

Researching Global Change:

The international programme GAME establishes a new approach in marine ecology



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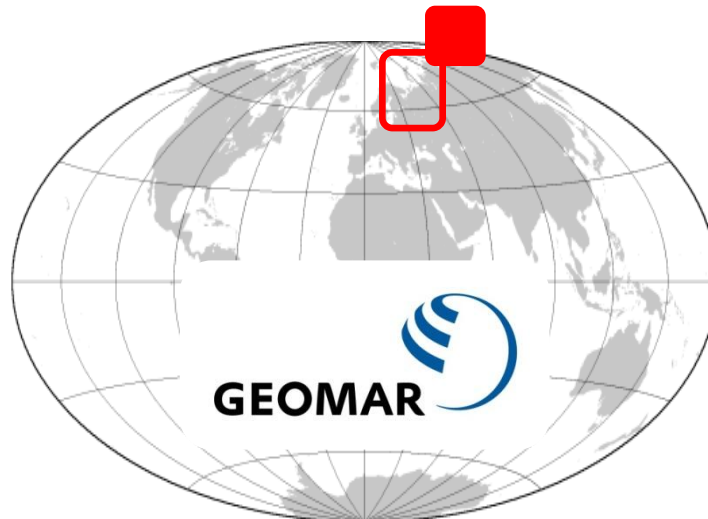


GAME stands for **G**lobal **A**pproach by **M**odular **E**xperiments

GAME is a programme for the worldwide implementation of identical experiments across geographical and climatic boundaries

GAME combines research and student training in marine ecology

GAME is located at





GAME aims at...

- Studying marine global change
- Running global experiments
- Training students
- Networking scientists
- Boosting international collaborations
- Transferring knowledge & building capacities

