WHY DOES THE OCEAN MOVE? HOW IS CLIMATE CHANGING?

The Institute of Oceanography (IfM) at Universität Hamburg offers the MSc degree **OCEAN AND CLIMATE PHYSICS**. This program is taught in English and equips students with a profound knowledge in ocean and climate physics. Graduates of the program are in particular prepared for a career in oceanic and/or climate research.

The IfM is part of the Center for Earth System Research and Sustainability (CEN), which aims to promote research in the areas of Earth system science and sustainability, extending interdisciplinary cooperation and bridging the gap between research and teaching. The IfM is part of the KlimaCampus Hamburg and closely cooperates with the adjacent Max-Planck-Institute for Meteorology (MPI-M). Thereby students get a close look at cutting edge academic research and the related tasks in a familial environment.

Every year only a small number of students is admitted, which guarantees a close personal interaction between students and lecturers/ professors. For their MSc thesis, students can select from the full variety of topics in physical oceanography and climate physics available in Hamburg. During their work on the thesis, students become involved in one of the research groups and receive individual supervision by a professor.

WWW.IFM.UNI-HAMBURG.DE/EDUCATION/MASTER

FACULTY
FOR MATHEMATICS, INFORMATICS AND NATURAL SCIENCES

DEPARTMENT OF EARTH SCIENCES

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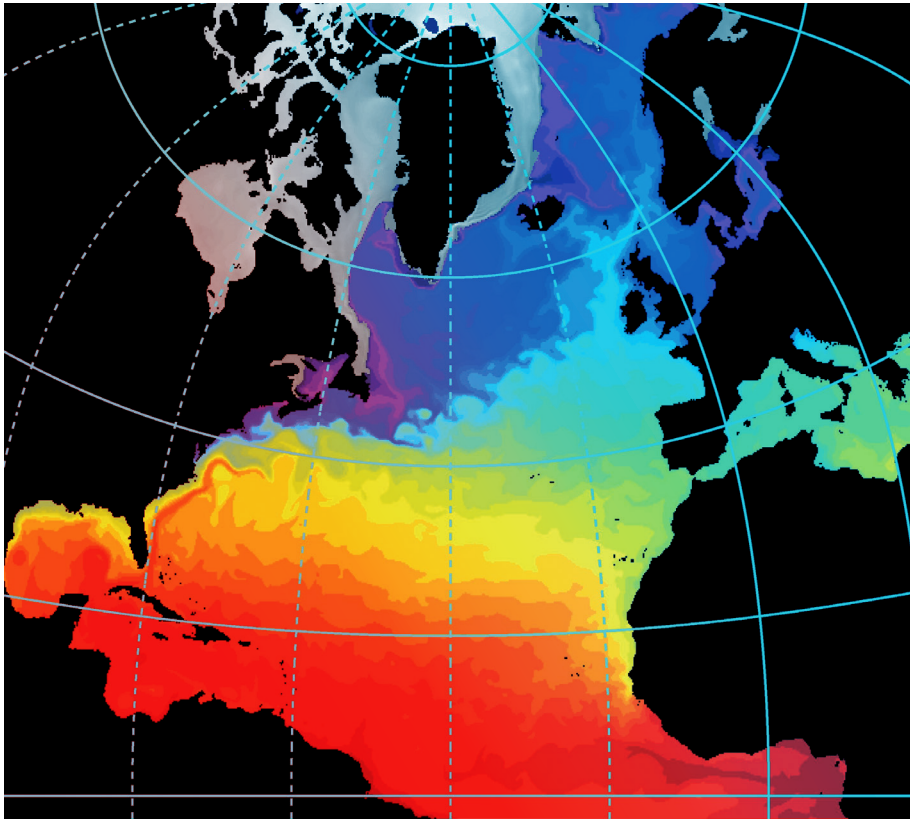
GENERAL INFORMATION
https://www.ifm.uni-hamburg.de/en/education/master.html

STUDENT REPRESENTATIVES
To get in touch with our current students, contact:
fsr.ifm@mailman.rrz.uni-hamburg.de

