

## **ECORD Summer School on “Geodynamics of Mid-Ocean Ridges” 2009**

August 31 – September 11, University of Bremen

Venue: University of Bremen, MARUM building, Room 2070, [www.marum.de](http://www.marum.de)

Monday, August 31

09:00 – 09:15 **Welcome and opening of the Summer School**

*Dierk Hebbeln, Catherine Mevel*

09:15 – 10:30 **Basement drilling: history and overview**

*Benoit Ildefonse*

10:30 – 11:00 **Coffee break**

11:00 – 12:30 **Geology of fast-spreading ridges**

*Damon Teagle*

12:30 – 13:30 **Lunch**

13:30 – 15:00 **Geology of slow-spreading ridges**

*Catherine Mevel*

15:00 – 15:30 **Coffee break**

15:30 – 17:00 **Out at sea – impressions from scientific drilling**

*Jay Miller, Margot Godard, Donna Blackman, Benoit Ildefonse*

17:30 **Icebreaker party with buffet**

Tuesday, September 1

09:00 – 10:30 **Seismic and gravimetric structure of mid-ocean ridges**

*Donna Blackman*

10:30 – 11:00 **Coffee break**

11:00 – 12:30 **Geophysical survey of the Gakkel Ridge**

*Vera Schlindwein*

12:30 – 13:30 **Lunch**

13:30 – 15:00 **Palaeomagnetism and mid-ocean ridge tectonic processes**

*Tony Morris*

15:00 – 15:30 **Coffee break**

15:30 – 17:00 **Rock physics and structural geology**

*Benoit Ildefonse*

Wednesday, September 2

09:00 – 11:00 **Student talks**

*Nicole Schroth, Suzanne Picazo, Kay Achenbach, Asta Rut Hjatardottir, Gaelle Plissart, Taichi Sato, Edith Korgner, Marie Violay*

*Moderation by Catherine Mevel*

11:00 – 11:30 **Coffee break**

11:30 – 13:00 **Geochemistry and petrology of the upper mantle**

*Margot Godard*

13:00 – 14:00 **Lunch**

14:00 – 15:30 **Petrology of crustal accretion**

*Jürgen Koepke*

15:30 – 16:00 **Coffee break**

16:00 – 17:45 **Student talks**

*Benedicte Abily, Catherine Evrard, Kathrin Faak, Dominik Niedermeier, Alessio Sanpillo, Emanuele Paganelli, Ben Winpenny*

*Moderation by Margot Godard*

Thursday, September 3

09:00 – 10:30 **“Hydrothermal processes and seafloor mineralization”**

*Damon Teagle, Sven Petersen*

10:30 – 11:00 **Coffee break**

11:00 – 12:30 **Petrology and geochemistry of serpentinites**

*Margot Godard, Wolfgang Bach*

12:30 – 13:30 **Lunch**

13:30 – 15:00 **“Life in mid-ocean ridge rocks”**

*Jörn Peckmann, Wolfgang Bach*

15:30 – 16:00 **Coffee break**

16:00 – 17:30 **Student talks**

*Antje Vossmeier, Aude Picard, Casey Brant, Michael Hentscher, Svenja Rausch, Liping Shu*

*Moderation by Colin Devey*

Friday, September 4

09:00 – 10:30 **“Linkages between tectonics, magmatism, and hydrothermalism”**

*Colin Devey*

10:30 – 11:00 **Coffee break**

11:00 – 12:30 **Numerical models of mid-ocean ridges**

*Carlos Garrido*

12:30 – 13:30 **Lunch**

13:30 – 15:30 **Student talks**

*Arne Døssing, Michelle Harris, Sonja Theissen, Teddy Castelain, Elliot Hildner, Fabio Garzetti, Aurelia Colin, Isobel Yeo*

*Moderation by Wolfgang Bach*

15:30 – 16:00 **Coffee break**

16:00 – 17:00 **Open discussion – Future research directions**

*All participants*

*Moderation by Damon Teagle*

Saturday, September 5

**Field trip to a Devonian submarine volcanic province**

*Wolfgang Bach, Benoit Ildefonse, Jay Miller, Niels Jöns, Jürgen Koepke*

Sunday, September 6

**Free time to explore Bremen**

Monday, September 7

**Introduction to IODP**

09:00 – 10:00 **IODP and ECORD: Structure and objectives and an introduction to “the Virtual Ship”**

*Jochen Erbacher and Ulla Röhl*

10:00 – 10:30 **Coffee break**

10:30 – 12:00 **IODP Core Curation and tour of the Bremen Core Repository**

*Walter Hale*

12:00 – 13:00 **Lunch**

13:00 – 14:30 **Wire-line borehole logging**

*Sarah Davies*

14:30 – 15:00 **Coffee break**

15:00 – 16:15 **Core descriptions and shipboard sampling**

*Jay Miller, Benoit Ildefonse, Wolfgang Bach*

16:15 – 17:30 **Determining rock magnetic properties**

*Tony Morris*

Tuesday, September 8

**Virtual Ship**

## **Visual core description and sampling for shipboard analyses**

All day, coffee and lunch breaks as usual

(four groups of 7-8 students)

Group I: Core description "Igneous Petrology" (Jay Miller, *Andreas Klügel*)

Group II: Core description "Metamorphic Petrology" (*Niels Jöns, Wolfgang Bach*)

Group III: Core description "Structural Geology" (*Benoit Ildefonse*)

Group IV: Core measurements "Paleomag" (Tony Morris)

Wednesday, September 9

9:00 – 12:00 **Visual core description and sampling for shipboard analyses – continued**

12:00 – 13:00 **Lunch**

13:00 – 17:00 **Determining physical properties**

(four groups of 7-8 students)

Group I and II: Multi-sensor core logger

Group III and IV: Discrete samples (mini core)

*Jay Miller, Benoit Ildefonse, NN, NN*

Thursday, September 10

## **Thin section petrography**

All day, coffee and lunch breaks as usual

(three groups of 10 students)

Group I: Thin section description "Igneous Petrology" (Jay Miller, *Andreas Klügel*)

Group II: Thin section description "Metamorphic Petrology" (*Niels Jöns, Wolfgang Bach*)

Group III: Thin section description "Structural Geology" (*Benoit Ildefonse*)

18:00 **Barbeque party**

Friday, September 11

9:00 – 10:30 **How to write an IODP proposal**

10:30 – 11:00 **Coffee break**

11:00 – 12:00 **Summary and syntheses**

Participants report their findings

Scientific implications are discussed

Outlines for Site chapters are sketched up

*Jay Miller, Benoit Ildefonse, Wolfgang Bach*

12:00 – 13:00 **Lunch**

13:00 – 15:00 **Summary and syntheses, continued**

15:00 – 15:15 **Concluding remarks and farewell**