

SOLMAZ MOHADJER

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CURRICULUM VITAE

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EDUCATION

University of Tübingen, Ph.D., Geosciences, Tübingen, Germany 05/2013 – 11/2019
University of Montana, M.S., Geosciences, Missoula, MT, U.S.A. 08/2006 – 12/2008
University of Washington, B.S., Geological Sciences, Seattle, WA, U.S.A. 06/2001 – 06/2004

POSITIONS

- Postdoctoral Researcher**, Geosciences, University of Tübingen, Germany 10/2017 – present
- Document catchment-wide erosion rates using cosmogenic isotopes, Western Tien Shan, Tajikistan
 - Investigate the origins, timing, and causes of large rockslides in Western Tien Shan, Tajikistan
 - Compile and program Central Asia Quaternary Fault Database
 - Develop and evaluate geohazards curricular materials for schools
- Geosciences Curriculum Developer**, Geosciences, University of Tübingen, Germany 05/2016 – 01/2017
- Develop tutorials for topographic analysis using *ArcGIS* and *TopoToolbox*. Topics include:
(1) landscape response to climate change and tectonic uplift
(2) Surface, hydrologic, and seismic analysis of example school sites in Central Asia
- Ph.D. Research Candidate**, Geosciences, University of Tübingen, Germany 05/2013 – 04/2016
- Develop and manage an online fault database for Central Asia
 - Evaluate fault slip rates over different timescales across the Himalaya-Tibet orogen
 - Monitor rockfall hazards using terrestrial remote sensing (LiDAR) in the European Alps
- Natural Hazard Risk Model Consultant**, Focus Humanitarian Assistance, Kabul, Afghanistan 11/2012 – 01/2013
- Perform a gap analysis of local risk assessment methodologies and models
 - Develop and conduct a 3-day advanced risk analysis training for Afghan scientists
- Natural Hazard Scientist**, Aga Khan Development Network (AKDN), Dushanbe, Tajikistan 03/2012 – 08/2012
- Assist the Disaster Risk Management Initiative (DRMI) team with mapping of seismic risk across Tajikistan, Afghanistan, India and Pakistan
 - Manage staff and consultants associated with the DRMI Risk Assessment and Non-Structural Safety programs
 - Lead disaster risk reduction activities (e.g., DRMI's School Safety Program and Annual Earthquake Drill)
 - Develop and implement capacity building programs through various AKDN agencies and training partners (e.g., earthquake non-structural hazard program for school safety officers, earthquake science and emergency program for teachers and school administrations, avalanche hazards program for regional geologists)
- Director of Emergency Education**, Teachers Without Borders (TWB), Seattle, WA, U.S.A 01/2009 – 10/2011
- Create and administrate TWB's Emergency Education Teacher Professional Development Program
 - Initiate and oversee the ParsQuake Project, a regionally-owned initiative to raise levels of earthquake awareness, education, and preparedness in Persian-speaking schools and communities globally
 - Assess, develop, implement and evaluate teacher professional development workshops for the following program areas: earthquake science, hazards and safety education; science inquiry education; and

literacy/art education through bookmaking

- Review and write emergency response plans and drills for schools in China, Haiti and Tajikistan
- Produce instructional classroom science videos that incorporate emergency scenarios (e.g., earthquakes, H1N1 virus, floods, food poisoning, and fire hazards), and research methods for combining emergency education with science pedagogy
- Create, supervise and support partnerships that enable face-to-face teacher training and professional development activities that focus on emergency education, disaster risk reduction, psychosocial support and planning for long-term recovery
- Supervise the work of TWB's China and Tajikistan Country Coordinators, interns and volunteers
- Recruit translators and supervise the translation of TWB's Teacher's Guide to Earthquake Education into Russian, Farsi, Tajik, Spanish, French, Haitian Creole, and Chinese
- Write and manage grants and grant reporting requirements worth over \$500,000US
- Conduct public education and outreach to raise awareness about TWB's Emergency Education Program activities, global disaster current events, policy and structural gaps in disaster response, emergency education resources for the general public and teachers
- Develop and instruct university-level seminars on education and human rights at the global scale

Graduate Research Assistant, University of Montana, Missoula, MT, U.S.A.

