



University of Vienna  
Department of Limnology and Bio-Oceanography  
Marine Benthic Ecology Lab

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**Postdoctoral position**

This position is funded by the Austrian Science Fund project P 31543

***Candidatus Endoriftia persephone* response to host-associated and free-living life style**

**The Background**

One of the most exiting mutualisms is the association between the sulfur-oxidizing bacterium, *Candidatus Endoriftia persephone*, and its host *Riftia pachyptila*. These giant tubeworms live in the deep sea at hydrothermal vents in the Pacific Ocean. The tubeworms reproduce through larvae that do not carry the symbionts. They migrate through the seawater and settle at vents. There, the uptake of the symbiont into the host happens in each host generation anew from a pool of free-living symbionts from the environment. The host has no mouth and gut as adult and is nourished by its symbiont, housed in an organ deep inside the host body. The symbionts receive all chemicals necessary for chemoautotrophy. In return they feed the host. The tubeworms, however, are highly dependent on the environment in which sulfide and oxygen fluctuate. How the symbiont reacts to variable concentrations is not known yet. Upon cessation of vent flow, supplies of chemicals stop and the host dies. The symbionts, however survive because they leave the dead host. How they manage is not known yet.

**The Project**

The overall goal of this project is to investigate the molecular response of host-associated and free-living life style in *Endoriftia* using metatranscriptomics. In specifics, we will study in a suite of experiments how *Endoriftia* reacts to hosts differing in cooperativeness, to a dead host, and to deep-sea conditions when free-living.

**The Requirements**

The applicant should have profound competence in bioinformatic analyses of metatranscriptomes and bacterial (and animal) physiology. Knowledge in marine biology and symbioses are of advantage. Very good knowledge of English in writing and speaking is required. Ability to work in teams is required.

**Job Description**

Bioinformatic analyses of metatranscriptomes  
Physiological analyses of gene expressions of bacterial – host metabolism and interactions  
International publishing and presentation activities  
Support of students

**The Benefits**

The contract duration will be for 12 months with the possibility to extend for up 48 months.  
The salary will be 2.362 € netto per month, 34.169 € per year (14 x monthly salary per year), health insurance, pension and unemployment insurance included, 25 days vacation.

The University of Vienna, Faculty of Life Sciences is located in the center of Vienna in the 9<sup>th</sup> district. Vienna has been ranked number one in the Mercer Quality Living Survey for the past eight years. The quality of living survey includes factors such as political, economic, environmental, personal safety, health, education, transportation and other public services.

**Applications** should include a CV, a brief statement of technical skills, research experiences and interests, and contact information for at least two academic referees.

Applications should be sent by email to **Monika Bright** ([monika.bright@univie.ac.at](mailto:monika.bright@univie.ac.at))