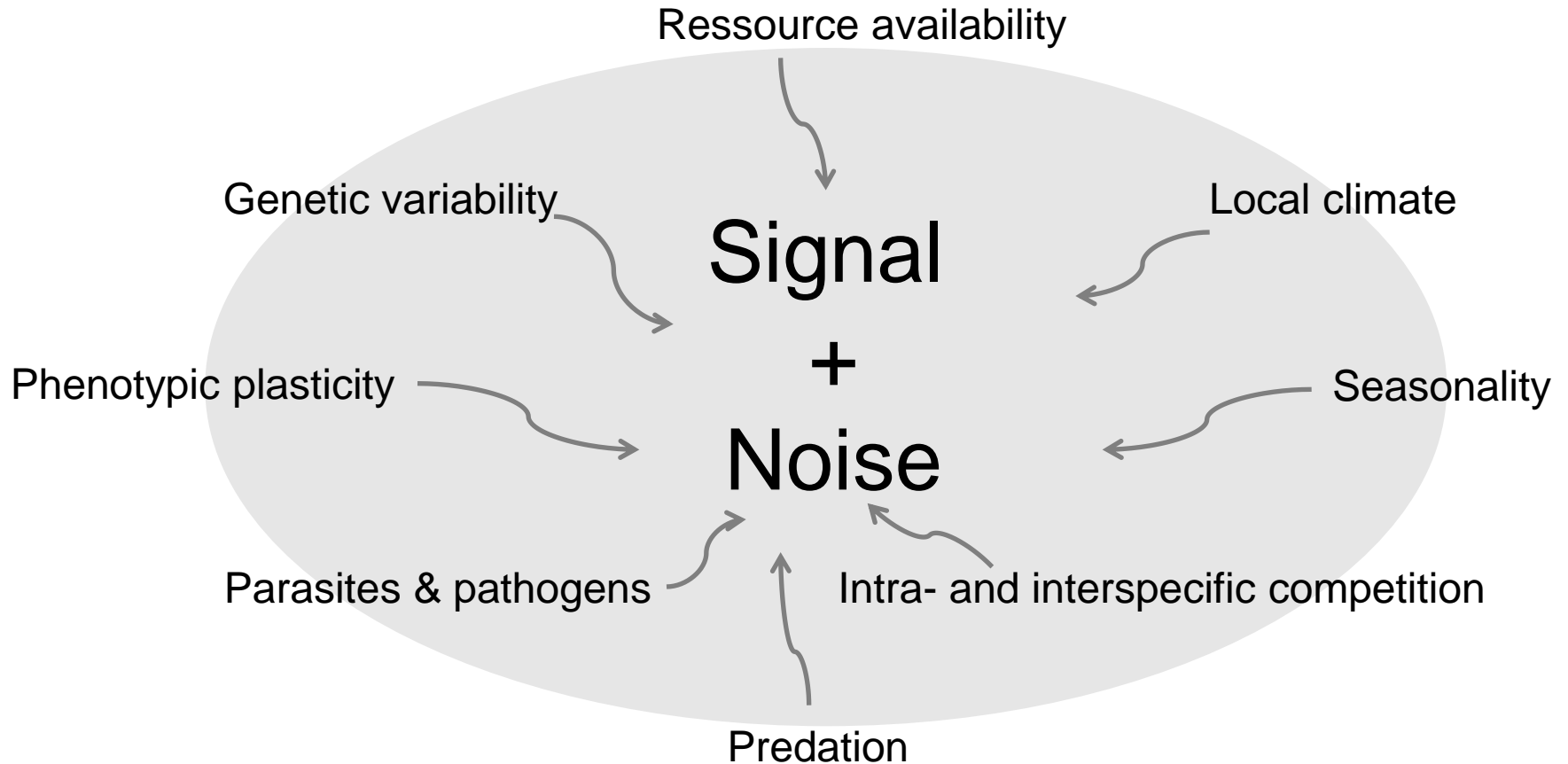


GAME looks for...

- MSc or PhD students worldwide...
- ...from biology, ecology or related life sciences
- Research institutes with a focus on ecology
- Scientists to supervise research projects
- Sponsors to support young scientists



Experiments in ecology: How to tell the signal from the noise?



How to replicate experiments worldwide?

The GAME global research network



with currently 34 partners in 25 countries.

