

# SOLMAZ MOHADJER

Global Awareness Education  
Transdisciplinary Course Program and Career Service  
University of Tübingen  
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## EDUCATION

- Ph.D. in Geosciences (Geohazards), University of Tübingen, Germany, Dec 2019
  - [Dissertation](#): *Investigation spatial and temporal patterns of deformation and erosion in orogens*
- M.Sc. in Geosciences (Geodesy/Geohazard Education), University of Montana, USA, Dec 2008
  - [Thesis](#): *Geodetic constraints on slip rates of large Central Asian faults*
- B.Sc. in Geological Sciences, University of Washington, USA, Jun 2004

## RESEARCH INTERESTS

### RESEARCH THEMES

- Geohazards (earthquakes and rockfalls) and disaster risk reduction
- Active tectonics and geodynamic processes
- Geoscience communication, education, and science-policy

### TECHNIQUES USED

- Terrestrial remote sensing and GPS geodesy
- Database programming, design, and management
- Paired teaching/teaching-duet pedagogy
- Fieldwork
- Cosmogenic nuclides ( $^{10}\text{Be}$ )

## POSITIONS

Positions outside of academia\*

- Academic Associate, Global Awareness Education, University of Tübingen, Germany, since July 2023
- Scientific Coordinator, Max Planck Institute for Intelligent Systems, Tübingen, Germany, (2022-2023)
- Assistant Professor, Earth & Environmental Sciences, University of Central Asia, Tajikistan (2020-2022)
- Postdoctoral Associate, Geosciences, University of Tübingen, Germany, (2017 – 2020)
- Ph.D. Researcher, Geosciences, University of Tübingen, Germany, (2013 – 2016)
- Natural Hazard Risk Model Consultant, Focus Humanitarian Assistance, Kabul, Afghanistan, (2012/2013)\*
- Natural Hazard Scientist, Aga Khan Development Network, Dushanbe, Tajikistan, (2012)\*
- Program Director, Teachers Without Borders, Seattle, WA, U.S.A., (2009 – 2011)\*
- Graduate Research Assistant, University of Montana, Missoula, MT, U.S.A. (2006 – 2008)
- Geologist, United States Geological Survey, Anchorage, Alaska, U.S.A., (2004 – 2006)\*
- Project Coordinator, University of Washington's Pipeline Project, Seattle, WA, U.S.A., (2001 – 2004)

## **AWARDS AND HONORS**

- European Geosciences Union (EGU) Training School Grant, 2021
- EGU Higher Education Teaching Grant, 2020
- EGU Science-Policy Pairing Scheme Award, 2019
- International Symposium on Geo-Disaster Reduction (Kyrgyzstan) Best Presentation Award, 2019
- EGU Public Engagement Grant, 2016
- Innovation Fund Sustainable Development, University of Tübingen, 2016
- PARSA Community Foundation Grant (to initiate the [ParsQuake Project](#)), 2011
- Bertha Morton Scholarship, University of Montana, 2008-2009 academic year
- Space Grant Undergraduate Research Program, University of Washington, 2004
- Zesbaugh Scholarship, University of Washington, 2003-2004 academic year
- Lindenberg Mobility Grant for International Studies, University of Washington, 2003
- Mary Gates Leadership Grant, University of Washington, 2002-2003 academic year
- Society of Exploration Geophysics Foundation, 2001

## **SERVICE**

### **EDITORIAL SERVICE**

- Associate Editor, Natural Hazards and Earth System Sciences (open access), since Oct 2023
- Executive Editor, Geoscience Communication (open access), since Jun 2022
- Associate Editor, Geoscience Communication (open access), since Apr 2021
- Guest Editor for:
  - Inter-journal open access special issue on “Methodological innovations for the analysis and management of compound risk and multi-risk including climate-related and geophysical hazards”, Copernicus (EGU) Journals: Natural Hazards and Earth System Sciences, Earth System Dynamics, Earth System Science Data, Geoscience Communication and Hydrology and Earth System Sciences, 2023-present
  - Open-access special issue on “Climate and ocean education and communication: practice, ethics and urgency”, Copernicus (EGU) journal: Geoscience Communication, 2022-present

