



GLOBAL APPROACH BY MODULAR EXPERIMENTS

A WORLDWIDE PROGRAMME
STUDYING GLOBAL CHANGE
GAME SUPPORTS AND CONNECTS
YOUNG MARINE SCIENTISTS



HELMHOLTZ

GEOMAR

HAND IN HAND

WORLDWIDE

GAME – A BRIDGE-BUILDING
RESEARCH PROGRAMME



WHAT IS GAME?

GEOMAR Helmholtz Centre for Ocean Research Kiel is one of the world's leading institutes in the field of marine science. It aims to study the oceans in their entirety and for this purpose the institute combines research in physics, chemistry, biology and geology under one roof. In 2002, Professor Martin Wahl initiated a special programme in the field of marine biology, establishing a new and innovative scientific approach:

» GAME stands for
GLOBAL
APPROACH BY
MODULAR
EXPERIMENTS

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

GAME-research projects study the effects of global change on habitats in coastal waters.

GAME is an international training programme that combines applied research with training for young scientists. Every year, parallel research projects on current ecological issues are organised at different locations around the world. The research is carried out by students working in binational pairs and supervised by scientists from GAME's partner institutes.

The unique GAME projects enable generalizable insights into urgent ecological issues. At the same time GAME links GEOMAR with numerous partner institutes worldwide and creates a global network for the sustainable exchange of scientific knowledge.



» *GAME is a great programme. It fosters global thinking and international cooperation without losing sight of local perspectives and leads to new insights about the ocean.*

Prof. Dr. Mojib Latif
GEOMAR Helmholtz-Zentrum für Ozeanforschung Kiel

NETWORKS FOR THE OCEANS

A PROGRAMME FOR THE FUTURE
THAT NEEDS PARTNERS



With a partnership

you can enable GAME to continue its successful international cooperation and to pursue and develop excellent teaching within the programme.

You decide about the amount of your contribution to support GAME.

WAYS IN WHICH YOU CAN SUPPORT GAME

With a sponsorship

you give an individual student the opportunity to participate in an exchange as part of the GAME project. With a fixed sum you can fund a scholarship for one student [travel costs, accommodation, equipment].

We are happy to send detailed information on request.



WHAT ARE THE AIMS OF GAME?

GAME's primary aim is to study the effects of global change on the earth's coastal habitats. Furthermore, GAME works to develop and expand the multinational transfer of knowledge, in particular between industrialized and newly industrializing countries, as well as creating lasting and sustainable networks for marine research.

At the same time GAME supports young scientists and in intensive teaching modules trains them in scientific core skills, such as the communication of research findings in the form of scientific articles and talks.

GAME needs support for this work.

We are looking for businesses, individuals and foundations willing to become involved as partners or sponsors for future projects:

- You would like to support sustainable marine research?
- You would like to support young scientists?
- You would like to be part of a cultural and scientific competence network?

GAME provides opportunities – your benefits as a partner or sponsor:

- Your name will be mentioned in GAME publications.
- Improve your company's image by promoting science, young talents, and international exchange.
- You will be personally and exclusively invited to GAME events.
- GAME offers you the opportunity to connect with scientists, students and institutions and to exchange ideas.
- You will be involved in an international research network.

>> *The GAME programme promotes its participants' intercultural competence, making an important contribution to open, unprejudiced and interested engagement with other cultures in order to learn, work and research together.*



Kerstin Bockhorn, GAME participant from Germany,
now Head of Sustainability at BUKEA, Hamburg

GLOBAL THINKING – MODULAR RESEARCH

IN A WORLDWIDE **NETWORK**
FOR SCIENTIFIC EXCHANGE



HOW DOES GAME WORK?

Every year, up to 20 students from Germany and partner countries take part in the program. After the project phase, the participants use the data obtained to complete their master's thesis.

- Every GAME project begins in Kiel.
- Every year in March all participants meet here and develop the methodological approach for their new research project in a month-long preparatory course, together with scientists from GEOMAR.
- The participants form bi-national teams with one student from Germany and one local student from the respective partner country, where they carry out the experiments starting in April.
- At the beginning of October, all participants return to Kiel, where they evaluate their data and write their final papers supported by scientists at GEOMAR.
- This is followed by a phase with intensive training modules on delivering scientific lectures and preparing publications.
- In the final phase of each project, participants present their findings in talks at universities in Northern Germany and prepare manuscripts for scientific journals.