January 2020

OCEAN AND CLIMATE PHYSICS

MASTER OF SCIENCE



Universität Hamburg
DER FORSCHUNG | DER LEHRE | DER BILDUNG

FACULTY
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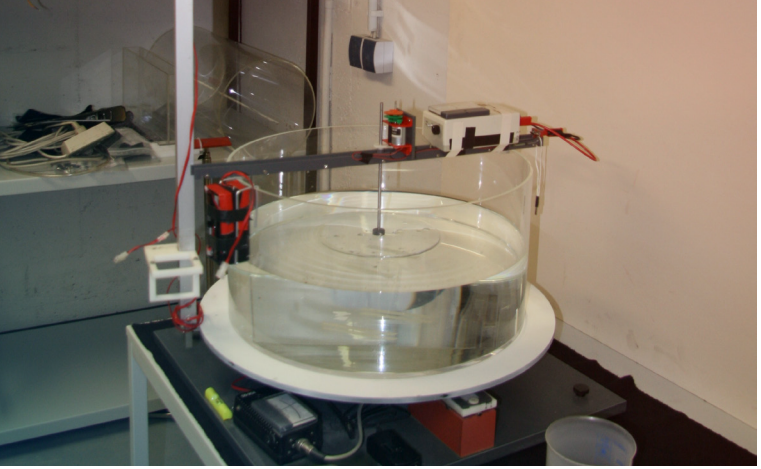


STUDY OCEAN & CLIMATE – LINKING THEORY, MODELLING AND OBSERVATIONS

THE MSC »OCEAN AND CLIMATE PHYSICS« FOCUSES ON THE PHYSICS OF BOTH THE OCEAN AND THE CLIMATE SYSTEM:

PHYSICS OF THE OCEAN

We teach the full range of physical oceanography, both in terms of methods and processes, including topics like fluid dynamics, large-scale dynamics as well as waves and turbulence. We combine teaching approaches, as appropriate for the subject, for example linking theory, modelling and tank experiments.

PHYSICS OF CLIMATE

We equip students with a thorough understanding of climate physics, covering processes varying on different temporal and spatial scales. A particular focus lies on the analysis of climate relevant processes in both observations and models, including their combination.

CORE-ELECTIVE COURSES

Core-elective courses enable students to deepen their knowledge on physical oceanography or climate physics tailored to their own interests. We offer advanced courses in a diverse range of subjects, but also introductory courses for students joining the program from a BSc-degree unrelated to physical oceanography or climate science.

ELECTIVE COURSES

Elective courses give students a choice of subjects from the Faculty of Mathematics, Informatics and Natural Science (MIN) to broaden their knowledge beyond ocean and climate physics following personal interests.

SEMESTER 1 (WINTER TERM)

Consolidation of knowledge of ocean physics with respect to large scale circulation patterns, Navier-Stokes equation and common approximations, acquisition of profound knowledge of variability in theory and observations.

SEMESTER 2 (SUMMER TERM)

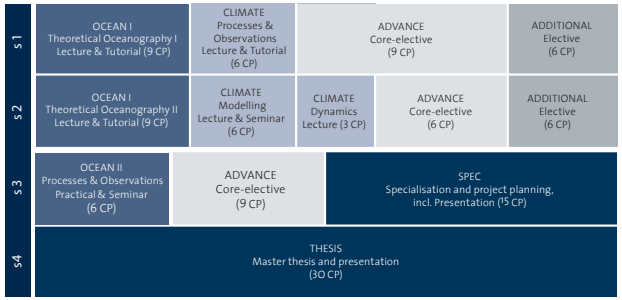
Consolidation of knowledge of ocean physics with respect to waves and turbulence, acquisition of profound knowledge of climate modeling & model evaluation, acquisition of profound knowledge of climate dynamics.

SEMESTER 3 (WINTER TERM)

Conveying of specific expert knowledge on selected oceanic processes, development of expert knowledge in an individually selected subject by work within a research group.

SEMESTER 4 (SUMMER TERM)

Preparation of the MSc thesis over a period of six months. The thesis is also presented in a scientific talk to IfM with follow-up questions from the audience.



CAREER PROSPECTS

Science: Our program provides a specialized science-oriented education that thoroughly prepares and qualifies students for further scientific work. Many of our graduates take up PhD-studies at a university or non-university research institutions, including (but not limited to) the Federal Maritime and Hydrographic Agency (BSH), the German Weather Service (DWD), the Max-Planck-Institute for Meteorology (MPI-M) or at comparable institutions abroad.

Private industry: Our graduates have gained a deep knowledge in mathematics, physics, numerics and also computer science, and are thereby also prepared for a career in the private sector. Following individual interests, students often already utilize the elective courses to deepen their knowledge in such a direction. Recently, students have taken up positions in computing, in large data processing, but also consulting.

APPLICATION

APPLICATION PERIOD

Application period **FEBRUARY 15TH TO MARCH 31TH**
www.uni-hamburg.de/online-bewerbung

APPLICATION REQUIREMENTS

- BSc degree in **GEOPHYSICS/PHYSICAL OCEANOGRAPHY** from Universität Hamburg OR an equivalent BSc degree with at least 90 CP in mathematical-physical courses
- Proficient knowledge and use of English language

MORE INFORMATION

https://www.ifm.uni-hamburg.de/en/education/master/04-application.html