

# 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**

- Member of the European Geosciences Union (EGU) Publication Committee, since 2022
- Officer for Mentoring and Outreach, EGU Program Committee, since 2021
- Vice Chair of EGU Outreach Committee, since 2020
- Member of 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:

- Science and Society: Science Communication Practice, Research, and Reflection, lead convener, Apr 2023
- Open session in Teaching and Learning in Higher Education, convener, Apr 2023
- ‘How do I make my geoscience communication publishable?’ short course, 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\*

- (*forthcoming*) Building Sustainable and Resilient Communities, online via OpenLearn Create, Nov 2023
- 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 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”
2. 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” \*
3. American Geophysical Union, Chicago, IL, USA, Dec 2022, “Actionable steps to improve inclusivity and diversity in the geosciences in higher education”
4. CAGE International Conference on Methane in a Changing Arctic, Tromsø, Norway, Sep 2022, “Using paired teaching for understanding methane activity in the Arctic Ocean”
5. 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” \*
6. American Geophysical Union, USA, Dec 2020, “Along-strike variations in cosmogenic derived denudation rates in the Western Tian Shan, Tajikistan”\*
7. 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”
8. EU Parliament, Brussel, Belgium, Nov 2019, “Impact of sea-level rise on coastal communities of the Baltic Sea”\*

9. 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"
10. European Geosciences Union, Vienna, Austria, Apr 2019
  - (i) "Overcoming challenges in earthquake education: a case study from Tajikistan"
  - (ii) "Central Asia geohazards database"
11. 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"
12. European Geosciences Union, Vienna, Austria, Apr 2016, "Comparison of fault slip rates: Insights from a Quaternary fault database for Central Asia"
13. 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"
14. European Science Education Research Association Conference, Istanbul, Turkey, Sep 2009, "Learning Science through Emergency Education"
15. American Geophysical Union, San Francisco, USA, Dec 2008, "Earthquake Education in Tajikistan: An assessment of perceptions, preparedness, and a pilot science-based curriculum"
16. American Geophysical Union, Fort Lauderdale, USA, May 2008, "Preliminary geodetic results from a sparse Central Asian geodetic network"

## DEPARTMENTAL SEMINARS AND COLLOQUIUM

17. 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"
18. University of Montana, USA, Oct 2020, "Career Paths in Geosciences"\*
19. Institute of Geology, Earthquake Engineering and Seismology Lectures, Tajikistan, Oct 2018, "Central Asia Quaternary fault database"\*
20. University of Liège, Geo-risk and Environment Colloquium, Belgium, Jun 2018, "Under pressure: Continental Collision and Earthquake Awareness"\*
21. 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"\*
22. Harvard Graduate School of Education Seminar Series, USA, Oct 2010, "The rise and role of NGOs in International Development"\*

## COMMUNITY AND PUBLIC OUTREACH TALKS

23. American Geophysical Union, Dec 2021, "Long-term Impact: The Advocacy of Voices for Sciences"\*
24. 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"\*
25. Geology for Global Development, Sep 2021, "Increasing Access to and Understanding of Geoscience"\*
26. 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"\*
27. Volkshochschule Reutlingen, Germany, Apr 2021, "Caught in the web of climate change"\*
28. Royal Geographical Society, UK, Mar 2021, "Our hazardous Earth: a panel discussion"\*
29. University of Oxford's Grand Challenges Seminar, UK, May 2019, "Natural hazards: Preparing today to protect tomorrow"\*
30. UN Forum on Science, Technology and Innovation, USA, May 2019. "Earth Sciences Education for Resilient Communities in Central Asia"\*
31. TEDx Stuttgart, Germany, Sep 2016, "How to disarm earthquakes"\*

32. Geology for Global Development Annual Conference, UK, Oct 2015, "Geoscience and Development – Exploring Best Practice: a group activity"\*
33. Geology for Global Development Annual Conference, UK, Oct 2014, "Translating geohazards research into potentially life-saving practices in Central Asia"\*
34. 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), and *Indigenous Knowledge in Climate Research* (Winter 2024)
- 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. **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., Duncanm, 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.