### **SCIENTIFIC COMMUNITY**

- Chair, European Geosciences Union (EGU) Outreach Committee, since Apr 2024
- Member, EGU Publication Committee, since 2022
- Officer for Mentoring and Outreach, EGU Program Committee, 2021-2024
- Member, EGU Outreach Committee, 2020-2024
- Member, EGU Higher Education Focus Group, 2020

### **UNIVERSITIES**

- Member of Academic Integrity and Appeal Committees, University of Central Asia, 2020 – 2022
- Organizer of Faculty Lecture Series, University of Central Asia, 2020 – 2021
- Representative of Geosciences PhD and Postdoc researchers, University of Tübingen, 2020

### **CONVENER OF CONFERENCES, SESSIONS, AND SHORT COURSES**

European Geosciences Union, Vienna, Austria:

- Challenges & opportunities in risk communication related to natural and anthropogenic hazards, convener, Apr 2024
- The Art of Communicating Risk: Tips for effective risk communication, short course, convener, Apr 2024
- ‘How to enhance natural hazard scientists’ contribution to disaster risk reduction’, short course, convener, Apr 2024
- ‘How do I make my geoscience communication publishable?’ short course, convener, Apr 2023-2024
- Science and Society: Science Communication Practice, Research, and Reflection, lead convener, Apr 2023-2024

- Open session in Teaching and Learning in Higher Education, convener, Apr 2023
- Teacher-Scientist pairing scheme, lead convener, Apr 2021-2023
- Great Debates: Is social media outreach? invited panelist, Apr 2023
- Risk and Resilience at the Science-Policy-Practice Interface, convener, Apr 2021
- Science-policy pairing scheme: a panel discussion, invited panelist, Apr 2021
- Science for Policy webinar, invited panelist, Apr 2020
- Debunking myths and fake news, invited panelist, Apr 2018
- Geoscience and SDGs: Strategies for Eradicating Global Poverty, convener, Apr 2016
- Natural Hazards Communication and Science-Policy-Practice Interface, convener, Apr 2015, 2016
- Natural Hazard Teaching Demonstrations, convener, Apr 2015

## TRAINING WORKSHOPS ORGANIZED AND LED

Workshops for stakeholders\*

- Climatic and Tectonic Natural Hazards in Central Asia (final workshop), online, Sep 2020
- Climatic and Tectonic Natural Hazards in Central Asia (annual meeting), Tübingen, Germany, May 2019
- Central Asia Active Fault Database Training, Institute of Geology, Earthquake Engineering and Seismology, Dushanbe, Tajikistan, Oct 2018\*
- Geology and Sustainable Development Goals, University of Tübingen, Germany, Dec 2015
- Remote Sensing, GFZ Potsdam, Germany, Apr 2014
- Earthquake Education Teacher Training, Aga Khan Development Network, Gujarat, India, May 2012
- Avalanche Hazards, Aga Khan Development Network, Dushanbe, Tajikistan, Apr 2012\*
- Earthquake Education Training, Teachers Without Borders, Port-au-Prince, Haiti, 2011
- Earthquake Education Training, Teachers Without Borders, Tajikistan and Afghanistan, 2011\*
- Earthquake Education and Science Inquiry, Teachers Without Borders, Sichuan, China, 2009-2011
- GPS Geodesy and Earthquake Hazards, Afghanistan Geological Survey, Kabul, Afghanistan, Mar 2008\*

