

University Academic Curriculum Vitae

Personal information Name: Felix Pitscheider
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Education since leaving school

- 2019, BSc degree, University of Vienna

Biology, University of Vienna

Thesis Title: "Untersuchung individueller Unterschiede in Lauten von Schafen"

Supervisor: Mag. Anton Baotic

Degree: Bachelor of Science, BSc.

- 2021, MSc degree, Free University of Bolzano-Bozen

International Master in Environmental Management of Mountain Areas, Double Degree, Free University of Bolzano-Bozen and University of Innsbruck

Thesis title: "Multi-temporal sediment budgeting by geomorphic change detection in an instrumented debris flow basin"

Thesis description: Detection of areas of erosion and deposition within a highly active debris flow catchment, as well as estimating their respective volumes, by deriving necessary information from multi-temporal high-resolution topographic data. The goal of the study was to validate the use of digital elevation models of difference (DEM of difference, DoD) and to assess the fit of different methods of acquiring topographic data (LiDAR, photogrammetry) for the estimation of the sediment budget and the localization of sediment movement.

Supervisors: Prof. Francesco Comiti (University of Bolzano-Bozen), Prof. Bernhard Gems (University of Innsbruck)

Co-supervisors: Marco Cavalli (CNR IRPI) and Joshua Theule (TerrAlp Consulting)

Final mark: 110/110 cum laude

Degree: Master in Environmental Management of Mountain Areas, MSc.

- Present appointment**
- PhD Student in Mountain Environment and Agriculture (MEA)
 - Since 01.11.2022
 - Free University of Bolzano-Bozen
 - Position without scholarship

Research experience

From / to	Job title	Name of academic Institution	Academic level	responsibilities
17.01.2022 – 02.02.2022	Contracted research assistant for the project CoupEvent (Hillslope-channel coupling during extreme events in South-Tyrol)	EURAC Research, Bolzano-Bozen	Contracted research assistant	<p>Activity: Collaboration at the WP3- regional-scale analysis of landslide/channel network connectivity. Application and adaptation of a novel data-driven approach for the mapping of areas susceptible to debris flow initiation and structurally connected to the watercourses. The model was applied at the regional scale, including all catchments in the South Tyrolean Dolomites (Italy). The aim was to create a more efficient approach to assist hazard mapping and management in mountain catchments.</p> <p>Methods: Assessment of debris flow susceptibility and (dis-)connectivity via the use of high resolution topographic data. Creation of connectivity maps by applying the connectivity</p>

				<p>index by Cavalli et al. (2013) via the stand-alone software SedInConnect and application of statistical models to determine debris flow release susceptibility in R Studio. Elaboration of data in ArcGIS and SagaGIS.</p>
01.07.2022 – 31.10.2022	<p>Contracted research assistant for the “MoniVa - Monitoring of areas affected by storm Vaia (BZ)” project</p>	<p>Free University of Bolzano-Bozen</p>	<p>Contracted research assistant</p>	<p>Activity: Collection and processing of data on rainfall, surface runoff and solid transport in the permanent monitoring area Lavazè (BZ), preparation of a report on the results and maintenance of the instruments.</p> <p>Methods: Use of specialized software (Hydras 3) to access data from the permanent monitoring stations and creation of a semi-automated process (in Python) for analysing large data sets containing rainfall, surface runoff and surface erosion data.</p>

Publications

Journal articles

Pitscheider F., Comiti F., Theule J., Gems B. & Cavalli M. (2022) - DoD applications in small mountain basins: insights from the Gadia basin (Italy). *Rend. Online Soc. Geol. It.*, 58, 34-41, <https://doi.org/10.3301/ROL.2022.19>

Abstracts for conference participations

Scorpio V., Steger S., **Pitscheider F.**, Comiti F., Cavalli M., (2022) - *A statistically driven spatial model to delineate (dis)connected debris flow release areas.* European Geosciences Union – General Assembly, May 23rd-27th 2022. Vienna (Austria), EGU22-5386, <https://doi.org/10.5194/egusphere-egu22-5386>

Pitscheider F., Steger S., Cavalli M., Comiti F., Scorpio V. (2022) - Regional-scale application of a novel data-driven approach to assess susceptibility and (dis-)connectivity of debris flow: a case study in the Dolomites in South Tyrol (Italy). International Conference on Geomorphology, September 12th-16th 2022. Coimbra (Portugal), ICG2022-306, <https://doi.org/10.5194/icg2022-306>

Further data

Conference Presentations

Pitscheider F., Comiti F., Theule J., Gems B. & Cavalli M. (2021) - *Multi-temporal sediment budgeting by geomorphic change detection in an instrumented debris flow basin.* 15. GIT conference – Geosciences and Information Technologies, December 20th-21st 2021. Ripatransone (AP, Italy). (oral presentation)

Pitscheider F., Steger S., Cavalli M., Comiti F., Scorpio V. (2022) - Regional-scale application of a novel data-driven approach to assess susceptibility and (dis-)connectivity of debris flow: a case study in the Dolomites in South Tyrol (Italy). International Conference on Geomorphology, September 12th-16th 2022. Coimbra (Portugal), ICG2022-306, <https://doi.org/10.5194/icg2022-306> (First author of a poster)

Statement of interest

I am a young researcher interested in environmental sciences. My academic background has set me on a path for working on environmental issues in various topics regarding mountain areas (forestry, (geo)hydrology, management of natural hazards, landscape ecology, environmental economics and much more). Within my recent research activity, I have become familiar with processing topographic data from remote sensing (LiDAR and photogrammetry) for assessing geomorphic changes in mountain areas, as well as working on statistical models and with large data sets. I highly praise the interdisciplinary approach, as it seems to me to be the best way to find optimal solutions for problems at hand. Working in a team comes easy to me and I can communicate well with colleagues and stakeholders. My goal is to apply and increase my skills and knowledge to tackle ongoing and oncoming environmental issues in mountain areas and to contribute new findings to the global knowledge about this topic.

Language competence

Mother tongue(s) German
Ladin

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
Italian	C1	C1	C1	C1	C1
English	C1	C1	C1	C1	C1

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user
Common European Framework of Reference for Languages

Digital competence

- Advanced skills in the use of GIS software ArcGIS. Familiarity with QGIS, SagaGIS and OpenJUMP.
- Proficient in the SedInConnect software.
- Intermediate skills for R Studio.
- Intermediate programming skills in Groovy, basic skills in Python.
- Basic skills in the application of hydrological modelling software OpenKLEM and HEC-RAS.

Driving license

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Bolzano, 20.01.2023

