HIFMB
Helmholtz-Institut
für Funktionelle
Marine Biodiversität
OLDENBURG

AWI

CARL
VON
OSSIETZKY
universität
OLDENBURG

The Helmholtz-Institute for Functional Marine Biodiversity (HIFMB) is a new institute integrating marine biodiversity research, established on the campus of the Carl von Ossietzky University Oldenburg. It joins the scientific profiles of the Institute of Chemistry and Biology of Marine Systems (ICBM) Oldenburg and the Alfred Wegener Institute – Helmholtz Centre for Polar and Marine Research Bremerhaven (AWI).

During the establishment phase, we are able to offer a position as a

Postdoc

Functional consequences of endogenous clocks in key species

Background:
Functional consequences of endogenous clocks in key species Antarctic krill, is arguably the most abundant animal on earth in terms of biomass, and shapes the structure and functional biodiversity of the marine Antarctic ecosystem due to its central position within the Southern Ocean food web.
Recent research indicates that synchronization between krill and its environment depend upon an endogenous timing system. The seasonal course of photoperiod in the environment seems to act as an essential *Zeitgeber* that links the endogenous clock with the outside world. This knowledge is crucial because whereas the phenology of environmental conditions to which the life cycle of krill is synchronized may change, the dominant stimulus (photoperiod) of endogenous driven cycles will not. The ongoing environmental alterations might desynchronize previously matched interactions between the endogenous seasonal rhythms of krill and its environment, which have evolved over millions of years. However, it is not clear yet which important life cycle events are controlled by an endogenous clock. Therefore, to gain a comprehensive understanding of the regulatory network of important life cycle events in krill such as maturation, lipid accumulation and utilization, growth a two year experiment in which krill were reared under natural Antarctic light regimes from three different Antarctic realms but constant food was performed. The samples will be analysed on a transcriptomic (already in progress) and proteomic level to better understand the degree of congruency between mRNA and protein expression.

Tasks:
The focus of the research project is to gain a comprehensive understanding of the regulatory network of important life cycle events of the Southern Ocean key species Antarctic krill, *Euphausia superba*. The ideal candidate should be experienced in the following techniques: The full-cycle differential proteomics of krill will involve subcellular fractionation, gel-based (incl. 2D DIGE) and gel-free (nanoLC) separation of intact proteins and tryptic peptides, respectively, followed by mass spectrometric analyses of the latter (MALDI-TOF-MS/MS and ESI-MS/MS). MS data will be bioinformatically analysed against an available genomic database of krill. The comprehensive time-resolved proteomics data has to be expert analysed and interpreted to reconstruct regulatory circuits with emphasis on the relation

between clock proteins and metabolic networks. A theoretical modelling of the regulatory cross links is envisioned.

Requirements:
Formal requirement for application is an outstanding academic university degree (PhD, promotion) in Marine Environmental Science, Ecology or a related subject. The candidate should have a reasonable background in ecological theory and expertise in statistical data analysis and should be ready to work and communicate in an international research environment.

If you are interested or if you have any further questions, please contact: **Bettina Meyer,** bettina.meyer@awi.de.

The position is limited to three years. The salary will be paid in accordance with the German Tarifvertrag des öffentlichen Dienstes (TVöD Bund) based on qualifications and transferred tasks up to salary group 13. The place of employment will be **Oldenburg**.

We offer you a multi-disciplinary, international, and fascinating professional environment with flexible working hours, state-of-the-art research equipment, and a first-rate infrastructure.
The University of Oldenburg and AWI aim to increase the number of women in the scientific staff and therefore encourages women to apply. Disabled applicants will be given preference when equal qualifications are present. The AWI fosters the compatibility of work and family through various means. Because of our engagement in the area of work-life compatibility we have been awarded the certificate “Career and Family”.

Please forward your applications with the standard documentation (letter of motivation, CV, certificates and a list of publications) by **April 30th, 2017** referencing code **48/D/HIFMB** to: Alfred-Wegener-Institut für Polar- und Meeresforschung, Personalabteilung (human resources), Postfach 12 01 61, 27515 Bremerhaven/Germany or by e-mail (all documents merged into one PDF file) to: personal@awi.de.