

**ECORD Summer School 2015 - "Ocean Crust Processes: Magma, Faults, Fluxes, and Life"**

1 Week (Aug 31 - Sep 5)

|    | Monday                                                                                                                                                    | Tuesday                                                                                 | Wednesday                                                                                                                                                  | Thursday                                                                                                                                                   | Friday                                                                                                                                                     | Saturday                                                             |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
|    | Aug 31                                                                                                                                                    | Sep 01                                                                                  | Sep 02                                                                                                                                                     | Sep 03                                                                                                                                                     | Sep 04                                                                                                                                                     | Sep 05                                                               |
| 9  | Welcome <i>Hebbeln</i>                                                                                                                                    | Rev. of prev. day's contents                                                            | Rev. of prev. day's contents                                                                                                                               | Rev. of prev. day's contents                                                                                                                               | Rev. of prev. day's contents                                                                                                                               | Day off<br><br>Outreach activity for ABYSS trainees<br>9-13 at MARUM |
|    | Introduction:<br><br>Formation and alteration<br>of the ocean crust<br>from a scientific drilling perspective<br><br><i>Bach/Teagle</i>                   | Lower crustal accretion<br><br>Concepts and challenges<br><br><i>Koepke, Tribuzio</i>   | Mantle melting and melt segregation<br><br><br><i>Garrido, Godard</i>                                                                                      | From rock geochemistry<br><br>to processes<br><br><i>Godard, Garrido</i>                                                                                   | Crustal hydrology<br><br><br><i>Villinger</i>                                                                                                              |                                                                      |
| 10 |                                                                                                                                                           |                                                                                         |                                                                                                                                                            |                                                                                                                                                            | Group photo                                                                                                                                                |                                                                      |
|    |                                                                                                                                                           |                                                                                         |                                                                                                                                                            |                                                                                                                                                            | coffee                                                                                                                                                     |                                                                      |
| 11 | coffee                                                                                                                                                    | coffee                                                                                  | coffee                                                                                                                                                     | coffee                                                                                                                                                     |                                                                                                                                                            |                                                                      |
|    | Life as IODP shipboard scientist<br>petrology, structural<br>geology, physical properties<br><br><i>Ildefonse</i>                                         | Crustal accretion<br><br>Seismology and Tectonics<br><br><i>Sch lindwein, Schroeder</i> | Mantle rocks and<br>hydrothermal processes<br><br><br><i>Früh-Green, Klein</i>                                                                             | From geochemistry to fluxes<br><br><br>Practical<br><i>Teagle</i>                                                                                          | Form heat flow to fluid circulation<br><br><br>Practical<br><i>Villinger</i>                                                                               |                                                                      |
| 12 |                                                                                                                                                           |                                                                                         |                                                                                                                                                            |                                                                                                                                                            |                                                                                                                                                            |                                                                      |
|    |                                                                                                                                                           |                                                                                         |                                                                                                                                                            |                                                                                                                                                            |                                                                                                                                                            |                                                                      |
| 13 | LUNCH                                                                                                                                                     | LUNCH                                                                                   | LUNCH                                                                                                                                                      | LUNCH                                                                                                                                                      | LUNCH                                                                                                                                                      |                                                                      |
|    |                                                                                                                                                           |                                                                                         |                                                                                                                                                            |                                                                                                                                                            |                                                                                                                                                            |                                                                      |
| 14 | IODP & ECORD: Structure,<br>objectives and Intro<br>to "Virtual Ship"<br><br><i>Stein, Röhl</i><br><i>Früh-Green</i><br>IODP core curation<br><i>Hale</i> | presentations<br>by<br>participants                                                     | presentations<br>by<br>participants                                                                                                                        | presentations<br>by<br>participants                                                                                                                        | presentations<br>by<br>participants                                                                                                                        |                                                                      |
| 15 |                                                                                                                                                           | Tea break                                                                               |                                                                                                                                                            | Tea break                                                                                                                                                  | Tea break                                                                                                                                                  |                                                                      |
|    |                                                                                                                                                           | Intro - Virtual Ship Lab#1                                                              | Virtual Ship<br>Lab turn #1<br><br>in three rotating groups<br><br>Core description (Schroeder)<br>Physical properties (Ildefonse)<br>Thin sections (Bach) | Virtual Ship<br>Lab turn #2<br><br>in three rotating groups<br><br>Core description (Schroeder)<br>Physical properties (Ildefonse)<br>Thin sections (Bach) | Virtual Ship<br>Lab turn #3<br><br>in three rotating groups<br><br>Core description (Schroeder)<br>Physical properties (Ildefonse)<br>Thin sections (Bach) |                                                                      |
| 16 | Tea break                                                                                                                                                 | Core description<br>Schroeder                                                           |                                                                                                                                                            |                                                                                                                                                            |                                                                                                                                                            |                                                                      |
|    | Guided tour trough<br>MARUM & IODP Bremen<br><br>Core Repository<br><i>Hebbeln &amp; Hale</i>                                                             | Intro - Virtual Ship Lab#2<br>Phys prop<br><i>Ildefonse</i>                             |                                                                                                                                                            |                                                                                                                                                            |                                                                                                                                                            |                                                                      |
| 17 |                                                                                                                                                           | Intro - Virtual Ship Lab#3<br>Thin sections<br><i>Bach</i>                              |                                                                                                                                                            |                                                                                                                                                            |                                                                                                                                                            |                                                                      |
|    | ICEBREAKER                                                                                                                                                |                                                                                         |                                                                                                                                                            |                                                                                                                                                            |                                                                                                                                                            |                                                                      |
| 18 |                                                                                                                                                           |                                                                                         |                                                                                                                                                            |                                                                                                                                                            |                                                                                                                                                            |                                                                      |

