

# From the Research Project to the Classroom:

## II. Embedding Short-Term Projects into a Stable Framework

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### Background

At GEOMAR in Kiel, continuity between successive school outreach projects (usually funded for only a few years) is provided by embedding them into the existing framework of the centre's school programmes: Proposals are initiated by GEOMAR and the resulting projects are carried out at the research centre, which provides additional staff, rooms, logistic support and a permanent internet platform for the projects. Via GEOMAR, they also have access to e.g. a teacher delegated by the State's Ministry of Education and existing links to education networks like EMSEA or the School Labs Network of the German Helmholtz Association. This allows the short-term projects to concentrate on their task of communicating specific scientific content.

### Core Activities

GEOMAR developed a programme consisting of core activities carried out both on a regular basis and when special opportunities arise. At the centre of this are hands-on projects with individual schools, usually designed in cooperation with teachers.

Individual outreach projects like SFB 754 (working on climate – biogeochemistry interactions in the tropical ocean) and the Priority Programme Climate Engineering contribute to these activities with their specific focus on these topics.

### School Projects

Depending on the goals of the research programme and the context at school, projects may focus on different aspects of ocean science. Topics like nutrient cycles or the physics and chemistry of oxygen uptake constitute the background for a mix of presentations, experiments or literature research that may take from a few days to several weeks.



School Project in the classroom



Course at GEOMAR



Lab Work



Summer School in Mindelo, Cabo Verde (August 2014)

Measurements on board one of GEOMAR's research vessels (July 2015)



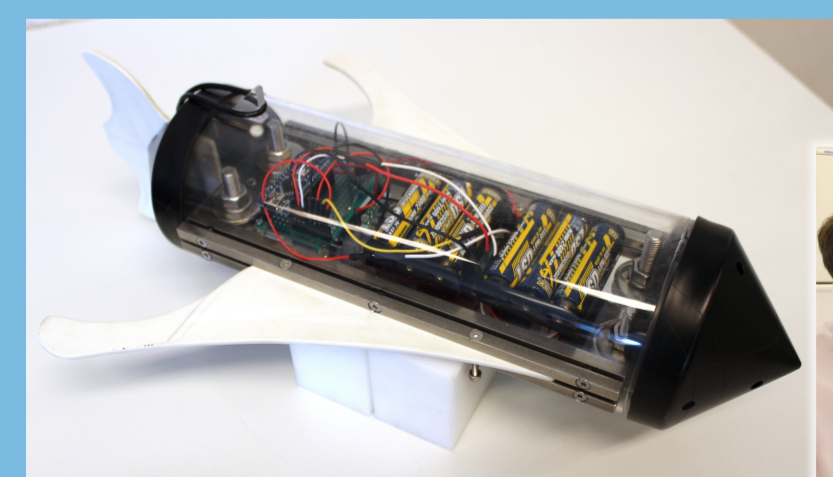
Video Summer School (August 2013)

### Summer Schools

To address particular topics at greater depth and independently of school curricula, vacation schools of typically one or two weeks' length are offered to students on a nation-wide basis.