➤ *During my studies, I never experienced the scientific process as closely as I did during GAME. Here you are faced with all the difficulties and problems that arise in scientific work. I found this a challenge, through which I learned a lot. By participating in GAME, I have definitely been encouraged in my decision to stay in science, and I feel well prepared for a PhD project.*

Sinja Rist, PhD, GAME participant from Germany, Scientist at the Technical University of Copenhagen in the field of Environmental Engineering

COMPETENCE THROUGH COOPERATION

GAME SUPPORTS CAREERS –
AND HELPS TO SECURE THE
FUTURE OF COASTAL REGIONS



GAME'S STRENGTHS

- This unique scientific approach (comparable experiments carried out simultaneously worldwide) allows to reveal general principles of great relevance
- High quality due to small numbers of participants
- GAME is a global tool that can serve as a model for other disciplines
- High level of attractiveness through its utilization of the Competence and logistics of GEOMAR
- Networking of participants and partner institutes
- Global transfer of knowledge

GAME promotes

- Understanding of global issues and research approaches
- Intercultural competence and teamwork skills
- Exchange of knowledge, cosmopolitanism and tolerance
- Qualification for scientific work at an international level

GAME offers

- An excellent education with intensive and individual supervision
- Efficient training for optimum career prospects
- Research experience abroad before starting a doctoral project
- Training in practical work at difficult research locations

➤ In the field of marine ecology, GAME provides an example of the genuine and sustainable transfer of technology and knowledge from the "North" to "newly industrializing countries". The programme also raises young German scientists' awareness of the problems and difficulties of the partner countries.

Nikolaus Gelpke, Marine biologist, Publisher of the journal MARE



THE WORLD POSES QUESTIONS

THE GAME NETWORK IN FIGURES



Australia
Brazil
Cabo Verde
Canada
Chile
China
Germany
Croatia
Egypt
Finland
Iceland
India
Indonesia
Iran
Israel
Italy
Japan
Kenya
Malaysia
Mexico
New Zealand
Poland
Portugal
South Africa
South Korea
Spain
Sweden
Trinidad & Tobago
UK
USA

GAME 2002 to 2024

The GAME network currently comprises **41** research institutes in **30** countries. We have scientific partners on **5** continents and can access many sea areas worldwide. So far, **286** students participated in the programme, while the German participants came from **28** different universities from all over Germany.

So far, **53** publications in peer-reviewed journals emerged from the **22** completed GAME projects.

GAME is funded by foundations and private companies. **We thank all our funders for their invaluable support!**

Status July 2024



GAME FINDS ANSWERS – IN THE OCEANS

The results of many individual studies are comparable and thus reveal connections and relationships that have broad validity.

The oceans contain the greatest variety of species on earth, but are much less well researched than terrestrial habitats. They are of tremendous significance as a source of organic and non-organic resources and as a climate buffer.

GAME focuses on ecosystems of the shallow seas that line the continents. These systems are of paramount importance to humans: they provide essential food resources, are carbon sinks, serve as transport routes and protect the coasts. Already, more than 50 % of the world's population live close to the sea and this percentage is rising continually. For this reason, coastal seas are most affected by global change, as climate warming, rising sea levels, species transfers and intense human use all come together here. This can have far-reaching consequences for the ways in which these ecosystems function.

GAME addresses these consequences. Projects in the programme have posed study questions about invasive ecology and have examined how environmental changes, such as global warming or marine pollution caused by plastic waste, affect species, populations and communities.

Information on GAME's research projects is available at

- www.geomar.de/game
- www.facebook.com/GAME.GEOMAR
- www.oceanblogs.org/game
- www.instagram.com/game_geomar



» There is no other way to say it: GAME has changed my life. This global project gave me a rigorous formal training of quantitative analysis of spatial and temporal dynamics in benthic marine communities. GAME showed me the right way and gave me the tools I needed for the path I chose.

João Canning-Clode, PhD, GAME-participant from Portugal, Scientist at MARE – Marine and Environmental Sciences Centre, Madeira, Portugal



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