



The Collaborative Research Center SFB 1076 “**AquaDiva** – Understanding the Links between Surface and Subsurface Biogeosphere” is funded by the Deutsche Forschungsgemeinschaft (DFG). AquaDiva is an ambitious interdisciplinary research center with more than 70 researchers and Institutes at four faculties of the Friedrich Schiller University Jena (FSU), and three non-university research institutes in Jena or Leipzig (www.aquadiva.uni-jena.de).

The Collaborative Research Center AquaDiva invites applications for a

Postdoc Position (m/f; Ref.No. 127/2017) in “Molecular Microbial Ecology”

at the Aquatic Geomicrobiology group at the Institute of Ecology, FSU Jena
(subject to the final grant decision end of May)

Subsurface microbes can be either chemolithoautrophic or depend on the fluctuating input of surface-derived organic matter. About 50% of them tend to be ultra-small, with cell sizes below 0.2 µm. Especially heterotrophs are known to regulate their cell size based on carbon availability. To differentiate between autotrophs and heterotrophs, we will apply a novel method for single cell sorting of active cells based on Raman micro-spectroscopy. This will allow us to follow the response of the groundwater microbiome to simulated surface inputs in microcosms by a combination of D₂O stable isotope probing (SIP) with meta-omics.

Work description:

- Design and monitoring of joint microcosm experiments employing SIP
- Exploring microbial community dynamics using advanced bioinformatics and multivariate statistics
- Collaboration with physical chemists to combine SIP with Raman technology
- Targeted metagenomics of Raman-sorted populations
- Teamwork within AquaDiva to synthesize data from different omic approaches (metabolomics, -proteomics)
- Writing high-ranking scientific publications and data presentations in international conferences

Requirements:

- A doctoral degree in Microbiology, Microbial Ecology, Molecular Ecology, or related discipline; candidates expected to earn their degree by July 2017 are welcome to apply
- The ideal candidate has demonstrated experience in SIP application and data analyses, in high-throughput sequencing and analysis of amplicon sequencing datasets, in metagenomics/metatranscriptomics analyses, and in biogeochemistry documented by an international publication record
- Solid experience in multivariate statistics (e.g., R, Python)
- Enthusiasm to play an active role in the interdisciplinary research team of AquaDiva
- Excellent written and oral communications skills in English

We offer:

- A postdoctoral researcher position (TV-L E13 - salary agreement for public service employees, 100%) with funding starting from July 1, 2017, until Jun 30, 2021, as well as generous research funding
- Collaboration with world leading experts in photonic technologies from the Leibniz Institute of Photonic Technology (IPHT)
- Excellent working conditions for research in molecular microbial ecology, including state-of-the-art laboratory equipment as well as extensive computational power for sequence analysis
- A communicative atmosphere within a scientific network; a young vivid and supportive group, who promotes mutual exchange also with other institutions and early participation in international and national conferences and workshops
- The place of work is Jena, Germany, a young and lively university town with dynamic business activities, successful scientific centers of innovation, and a vibrant cultural scene around a university with a rich tradition

Severely disabled applicants with equal qualification and aptitude are given preferential consideration.

Applications should be written in English. The **application deadline is June 16th**, 2017. The position is open until filled. Applications are submitted exclusively via an online application tool: <https://apply.jsmc.uni-jena.de>

For more **information on the position**, feel free to contact Prof. Kirsten Küsel (kirsten.kuesel@uni-jena.de) or Dr. Martin Taubert (martin.taubert@uni-jena.de). For more **information on the application process**, please contact the coordinator, Dr. Maria Fabisch (maria.fabisch@uni-jena.de).



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The Collaborative Research Center AquaDiva invites applications for a
Postdoc Position (m/f; Ref.No. 133/2017) in the AquaDiva Subproject A02
at the Instrumental Analytics Group, Institute of Inorganic and Analytical Chemistry at the Friedrich Schiller
University Jena (FSU)
(subject to the final grant decision end of May)

This project aims to give insight into the chemical diversity and metabolic activities in the Critical Zone (CZ). We use state-of-the-art mass spectrometry-based metabolomics to identify new marker compounds for the elucidation of biogeochemical processes in this environment. We focus our research activities on answering the questions: what is the qualitative input signal in the upper soil layer? Which biological and environmental factors influence the molecular composition of dissolved organic matter? Which new marker compounds can be identified and validated, in order to study biogeochemical processes? Which metabolites and metabolic processes in particulate organic matter can be linked dissolved organic matter signatures?

Work description:

- Optimization of extraction and analysis methods (high-resolution GC/MS and LC/MS will be applied)
- Data analysis using multiple statistical approaches
- Analysis of seepage water and groundwater for prevalent and trace organic compounds
- Analysis of microbial transformation products in model cultures within seepage water
- Planning and running of joint (field) experiments in the Hainich Critical Zone Exploratory
- Direction of Bachelor and Master theses
- Presentation and publication of data

Requirements:

- A doctoral degree in **chemistry, microbiology, chemical biology, biochemistry**, or related discipline; candidates expected to earn their degree by September 2017 are welcome to apply
- **Solid knowledge** of instrumental analytics, especially in GC/MS and LC/MS
- **Skills** in statistical data evaluation, metabolomics, microbiology, or field work are beneficial
- Interest in supervising student projects
- Enthusiasm to play an active role in the **interdisciplinary research team** of AquaDiva
- Excellent written and oral communications skills in **English**

We are looking for a highly dedicated scientist to join our group; a team player who works efficiently, delivers on time lines and who is highly interested in interdisciplinary work combining metabolomics and environmental analytics.

We offer:

- A postdoctoral researcher position (TV-L E13 - salary agreement for public service employees, 100%) with funding from Sep 1, 2017, until Jun 30, 2021, as well as generous research funding
- Opportunity for research on an innovative and unique Critical Zone research platform
- Excellent working conditions for research in metabolomics including state-of-the-art laboratory equipment as well as hands-on experience
- A communicative atmosphere within a scientific network; a young and supportive group, who promotes mutual exchange also with other institutions and early participation in inter/national conferences and workshops
- The place of work is Jena, Germany, a young and lively university town with dynamic business activities, successful scientific centers of innovation, and a vibrant cultural scene around a university with a rich tradition

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Selected applicants will be invited to a recruitment symposium in Jena, Germany, presumably in August, 2017.



Stellenausschreibung Reg.-Nr.: 127/2017

Friedrich-Schiller-Universität Jena

For more **information on the position**, feel free to contact Prof. Georg Pohnert (georg.pohnert@uni-jena.de). For more **information on the application process**, please contact the coordinator, Dr. Maria Fabisch (maria.fabisch@uni-jena.de). More **project details**: <http://www.aquadiva.uni-jena.de/Graduate+school/Open+positions-p-213.html>.

Leipzig. AquaDiva combines different research areas, such as ecology, microbiology, hydrogeology, soil science, geomorphology, geochemistry, geology, geophysics, chemistry, and information science, to a comprehensive picture of subsurface research (www.aquadiva.uni-jena.de).