Fabian E. Gruber

Anna-Stainer-Knittel-Weg 3/5/4
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Fabian.Gruber@uibk.ac.at

Education

2002–2011 Diploma Study of Environmental Engineering and Water Management at the University of Natural Resources and Life Sciences (BOKU), Vienna

1993–2001 Linz International School Auhof, Linz: Austrian Matura (school leaving certificate, university entry qualification) and International Baccalaureate (IB)

1991–1993 Elementary School Linz-Pichling

1989–1991 Lincoln Elementary School Pittsburgh, PA, USA

Master thesis

title *The 2010 Attabad Landslide Dam Lake: modeling and prediction of Lake Outburst Floods*

supervisors Jean F. Schneider and Martin Mergili

Experience

Vocational

2013–current **Research Assistant**, *Institute of Geography, University of Innsbruck*, Innsbruck.

Research project:

- Terrain Classification of ALS Data to support Digital Soil Mapping
  - Landform delineation with statistical learning approaches and automated landform classifications
  - Field Soil Survey
  - Collaboration on development of java App "SEPP" (Soil Evaluation in Planning Procedures)

2011–2013 **Research Assistant**, *Institue of Applied Geology, BOKU*, Vienna.

Research projects:

- Hazard assessment for an expected dam break flood in the Hunza Valley, Pakistan: A combination of GIS, Remote Sensing, and computer simulation techniques
  - Dam breach modeling with BREACH
  - Flood modeling with FLO-2D
- Poverty Alleviation through Mitigation of Integrated High-Mountain Risk (PAMIR)
  - Mapping geomorphological hazards, glaciers, and vulnerable infrastructure with remotely sensed data

2009–2010 **Project Assistant**, *Institue of Applied Geology, BOKU*, Vienna.
Research project:
- Remote Geohazards Assessment in Tajikistan (TajHaz)
  - Mapping geomorphological hazards and glacial lakes with remotely sensed data
  - Field survey in Tajikistan

Miscellaneous

2016–2017 **Educational Leave (Bildungskarenz)**.
devoted to work on PhD thesis with the working title 'Digital terrain analysis to support field soil survey'

2016–2017 **Lecturer**, *Institute of Geography, University of Innsbruck*, Innsbruck.
Exercises in Statistics (Übungen zur Statistik): Introduction to statistics with R for Bachelor's students

2010–2011 **Student tutor**, *University of Natural Resources and Life Sciences (BOKU)* , Vienna.
Tutoring for students in ArcGIS

Languages

German	**Native Language**
English	**Fluent**
Spanish	**Conversant**
French	**Conversant**

Computer skills

Operating systems	Windows, Linux (Ubuntu)	Languages and scripts	R, Python, Bash
Geographic information systems	GRASS, SAGA, ARCGIS	Misc. software	GIMP, Inkscape, FLO-2D, ENVI-Sarscape, LaTeX with Texmaker

Interests

Horticulture	Participating in a communal gardening project
Traveling	Extensive traveling in Central and South America, Central Asia, Southeast Asia and Madagascar

Publications

Peer-reviewed journal articles and book chapters

[1] Gruber, F.E., Baruck, J., Geitner, C. (*submitted*): Algorithms vs. surveyors: a comparison of automated landform delineations and surveyed topographic positions from soil mapping in an Alpine environment. Geoderma.

[2] Geitner, C., Baruck, J., Freppaz, M., Godone, D., Grashey-Jansen, S., Gruber, F.E., Heinrich, K., Papritz, A., Simon, A., Stanchi, S., Traidl, R., von Albertini, N., Vrscaj, B. (*in press*). Soil and land use in the Alps – Challenges and examples of soil survey and soil data use to support sustainable development. In: Pereira, P., Brevik, E.C., Munoz-Rojas, M., Miller, B. (Eds.), Soil mapping and process modelling for sustainable land use management. Elsevier, Amsterdam.

[3] Baruck, J., Nestroy, O., Sartori, G., Baize, D., Traidl, R., Vrisaj, B., Bräm, E., Gruber, F.E., Heinrich, K., Geitner, C. (2016): Soil classification and mapping in the Alps: The current state and future challenges . Geoderma 264, Part B, 312–331.

[4] Zieher, T., Gruber, F.E.; Rutzinger, M.; Meißl, G.; Geitner, C.; Perzl, F. (2016): Data requirements for the assessment of shallow landslide susceptibility using logistic regression. In: Proceedings of the 12th International Symposium on Landslides - Landslides and Engineered Slopes. Experience, Theory and Practice. Napoli, Italy. CRC Press, S. 2139-2146.

