

CURRICULUM VITAE

Dr. Bernhard Schubert

Personal Information

Date and Place of Birth: 21.7.1977, Regensburg

Nationality: German

Address: Plantagenweg 1, 85354 Freising, Germany

E-mail: bernhard.schubert@geophysik.uni-muenchen.de

Professional Experience

- Since January 2013 **Senior Scientist**, Geophysics Section, Dept. of Earth and Environmental Sciences, Ludwig-Maximilians-Universität München (LMU), Munich, Germany
- Mar. 2012 – Dec. 2012 **Assistant Professor**, Geophysics Section, Dept. of Earth and Environmental Sciences, LMU, Munich, Germany
- Feb. 2010 – Jan. 2012 **Marie-Curie Fellow**, Seismology Section, UMR GéoAzur, Sophia Antipolis, France
- Jul. 2009 – Jan. 2010 **Post-Doc in computational seismology and geodynamics**, LMU Munich, Germany
- 2004 – 2009 **Ph.D. student in computational seismology and geodynamics** within the International Graduate College *THESIS* of the *Elite-Netzwerk Bayern*, LMU Munich
- Mar./Apr. 2004 **Graduate Assistant**, Geophysics Section, LMU Munich

Education

- Jul. 2009 **Ph.D.** (Dr. rer. nat.) *summa cum laude* in Geophysics
Thesis: *Thermal, Elastic and Seismic Signature of High-Resolution Mantle Circulation Models*
- Feb. 2004 **Diplom** in Geophysics *with distinction*
Thesis: *The Spectral Element Method for Seismic Wave Propagation – Theory, Implementation and Comparison to Finite Difference Methods*
- 1997 – 2004 **Studies of Geophysics**, LMU Munich

Awards & Fellowships

- 2010 – 2012 **Marie-Curie Intra-European Fellowship**
- 2004 – 2009 PhD student within the **Elite-Netzwerk Bayern**
- Mar. 2008 **Best Oral Presentation**, German Geophysical Society (DGG), 67th Annual Meeting 2007, Aachen, Germany
- Jun. 2004 **Edison Award – Silver Prize** for the diploma thesis, General Electrics Foundation and the Institute of International Education

Funding

2020	German Science Foundation, Project SCHU 2914/7-1 “Understanding the impact of seismic data errors and tomographic model uncertainties on geodynamic inverse simulations of mantle evolution” Budget: 227 k €
2019	German Science Foundation, Project SCHU 2914/5-1 “HYPO-TZ – Generation and assessment of hypothetical seismic mantle transition zone structures” Budget: 214 k €
2019	Access to SuperMUC-NG of LRZ Computing Budget: 35 million CPU-hours
2017	Bayerisch-Französisches Hochschulzentrum (BFHZ now BayFrance) Budget (travel): 4 k €
2015	Bavaria California Technology Center (BaCaTeC) Budget (travel): 6.2 k €
2015	Access to SuperMUC of LRZ Computing Budget: 35 million CPU-hours
2009	Access to DEISA supercomputing infrastructure within the DEISA Extreme Computing Initiative (DECI-5) Computing Budget: 760,000 CPU-hours
2009	Access to HLRB II of the Leibniz Supercomputing Centre (LRZ) Computing Budget: 1.7 million CPU-hours
2009	Marie-Curie Intra-European Fellowship within the 7th European Community Framework Programme (PIEF-GA-2009-235861) Budget: 173 k €

Outreach

Exhibits	3-D models (analogue and virtual), <i>American Museum of Natural History (AMNH) in New York, USA</i> in cooperation with the Leibniz Supercomputing Centre Garching/München (LRZ)
3-D Visualisations	Generation of a stereographic film for the planetarium of the <i>Deutsches Museum</i> in Munich in cooperation with the LRZ
Public talks	Virtual-reality–Mixed-reality Meetup (2016), Freundeskreis der Geologischen Staatssammlung München (2017)

Professional Service

Referee	For scientific journals: Earth Planet. Sci. Lett., Geochem. Geophys. Geosyst., Geophys. J. Int. For funding agencies: National Science Foundation (USA), Agence National de la Recherche (France), Schweizerischer Nationalfonds (Switzerland)
Convener	General Assembly of the European Geosciences Union (EGU), Fall Meeting of the American Geophysical Union (AGU)
Thesis commissions	PhD thesis of S. Ritterbex (2016; Université de Lille; external member)
Administration	Representative of the research staff within the Dept. of Earth and Environmental Sciences , LMU Munich Representative of the research staff within the Faculty of Geosciences , LMU Munich

