

Mee(h)r als nur Studieren

Wer eine traditionsreiche Universität und den Mut zu Innovationen gleichermaßen zu schätzen weiß, ist an unserer Universität in der jungen und lebendigen Hansestadt Rostock richtig.



At the Faculty of Mathematics and Natural Sciences, Institute of Biological Sciences, at the recently created Chair of Molecular Stress Physiology, we are offering the following postgraduate scholarship for a limited period of up to three years:

PhD Scholarship in algal cell physiology

Job description

Diatoms are unicellular microalgae that thrive in all aquatic habitats across the globe and thus belong to the most successful primary producers on earth. Their plastids were acquired by secondary endosymbiosis from red algae, but their genome also contains genetic inputs from bacteria and green algae, providing these organisms with a unique set of structural and metabolic innovations.

In our newly established Heisenberg group of Molecular Stress Physiology, we tackle various questions regarding the cellular response of diatoms to changing light conditions. One key topic is to investigate the compartmental redox dynamics. Here, we focus mainly on changes in pH, ATP and H₂O₂ under variable environmental conditions. Such changes can be elucidated by use of genetically encoded, fluorescent protein based biosensors in a non-invasive manner. In this project, the PhD candidate shall stably express these protein sensors in the model diatom *Phaeodactylum tricorutum* in different compartments. Afterwards, various specific light treatments will be applied and the respective redox changes will be recorded, allowing to obtain a comprehensive understanding of cellular redox dynamics. This work will combine molecular biology techniques with sophisticated physiological experiments.

Requirements

- completed university degree (state exam, diploma, master's degree or comparable degree) in biology or biochemistry or a related field with higher than average results
- knowledge in plant/algal biology and preferably plant/algal physiology and skills in molecular biology
- experience in algal cultivation is desirable
- confident knowledge of English language, both written and spoken; knowledge of German language is desirable
- willingness to work seriously and with commitment on a project of one's own scientific qualification (doctorate) and ability to work independently on new topics with curiosity, creativity and strong passion
- good ability to work on schedule and communication skills for presenting research results
- participation in some laboratory teaching activities
- start as soon as possible or upon agreement

We offer

- Opportunity to conduct a doctoral thesis project with applying state-of-the art molecular and physiological techniques in a dynamic and highly motivated research environment, directly supervised by Prof. Dr. Bernard Lepetit
- A postgraduate scholarship (1.750 EUR/month) awarded for up to 3 years (36 months), the PhD project progress will be evaluated after year 1 and 2
- If the selected candidate enrolls as a doctoral student at UR, a wide range of offers and opportunities are available, e.g. i) to promote health and reconcile work and family life through our family office or our URgesund health management system, ii) a variety of further training opportunities including language and IT courses, seminars for professional development, or iii) the possibility of participation in the extensive range of university sports offers

University of Rostock and equality

Equal opportunities are important to us. We welcome applications from suitable severely disabled persons or persons of equal status. We aim to increase the proportion of women in research and therefore encourage relevantly qualified women to apply. We welcome applications from people of other nationalities or with a migration background.

Formal notes

We look forward to receiving your online application with complete, informative documents (motivation letter stating why you are interested in the topic (max. one A4 page), resume with education, language skills, diploma with indication of final grade (including an authorized English translation if issued in other language than German or English), publication list and conference presentations (if available), and naming of at least two persons to be contacted for reference or reference letters) **by 29.02.2024 at the latest. Applications should be sent as one Pdf file to bernard.lepetit@uni-rostock.de.** Only applications containing all requested documents will be considered.

Unfortunately, application and travel costs cannot be reimbursed by the University of Rostock and the Federal State of Mecklenburg-Vorpommern.

For further information, please contact:

Prof. Dr. Bernard Lepetit (bernard.lepetit@uni-rostock.de)

Chair of Molecular Stress Physiology

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