



## Compact Course in Marine Sciences: Biogeochemical oceanography and climate

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

<b>Date &amp; Time:</b>	Oct 18 – 21, 2016    9 am – 5 pm
<b>Location:</b>	AWI Building E-4025
<b>Language:</b>	English
<b>POLMAR credit points:</b>	5 (incl. student presentation)
<b>Registration:</b>	<a href="mailto:info.polmar@awi.de">info.polmar@awi.de</a>

### 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!***

### 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](mailto: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.

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<b>18.10.16</b>	<b>TUESDAY</b>	<b>Lecturer</b>
<b><i>Introduction, Overview &amp; Chemical Oceanography</i></b>		
9 - 9:30	Welcome & Introduction to student homework	POLMAR Team
9:30 - 10:30	Introduction to AWI & Chemical Oceanography	Dr. Claudia Hanfland
<b>coffee break</b>		
11 - 12:30	The Earth climate system and its components	Dr. Martin Werner
<b>LUNCH</b>		
13:30 - 15:00	The Marine Carbonate System	Prof. Dr. Dieter-Wolf Gladrow
<b>coffee break</b>		
15:30 - 17:00	The Global Carbon Cycle	Prof. Dr. Boris Koch
<b>19.10.16 WEDNESDAY</b>		
<b><i>Biology</i></b>		
9 - 10:30	Plankton communities in the polar oceans	Dr. Christine Klaas
<b>coffee break</b>		
11 - 12:30	Icy hollows: Under-ice creatures in the Arctic and Antarctic Oceans	Dr. Hauke Flores
<b>LUNCH</b>		
13:30 - 15:00	Student presentations part I	POLMAR team
<b>coffee break</b>		
15:30 - 17:00	Ocean Acidification: the ugly side of global warming	Prof. Dr. Jelle Bijma
<b>20.10.16 THURSDAY</b>		
<b><i>Climate &amp; Ice</i></b>		
9 - 10:30	Ice in the climate system	Prof. Dr. F. Wilhelms
<b>coffee break</b>		
11 - 12:30	Sea level variations	Dr. Wolfgang Dierking
<b>LUNCH</b>		
13:30 - 15:00	Paleoclimate dynamics-identifying driving mechanisms of climate change	Prof. Dr. Gerrit Lohmann
<b>transfer to building D</b>		
15:30	Visit of AWI Eislabor	Dr. Sepp Kipfstuhl Dr. Johannes Freitag
<b>21.10.16 FRIDAY</b>		
9 - 10:30	Communicating my science to the media	Sina Löschke
<b>coffee break</b>		
11 - 12:30	Student presentations part II	POLMAR Team
<b>LUNCH</b>		
13:30 - 15:00	The Big Picture: Linking ecology and biogeochemistry of the oceans	Prof. Dr. Victor Smetacek