebinger, C.J. & Rumpker, G. (2020). The impact of complex volcanic plumbing on the nature of seismicity in the developing magmatic Natron rift, Tanzania. *FrontiersIn Earth Science*, under review.
- Muirhead, J.D., Fischer, T.P., Oliva, S.J.,... **Reiss, M.C.**, et al. Displaced cratonic mantle concentrates deep carbon during continental rifting. *Nature* 582, 67–72 (2020). <https://doi.org/10.1038/s41586-020-2328-3>

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- Reiss, M.C.** & M. D. Long (2019). Lowermost mantle anisotropy beneath Africa from differential SKS-SKKS shear-wave splitting. *Journal Geophys. Res. Solid Earth*, 124, 8, 8540-8564. <https://doi.org/10.1029/2018JB017160>
- Reiss, M.C.**, Rumpker, G. & I. Wölbern (2018), Large-scale trench-normal mantle flow beneath central South America, *Earth and Planetary Science Letters*, 482, 115-125, <https://doi.org/10.1016/j.epsl.2017.11.002>
- Reiss, M.C.** & G. Rumpker (2017), SplitRacer: MATLAB Code and GUI for Semiautomated Analysis and Interpretation of Teleseismic Shear-Wave Splitting. *Seismological Research Letters* 88 (2A), 392-409, <https://doi.org/10.1785/0220160191>
- Reiss, M.C.**, Rumpker, G., Tilmann, F., Yuan, X., Giese, J. and E. J. Rindraharisaona (2016). Seismic anisotropy of the lithosphere and asthenosphere beneath southern Madagascar from teleseismic shear wave splitting analysis and waveform modeling, *Journal Geophys. Res. Solid Earth*, <https://doi.org/10.1002/2016JB013020>

Awards and Honors

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| 06/2018-11/2018 | PostDoc Scholarship by the DAAD (German Academic Exchange Service) at Yale University |
| 10/2011-09/2013 | „Deutschland Stipendium“ , Goethe-University Frankfurt |
| 2010 | DAAD Scholarship for two semesters to study at Victoria University of Wellington. New Zealand |

Field Experience

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| 02/2019 – 06/2020 | SEISVOL project leader , Tanzania. Building and maintaining seismic and infrasound stations. |
| 09/10 2018 | Field crew member SEISConn, USA . Servicing seismic stations. |
| 11/2015-10/2017 | Leader of field crew for Frankfurt stations of the Alp Array project, Germany . Building and servicing seismic stations, data handling. |
| 01 & 10/2016 | Field crew member for FoMAps project, Cape Verdes . Servicing and building seismic stations. |
| 04/2013 | Field crew member for the SELASOMA project, Madagascar . Servicing and building seismic stations. |

Teaching Experience

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| 2017 | Co-Supervisor for two students, one MSc thesis on shear wave splitting in the western Alps & one BSc thesis on the seismicity of southern Madagascar |
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10/2014-10/2016

Instructor “Geophysical Field Lab”, experiment
refraction seismics**Conference Papers**

- EGU 2020, Vienna, **M.C. Reiss**, L. de Siena, G Rumpker, E. Kazimoto.
Austria
Imaging active magmatic systems at Oldoinyo Lengai volcano (Tanzania) via earthquake distribution and seismic scattering and absorption mapping
- AGU 2019, San C.J. Ebinger, **M.C. Reiss**, ... et al. Mantle contributions to
Francisco, USA
magma and strain localization in rift zones
- AGU 2019, San **M.C. Reiss**, F. Link, G. Rumpker, E. Kazimoto. First
Francisco, USA
results of the SEISVOL project: Seismicity at Oldoinyo Lengai volcano, Tanzania
- 28th meeting ESC **M.C. Reiss**, F. Link, G. Rumpker, E. Kazimoto. First
working group “Seismic results of the SEISVOL project: Seismicity at Oldoinyo
phenomena associated Lengai volcano, Tanzania
with volcanic activity”,
2019, Garachico, Spain
- EGU 2019, Vienna, **M.C. Reiss** & M.D. Long. Lowermost mantle anisotropy
Austria
beneath Africa imaged by SKS-SKKS differential splitting
- AGU 2018, Washington **M.C. Reiss** & M.D. Long. Lower mantle structure beneath
D.C., USA
Africa imaged by SKS-SKKS differential splitting and travel time delays
- EGU 2018, Vienna, **M.C. Reiss**, G. Rumpker & I. Wölbern. Large-scale
Austria
trench-perpendicular mantle flow beneath central South America
M.C. Reiss, G. Rumpker, F. Tilmann. The seismicity of southern Madagascar from the temporary SELASOMA network
- AGU 2017, New Orleans, **M.C. Reiss**, G. Rumpker & I. Wölbern. Large-scale
USA
trench-perpendicular mantle flow beneath northern Chile.
M.C. Reiss & G. Rumpker. SplitRacer – a new Semi-Automatic Tool to Quantify And Interpret Teleseismic Shear-Wave Splitting.
- EGU 2017, Vienna, **M.C. Reiss**, G. Rumpker & I. Wölbern. Complex seismic
Austria
anisotropy beneath northern Chile.
M.C. Reiss & G. Rumpker. SplitRacer – a semi-automatic tool for the analysis and interpretation of teleseismic shear-wave splitting.
- DDG 2017, Potsdam, **M.C. Reiss**, G. Rumpker & I. Wölbern Complex seismic
Germany
anisotropy beneath northern Chile.
M.C. Reiss & G. Rumpker. SplitRacer – a semi-automatic tool for the analysis and interpretation of teleseismic shear-wave splitting.

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- AG Seismologie 2016, **M.C. Reiss** & G. Rümpker. SplitRacer – eine grafische Bad Salzschlirf, Germany Oberfläche in MATLAB zur Analyse teleseismischen Scherwellen-Splittings.
- DDG 2016, Münster, **M.C. Reiss** & G. Rümpker. Rapid and joint analysis of Germany shear-wave splitting with application to the Swiss network.
- AGU 2015, San **M.C. Reiss**, G. Rümpker, F. Tilmann, X. Yuan, E.J. Francisco, USA Rindraharisaona. Seismic anisotropy of the lithosphere-asthenosphere system beneath southern Madagascar.
- AG Seismologie 2016, **M.C. Reiss**, G. Rümpker, F. Tilmann, X. Yuan, E.J. Wild Bad Kreuth, Germany Rindraharisaona. Seismische Anisotropie des Lithosphären-Asthenosphären-Systems im südlichen Madagaskar.
- EGU 2015, Vienna, **M.C. Reiss**, G. Rümpker, F. Tilmann, X. Yuan, E.J. Austria Rindraharisaona: Seismic anisotropy of the lithosphere-asthenosphere system beneath southern Madagascar.
- DDG 2015, Hannover, **M.C. Reiss**, G. Rümpker, F. Tilmann, X. Yuan, E.J. Germany Rindraharisaona: Seismische Anisotropie des Lithosphären-Asthenosphären-Systems im südlichen Madagaskar.
- IASPEI 2013, Goteborg, **M.Reiss**, M. Lindenfeld, G. Rümpker: Application of array Sweden methods to the monitoring of induced and natural seismicity in the northern Upper Rhine Graben
- AG Seismologie 2013, Homuth, B., Lindenfeld, M., Winter, H., **Reiss, M.**, Rümpker, Schmitt, Germany G., Kracht, M.: Seismisches Monitoring im Zusammenhang mit der geothermischen Nutzung des nördlichen Oberrheingrabens.