[5] Gruber, F.E., Mergili, M. (2013): Regional-scale analysis of high-mountain multi-hazard and risk indicators in the Pamir (Tajikistan) with GRASS GIS. Natural Hazards and Earth System Sciences 13: 2779-2796.

[6] Schneider, J.F., Gruber, F., Mergili, M. (2013): Impact of large landslides, mitigation measures. In: Genevois, R., Prestininzi, A. (eds.): International Conference on Vajont - 1963-2013 - Thoughts and analyses after 50 years since the catastrophic landslide. Proceedings of the International Conference Vajont 1963-2013, Padua, Italy, October 8-10, 2013. Italian Journal of Engineering Geology and Environment - Book: 73-84.

[7] Schneider, J.F., Gruber, F.E., Mergili, M. (2013): Recent Cases and Geomorphic Evidence of Landslide-Dammed Lakes and Related Hazards in the Mountains of Central Asia. In: Margottini, C., Canuti, P., Sassa, K. (eds.): Landslide Science and Practice: Volume 6: Risk Assessment, Management and Mitigation (Proceedings of the 2nd World Landslide Forum, FAO Headquarters Rome, Italy, October 3-9, 2011): 57-64. Springer, Heidelberg, Berlin, New York

Selected conference abstracts and presentations

[8] Gruber, F.E., Baruck, J. und C. Geitner (2016): Joint analysis of parent material and topography to support soil survey – a case study from South Tyrol. – Jahrestagung der Österreichischen Forschungsgruppe für Geomorphologie und Umweltwandel und der Schweizerischen Gesellschaft für Geomorphologie 2016, Innsbruck (23.09.2016).

[9] Gruber F.E., Baruck, J., Simon, A. und C. Geitner (2015): Reliefklassifizierung für die Erstellung von Bodenkarten anhand von geomorphons (GRASS GIS).– Posterausstellung im Rahmen der Jahrestagung der Deutschen Bodenkundlichen Gesellschaft, München 2015, AG Digital Soil Mapping (09.09.2015).

[10] Gruber, F., Zieher, T., Rutzinger, M. und C. Geitner (2015): Geomorphons and structure metrics for the characterization of geomorphological landscape regions in Austria. EGU General Assembly 2015 (EGU 2015), Wien (16.04.2015).

[11] Gruber, F.E., Baruck, J., Rutzinger, M. and C. Geitner (2014): Landform segmentation for digital soil mapping. – EGU General Assembly 2014 (28.04.-02.05.2014, Vienna (Austria)), Geophysical Research Abstracts Vol. 16, EGU2014-5644.

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Alia Harrison
IIASA – Human Resources
Schlossplatz 1
A-2361 Laxenburg

May 01, 2017

Dear Madam,

I am writing to apply for the position of Postdoctoral Research Scholar - Remote Sensing of land cover and land-use, advertised on the web appearance of the IIASA. Currently, I am working on my PhD thesis concerned with digital terrain analysis to support soil survey at the Institute of Geography of the University of Innsbruck, Austria.

Remote sensing and geographic information science have been my area of research ever since getting involved with these topics at the Institute of Applied Geology at the University of Natural Resources and Life Sciences (BOKU), Vienna. There, satellite imagery and its derivatives played an important role in mapping geomorphological hazards and the land-use of vulnerable areas. The multi-temporal analysis of the extent of glacial lakes was vital for assessing regional geohazards in Tajikistan, together with the application of DINSAR with ENVI-Sarscape to detect mass movements in smaller study areas. The application of remotely sensed data is continued in my research at the Institute of Geography of the University of Innsbruck, mainly in the form of digital elevation information. Here I focus on terrain analysis using Open Source landform classification algorithms and python scripting, as well as applying statistical learning approaches within the statistical computing environment R. Inside the context of digital soil mapping, land-use information persisted to be of relevance, being an essential environmental variable for analysing the spatial distribution of soils.

The research with regard to the formation and distribution of soils, be it through field survey in South Tyrol or soil modelling in the office, has increased by awareness of the interconnectivity between soil and land-use and consequently strengthened my interest in sustainable agriculture. This is a major reason why I am intrigued by the position at the Ecosystems Services and Management Program. It poses the possibility to advance my research into delineating and mapping spatial units of interest, and at the same time enter a new field of research that I find highly interesting and essential at a personal as well as scientific level.

I have enclosed a resume and references, and would enjoy discussing this position at your convenience. Should you require any additional material or information, I am happy to supply it. Thank you for your consideration.

Yours faithfully,

Fabian E. Gruber

Attached: resume and references