Study sites

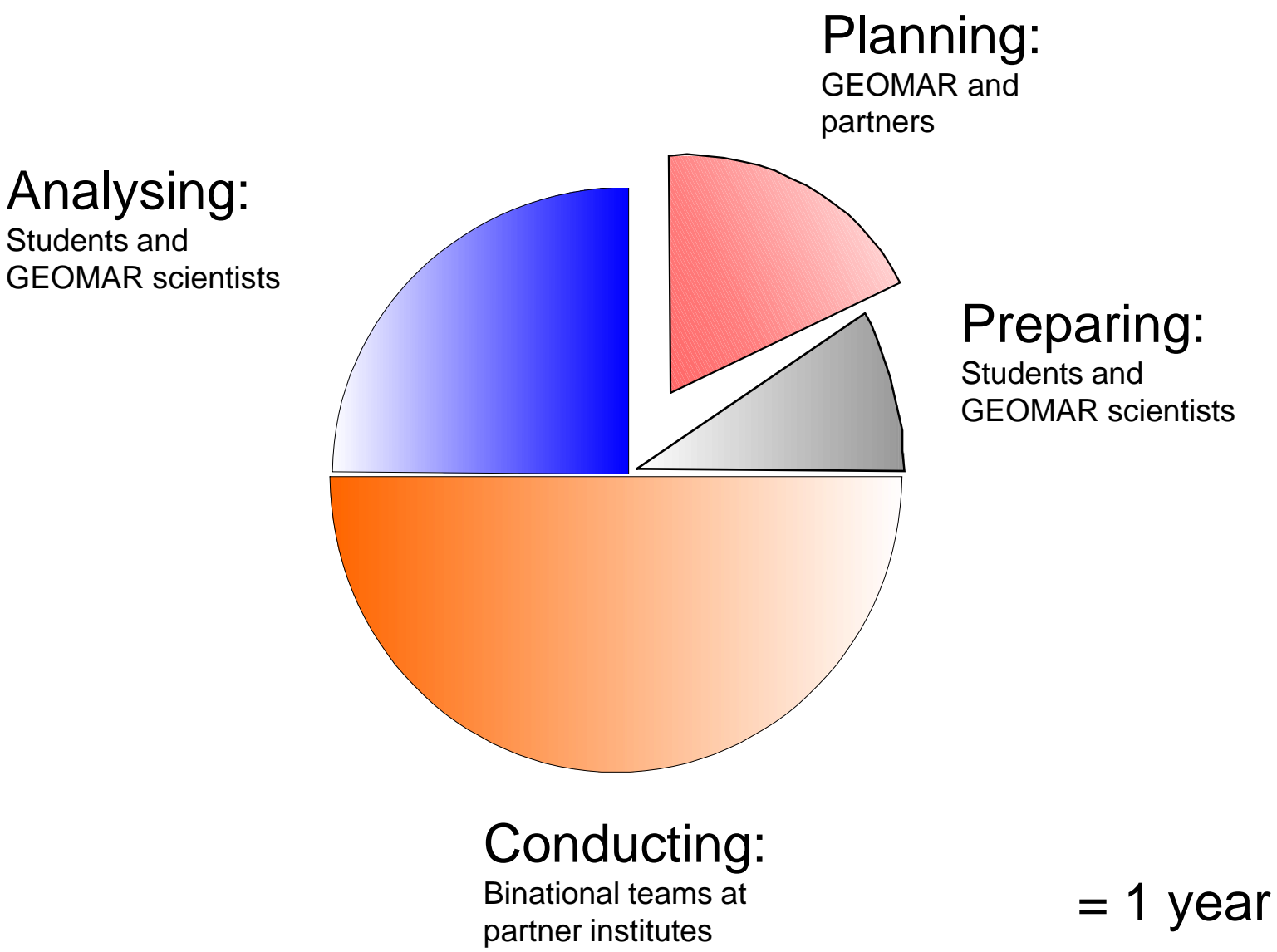


How to replicate experiments worldwide?



Max. 20 students per project and year
