



Introductory Course in Marine Sciences: Biogeochemical oceanography and climate

Prof. J. Bijma, Dr. C. Hanfland & AWI colleagues

Date & Time: Sept 29 – Oct 2nd, 2015 9 am – 5 pm
(+ evening event)

Location: AWI Building E-4025

Language: English

Registration: info.polmar@awi.de

Participants should state their level of qualification, affiliation and project they are working on. The course is free of charge, but participants will need to cover their travel expenses. We will support participants in finding affordable accommodation.

Course content:

The aim of the course is to introduce students to the main fields of marine biogeochemistry and climate, notably chemical oceanography, biological oceanography, marine biogeosciences as related to the carbon cycle, and climate research. Participants get to know key research areas of the AWI. The programme is multidisciplinary, i.e. all disciplines will be discussed as components of an integrated system. Evening events complement the programme and students present and discuss their own field of research in relation to global change.

Topics covered include:

- Chemical properties of seawater and ocean carbonate chemistry (alkalinity, lysocline dynamics, etc.)
- The marine carbon cycle and the biological pump
- Biology of polar oceans, foodweb ecology, impact of global change
- Climate variability and climate change
- ***Including a visit of AWI Ice laboratory and cinema evening!***

Target group:

Master students and doctoral candidates.

More information: info.polmar@awi.de

Preparational work: Participants will be asked to prepare a short presentation on their Master or PhD project and work out the connection to global change. Presentations will be discussed at the end of the course.

Introductory Course in Marine Sciences: Biogeochemical oceanography and climate

| 01.09.29 | TUESDAY | lecturer |
|--|---|-------------------------------|
| <i>Introduction, Overview & Chemical Oceanography</i> | | |
| 9 - 9:30 | Welcome & Introduction to student homework | POLMAR Team |
| 9:30 - 10:30 | Introduction to AWI & Chemical Oceanography | Dr. Claudia Hanfland |
| | coffee break | |
| 11 - 12:30 | The Earth climate system and its components | Dr. Martin Werner |
| | LUNCH | |
| 13:30 - 15:00 | The Marine Carbonate System | Prof. Dr. Dieter-Wolf Gladrow |
| | coffee break | |
| 15:30 - 17:00 | The Global Carbon Cycle | Prof. Dr. Boris Koch |
| 01.09.30 | WEDNESDAY | |
| <i>Biology</i> | | |
| 9 - 10:30 | Plankton communities in the polar oceans | Dr. Christine Klaas |
| | coffee break | |
| 11 - 12:30 | Icy hollows: Under-ice creatures in the Arctic and Antarctic Oceans | Dr. Hauke Flores |
| | LUNCH | |
| 13:30 - 14:30 | Ecophysiology – Basics & recent research approaches: Metabolic response of marine ectotherms to environmental drivers | Dr. Gisela Lannig |
| 15:30 - 17:00 | Ocean Acidification: the ugly side of global warming | Prof. Dr. Jelle Bijma |
| Oct 1st | THURSDAY | |
| <i>Climate & Ice</i> | | |
| 9 - 10:30 | Ice in the climate system | Prof. Dr. F. Wilhelms |
| | coffee break | |
| 11 - 12:30 | Sea level variations | Dr. Wolfgang Dierking |
| | LUNCH | |
| 13:30 - 15:00 | student presentations part I | POLMAR team |
| | transfer to building D | |
| 15:30 | Visit of AWI Eislabor | Dr. Sepp Kipfstuhl |
| 17:00 | Cinema evening | Johannes Freitag |
| | | POLMAR team |
| | | Dr. |
| Oct 2nd | FRIDAY | |
| 9 - 10:30 | Communicating my science to the media | Kristina Bär Sina Löschke |
| | coffee break | |
| 11 - 12:30 | The Big picture: Linking ecology and biogeochemistry of the oceans | Prof. Dr. Victor Smetacek |
| | LUNCH | |
| 13:30 - 16:00 | student presentations part II | POLMAR Team |
| 16:00 | farewell | |

Our courses are generally free of charge for all participants. However, they do have a price and can cost as much as 150 € per day per student. Please take this into account when cancelling your place on the last minute.