### Individual Projects

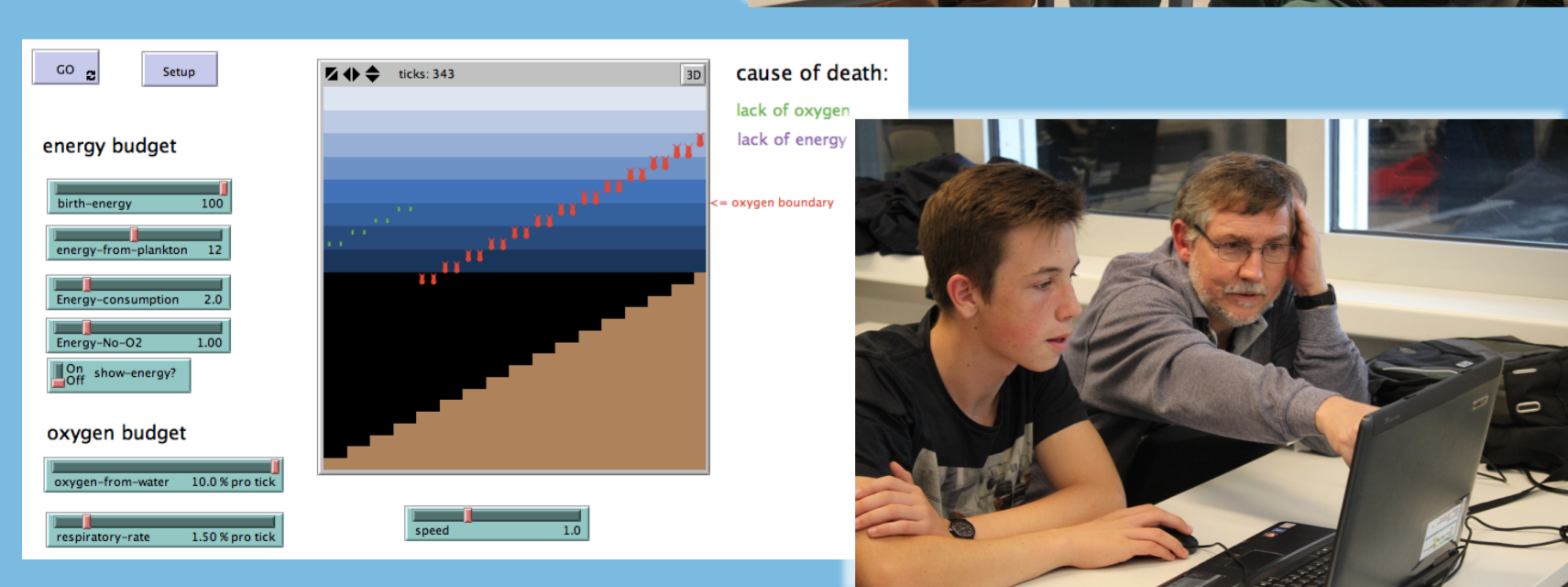
Frequently, individual students are looking for special challenges beyond the school syllabus. To cater for this talent, opportunities for these and internships with individual researchers are offered as well as a Friday Researchers' Club (every Friday since Sept. 2013 with 12-14 students), where pupils work on selected projects over longer periods of time.



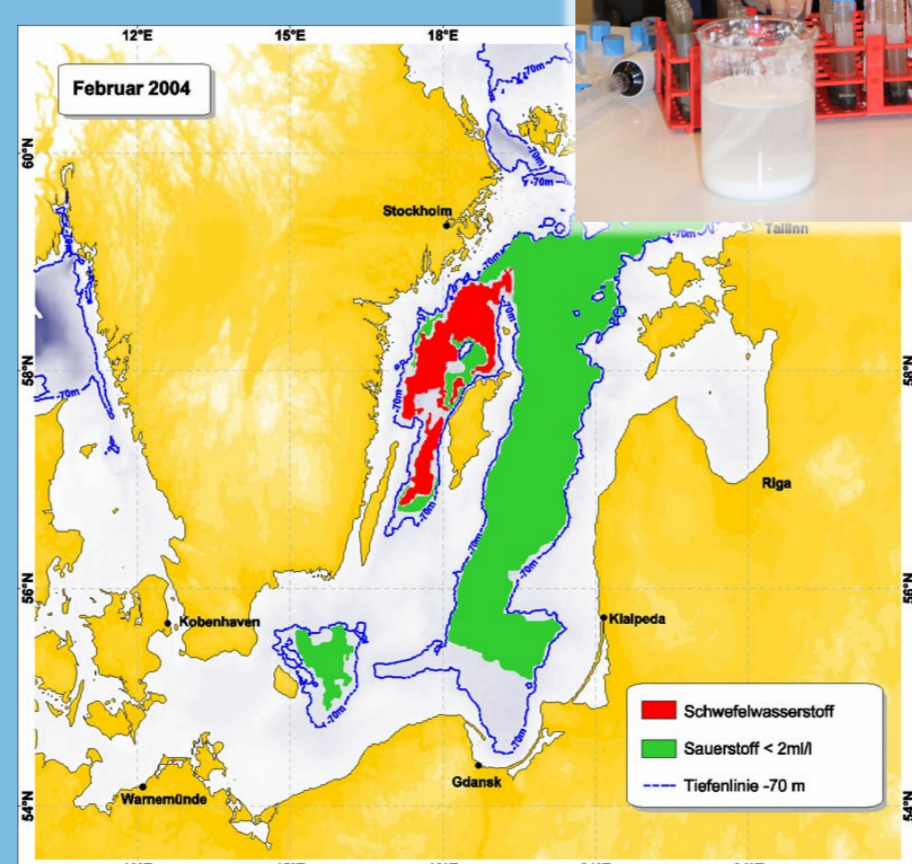
"Baby Glider"