10 incoming and 10 German students
Working together in binational teams

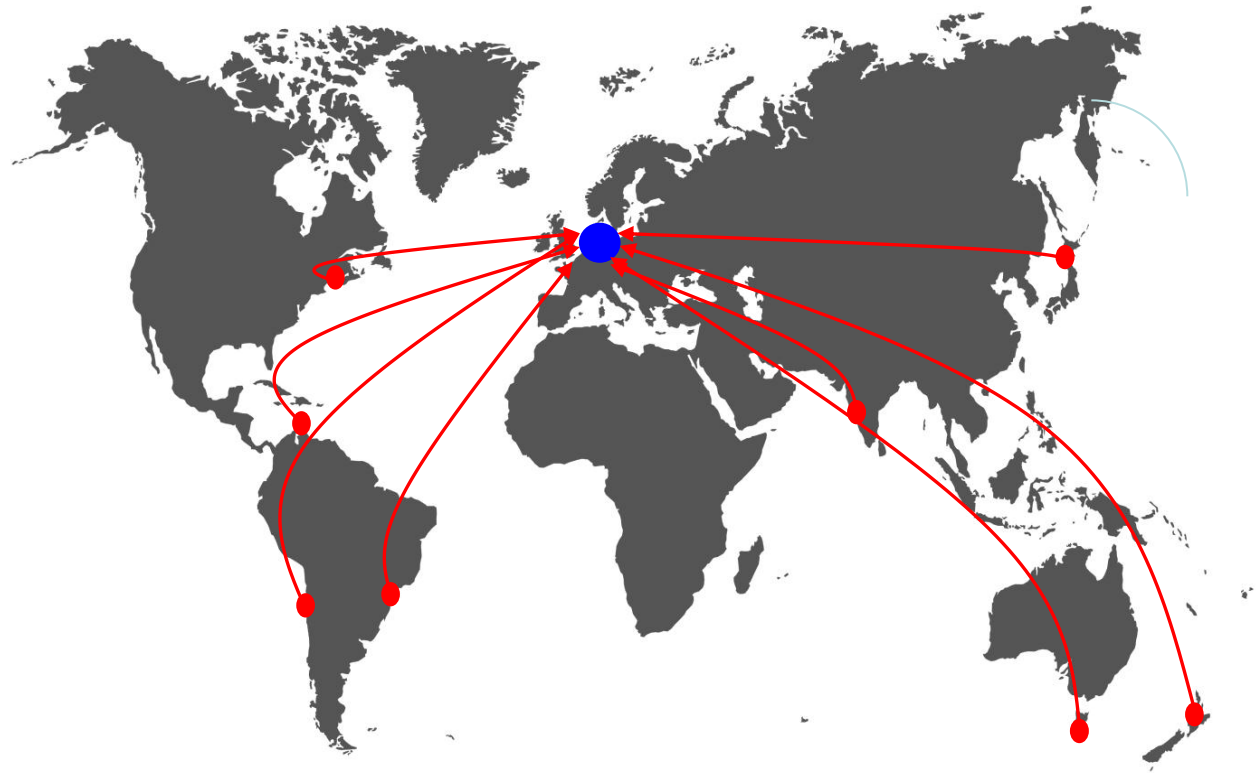
Planning, preparing, conducting, analysing





