UNIVERSITÄT GREIFSWALD • Institute of Microbiology

PROJECT: ALG4NUT

Thesis Position: Bachelor or Master

(m/f/d)

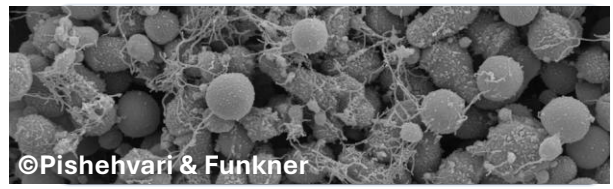
RESEARCH FOCUS / THESIS TOPIC

Metabolism and Genetics in *Methanomassiliicoccus luminyensis* and/or isolation of novel methanogens

SUPERVISOR	LOCATION	START DATE	DURATION
Dr. Katrina Funkner	AG Prof. Urich, C_FunGene Center	From Sept (July Intern possible)	B.Sc. / M.Sc. Thesis

THE PROJECT CONTEXT

Methanogenic archaea play a key role in the global carbon cycle and biological methane production. We offer Bachelor's and Master's thesis projects addressing current research questions in the physiology, genetics, and ecology of methanogenic archaea.



KEY RESEARCH QUESTIONS

- **Metabolism in *M. luminyensis*:** How is energy conserved? How does the organism adapt to different substrates, and how is nitrogen fixed?
- **Genetic Tooling:** Development and optimization of a working genetic system in *M. luminyensis*.
- **Isolation:** Culturing and isolating novel methanogenic strains from complex rumen fluid environments.

YOUR PROFILE

- ✓ Enrolled in a Bachelor or Master program in Biology, Biochemistry, Landscape Ecology and Nature Conservation, or a related field.
- ✓ Initial laboratory experience (practical courses or previous internships).
- ✓ Proactive, independent, and a great team player.

YOUR RESPONSIBILITIES

Cultivation
Grow and maintain methanogens under strictly anaerobic conditions.

Molecular
Perform nucleic acid extraction, PCR, qRT-PCR, and sequencing.

Physiology
Conduct growth tests for substrates, energy, and nitrogen fixation.

Analysis
Interpret analytical findings against recent scientific literature.

WHAT WE OFFER

Hands-on training in anaerobic cultivation techniques and modern molecular biology methods. We provide close supervision and complete integration into a collaborative, supportive, and international research environment. You will enjoy the flexibility to shape the project according to your individual interests, scientific background, and degree requirements. We explicitly encourage students to develop and pursue their own ideas during the course of the project.

HOW TO APPLY

Send your application via e-mail directly to: **katrina.funkner@uni-greifswald.de**.

Subject Line: **Thesis [Your Name]**

Please include: **Your CV & a brief Cover Letter**

Learn more: mikrobiologie.uni-greifswald.de