

# Sebastian Georg Wolf

Postdoctoral Research Fellow  
University of Bergen  
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Phone: +47 4031 9599  
He/Him

## EDUCATION

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### University of Bergen

Ph.D. in Geodynamics, Passed (Ungraded)

Main advisors: Prof. Ritske S. Huismans, Prof. Patience Cowie

- Thesis: “Orogenesis from bottom to top – Investigating the geodynamics of mountain building using coupled thermo-mechanical-surface-process models”

Bergen, Norway

Sept 2016 – March 2021

### University of Bergen

M.Sc. in Geosciences (Geodynamics), Average Grade A

- Thesis: “From slab rollback to orogenic plateau formation: a numerical modelling study of ocean-continent subduction systems”

Bergen, Norway

2014 – 2016

### Ludwig-Maximilians-Universität (LMU) &

Technische Universität Munich (TUM)

B.Sc. in Geosciences (Geology), Passed with distinction (A)

- Thesis: “Geometric and crystallographic quantification of quartz fabrics in a hydrothermal brittle fault zone: Rusey Fault (Cornwall)”

Munich, Germany

2010 – 2014

## WORK EXPERIENCE

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### University of Bergen

Postdoctoral research fellow

Bergen, Norway

2024 – ongoing

### German Research Centre for Geosciences, GFZ

Postdoctoral research fellow

Potsdam, Germany

2023 – 2024

### University of Bergen

Postdoctoral research fellow

Bergen, Norway

2021 – 2023

### University of Bergen

PhD Research project

Bergen, Norway

2016 – 2021

### Grundbaulabor München

Assistant Geologist

Munich, Germany

2011 – 2015

## PUBLICATIONS

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### Published Research Articles

1. Yuan, X. , Li, Y. Q., Brune, S., Li, L., Pons, M., **Wolf, S. G.** “Coordination between deformation, orographic precipitation, and erosion during orogenic growth”, *Nature Communications*, 15, 10362, <https://doi.org/10.1038/s41467-024-54690-4>
2. Yuan, X.P., Jiao, R., Liu-Zeng, J., Dupont-Nivet, G., **Wolf, S. G.**, Shen, X. (2023) “Downstream propagation of fluvial erosion in Eastern Tibet”. *Earth and Planetary Science Letters*, 605, 118017, <https://doi.org/10.1016/j.epsl.2023.118017>

3. Wolf, L., Huismans, R. S., **Wolf, S. G.**, Rouby, D., May, D. A. (2022) “Evolution of rift architecture and fault linkage during continental rifting: Investigating the effects of tectonics and surface processes using lithosphere-scale 3D coupled numerical models”. *Journal of Geophysical Research: Solid Earth*, 127, e2022JB024687
4. Wolf, L., Huismans, R. S., Rouby, D., Gawthorpe, R. L., **Wolf, S. G.** (2022) “Links Between Faulting, Topography, and Sediment Production During Continental Rifting: Insights From Coupled Surface Process, Thermomechanical Modeling”. *Journal of Geophysical Research: Solid Earth*, 127, 3, <https://doi.org/10.1029/2021JB023490>
5. **Wolf, S. G.**, Huismans, R. S., Braun, J., Yuan, X. (2022). “Topographic Evolution of Mountain Belts Controlled by Rheology and Surface Process Efficiency”, *Nature*, <https://doi.org/10.1038/s41586-022-04700-6>
6. Yuan, X., Huppert, K., Braun, J., Shen, X., Liu-Zeng, J., Guerit, L., **Wolf, S. G.**, Zhang, J., Jolivet, M. (2022) “Propagating uplift controls on high-elevation, low-relief landscape formation in Southeast Tibetan Plateau”. *Geology*, v. 50, <https://doi.org/10.1130/G49022.1>
7. Erdős, Z., Huismans, R. S., Faccenna, C., **Wolf, S. G.** (2021). “The role of subduction interface and upper plate strength on back-arc extension: application to Mediterranean back-arc basins”, *Tectonics*, 40, e2021TC006795, <https://doi.org/10.1029/2021TC006795>
8. **Wolf, S. G.**, Huismans, R. S., Muñoz, J.-A., Curry, M. E., van der Beek, P. (2021). “Growth of Collisional Orogens From Small and Cold to Large and Hot — Inferences From Geodynamic Models”. *Journal of Geophysical Research: Solid Earth*, 126, e2020JB021168. <https://doi.org/10.1029/2020JB021168>
9. Curry, M. E., van der Beek, P., Huismans, R. S., **Wolf, S. G.**, Fillon, C., Muñoz, J.-A. (2021). “Spatio-temporal patterns of Pyrenean exhumation revealed by inverse thermo-kinematic modeling of a large thermochronologic dataset”. *Geology*, v. 49. <https://doi.org/10.1130/G48687.1>
10. **Wolf, S. G.**, Huismans, R. S. (2019). “Mountain Building or Backarc Extension in Ocean-Continent Subduction Systems: A Function of Backarc Lithospheric Strength and Absolute Plate Velocities”. *Journal of Geophysical Research: Solid Earth*, 124, 7, p.7461-7482. <https://doi.org/10.1029/2018JB017171>
11. Curry, M. E., van der Beek, P., Huismans, R. S., **Wolf, S. G.**, Muñoz, J.-A. (2019). “Evolving paleotopography and lithospheric flexure of the Pyrenean Orogen from 3D flexural modeling and basin analysis”, *Earth and Planetary Science Letters*, 515, p.26-37. <https://doi.org/10.1016/j.epsl.2019.03.009>