Preparing

**Introductory course with a multinational team
of young researchers at GEOMAR**



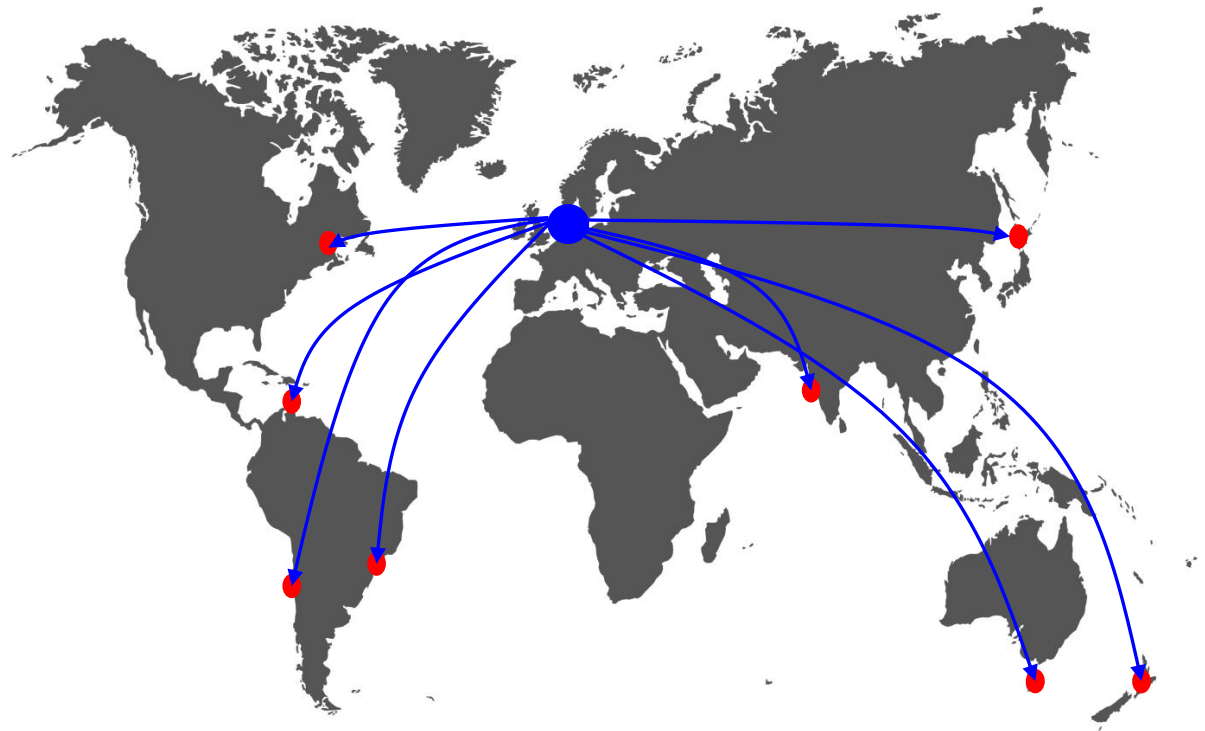
Preparing

- Scientific background: concepts in ecology
- Data bases and online resources
- Experimental design
- Running an experiment: material & methods
- Biostatistics



Conducting

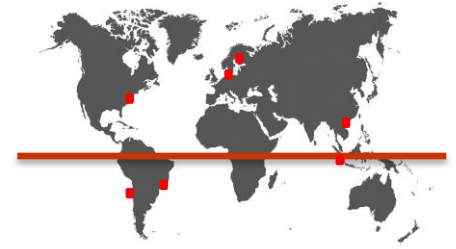
Running experiments in binational teams



Conducting: Study questions

GAME is studying the effects of global change on

- Species interactions
- Populations
- Community structure and composition

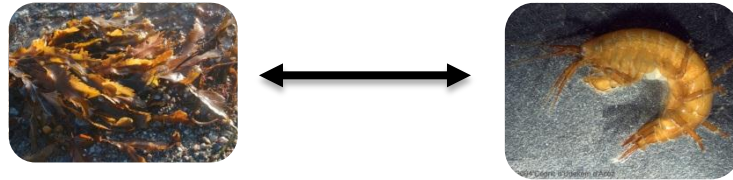




Conducting: Study questions

Topic 1:

Do abiotic and biotic stressors modify macroalgal defences against herbivory? (2003, 2007, 2008)



Topic 2:

Are invasive species more tolerant to environmental stress? (2009, 2010, 2012)



Conducting: Study questions

Topic 3:

How do abiotic stressors and disturbances affect community diversity? (2004, 2005, 2006)



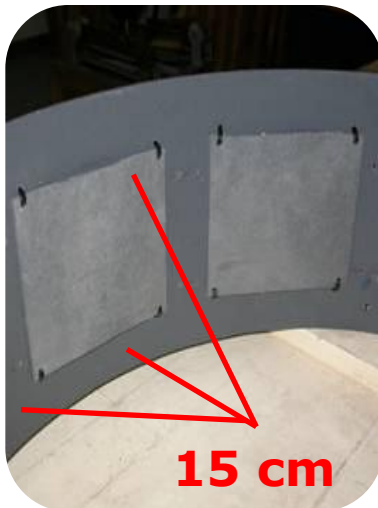
Conducting: Experiments

Experimental set-ups need to be...

