

Postdoctoral Position on “Survival and resuscitation mechanisms of desert soil bacteria”

The Wobken Group in the Division of Microbial Ecology (<https://microbial-ecology.net>), Centre for Microbiology and Environmental Systems Science (<https://dmes.univie.ac.at>) at the University of Vienna is accepting applications for a postdoctoral position.

Project background: Microorganisms in drylands have to endure long periods of drought, interrupted by unpredictable and very short periods of rain. Dormancy - an inactive state or a state of reduced metabolic activity - has long been regarded as a prerequisite for desert soil microorganisms to survive such drought periods. However, as dormancy cannot be sustained indefinitely, phases of resuscitation must also play an important role for long-term survival of desert soil microorganisms and thus for maintaining microbial diversity in one of the harshest environments on the planet.

In this project, we are investigating the desiccation survival mechanisms of soil microorganisms and the molecular mechanisms of resuscitation. This will be achieved by applying genome-resolved metatranscriptomics of desert soil microbial communities, building upon knowledge gained by our recent metagenomic investigation of biological soil crusts from the Negev Desert, Israel. *In situ* community transcription patterns will be combined with single-cell activity assays, employing a recently developed heavy water-NanoSIMS assay to detect anabolically active cells, and process measurements.

We are offering a 4-year **postdoctoral researcher position** in an interdisciplinary, international and dynamic team of environmental microbiologists and microbial ecologists. This position provides the opportunity for the candidate to be creative and innovative, and to work in a multidisciplinary project involving various cutting-edge methods. Applicants must have the ability to work independently and in a team, have excellent management and communication skills and should be highly motivated and committed to pursuing research in soil microbial ecology. Very good computer and language skills (English) are necessary.

Required qualifications:

- PhD degree in microbiology / biological sciences.
- A background in microbial ecology (ideally soil microbial ecology) with experimental or fieldwork experience as part of your PhD.
- Comprehensive understanding of microbial physiology.
- Experience in generating and interpreting meta-genomic or metatranscriptomic data.
- The ability to work both independently and as part of a collaborative research team.
- To come up with creative and innovative ideas, and excellent written and verbal communication skills.

Desirable Skills:

- Previous experience with isotope analytics, and ideally NanoSIMS analyses.
- Cultivation of recalcitrant environmental microorganisms.

What we offer:

- Highly topical research at the intersection soil microbial ecology, microbial physiology and bioinformatics.
- Combination of omics-data analysis with lab-based experiments and field work.
- A diverse and stimulating work environment at the Centre for Microbiology and Environmental Systems Science, in the Department of Microbiology and Ecosystem Science.
- Access to diverse facilities for state-of-the-art analyses and unique instruments for single-cell activity assays.

The salary is according to the salary scheme of the University of Vienna (PostDoc 1 FTE). The University pursues a non-discriminatory employment policy and values equal opportunities, as well as diversity (<http://diversity.univie.ac.at/>). The University lays special emphasis on increasing the number of women in senior and in academic positions. Given equal qualifications, preference will be given to female applicants.

Mode of application: Your application should consist of a letter of motivation (1-2 pages), your CV including a publication list, university certificate(s) including grades and two letters of recommendation. The letter of motivation should address the stated qualifications for the position, research interests and relevant experience. Please send your application as a PDF file to dagmar.woebken@univie.ac.at with the subject: **Postdoc-Position Survival and Resuscitation**.

Starting date: The review of applications will begin on April 17, 2023, with the position to start as early as June 1, 2023, or as soon as filled.

For further information please visit the homepage of our centre <https://dmes.univie.ac.at> or Dagmar Woebken's personal webpage <https://microbial-ecology.net/people/dagmar-woebken>.