08/2006 – 12/2008

- Conduct crustal deformation measurements using GPS geodesy in Tajikistan, Kyrgyzstan, Pakistan, Afghanistan, and U.S.A.
- Collect, analyze, interpret, and publish GPS geodesy data from the aforementioned countries
- Design and implement a GPS geodesy/applied geohazards workshop for Afghan geologists in Afghanistan
- Develop and implement an earthquake emergency education curriculum in K-12 schools, which eventually became the TWB's Teacher's Guide to Earthquake Education and was published in 8 languages
- Conducted pilot implementation and evaluation of the earthquake curriculum in two public schools in Dushanbe, Tajikistan
- Teach lab sessions and lectures for undergraduate level introductory geology courses
- Conducted public education and outreach activities to raise interest in local geology, geohazards, and STEM discipline career option

Field Geologist, United States Geological Survey, Anchorage, Alaska, U.S.A.

08/2004 – 08/2006

- Perform field mapping, digitization, and editing of geologic maps
- Compile, edit and publish geologic map reports
- Assist in aerial photograph, aeromagnetic and gravity survey interpretation
- Analyze and interpret K/Ar radiometric dates
- Update bibliographic database for geology, geochemistry, radiometric ages, and mineral resources
- Conducted public education and outreach activities to raise interest in local geology, geohazards, and STEM discipline career options

Project Coordinator, University of Washington's Pipeline Project, Seattle, WA, U.S.A.

06/2001 – 06/2004

- Recruit, train, and support the project's 400 student volunteers
- Develop and instruct university-level seminars covering the policy issues of K-12 education, refugee women and children, and math and science education topics
- Develop and facilitate Earth sciences focus group seminars to disseminate lesson plans and science kits to college students volunteering in local public schools
- Train and serve as a team leader for bookmaking projects in remote rural towns across Washington State
- Create an international youth writing program and an anthology titled *Youth Voices* that connected public school students in Tehran, Iran and Seattle, United States through the sharing of stories.

AWARDS AND GRANTS

European Geosciences Union's Higher Education Teaching Grant	2020
European Geosciences Union's Science-Policy Pairing Scheme Award	11/2019
International Symposium on Geo-Disaster Reduction (Kyrgyzstan) Best Presentation Award	08/2019
European Geosciences Union's Public Engagement Grant	04/2016
Innovation Fund Sustainable Development, University of Tübingen	02/2016
Bertha Morton Scholarship, University of Montana	2008-2009 academic year
Space Grant Undergraduate Research Program, University of Washington	06/2004
Zesbaugh Scholarship, University of Washington	2003-2004 academic year
Lindenberg Mobility Grant for International Studies, University of Washington	12/2003
Mary Gates Leadership Grant, University of Washington	2002-2003 academic year
Society of Exploration Geophysicists Foundation Scholarship	10/2001

SERVICES

Member of the European Geosciences Union Higher Education Focus Group	since 02/2020
Member of the European Geosciences Union Outreach Committee	since 2020
Science adviser, European Union Parliament, Brussels, Belgium	11/2019
Delegate at the United Nations Forum on Science, Technology and Innovation, NY, U.S.A.	05/2019
Science reviewer, Planet Press, European Geosciences Union	2015 – 2019

Session convener/panelist at the European Geosciences Union, Vienna, Austria:

- Science for policy short course 2020
- Debunking myths and fake news: how geoscientists fight misinformation and false claims 2018
- Geoscience and the Sustainable Development Goals: Strategies for Eradicating Global Poverty 2016
- Natural Hazards Education, Communication and Science-Policy-Practice Interface 2015/2016
- Natural Hazard Teaching Demonstrations 2015

Remote Sensing workshop coordinator and presenter, GFZ Potsdam, Germany 04/2014

PRESENTATIONS

**invited speaker*

Along-strike variations in cosmogenic derived denudation rates in the Western Tian Shan, Tajikistan* 12/2020
American Geophysical Union (AGU) annual meeting

How can natural hazard scientists enhance their contribution to building sustainable and resilient societies? 04/2020
European Geosciences Union (EGU) annual meeting

Paired teaching approach to earthquake education: a cross-country comparison between Dushanbe, Tajikistan and London, United Kingdom 04/2020
European Geosciences Union (EGU) annual meeting

Impact of sea-level rise on coastal communities of the Baltic Sea region* 11/2019
European Parliament, Brussels, Belgium

From research to action: Linking geohazards science and preparedness in schools* 08/2019
17th International Symposium on Geo-disaster Reduction, Kyrgyzstan