## PRESENTATIONS (\*invited)

### SYMPOSIA AND CONFERENCE LECTURES

1. European Geosciences Union, Vienna, Austria, Apr 2024, “Disaster risk reduction for a resilient world: An online transdisciplinary course to enhance global awareness in training and education”
2. European Geosciences Union, Vienna, Austria, Apr 2023
  - (i) “The shadowlands of science communication in academia – definitions, problems, and possible solutions”
  - (ii) “Using our primary senses to connect with the Arctic Ocean”
  - (iii) “A journey to a cold seep: a paired teaching video on how scientists study methane in the Arctic Ocean”
3. Natural Hazards & Climate Change Conference and Workshop, Szeged, Hungary, Mar 2023, “Ensuring science is useful, usable, and used in disaster risk reduction – recommended actions for natural hazard scientists” \*
4. American Geophysical Union, Chicago, IL, USA, Dec 2022, “Actionable steps to improve inclusivity and diversity in the geosciences in higher education”
5. CAGE International Conference on Methane in a Changing Arctic, Tromsø, Norway, Sep 2022, “Using paired teaching for understanding methane activity in the Arctic Ocean”
6. European Geosciences Union, Vienna, Austria, May 2022
  - (i) “Building sustainable and resilient societies: An online training course to enhance natural hazard scientists’ contribution to disaster risk reduction”
  - (ii) “INTEGRATE: A higher-education teaching package for climate science” \*
7. American Geophysical Union, USA, Dec 2020, “Along-strike variations in cosmogenic derived denudation rates in the Western Tian Shan, Tajikistan”\*
8. European Geosciences Union, Vienna, Austria, Apr 2020
  - (i) “How can natural hazard scientists enhance their contribution to building sustainable and resilient

societies?"

- (ii) "Paired teaching approach to earthquake education: a cross-country comparison between Dushanbe, Tajikistan and London, United Kingdom"
- 9. EU Parliament, Brussel, Belgium, Nov 2019, "Impact of sea-level rise on coastal communities of the Baltic Sea"\*
- 10. International Symposium on Geo-Disaster Reduction, Kyrgyzstan, Aug 2019\*
  - (i) "From research to action: Linking geohazards science and preparedness in schools" (keynote)
  - (ii) "Geohazards Database for Central Asia"
- 11. European Geosciences Union, Vienna, Austria, Apr 2019
  - (i) "Overcoming challenges in earthquake education: a case study from Tajikistan"
  - (ii) "Central Asia geohazards database"
- 12. European Geosciences Union, Vienna, Austria, Apr 2018
  - (i) "Sensitivity of rockfall frequency-magnitude and wall retreat rates to observation"
  - (ii) "Using paired-teaching for earthquake education in schools"
- 13. European Geosciences Union, Vienna, Austria, Apr 2016, "Comparison of fault slip rates: Insights from a Quaternary fault database for Central Asia"
- 14. Himalayan Karakorum Tibet Workshop and International Symposium on Tibetan Plateau, University of Tübingen, Germany, Aug 2013, "Lessons Learned: From advancements in Earth sciences to practical geohazards awareness"
- 15. European Science Education Research Association Conference, Istanbul, Turkey, Sep 2009, "Learning Science through Emergency Education"
- 16. American Geophysical Union, San Francisco, USA, Dec 2008, "Earthquake Education in Tajikistan: An assessment of perceptions, preparedness, and a pilot science-based curriculum"
- 17. American Geophysical Union, Fort Lauderdale, USA, May 2008, "Preliminary geodetic results from a sparse Central Asian geodetic network"

## DEPARTMENTAL SEMINARS AND COLLOQUIUM

- 18. University of Central Asia Public Lecture Series (2020-2021)
  - (i) "What's the story with sand? Erosion in the Pamir and Tian Shan"
  - (ii) "Sensitivity of Rockfall frequency-magnitude and wall retreat rates to observation duration from TLS measurements"
- 19. University of Montana, USA, Oct 2020, "Career Paths in Geosciences"\*
- 20. Institute of Geology, Earthquake Engineering and Seismology Lectures, Tajikistan, Oct 2018, "Central Asia Quaternary fault database"\*
- 21. University of Liège, Geo-risk and Environment Colloquium, Belgium, Jun 2018, "Under pressure: Continental Collision and Earthquake Awareness"\*
- 22. University of Freiburg, Soil-Water-Rock, Earth and Environmental Sciences Colloquium, Germany, May 2016, "Comparison of fault slip rates from a Central Asia fault database"\*
- 23. Harvard Graduate School of Education Seminar Series, USA, Oct 2010, "The rise and role of NGOs in International Development"

