

**Fabian E. Gruber**  
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February 13, 2018

**Dr. Peter Arndorfer**  
*Austrian Centre for Digital Humanities*  
*Austrian Academy of Sciences*  
*Sonnenfelsgasse 19/8*  
*A-1010 Vienna*

**Subject: Application as Data Curator**

Dear Dr. Arndorfer,

After several years as a research assistant at the Institute of Geography of the University of Innsbruck, I am currently writing my PhD Thesis and relocating to Vienna. The advertised position as data curator appeals to me in that it presents the possibility to continue working in my main field of expertise, geographic information systems and geodata management. Additionally, due to the part time nature of the position, it would allow me to finish my thesis with the title *Terrain analysis to support field soil survey*.

Geographic information systems and geodata management have played a major part in my work as a research assistant, both at the University of Natural Resources and Life Sciences and the University of Innsbruck. After beginning with ArcGIS, I have now specialised on the use of Open Source systems such as GRASS, SAGA and QGIS, the latter mainly for visualising geospatial data, especially in vector format. Applying these Open Source GIS has also given me profound insight into the functioning of GIS. While scripting with Python allows me to be more efficient in computing with, and combining, these different GIS, the use of R, a free software environment for statistical computing and graphics, has improved my abilities to analyse geospatial data. Researching available spatial data in South Tyrol has shown me the great possibilities, but also limitations, of the use of historical maps such as the Franziscean Cadastre in research projects.

In addition to my experience with GIS and the management of spatial data from different sources, I am also used to, and enjoy, working in teams made up of experts from different fields of expertise. 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.

Best regards,

**Fabian E. Gruber**

*Attached: Resume, List of publications, References and Diploma Certificate*

# Fabian E. Gruber

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## Experience

### Vocational

2013–2018 **Research Assistant**, *Institute of Geography, University of Innsbruck*, Innsbruck.

Research projects:

- Shallow erosion dynamics in mountain grasslands of South Tyrol: Monitoring, process analysis and mitigation measures (EroDyn)
  - Geodata management: acquisition and storage of available geospatial data
  - Accuracy assessment for geographical object-based modelling of land cover with Python and Open Source GIS
  - Regional-scale landslide susceptibility mapping
- 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 the development of the Java App *SEPP (Soil Evaluation in Planning Procedures)*

2011–2013 **Research Assistant**, *Institute 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**, *Institute 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 using ArcGIS

## Master thesis

title *The 2010 Attabad Landslide Dam Lake: modeling and prediction of Lake Outburst Floods*  
supervisors Jean F. Schneider and Martin Mergili

## 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

## Languages

German Native Language  
English Fluent  
Spanish Conversant  
French Conversant

## Computer skills

Operating systems	Windows, Linux (Ubuntu)	Scripting	R, Python, Bash
Geographic information systems	GRASS, QGIS, SAGA, ARCGIS	Word processing	MS Word, Libreoffice, $\text{\LaTeX}$ with Texmaker
Image processing	GIMP, Inkscape	Misc. software	RStudio, MS Office, FLO-2D, ENVI-Sarscape

## Interests

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

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## Publications

### Peer-reviewed journal articles and book chapters

- [1] Gruber, F.E., Baruck, J., Geitner, C. (2017): Algorithms vs. surveyors: a comparison of automated landform delineations and surveyed topographic positions from soil mapping in an Alpine environment. *Geoderma* 308, 9-25.
- [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. (2017). 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. 221-292
- [3] Baruck, J., Nestroy, O., Sartori, G., Baize, D., Traidl, R., Vrsaj, 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.E., 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.E., 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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## References

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# UNIVERSITÄT FÜR BODENKULTUR, WIEN



Herr/ Mr.  
FABIAN GRUBER

Schwalbenweg 40  
A-4030 Linz, Donau Österreich

Gregor Mendelstr. 33  
1180 Wien

Datum/Date: 23.09.2011  
Matriculation No.: 0240283  
Scientific field: 910/

## Bescheid

Gemäß § 87 Abs. 1 Universitätsgesetz 2002, BGBl. I Nr. 120/2002 sowie der Bestimmungen des Studienplanes des Diplomstudiums der Studienrichtung Kulturtechnik und Wasserwirtschaft, in der derzeit geltenden Fassung, verleihe ich Herrn FABIAN GRUBER, geboren am 22.06.1982, Staatsangehörigkeit: Österreich, den akademischen Grad

**"Diplom-Ingenieur"**  
(abgekürzt "Dipl.-Ing.")

der Studienrichtung

**Kulturtechnik und Wasserwirtschaft**

## Begründung

Durch die erfolgreiche Ablegung des kommissionellen Teils der 2. Diplomprüfung am 21.09.2011 haben Sie Ihr Studium abgeschlossen. Es war daher spruchgemäß zu entscheiden.

## Rechtsmittelbelehrung

Gegen diesen Bescheid kann innerhalb von zwei Wochen nach Zustellung das ordentliche Rechtsmittel der Berufung an den Senat der Universität für Bodenkultur Wien eingebracht werden. Die Berufung hat den Bescheid gegen den sie sich richtet zu bezeichnen und einen begründeten Berufungsantrag zu enthalten. Sie ist schriftlich, allenfalls auch fernschriftlich, im Wege automationsunterstützter Datenübertragung oder in jeder anderen technisch möglichen Weise, im Wege der Studienabteilung einzubringen.

## Certificate

In accordance with Section 87, para.1 of the Austrian University Act, Federal Gazette No. 120/2002 and with the approved course of studies in Diploma programme: Land and Water Management, currently in force, I confer upon FABIAN GRUBER born on 22.06.1982, citizen of Austria, the academic degree of

**"Diplom-Ingenieur"**  
(abbreviation: "Dipl.-Ing.")

in

**Diploma programme: Land and Water Management**

## Basis for the award

The basis for the award is the successful completion of the second part of the diploma examination in front of the examination board for this course of studies held on 21.09.2011.

## Right of Appeal

Appeal may be made against this award to the Senate of the Universität für Bodenkultur Wien within two weeks of receipt of the registered letter confirming the award. Any such appeal has to include a statement of the grounds upon which the appeal is based. The appeal must be transmitted in written form to the Dean's office. A recognized means of electronic transmission may be used instead of registered mail.

Studiendekan (Dean of Studies)

O.Univ.Prof. Dipl.-Ing. Dr.nat.techn. Hubert Sterba



\* comparable to "Master of Science (MSc)"