

**Common press release of the Leibniz Institute for Baltic Sea Research, Warnemünde and the shipping company Briese of 17th February, 2014**



**The Briese Sponsorship Award for Young Marine Researchers 2013 goes to Dr. Daniel Zitterbart.**

*The awarded PHD thesis is titled „Locomotion in biological systems”.*

The awarding of the „Briese-Preis für Meeresforschung“ (Briese Award for Marine Research) will take place for the fourth time now at the Leibniz Institute for Baltic Sea Research, Warnemünde, next Wednesday 19th February, 2014.



**Briese Schiffahrts GmbH & Co. KG  
Abteilung Forschungsschifffahrt**

There have been altogether 13 scientists applying for the award, among them seven women. For the jury, the application of Dr. Daniel Zitterbart, physicist at the Friedrich-Alexander University in Erlangen-Nürnberg, finally was most convincing. In the course of his dissertation, which was supervised by the Alfred-Wegener-Institute for Polar and Marine Research in Bremerhaven, he developed a completely innovative method to detect whales in cold waters like the Southern Ocean. The system, which he designed, is based on a 360° thermal imaging camera and a self-developed software. In a ship's vicinity of several kilometers, it reliably can recognize the blow of a whale forming at the water surface due to its exhalation. Furthermore, Daniel Zitterbart has linked the infrared system with a second visual camera system, which after the thermic detection automatically focuses on the corresponding point of the water surface to take high-resolution pictures of the whale.

“His PHD thesis stands out with its excellent scientific quality, originality, and ecological scope. Dr. Zitterbart crucially contributes to the protection of these endangered animals”, claims private lecturer Dr. Joanna Waniek regarding the jury's award decision of this year.

The new system already has been tested on nine Arctic and Antarctic expeditions of the research vessel “Polarstern” and offers completely new possibilities to protect and explore whales. Unlike traditional methods, where whales basically have been detected by visual observations of the crew and acoustic sensors, the new automatic system is able to detect more than twice as many animals. If Dr. Zitterbart's development was installed on other ships, it could considerably improve the animals' protection: e.g. the often fatal collision with smaller, eas-



ily maneuverable ships could be avoided on time. Furthermore, ships could early reduce their noise level when approaching a whale.

Most obvious are the advantages for marine research. The reliable detection of whales happens all around the clock and automatically. To determine the concrete species and the size of the population of a certain habitat, after an expedition now only the high-resolution pictures must be reviewed and analyzed to identify the individual animals. That way, thanks to Daniel Zitterbart, the marine mammals hence can be better protected and understood, which has far more than only scientific advantages.

The Briese Award for Marine Research endowed with 5.000 EUR is donated by the ship company Briese Schifffahrts GmbH & Co. KG (Leer/Ostfriesland). The company is responsible for the management of the medium size German research vessels ALKOR, HEINCKE, POSEIDON, MARIA S. MERIAN und ELISABETH MANN BORGESE as well as for the management of the big German research vessel METEOR. The scientific support of the awarding is provided by the Leibniz Institute for Baltic Sea Research, Warnemünde.

The award, which since 2010 was assigned annually, shall honor outstanding dissertations of marine research whose results have an important connection with the deployment of research vessels and the use and development of marine technology and/or data collection at sea.

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#### **Information on the award winner:**

The Briese Award 2013 goes to:

Dr. Daniel Zitterbart for his dissertation „Locomotion in biological systems“



Graduation with “magna cum laude” in April 2013 in the Department of Physical-Medical Technology at the Friedrich-Alexander University, Erlangen-Nürnberg (professorship: Prof. Fabry)

Printable pictures are available on request.