## COMMUNITY AND PUBLIC OUTREACH TALKS

- 24. American Geophysical Union, Dec 2021, "Long-term Impact: The Advocacy of Voices for Sciences"\*
- 25. Adventure of Science, Women and Glaciers in Central Asia, Nov 2021, "Preliminary results on erosion rates for large rivers in Western Tian Shan based on cosmogenic dating"\*
- 26. Geology for Global Development, Sep 2021, "Increasing Access to and Understanding of Geoscience"\*
- 27. UNESCO Geoparks in Central Asia: Territory for Sustainable Management of Geological Hazards, Water Resources and Tourism Development, Batken State University, Kyrgyzstan, Sep 2021, "Geohazards education and outreach: a case study from Tajikistan"\*
- 28. Volkshochschule Reutlingen, Germany, Apr 2021, "Caught in the web of climate change"\*
- 29. Royal Geographical Society, UK, Mar 2021, "Our hazardous Earth: a panel discussion"\*
- 30. University of Oxford's Grand Challenges Seminar, UK, May 2019, "Natural hazards: Preparing today to protect

tomorrow"\*

31. UN Forum on Science, Technology and Innovation, USA, May 2019. "Earth Sciences Education for Resilient Communities in Central Asia"\*
32. TEDx Stuttgart, Germany, Sep 2016, "How to disarm earthquakes"\*
33. Geology for Global Development Annual Conference, UK, Oct 2015, "Geoscience and Development – Exploring Best Practice: a group activity"\*
34. Geology for Global Development Annual Conference, UK, Oct 2014, "Translating geohazards research into potentially life-saving practices in Central Asia"\*
35. University of Cambridge, Sedgwick Club, UK, Nov 2011, "Earthquake Education in Central Asia"\*

## **TEACHING**

### **UNIVERSITY COURSES**

- University of Tübingen: *Environmental Impact Assessments at the Local & Global Levels* (Winter, 2023-2024), *The Science and Practice of Environmental Communication in Global Context* (Winter 2023-2024), *Disaster Risk Reduction for a Resilient World* (Winter 2023-2024, Summer 2024), and *Indigenous Knowledge in Climate Research* (Winter 2024)
- Open University: Building Sustainable and Resilient Communities, online via OpenLearn Create, since Nov 2023
- University of Central Asia: *Geodynamics & Structural Geology* (Fall 2020, 2021); *Introduction to Earth and Environmental Sciences* (Autumn 2021); *Sediments, Stratigraphy, and Hydrocarbon* (Autumn 2020); *Environmental Impact & Risk Assessment* (Spring 2021)
- Guest Lecturer: University of Central Asia: *Science Communication* (2 lectures, Spring 2022); *Environmental Communication* (4 lectures, Spring 2021), *Natural Hazards and Risk Management in Mountain Regions* (4 lectures, Spring 2021); *Advanced GIS & Remote Sensing* (1 lecture, Spring 2021)
- University of Tübingen: *Applied Tectonics and Surface Processes* (Winter 2016, co-developed course curriculum)
- University of Montana: *Introduction to Geology Lab* (academic year 2006-2007)
- University of Washington: *Education Seminars* (2001-2004, seminar themes: General Issues in Primary and Secondary Education; Refugee and Immigrant Communities; Math and Science in Primary and Secondary Education)

### **STUDENT SUPERVISION AND MENTORING**

- Mentor for 8 MSc. and 1 PhD students, European Geoscience Union Mentoring Program, 2021-2023
- Supervisor for 5 BSc. student theses, University of Central Asia, Tajikistan, 2020-2022
- Co-supervisor for 2 MSc. student theses, University of Tübingen, Germany, 2019-2020

## **SCIENCE-POLICY**

- Selected Participant, American Geophysical Union's Voices for Science (policy track), 2021-2022
- Selected Participant, Evidence for Policy School: Disaster Risk Management, European Commission's Joint Research Center, Italy, Jan 2020
- Science Adviser to Finnish MEP Miapetra Kumpula-Natri, European Union Parliament, Belgium, Nov 2019
- Delegate, United Nations Forum on Science, Technology and Innovation, USA, May 2019



## PUBLICATIONS

For publication metrics, see my [Google Scholar](#) and [ORCID](#) profiles.