- Identical across study sites
- Simple
- Robust
- Inexpensive

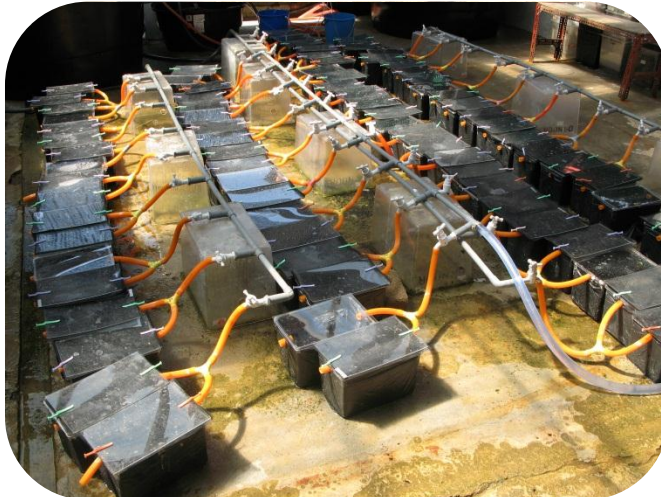
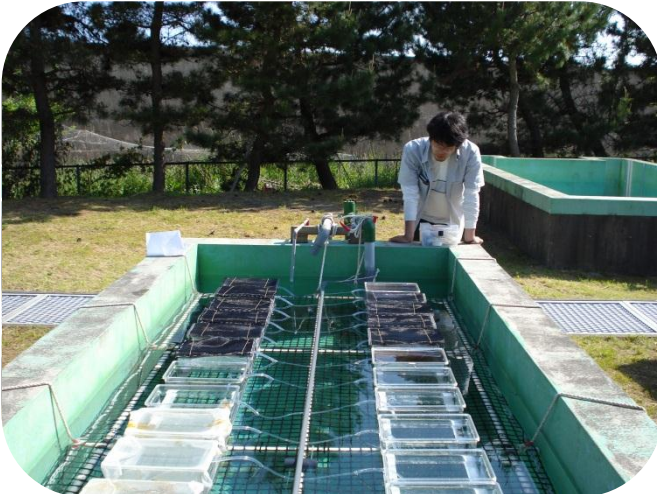
Experiments...

...in situ



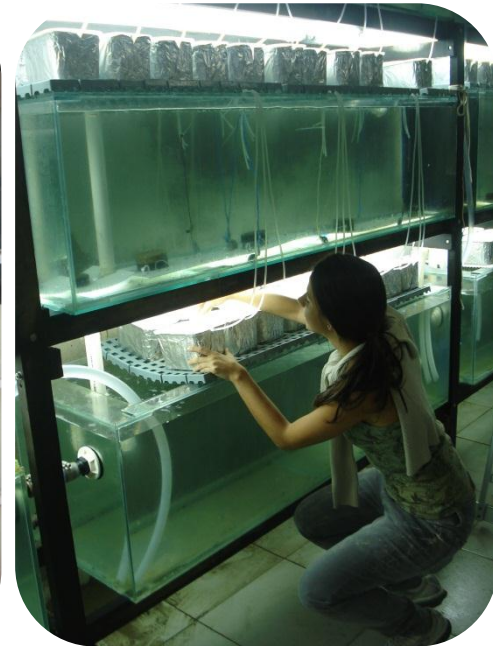
Experiments...