Natural hazards: Preparing today to protect tomorrow*	05/2019
University of Oxford, UK	
Earth Sciences Education for Resilient Communities in Central Asia*	05/2019
United Nation's Forum on Science, Technology and Innovation, NY, U.S.A.	
Central Asia geohazards database	04/2019
European Geosciences Union (EGU) annual meeting, Vienna	
Overcoming challenges in earthquake education: a case study from Tajikistan	04/2019
European Geosciences Union (EGU) annual meeting, Vienna	
Under pressure: Continental Collision and Earthquake Awareness*	06/2018
Geo-risk and Environment, University of Liège, Belgium	
Sensitivity of rockfall frequency-magnitude and wall retreat rates to observation duration	04/2018
European Geosciences Union (EGU) annual meeting, Vienna	
Using paired-teaching for earthquake education in schools	04/2018
European Geosciences Union (EGU) annual meeting, Vienna	
How to disarm earthquakes*	09/2016
TEDx Stuttgart, Germany	
Comparison of fault slip rates from a Central Asia fault database*	05/2016
Colloquium: Soil-Water-Rock, Earth and Environmental Sciences, University of Freiburg, Germany	
Comparison of fault slip rates: Insights from a Quaternary fault database for Central Asia	04/2016
European Geosciences Union (EGU) annual meeting, Vienna	
Translating geohazards research into potentially life-saving practices in Central Asia*	10/2015
Annual Conference of Geology for Global Development, The Geological Society, London, UK	
Lessons Learned: From advancements in Earth sciences to practical geohazards awareness*	08/2013
28 th Himalayan Karakorum Tibet Workshop and 6 th International Symposium on Tibetan Plateau Joint Conference, University of Tübingen, Germany	
Earthquake Education in Central Asia *	11/2011
Sedgwick Club, Department of Earth Sciences, University of Cambridge, Cambridge, UK	
The Rise and Role of NGOs in International Development*	10/2010
Seminar Series at Harvard Graduate School of Education, Cambridge, MA	
Learning Science through Emergency Education	09/2009
European Science Education Research Association, Istanbul, Turkey	
Earthquake Education in Tajikistan: An assessment of perceptions, preparedness, and a pilot science-based curriculum	12/2008
American Geophysical Union Annual Meeting, San Francisco, CA	

PUBLICATIONS

BOOKS

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

PUBLICATIONS IN REVIEW OR REVISION

Gill, J.C., Taylor, F.E., Duncan, M., **Mohadjer, S.**, Budimir, M., and Mdala, H., 2020 (*in review*). How can natural hazard scientists enhance their contribution to building sustainable and resilient societies? Natural Hazards and Earth System Sciences

PEER REVIEWED

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

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. 109-118

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

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

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.

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

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.

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.

USGS Open-File Reports:

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>.

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/>.

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, online only. <https://pubs.er.usgs.gov/publication/ofr20061303>

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, online only. <http://pubs.usgs.gov/of/2006/1302>

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).

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, online only. <http://pubs.usgs.gov/of/2006/1290/>

Wilson, F.H., Labay, K.A., **Mohadjer, S.**, Shew, Nora, 2005, Digital datasets for geologic map by Wilson, F.H.: Preliminary Integrated Geologic Map Databases for the United States: Digital Data for the Reconnaissance Geologic map for the Kodiak Islands, Alaska, U.S. Geological Survey Open-file Report 2005-1340, online only. <http://pubs.usgs.gov/of/2005/1340/>

Wilson, F.H.; Labay, Keith A.; Shew, Nora; **Mohadjer, S.**; Patton, W. W., Jr., 2005, Digital datasets for geologic map by Patton, W.W., Jr., Wilson, F.H., Labay, K.A., and Shew, N.B.: Preliminary Integrated Geologic Map Databases for the United States: Digital Data for the Reconnaissance Geologic Map of the Yukon-Koyukuk Basin, Alaska: U.S. Geological Survey Open-File Report 2005-1341, online only. <http://pubs.usgs.gov/of/2005/1341/>

Wilson, F.H., Labay, K.A., Shew, N.B., Preller, C.C., and **Mohadjer, S.**, 2005, Digital datasets for geologic map by Richter, D.H., Preller, C.C., Labay, K.A., and Shew, N.B.: Preliminary Integrated Geologic Map Database for the United States: Digital Data for the Geology Wrangell-Saint Elias National Park and Preserve, Southcentral Alaska: U.S. Geological Survey Open-File Report 2005-1342, online only. <http://pubs.usgs.gov/of/2005/1342/>