## M.Sc.- and PhD-thesis

1. Wolf, S. G. (2016) From slab rollback to orogenic plateau formation: a numerical modelling study of ocean-continent subduction systems, University of Bergen, M.Sc. thesis
2. Wolf, S. G. (2020) Orogenesis from bottom to top – Investigating the geodynamics of mountain building using coupled thermo-mechanical-surface-process models, University of Bergen, Ph.D. thesis

## Research Articles under review

1. **Wolf, S. G.**, Huismans, R. S., Braun, J. “Tectonics or Surface Processes during orogenesis - the Beaumont number: I. Exploring the parameter space”, *JGR Solid Earth*, under review
2. **Wolf, S. G.**, Huismans, R. S., Braun, J. “Tectonics or Surface Processes during orogenesis - the Beaumont number: II. Application to orogens on Earth”, *JGR Solid Earth*, under review
3. Erdős, Z., Huismans, R. S., **Wolf, S. G.**, Faccenna, C. “Terrane accretion explains thin and hot ocean-continent back-arcs”, **Science Advances**, under review

## Notable Invited Presentations

1. *TSK 2024*, Freiburg., Keynote Presentation: “Quantifying the interaction between surface processes and tectonics during mountain building: the Beaumont number”, with Ritske Huismans and Jean Braun.
2. *GEOMOD 2023*, Paris, Keynote Presentation: “Tectonics or Surface Processes: The Beaumont number of mountain belts on Earth”, with Ritske Huismans and Jean Braun.

3. *European Geosciences Union General Assembly 2023*, Vienna, Invited Presentation: “How high do mountains grow - quantifying growth and decay of topography in collisional orogens”, with Ritske Huismans and Jean Braun and Xiaoping Yuan.
4. *American Geophysical Union Fall Meeting 2022*, Chicago, Invited Presentation: “How high do mountains grow - quantifying growth and decay of topography in collisional orogens”, with Ritske Huismans and Jean Braun and Xiaoping Yuan.

## SERVICE TO SCIENTIFIC COMMUNITY

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- Reviewer for Nature Geoscience, Science Advances, JGR: Solid Earth, Geophysical Research Letters, Tectonophysics since 2022
- Convener and Co-convenor at scientific conference since 2024

## GRANTS AND AWARDS

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- Meltzer Research Fund: Mobility grant for international conference 2023
- Akademia Avtale: Mobility grant for international conferences 2019 – 2020
- Poster Award, DEEP Research School General Assembly 2019
- Munich GeoCenter Graduate award (for being amongst the three best B.Sc.-students in 2014). 2015

## NEWS AND MEDIA

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- Futura-sciences.com: De la tectonique ou l'érosion qui contrôle la hauteur des montagnes? June 2022
- Pro-physik.de: Wie hoch wächst ein Gebirge? June 2022
- Phys.org: Which forces control the elevation of mountains? June 2022

## OTHER RELEVANT PROFESSIONAL EXPERIENCES

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- Member of the University Library board, UiB 2024- – ongoing  
*Representative of the non-permanent scientific staff, UiB*
- Deputy member of the board at the Faculty of Science and Technology, UiB 2024- – ongoing  
*Deputy representative of the non-permanent scientific staff, UiB*
- Member of the selection committee at Department of Geosciences, UiB 2022- – ongoing  
*Acquisition and proposal of candidates to departmental/institutional boards, UiB*
- Organizer of local seminar series at UiB 2020 – ongoing  
*Organisation of local seminar series “Geolunch” at the Department of Earth Science, UiB.*
- Museum exhibition: Oppdagelsen av Jotunfjeldene 2020  
*Scientific guiding through exhibition “Oppdagelsen av Jotunfjeldene” (Universitetsmuseet i Bergen, Artist Hanne Åmli); provided geological background in a clay pottery workshop for museum visitors.*
- DEEP Research School Representative 2018 – 2019  
*Elected contact person for all Norwegian PhD students who are members of the DEEP Research School; Participation in DEEP Research School board meetings.*
- DEEP Research School Representative at UiB 2017 – 2019  
*Contact person for PhD students at the University of Bergen (UiB) who are enrolled in the DEEP Research School.*

## TEACHING

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- **Lecturer** at University of Bergen 2022  
*Geodynamics and Basin Modeling (GEOV254)*  
Led a 10 CP graduate course on Geodynamics and Basin Modelling. The course covers fundamental questions and equations related to Geodynamics (e.g. heat, rheology, isostasy, surface processes, convergent & divergent plate boundaries). I gave the lectures, tutored during the programming exercises, graded weekly assignments and conducted the final oral exam.
- **Teaching Assistant** at University of Bergen 2014 - 2018  
*Geodynamics and Basin Modeling (GEOV254)*  
Teaching Assistant for five times in a 10 CP graduate course covering fundamental questions and equations related to Geodynamics. Helped in class and graded weekly programming exercises.
- **Teaching Assistant** at Department of Earth Science, LMU Munich 2013  
*Introduction to Structural Geology*  
Assisted during a weekly undergraduate practical course with 20 students and taught basic structural geological methods, e.g. maps and profiles, stereographic projections, brittle failure criteria
- **Teaching Assistant** at Tectonics and Material Fabrics section, TU Munich 2012 - 2013  
*Introduction to Endogenous Geology and Plate Tectonics*  
Graded weekly exercises for >60 students, and assisted during lectures.
- **Tutor** at Faculty of Civil, Geo and Environmental Engineering, TU Munich 2012 - 2013  
*Introduction to Technical mechanics for Geologists*  
Tutored a weekly practical course in technical mechanics for geologists. Tutoring was predominantly front-of-class explanation of the weekly exercise.

## CAREER BREAKS

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- **Parental leave** 01/2022 - 05/2022
- **Parental leave** 04/2024 - 08/2024

## LANGUAGES

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- **German:** Native language
- **English:** Fluent
- **Norwegian:** Fluent
- **French:** Basic Knowledge