Supervision

2 PhD theses (ongoing), 6 PhD theses as co-supervisor, 10 Master theses, 9 Bachelor theses, 3 internship projects

Field Experience

2003/2004

Installation and maintenance of seismometers in the Bavarian Forest

2002

Expedition to the Arctic Sea onboard the RV Polarstern (2 months)

- Marine reflection seismics
- Helicopter airborne magnetic surveys

10 Most Important Publications

1. **Schuberth, B.S.A.** and T. Bigalke, *From Mantle Convection to Seismic Observations: Quantifying the Uncertainties Related to Anelasticity*, in *Mantle Convection and Surface Expressions*, Eds. Marquardt, H., Ballmer, M., Cottaar S. and J. Konter, pp.97–120, AGU Geophysical Monograph Series Vol. 263, John Wiley & Sons Inc., Hoboken, NJ, USA, doi:10.1002/9781119528609.ch4, (2021).
2. Freissler, R., C. Zarli, S. Lambotte and **B.S.A. Schuberth**, *Tomographic filtering via the generalized inverse: A way to account for seismic data uncertainty*, *Geophys. J. Int.*, doi:10.1093/gji/ggaa231, (2020).
3. Koelemeijer, P., **B.S.A. Schuberth**, D.R. Davies, A. Deuss and J. Ritsema, *Constraints on the presence of post-perovskite in Earth's lowermost mantle from tomographic-geodynamic model comparisons*, *Earth Planet. Sci. Lett.*, 494, 226–238, doi:10.1016/j.epsl.2018.04.056, (2018).
4. Chust, T. C., G. Steinle-Neumann, D. Dolejs, **B.S.A. Schuberth** and H.-P. Bunge, *MMA-EoS: A computational framework for mineralogical thermodynamics*, *J. Geophys. Res.: Solid Earth*, 122, 9881–9920, doi:10.1002/2017JB014501, (2017).
5. **Schuberth, B.S.A.**, C. Zarli and G. Nolet, *Traveltime dispersion in an isotropic elastic mantle: Strong lower mantle signal in differential-frequency residuals*, *Geophys. J. Int.*, 203(3), 2099–2118, doi:10.1093/gji/ggv389, (2015).
6. Colli, L., H.-P. Bunge, H.-P. and **B.S.A. Schuberth**, *On retrodictions of global mantle flow with assimilated surface velocities*, *Geophys. Res. Lett.*, 42, 8341–8348, doi:10.1002/2015GL066001, (2015).
7. Davies, D.R., S. Goes, J.H. Davies, **B.S.A. Schuberth**, H.-P. Bunge and J. Ritsema, *Reconciling dynamic and seismic models of Earth's lower mantle: the dominant role of thermal heterogeneity*, *Earth Planet. Sci. Lett.*, 353–354, 253–269, doi:10.1016/j.epsl.2012.08.016, (2012).
8. **Schuberth, B.S.A.**, C. Zarli and G. Nolet, *Synthetic seismograms for a synthetic Earth: long-period P- and S-wave traveltime variations can be explained by temperature alone*, *Geophys. J. Int.*, 188(3), 1393–1412, doi:10.1111/j.1365-246X.2011.05333.x, (2012).
9. **Schuberth, B.S.A.**, H.-P. Bunge and J. Ritsema, *Tomographic filtering of high-resolution mantle circulation models: Can seismic heterogeneity be explained by temperature alone?*, *Geochem. Geophys. Geosyst.*, 10, Q05W03, doi:10.1029/2009GC002401, (2009), (Highlighted in EOS, Vol. 90, Nr. 28, 2009).
10. **Schuberth, B.S.A.**, H.-P. Bunge, G. Steinle-Neumann, C. Moder, and J. Oeser, *Thermal versus elastic heterogeneity in high-resolution mantle circulation models with pyrolite composition: High plume excess temperatures in the lowermost mantle*, *Geochem. Geophys. Geosyst.*, 10(1), Q01W01, doi:10.1029/2008GC002235, (2009).