

## Biqing Zhu

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### RESEARCH AND EDUCATION:

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- 06.2020 - present **Postdoctoral Researcher, Department of Earth System Science, Tsinghua University.**
- Research interests: carbon emission accounting, high-altitude carbon turnover, environmental statistics, and geo-spatial data analysis
- 01.2015 – 04.2020 **PhD, Department of Environmental Systems Sciences, Science, Swiss Federal Institute of Technology (ETH) Zurich, Switzerland**
- Thesis: *Origin, Distribution, Quantity, and Fate of Methane Entrapped in Sediments of Swiss Calcareous Proglacial Catchments.*
- Advisor: Prof. Martin H. Schroth
- 06.2017 **Summer School in Environmental Systems Analysis, Eawag, Zurich, Switzerland**
- Model-based data analysis in environmental science and modern statistics
- 09.2012 – 10.2014 **MSc, Department of Environmental Sciences, University of Wageningen, Wageningen, the Netherlands**
- Thesis: *Assessment of uncertainties in greenhouse gas emission profiles of livestock sectors in Africa, Latin America and Europe*
- Advisor: Dr. Jan Peter Lesschen, Dr. Hans Kros, Igor Staritsky, Prof. Wim de Vries
- 09.2013 – 06.2014 **MSc honours program, Research School for Socio-Economic and Natural Sciences of the Environment (SENSE), the Netherlands**
- 09.2008 – 06.2012 **BSc, Chemistry Department, Zhengzhou University, China**
- Thesis: soil absorption capacity of antibiotics
- 01.2010 – 04.2012 Research Assistant, Environmental Research Institution, Zhengzhou University
- Project: Natural-soil-sediment wastewater treatment project in Xinmi, China
- Team leader for BSc research assistants, assistant in site-investigation, stakeholder engagement, laboratory analysis, up-scaling, data evaluation, proposal and report writing

### TEACHING EXPERIENCES:

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- 02.2015 – 03.2019 **Teaching assistant, ETH Zurich, Switzerland**
- BSc laboratory course “Biogeochemistry”, in microbial ecology section
- Coordinated tutors on re-designing course protocols
  - Gave seminars, provide demonstrations on laboratory incubation and data evaluation
- MSc field course “Microbial Ecology of Alpine Habitats”
- Lead field experiments on greenhouse emissions from grassland under different weather and light conditions
  - Modified course protocols according to weather conditions, provided outcome evaluations (in the form of project presentation).
- 2016 – 2017 Supervisor of MSc Students
- Supervised two Master thesis projects (Interviewed candidates, designed research plans, provided regular supervisions, provided support for data analysis, tutored the writing process, participated in research evaluation)

## PUBLICATIONS

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- Zhu, B., Kübler, M., Ridoli, M., Breitenstein, D., & Schroth, M. H. (2020). Quantity and distribution of methane entrapped in sediments of calcareous, Alpine glacier forefields. (accepted)
- Zhu, B., Henneberger, R., Weissert, H., Zeyer, J., & Schroth, M. H. (2018). Occurrence and origin of methane entrapped in sediments and rocks of a calcareous, alpine glacial catchment. *Journal of Geophysical Research: Biogeosciences*, 123, 3633–3648. <https://doi.org/10.1029/2018JG004651>
- Zhu, B., Kros, J., Lesschen, J. P., Staritsky, I. G., & de Vries, W. (2016). Assessment of uncertainties in greenhouse gas emission profiles of livestock sectors in Africa, Latin America and Europe. *Regional Environmental Change*, 16(6), 1571-1582.

## PRESENTATIONS

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- Zhu, B., & Schroth, M. H. (2018, December). Fate of Methane Entrapped in Calcareous Alpine Proglacial Soils Under Variable Environmental Conditions. *AGU Fall Meeting, 2018*. ([eLightening presentation](#))
- Zhu, B., Schroth, M. H., Henneberger, R., Kübler, M., & Zeyer, J. (2017, April). Origin and Distribution of Methane Entrapped in Calcareous Alpine Proglacial Soil. *EGU General Assembly Conference, 2017*. ([Poster](#))

## LANGUAGES:

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**Chinese** Native speaker  
**English** Proficient

**German** Basic

## RELEVANT SKILLS:

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- **Applied Statistics:** extensive training (multiple in-depth courses and workshops) in statistical data analysis, including advanced areas such as time series analysis and geostatistics
- **Computing:** very good knowledge in R®, basic (course-level) knowledge of SPSS, SAS®, Matlab, and Python
- **Geoinformation Science:** Practical experience handling aerial and topographical maps with ArcGIS
- **Chemical Analytical Instruments:** Hands-on experience with GC-FID, GC-MS, GC-IRMS, Cavity Ring-Down Spectroscopy, Elemental Analyzer, training and practical experience in most common analytical instruments, including HPLC, LC-MS, etc.
- **Field work:** intensive field work experience in various conditions, including anthropogenic environment (Chinese village) and natural environment (high-mountain, glacial area of the Swiss Alps), including protocol design, field work preparation, conduction, sample treatment and data evaluation
- **Uncertainty analysis:** Very familiar with uncertainty analysis and propagation of different data types, from high-dimensional dataset at continental scale, to small data-set focusing on local phenomenon, down to laboratory scale.

## EXTRACURRICULAR ACTIVITIES:

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- 10/2018 **Negotiation workshop, Telejob, Zurich** (Designed and organized workshop)
- 06/2018 **Dance show, ZeoT showcase, Zurich** (Performed on stage)
- 10/2017 **Climathon of City Zurich** (solutions-hackathon for climate positive businesses solutions) (Participant of the winning team for Energy Challenge)
- 09/2017 **Scientifica** (Scientific outreach promoting event of city Zurich) (On-site support)
- 08.2013 – 06.2014 **International Student Organisation of Wageningen at ISOW, Wageningen, Netherlands** (Chinese language teacher)

## REFERENCES:

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Available upon request