19.11.2026

RPTU

PhD Position in Molecular Microbiology:

Auxiliary Metabolic Genes in Cyanophages and Their Role in Marine Cyanobacterial Infection

Location: RPTU University Kaiserslautern-Landau, Kaiserslautern, Germany

RPTU University Kaiserslautern-Landau is a research-oriented university of science and technology located in Rhineland-Palatinate, Germany. With approximately 16,000 students, 300 professorships and more than 160 degree programmes, RPTU provides a dynamic and internationally connected environment for research and education.

The university promotes interdisciplinary collaboration, international scientific exchange, and the development of early-career researchers. Its research activities span a broad range of disciplines, from natural and engineering sciences to social sciences and humanities.

The position is based at the Kaiserslautern campus, situated close to the Palatinate Forest, offering an attractive combination of a vibrant scientific environment and a high quality of life.

Duration: 3 years
Starting date: As soon as possible

Project Description

We are seeking a highly motivated PhD candidate to investigate the role of **auxiliary metabolic genes (AMGs) in cyanophages during the infection of marine cyanobacteria**.

Cyanophages, viruses that infect cyanobacteria, play a major role in shaping marine microbial communities and influencing global biogeochemical cycles. Many cyanophages carry auxiliary metabolic genes that are thought to modulate host metabolism during infection, potentially redirecting cellular processes to support viral replication and influence photosynthetic activity.

The successful candidate will investigate the function, regulation, and physiological impact of selected cyanophage-encoded metabolic genes during infection of marine cyanobacteria. The project will combine physiological, molecular genetic, biochemical, and potentially bioinformatic approaches to gain new insights into the interactions between cyanophages and their photosynthetic hosts.

Your Profile

We are looking for a highly motivated candidate with:

- A Master's degree (or equivalent) in microbiology, molecular biology, biotechnology, biochemistry, or a related field.
- A broad methodological background and practical experience in molecular biology, genetics, and biochemistry.
- Experience working with cyanobacteria and/or bacteriophages is an advantage. Experience with other photosynthetic microorganisms is equally welcome.
- An interest in or previous experience with bioinformatics and sequence analysis is highly desirable.

- Strong motivation to work on an interdisciplinary research project.
- Good communication skills and proficiency in English, both written and spoken.
- The ability to work independently as well as collaboratively in an international research environment.

What We Offer

- A stimulating research project at the interface of molecular microbiology, virology, and photosynthesis research.
- Access to a broad range of molecular, biochemical, and physiological methods and modern laboratory infrastructure.
- An international and collaborative research environment.
- Opportunities for scientific exchange, conference participation, and professional development.
- A PhD position initially funded at **50% of the German public-sector pay scale TV-L E13 for the first year**, with the possibility of an increase to **up to 70% TV-L E13 in subsequent years**, subject to the availability of funding.
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The appointment is initially for three years.

Application

Please submit your application in English, including:

- Cover letter outlining your motivation and research interests.
- Curriculum vitae.
- Copies of academic degree certificates and transcripts.
- Contact details of two academic referees.

Applications will be considered on a rolling basis until the position is filled.

The position is available as soon as possible.

Please send your application as a single PDF file to:

Prof. Dr. Nicole Frankenberg-Dinkel
nicole.frankenberg@rptu.de

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MICROBIOLOGY