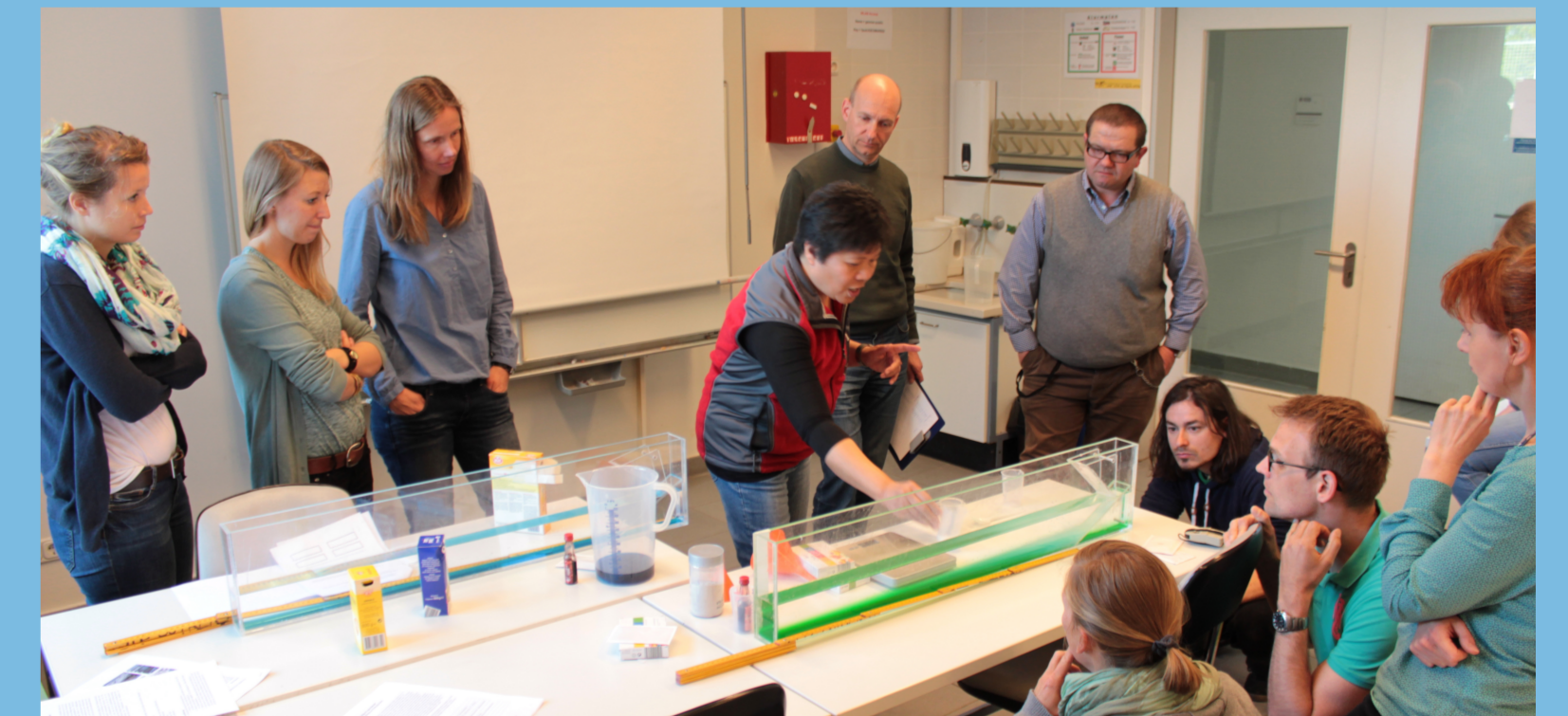
Thesis on bacterial mats in the Baltic



Numerical Model on Pleuroncodes, a type of lobster in the Eastern Pacific



Easter School, Apr. 2013



Teacher Workshop, May 2015

### Teacher Training

To encourage and support teachers in addressing GEOMAR's topics in class, dedicated training workshops are organized. Teachers are familiarized with the scientific background and available materials as well as experimental procedures for the classroom.



Teacher Retreat, Nov. 2013