Universität Bremen

Master/Bachelor thesis opportunity

Ecophysiological responses of coral reef organisms to noise pollution

The Marine Ecology Group (AG Wild) offers a lab- and desk-based Master or Bachelor thesis in potential combination with student research project (RSP) or PM 4 module opportunity to investigate the effects of noise pollution on coral reef organisms.

Description

Coral reefs are simultaneously threatened by global and local factors such as ocean warming, overfishing, or eutrophication. As the effects of noise on animal physiology, behaviour and welfare in terrestrial ecosystems have been reported, knowledge about the effects of noise as a potential stressor in aquatic ecosystems is scarce. Whereas the majority of available studies are limited to the effects of noise pollution on fish species and marine mammals, studies about the effects of noise pollution on invertebrates is still in its infancy. A few recent pilot studies have revealed, however, that noise pollution has effects on the bioturbation of crustaceans, bivalves, and polychaetes in the North Sea. Additionally, the awareness that natural coral reef soundscapes are heavily disturbed by anthropogenic activities such as maritime shipping, artisanal fishing, and tourism activities, is growing. With this pilot project, we hence hypothesise effects of noise pollution on the eco-physiology of coral reef organisms and aim to investigate these by performing a laboratory experiment in the lab facilities of the Marine Ecology working group at the University of Bremen.

Background and further information

This project will form a pilot study to elaborate the potential to further investigate the effects of noise pollution on coral reef environments. Due to a potential cooperation with the University of Music and Performing Arts Graz, Austria (Kunstuni Graz, KUG, Austria) and the Alfred-Wegener-Institute in Bremerhaven, the candidate will have the possibility to exchange and work together with experts from another scientific field, who will provide supportive background information on noise pollution. The candidate will have the opportunity to investigate these highly under-studied effects on key functional groups in coral reefs. The candidate will furthermore gain valuable skills in the analysis and interpretation of ecological data sets as well as scientific writing. The outcome of this project is intended to result in a publication in a peer-reviewed journal. This pilot study will be supervised by Dr. Yusuf C. El-Khaled and Prof. Dr Christian Wild.

Requirements

The successful candidate will have a strong interest and motivation in the study of coral reef organisms and communities as part of this research project. He/She possesses a high level in written and spoken English and will be highly motivated to use existing skills and/or acquire new skills in lab work, data generation and management, analysis and interpretation and to ideally publish in a peer-reviewed journal. Knowledge in lab work, statistical analysis and coding in R (or other statistical programmes) are assets. Applications by Bachelor and Master students are highly encouraged.

Application and contact

To apply, please send a motivation letter and short CV to Dr. Yusuf C. El-Khaled (yek2012@uni-bremen.de), who is also available for any questions before applying. For further information about the Marine Ecology Group, visit https://www.uni-bremen.de/en/marine-ecology.

Closing date

Sunday, 23rd of January 2022 or as soon as the position is filled.