



Helmholtz Graduate School  
for Polar and Marine Research

Course announcement:  
POLMAR General Course

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## **Introductory Course in Marine Sciences Part II: Biogeochemical oceanography and climate**

**-A joint POLMAR / GLOMAR course-**

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

<b>Date &amp; Time:</b>	June 24 – 28, 2013 9 am – 5 pm
<b>Location:</b>	AWI Building E-4025
<b>Language:</b>	English
<b>POLMAR credit points:</b>	4
<b>Registration:</b>	<a href="mailto:info.polmar@awi.de">info.polmar@awi.de</a>

### **Course content:**

The aim of the course is to complement the “Introductory Course in Marine Sciences Part I” organised at the University of Bremen (MARUM) (will be offered again in 2014) by introducing additional main fields of marine sciences, i.e. chemical oceanography, biological oceanography, marine biogeosciences as related to the carbon cycle, and climate research. The programme is multidisciplinary, i.e. all disciplines will be discussed as components of an integrated system.

### **Topics covered include:**

- Chemical properties of seawater and ocean carbonate chemistry (alkalinity, lysocline dynamics, etc.)
- The marine carbon cycle and the biological pump
- Proxy development and application in climate research (a biogeosciences approach)
- Climate variability and climate change

### **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:** [Claudia.Hanfland@awi.de](mailto:Claudia.Hanfland@awi.de)

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

24.06.13	MONDAY	lecturer
<i>Chemical Oceanography, Biology I</i>		
9 - 9:15	Welcome	Dr. Claudia Hanfland
9:15 - 10:30	Introduction Chemical Oceanography	Dr. Claudia Hanfland
<b>coffee break</b>		
11 - 12:30	The Global Carbon Cycle and the Marine Carbonate System	Prof. Dr. Dieter Wolf-Gladrow
<b>LUNCH</b>		
13:30 - 15:00	Plankton communities in the polar oceans	Dr. Christine Klaas
<b>coffee break</b>		
15:30 - 17:00	The Krill Story	PD Dr. Bettina Meyer
25.06.13	TUESDAY	
<i>Biology II</i>		
9 - 10:30	The living ocean	Prof. Dr. Thomas Brey
<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	Introduction to ecophysiology: the impact of global change	Prof. Dr. Hans-Otto Pörtner
<b>coffee break</b>		
15:30 - 17:00	The Big picture: Linking ecology and biogeochemistry of the oceans	Prof. Dr. Victor Smetacek
26.06.13	WEDNESDAY	
<i>climate &amp; ice</i>		
9 - 10:30	The Earth climate system and its components	Dr. Martin Werner
<b>coffee break</b>		
11 - 12:30	Ice in the climate system	Prof. Dr. Frank Wilhelms
<b>LUNCH</b>		
13:30 - 15:00	Paleoclimate dynamics-identifying driving mechanisms of climate change	Prof. Dr. Gerrit Lohmann
27.06.13	THURSDAY	
9 - 10:30	Poking inside: what's in biogeochemical models?	Dr. Christoph Völker
<b>coffee break</b>		
11 - 12:30	Implications of ocean iron fertilization experiments for basic and applied research	Prof. Dr. Victor Smetacek
13:30 - 15:00	Communicating my science to the media	Sina Löschke
15:00 - 15:15	Farewell	POLMAR Team

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*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.*

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