Open Access\*

## FORTHCOMING

1. Gani, S., Arnal, L., Beattie, L., Hillier, J., Illingworth, S., Lanza, T., **Mohadjer, S.**, Pilkkinen, K., Rool, H., Stewart, I., Stiller-Reeve, M., von Elverfeldt, K., Zihms, S., 2023 (*in review*). Editorial: The shadowlands of science communication in academia – definitions, problems, and possible solutions. *Geoscience Communication*\*
2. Soltanpour, H., Serhini, K., Gill, J., **Mohadjer, S.**, 2024 (*in prep*). Multi-hazard susceptibility mapping in the karst context using a machine-learning method (MaxEnt), case study: Val d'Orléans, France. *NHESS*\*
3. **Mohadjer, S.**, Ratschbacher, L., Ehlers, T.A., Abdulov, S., Gadoev, M., Oimahmadov, M., Schaller, M., 2023 (*in prep*). Along-strike variations in cosmogenic derived denudation rates in the Western Tian Shan, Tajikistan. *Geomorphology*\*

## PEER-REVIEWED

1. Hall, C. A., Illingworth, S., **Mohadjer, S.**, Roxy, M. K., Poku, C., Otu-Larbi, F., Reano, D., Freilich, M., Veisaga, M.-L., Valencia, M., and Morales, J., 2022. GC Insights: Diversifying the geosciences in higher education: a manifesto for change, *Geosci. Commun.*, 5, pp. 275–280\*
2. **Mohadjer, S.**, Mutz, S.G., Kemp, M., Gill, S., Ischuk, A., and Ehlers, T.A., 2021. Using paired teaching for earthquake education in schools. *Geoscience Communication*, 4, pp. 281-295\*
3. Gill, J.C., Taylor, F.E., Duncan, M., **Mohadjer, S.**, Budimir, M., and Mdala, H., 2021. How can natural hazard scientists enhance their contribution to building sustainable and resilient societies? *Natural Hazards and Earth System Sciences*, 21, pp. 187–202\*
4. **Mohadjer, S.**, Ehlers, T.A., Nettesheim, M., Ott, M.B., Glotzbach, C., and Drews, R., 2020. Temporal variations in rockfall and rockwall retreat rates in a deglaciated valley over the last 11 ka. *Geology*, v. 48(6), pp. 594-598\*
5. Perry, M., Kakar, N., Ischuk, A., Metzger, S., Bendick, R., Molnar, P., and **Mohadjer, S.**, 2018. Little Geodetic Evidence for Localized Indian Subduction in the Pamir-Hindu Kush of Central Asia, *Geophysical Research Letters*, v. 46, pp. 109-11\*
6. **Mohadjer, S.**, Ehlers, T.A., Bendick R., Mutz, S.G., 2017. Review of GPS and Quaternary fault slip rates in the Himalaya-Tibet Orogen, *Earth-Science Reviews*, 174, pp. 39-52
7. Dietze, M., **Mohadjer, S.**, Turowski, J. M., Ehlers, T. A., and Hovius, N., 2017. Seismic monitoring of small alpine rockfalls - validity, precision and limitations, *Earth Surf. Dynam.* 5, 653-668\*
8. **Mohadjer, S.**, Ehlers, T. A., Bendick, R., Stübner, K., and Strube, T., A Quaternary fault database for central Asia, 2016, *Natural Hazards and Earth System Sciences*, 16, 529-542, doi:10.5194/nhess-16-529-2016.\*
9. Ischuk, A., Bendick, R., Rybin, A., Molnar, P., Khan, S.H., Kuzikov, S., **Mohadjer, S.**, Saydullaev, U., Ilyasova, Z., and Schelochkov, G., Kinematics of the Pamir and Hindu Kush regions from GPS geodesy, 2013, *Journal of Geophysical Research Letters- Solid Earth*, Vol. 118, 1-9 PP\*
10. **Mohadjer, S.**, Bendick, R., Ischuk, A., Kuzikov, S., Kostuk, A., Saydullaev, Lodi, S., Kakar, D.M., Wasy, A., Khan, M.A., Molnar, P., Bilham, R., and Zubovich, A.V., 2010, Partitioning of India-Eurasia convergence in the Pamir-Hindu Kush from GPS measurements, *Geophysical Research Letters*, Vol. 37, L04305, 6 PP.\*
11. **Mohadjer, S.**, Bendick, R., Halvorson, S., Saydullaev, U., Hojiboev, O., Stickler, C., Adam, Z., 2010, Earthquake Emergency Education in Dushanbe, Tajikistan, *Journal of Geoscience Education*, v. 58, n. 2, p. 86-94.

