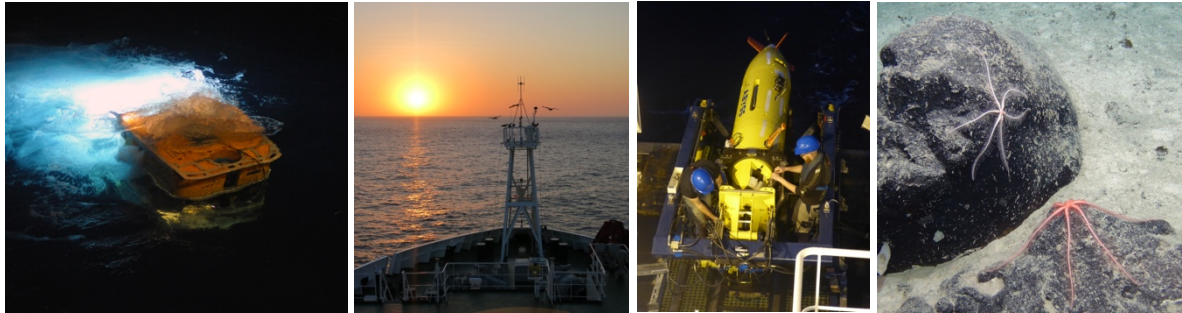


# HiWi Jobs & BA / MA Topics

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The **DeepSea Monitoring Group** at GEOMAR studies short- and long-term changes of seafloor processes. We use hydroacoustic and optical gear on board autonomous and remotely controlled marine robots linked with computer vision, pattern recognition and machine learning methods.



## DIAS Image Annotation Software

Training machine learning algorithms requires annotations provided by human interpreters. We operate the web-based Image Annotation Software DIAS ([dias.geomar.de](http://dias.geomar.de)) which connects to our big database of seafloor images.

We are looking for motivated students to implement additional features for image analysis, data interpretation and geo-referencing.

Do you:

- Have a strong background in web technologies (client-server architectures, PHP, JavaScript, jQuery)?
- Look for a Bachelor / Master thesis topic or a programming job?
- Want to work in an international science team dedicated to better understand the world oceans?

Then talk to us!

### Potential topics:

- 1.) Implementing a data-driven interface between GIS software (ArcGIS, QGIS) to feed back predictive mapping results from those software tools into the image interpretation pipeline.
- 2.) Refactoring the graphical interface / backend to cope with big data issues.
- 3.) Implementing a mini-GIS system to explore available image data from a map perspective and linking DIAS to an external map server (OpenLayers, Geoserver, GoogleMaps)
- 4.) Creating a dynamic marine animal catalogue as a reference for the image annotation.

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Please contact Dr. Timm Schoening ([tschoening@geomar.de](mailto:tschoening@geomar.de)) for details. To apply for one of the topics or to suggest your project, please add a brief CV and the targeted time frame.