...in mesocosms



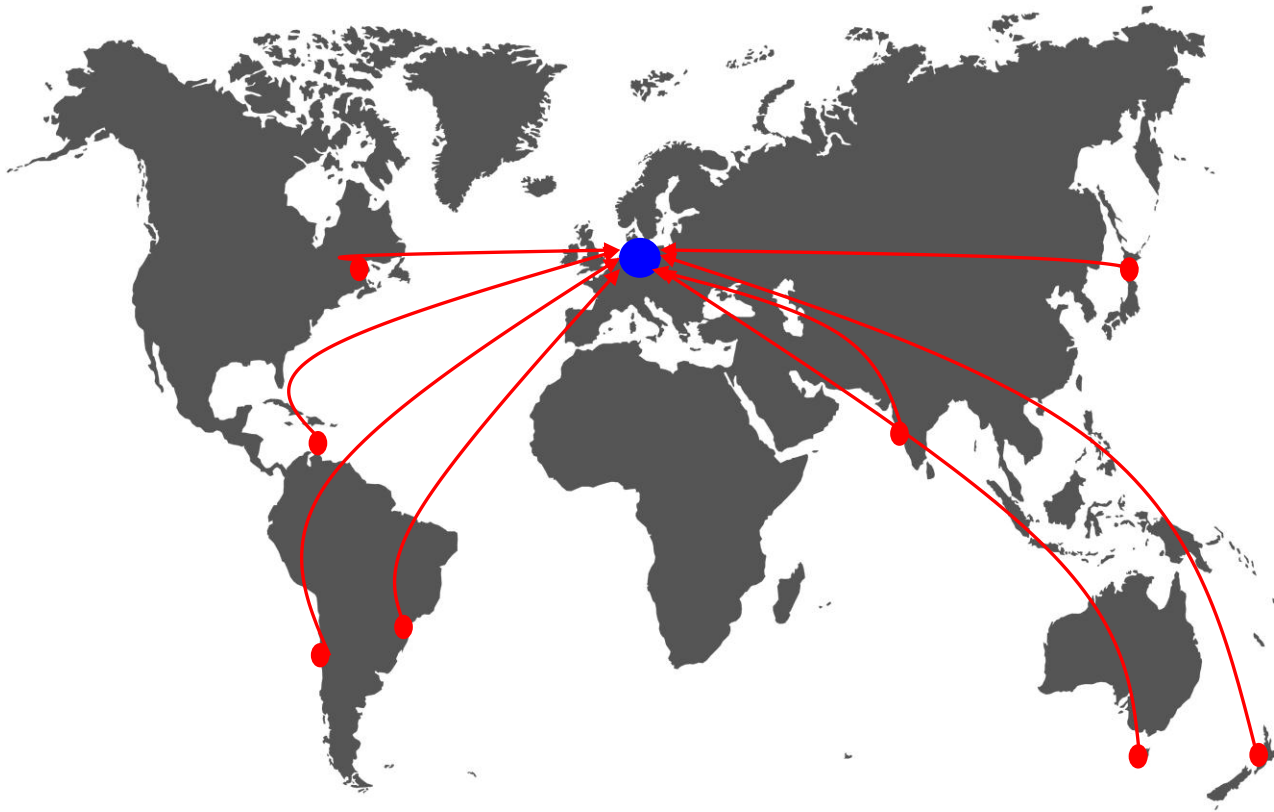
Experiment's...

...in the lab



Analysing

Analysis course with all teams at GEOMAR





Analysing

- Advanced biostatistics
- Analysing complex data sets
- Communicating science:
 - a) Scientific writing
 - b) Poster presentations
 - c) Oral presentations
- Presenting at German universities



Summarizing

10 years of GAME....

- 140 students participated
- the current project started in March 2013
- GAME network: 34 research institutions in 25 countries
- ~ 40 publications in peer-reviewed journals



Following what is going on

The current GAME project deals with:

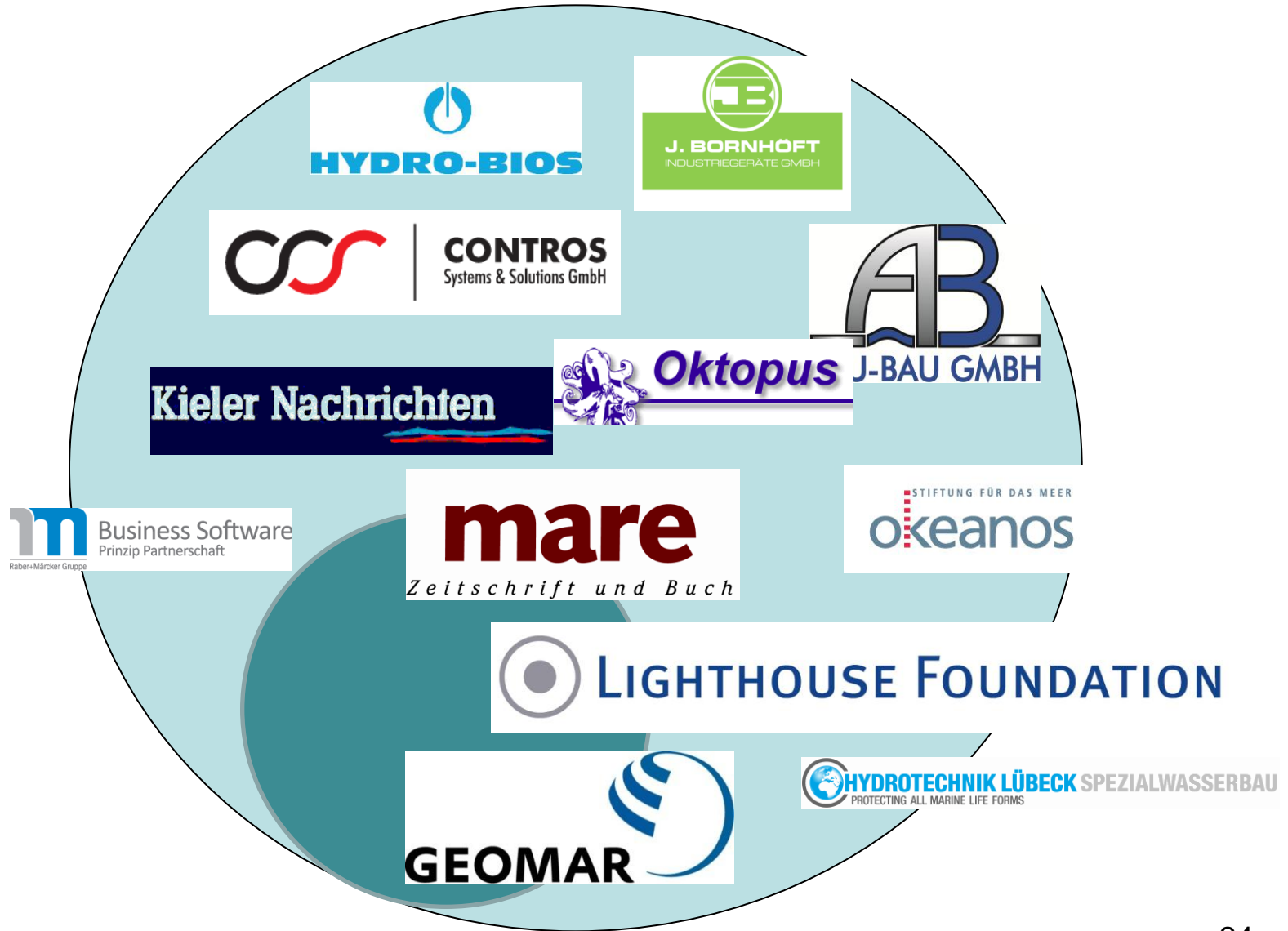
Prevalence of microplastics in coastal waters and their effects on benthic filter feeders



Latest news at www.geomar.de/go/game
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GAME is supported by:



Thank you!

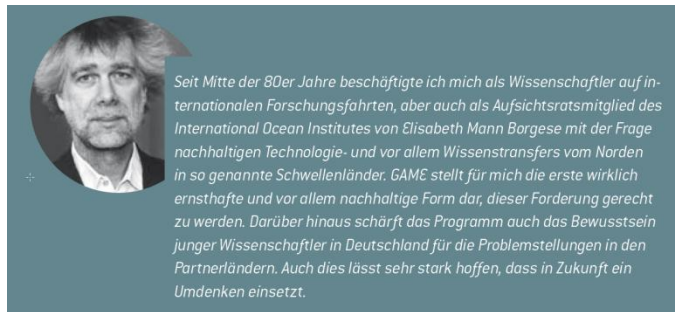
GAME board of trustees:



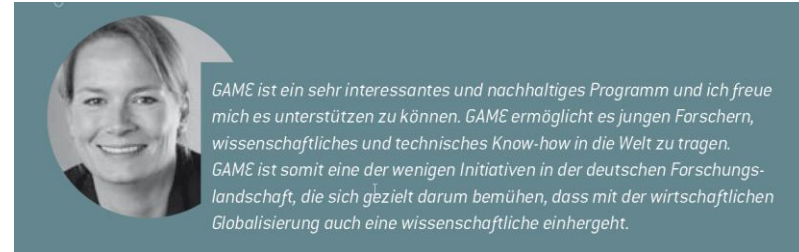
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