**ECORD Summer School 2015 - "Ocean Crust Processes: Magma, Faults, Fluxes, and Life"**

2 Week (Sept 6 - 11)

|    | Sunday                                                                                                                                                                                                            | Monday                                                                          | Tuesday                                                                                     | Wednesday                                                                                      | Thursday                                                                                      | Friday                                                                                                        |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
|    | Sep 06                                                                                                                                                                                                            | Sep 07                                                                          | Sep 08                                                                                      | Sep 09                                                                                         | Sep 10                                                                                        | Sep 11                                                                                                        |
| 9  | <b>Joint Visit of the Museum of Natural History in Münster</b><br>rough plan:<br>Departure 10 am<br>Guided tour 12-13<br>Lunch 13-14<br>Free time to explore museum 14-16<br>Departure 16<br>Arrival in Bremen 18 | Rev. of prev. day's contents                                                    | Rev. of prev. day's contents                                                                | Rev. of prev. day's contents                                                                   | Rev. of prev. day's contents                                                                  | Rev. of prev. day's contents                                                                                  |
| 10 |                                                                                                                                                                                                                   | <b>Wireline borehole logging</b><br><br>Introduction<br><br><i>Davies, Fehr</i> | <b>Structural geology and magnetics</b><br><br>Introduction<br><br><i>Morris, Ildefonse</i> | <b>Hydrothermal systems</b><br><br>Introduction<br><br><i>Jamieson, Petersen</i>               | <b>Life detection</b><br><br>Introduction<br><br><i>Menez, Ivarsson</i>                       | <b>IODP proposal writing</b><br><br><br><i>Röhl, Stein, Bach</i>                                              |
| 11 |                                                                                                                                                                                                                   | coffee                                                                          | coffee                                                                                      | coffee                                                                                         | coffee                                                                                        | coffee                                                                                                        |
| 12 |                                                                                                                                                                                                                   | <b>Wireline borehole logging</b><br><br>Practical<br><br><i>Davies, Fehr</i>    | <b>Structural geology and magnetics</b><br><br>Practical<br><br><i>Morris, Ildefonse</i>    | <b>The anatomy of a hydrothermal deposit</b><br><br>Practical<br><br><i>Petersen, Jamieson</i> | <b>Modelling hydrothermal reactions and bioenergetics</b><br><br>Practical<br><br><i>Bach</i> | <b>IODP proposal writing</b><br><br><i>Röhl, Stein, Bach</i><br><b>Wrap up &amp; Award</b><br><b>Farewell</b> |
| 13 |                                                                                                                                                                                                                   | LUNCH                                                                           | LUNCH                                                                                       | LUNCH                                                                                          | LUNCH                                                                                         |                                                                                                               |
| 14 |                                                                                                                                                                                                                   | presentations<br>by<br>participants                                             | presentations<br>by<br>participants                                                         | presentations<br>by<br>participants                                                            | presentations<br>by<br>participants                                                           |                                                                                                               |
| 15 |                                                                                                                                                                                                                   | Tea break                                                                       | Tea break                                                                                   | Tea break                                                                                      | Tea break                                                                                     |                                                                                                               |
| 16 |                                                                                                                                                                                                                   | <b>Site survey work</b><br><b>Virtual Ship</b><br><i>Devey</i>                  | <b>Virtual Ship</b><br>Lab turn #4<br>in three rotating groups                              | <b>Virtual Ship</b><br>Lab turn #5<br>in three rotating groups                                 | <b>Virtual Ship</b><br>Lab turn #6<br>in three rotating groups                                |                                                                                                               |
| 17 |                                                                                                                                                                                                                   | <b>Deep submergence</b><br><br><br><i>Ratmeyer, Freudental</i>                  | Structures (Ildefonse)<br>Magnetism (Morris)<br>Thin sections (Koepeke)                     | Structures (Ildefonse)<br>Magnetism (Morris)<br>Thin sections (Koepeke)                        | Structures (Ildefonse)<br>Magnetism (Morris)<br>Thin sections (Koepeke)                       |                                                                                                               |
| 18 |                                                                                                                                                                                                                   |                                                                                 |                                                                                             |                                                                                                | BARBEQUE                                                                                      |                                                                                                               |