## OPEN-FILE REPORTS

All products are open access and peer-reviewed

12. Wilson, F.H., Blodgett, R.B., Blome, C.D., **Mohadjer, S.**, Preller, C.C., Klimasauskas, E.P., Gamble, B.M., and Coonrad, W.L., 2017, Bedrock geologic map of the northern Alaska Peninsula area, southwestern Alaska: U.S.

Geological Survey Scientific Investigations Map 2942, pamphlet 43 p., scale 1:350,000, <https://pubs.er.usgs.gov/publication/sim2942>.

13. Wilson, F.H., Hults, C.P., **Mohadjer, S.**, Coonrad, W.L., 2013, Reconnaissance Geologic Map for the Kuskokwim Bay Region of Southwest Alaska, U.S. Geological Survey Scientific Investigations Map 3100, pamphlet 46 p., 1 sheet, scales 1:500,000, 1:300,000, 1:250,000, <https://pubs.usgs.gov/sim/3100/>.
14. Wilson, F.H., **Mohadjer, S.**, Labay, K.A., and Shew, N.B., 2006, Digital datasets for geologic map by Wilson, F.H., Blodgett, R.B., Blome, C.D., Mohadjer, S., Preller, C.C., Klimasauskas, E.P., Gamble, B.M., and Coonrad, W.L.: Preliminary Integrated Geologic Map Databases for the United States: Digital Data for the Reconnaissance Bedrock Geologic Map for the Northern Alaska Peninsula Area, Southwest Alaska: U.S. Geological Survey Open-File Report 2006-1303, on-line only. <https://pubs.er.usgs.gov/publication/ofr20061303>
15. Wilson, F.H., **Mohadjer, S.**, Labay, K.A., and Shew, N.B., 2006, Digital datasets for the geologic map by Wilson, F.H., Mohadjer, S., and Grey, D.M.: Preliminary Integrated Geologic Map Databases for the United States: Digital Data for the Reconnaissance Geologic Map of the Western Aleutian Islands, Alaska: U.S. Geological Survey Open-File Report 2006-1302, on-line only. <http://pubs.usgs.gov/of/2006/1302>
16. Wilson, F.H., **Mohadjer, S.**, and Grey, D.M., in press, Reconnaissance geologic map for the Western Aleutian Islands, Alaska: U.S. Geological Survey Scientific Investigations Map SIM-2941, 31 manuscript pages, various scales, in press (USGS Director's approval 1/3/08). (This is the formal publication to accompany the above Open-File Report).
17. Shew, N.B., Peterson, C.S., Grabman, N., **Mohadjer, S.**, Grunwald, D., Wilson, F.H., and Hults, C.K., 2006, Preliminary Integrated Geologic Map Databases for the United States: Digital Data for the Geology of Southwest Alaska by George E. Gehrels and Henry C. Berg: U.S. Geological Survey Open-File Report 2006-1290, on-line only. <http://pubs.usgs.gov/of/2006/1290/>

## BOOK

18. Benoit, Peter. The Haitian Earthquake of 2010. Content Consultant, **Mohadjer, S.**, United Kingdom: Children's Press, 2011. Print.