

PhD – Candidate in Environmental Engineering

The Unit of Environmental Engineering (IUT) is part of the biggest Education and Research Institution in western Austria, which is the University Innsbruck. The IUT belongs to the Department of Infrastructure Engineering at the Faculty of Engineering Sciences. The IUT seeks to fill a position within the basic research project “Functioning and Performance of nature-based Solutions”.

Our goal is to investigate existing nature-based solutions (green roof, green walls, swales etc.) in urban drainage under real life conditions in an alpine environment as well as develop novel approaches. Key performance indicators will be multipurpose, including urban flooding, hydraulic retention, pollution removal but also implications for temperature reduction in the environment. Further the benefits of linking the devices to smart systems will be explored as well as hybrid technical-nature based solutions. The investigation will be performed both experimental and by means of detailed numerical simulation studies. The successful candidate will develop and perform the experiments, potentially apply novel tools such as DTS (Distributed Temperature Sensing) and LoRaWAN (low-power radio network for data transmission), and develop novel numerical models for prediction of system behavior e.g. based on machine learning techniques or artificial intelligence.

We expect:

- MSc. in civil/environmental engineering
- Documented skills in modelling and programming (Python, MATLAB, C++)
- Detailed understanding of urban hydrology and drainage system
- Experience in laboratory/experimental work
- Excellent communication and writing skills in English

We offer a 4-year PhD position in an exciting, multidisciplinary and internationally linked research environment. The position is advertised as initially 20 hours per week PhD position, but increased to 30 hours per week as soon as an Expose for the PhD work is handed in. The overall gross salary per year is EUR 29.573,60 (according to Standard personnel costs for FWF Austrian science fund projects).

Candidates should prepare application documents comprising a complete CV, grades and transcripts, relevant certificates, and - if applicable - URLs to relevant prior publications. Further a synopsis of own ideas to the research project (max. 5 pages) is to be provided. Please apply online via the career portal of the University of Innsbruck (job code [TW-11002]) at

<https://orawww.uibk.ac.at/public/karriereportal.home> . Deadline for application is 06.02.2020.

For questions please contact Prof. Wolfgang Rauch: wolfgang.rauch@uibk.ac.at