

PhD position in Shrimp Aquaculture - SwitchFloc Project (f/d/m)

Stellenanbieter: Alfred-Wegener-Institut

Background

Aquaculture provides more than half of the world's seafood protein, but it faces major challenges such as high water demand, eutrophication, biosecurity risks, and dependence on fishmeal and fish oil. Biofloc technology (BFT) is an innovative aquaculture system that recycles carbon and nitrogen waste into valuable microbial biomass, which can be used directly on-site as a feed source. This reduces the reliance on commercial aquafeeds and supports the enhancement of animal immune systems.

The **SwitchFloc** project addresses current BFT challenges through an interdisciplinary and intersectoral research and training programme, including international secondments and network-wide training events. SwitchFloc will focus on species that are already well adapted to BFT as well as on species newly introduced to this system. In addition, it will advance aquafeed formulation and manufacturing, and improve animal health by promoting beneficial microorganisms within the biofloc.

Your Tasks

As a doctoral candidate in the **SwitchFloc** project, you will join the Aquaculture Research Group within the Sustainable Marine Bioeconomy Section. You will be expected to:

- Analyse aquaculture diets (shrimp and other species), identify nutritional requirements, and select innovative ingredients. Based on formulated diets, bioactive components and additives will be tested to enhance protein digestibility and intestinal health.
- Test innovative pellet manufacturing methods, focusing on reducing energy consumption and minimizing by-product generation. Develop and optimize fabrication protocols to improve pellet durability and stability, both during storage and in water.
- Optimize feeding regimes for shrimp and fish under BioFloc conditions.
- Evaluate integrated systems, including IMTA-BioFloc and FLOCponic approaches, assessing their effects on growth performance and water quality.

These research activities will be carried out within the doctoral studies and in close collaboration with the international network of the **SwitchFloc** project.

Your Profile

- Master's Degree in Aquatic Sciences and Technology, Marine Science, Aquaculture, Biotechnology or similar

- Strong analytical skills
- Laboratory experience including biological assays
- Excellent scientific writing skills in English (approximately equivalent to [CEFR](#) level C2)

Preferred Qualifications and Skills

Experience in aquaculture research in recirculation systems, preferably with experience in BioFloc management, shrimp/fish husbandry and diet formulation.

Further Information

- **Contact in day-to-day work:** Collaboration mainly with more than 5 people
- **Communication:** external
in the following ways

1. By telephone: frequently (daily or several times a week)
2. E-mail: frequently (daily or several times a week)
3. Personal contact in presence

Please note that the general conditions listed serve as a guide and may vary depending on the specific area of application.

For any questions you may have, you are very welcome to get in touch with **Dr Matthew James Slater**
(matthew.james.slater@awi.de; +49(471)4831-2727).

This position is limited to 3 years (subject to available funds). The salary will be paid in accordance with the Collective Agreement for the Public Service of the Federation (Tarifvertrag des öffentlichen Dienstes, TVöD Bund), up to salary level **13 (66%)**. The place of employment will be **Bremerhaven**.

All doctoral candidates will be members of AWI's postgraduate program [POLMAR](#) or another graduate school and thus benefit from a comprehensive training program and extensive support measures.

The AWI is characterized by

- our scientific success - excellent research
- collaboration and cooperation - intra-institute, national and international, interdisciplinary
- opportunities to develop – on the job and towards other positions
- an international environment – everyday contact with people from all over the world
- flexible working hours
- health promotion and company fitness with Hansefit and Wellhub
- support services and a culture of reconciling work and family

- occupational pension provision (VBL)

AWI values diversity and actively promotes gender parity, as well as an open, inclusive environment that provides equal opportunities. We are convinced that diverse teams and a variety of perspectives enrich our work and our daily collaboration. In a continuous process of learning and reflection, we aim to ensure that all our employees can be themselves and feel a sense of belonging. We welcome applications from qualified people regardless of binary and non-binary genders, race and nationality, ethnic and social background, religion, age, physical abilities, neurodivergence, sexual orientation, and other identities.

Applicants with disabilities will be given preference when equal qualifications are present.

AWI fosters work-family compatibility in various ways and has received several awards as a result of this commitment. And as a new international member of our team, you can be sure that we will help you settle in. **Our [Family Office](#) and [International Office](#) will be glad to support you**, even before you start at AWI.

We look forward to your application!

Please submit your application by **October 16th 2025**, exclusively online.

Reference number: 25/99/D/Bio-b

Bewerbungsschluss: 16.10.2025

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<https://jobs.awi.de/VacanciesIntraxData/2036/Application/CheckLogin/2?lang=eng>

Sonstiges: 25/99/D/Bio-b

Ursprünglich veröffentlicht: 18.09.2025

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