



Compact Course in Marine Sciences: Biogeochemical oceanography and climate

POLMAR & AWI colleagues

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| Date & Time: | Sept 25 – 28, 2018 9 am – 5 pm |
| Location: | AWI Building F, Glaskasten |
| Language: | English |
| POLMAR credit points: | 5 (incl. student presentation) |
| Registration: | info.polmar@awi.de |

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. 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
- 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!***

See preliminary course program next side.

Target group:

We recommend participation in this course to all PhD students in marine sciences. Ideally, you take this course at the beginning of your PhD. Master students and young postdocs who have a general interest in the topic of marine biogeosciences are equally welcome.

Students' comments on this course:

- *Thank you for this interesting introduction!*
- *Very informative and entertaining*
- *The course was a good challenge to learn more*
- *It was great to hear all this "cool" stuff*
- *Nearly all the talks were very interesting and informative.*

More information: info.polmar@awi.de

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 in two sessions during course.

Compact Course in Marine Sciences: Biogeochemical Oceanography and Climate

| 25.09.18 | TUESDAY | Lecturer |
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| <i>Introduction, Overview & Chemical Oceanography</i> | | |
| 9:00 - 9:30 | Welcome & Introduction to student homework | POLMAR Team |
| 9:30 - 11:00 | The Earth Climate System and its Components | Dr. Martin Werner |
| coffee break | | |
| 11:30 - 12:00 | student presentations part I | POLMAR team |
| LUNCH | | |
| 13:00 - 14:30 | The Marine Carbonate System | Prof. Dr. Dieter-Wolf Gladrow |
| coffee break | | |
| 15:00 - 16:30 | The Global Carbon Cycle | Prof. Dr. Boris Koch |
| 26.09.18 WEDNESDAY | | |
| <i>Biology</i> | | |
| 9 - 10:30 | Icy hollows: Under-ice creatures in the Arctic and Antarctic Oceans | Dr. Hauke Flores |
| coffee break | | |
| 11 - 12:30 | Plankton communities in the polar oceans | Dr. Christine Klaas |
| LUNCH | | |
| 13:30 - 15:00 | Introduction to ecophysiology: the impact of global change | Prof. Dr. H.-O. Pörtner |
| coffee break | | |
| 15:30 - 17:00 | The living ocean | Prof. Dr. Tom Brey |
| 27.09.18 THURSDAY | | |
| 9 - 10:30 | Ocean acidification: The ugly side of global warming | Prof. Dr. J. Bijma |
| coffee break | | |
| 11 - 12:30 | student presentations II | POLMAR team |
| LUNCH | | |
| 13:30 - 15:00 | Communicating my science to the media | Sina Löschke |
| 15:00 - 15:45 | Student presentations part II & coffee | POLMAR Team |
| transfer to building D | | |
| 16:00 | Visit of AWI Eislabor | Dr. Sepp Kipfstuhl Dr. Johannes Freitag |
| 28.09.18 FRIDAY | | |
| <i>Climate & Ice</i> | | |
| 9 - 10:30 | Ice in the climate system | Prof. Dr. F. Wilhelms |
| coffee break | | |
| 11 - 12:30 | Paleoclimate dynamics - identifying driving mechanisms of climate change | Prof. Dr. Gerrit Lohmann |
| LUNCH | | |
| 13:30 - 14:30 | The Helmholtz Climate Initiative REKLIM | Dr. Klaus Grosfeld |
| 14:30 - 15:00 | wrap-up & farewell | POLMAR team |