

# PhD Position in Ecophysiology of Microbial Stress Response

University of Vienna, Austria  
Centre for Microbiology and Environmental Systems Science  
Department of Microbiology and Ecosystem Science

We are looking for a highly motivated, enthusiastic PhD-student to explore respiratory flexibility in soil bacteria.

## Project description:

Stressed out? So are soil microbes! Soils are habitats with unpredictable conditions for microorganisms, confronting them with suboptimal conditions, also regarding the available O<sub>2</sub> concentration. As such, up to 80% of microorganisms in soils are assumed to be in a state of low metabolic activity or dormancy. Yet some aerobic heterotrophs have developed a strategy to deal with these varying O<sub>2</sub> concentrations. Contrary to the established notion, we found that *Acidobacteriota* can respire nanomolar O<sub>2</sub> concentrations using low-affinity instead of high-affinity terminal oxidases. This refutes the standing hypothesis that the capability to respire O<sub>2</sub> in microoxic conditions is exclusively based on the presence and activity of high-affinity terminal oxidases.

This project expands upon this finding to ascertain if this observation extends beyond members of the *Acidobacteriota* using a combination of respiratory kinetics, genomics, gene expression, knock-out mutants and growth-based experiments, together with our international collaboration partners. This project will have broad-reaching implications to the fields of microbiology, physiology and genomics and ultimately uncover microbial strategies for dealing with environmental stressors.

**Required qualifications.** We are looking for a highly motivated and independently working candidate with an excitement and enthusiasm for microbiology. A successful applicant will have a MSc degree in microbiology, molecular biology or a related biological discipline. Practical experience in the laboratory in basic microbiology techniques is highly favored. Experience in microbial physiology, environmental microbiology and (some) bioinformatics are preferred. The flexibility to travel and spend extended periods (weeks to month) at our collaboration partner (Universidad de Cadiz, Spain) is required. Ability to work independently and on a team is mandatory. Good communication skills in English (written and spoken) and the ability to work in a team are essential.

**What we offer:** A successful candidate will work in an internationally leading Centre in microbial ecology research embedded in the working group of Dagmar Woebken, together with Stephanie A. Eichorst. The Centre offers a diverse and stimulating work environment. The PhD candidate will be enrolled in the Doctoral School in Microbiology and Environmental Science (<https://vds-mes.univie.ac.at/>), which offers interdisciplinary training at the interfaces of microbiology, ecology and environmental science.

**Conditions of appointment.** The successful candidate will receive funding for up to four years. The salary is according to the salary scheme of the University of Vienna (PhD students 0,75 FTE). The University pursues a non-discriminatory employment policy and values equal opportunities. Perception and recognition of diversity are key fundamental values of the University of Vienna and therefore is committed to promote diversity (<https://diversity.univie.ac.at/>). Qualified applicants will receive consideration for employment without regard to, including but not limited to, age, sex, sexual orientation, race, religion and gender identity.

**Application details.** Applicants should submit a letter of motivation, a detailed CV (including a brief description of research interests, education, previous employments, and publication list if applicable) and provide the name, affiliation and email address of 2-3 professional references. **These documents should be sent as one pdf file to Stephanie A. Eichorst via the email address [stephanie.eichorst@univie.ac.at](mailto:stephanie.eichorst@univie.ac.at), with the subject *PhD Position - Beyond O<sub>2</sub>*.** The position will remain open until filled.