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Postdoc of the HGF-MPG Group for Deep Sea Ecology and Technology,
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Education

2013-current

Postdoc at the HGF-MPG Group for Deep Sea Ecology and Technology, and the Marine Geochemistry group, working on the molecular characterization of dissolved organic matter via ultrahigh resolution mass spectrometry in the framework of the project ABYSS - Assessment of bacterial life and matter cycling in deep-sea surface sediments (ERC grant 294757 to Prof. Dr. Antje Boetius).

2009-2013

Postdoc at the Marine Geochemistry Group at the University of Oldenburg.

2009

PhD student in Geosciences. University of Bremen, Germany.

Thesis project: *Microbial communities performing anaerobic oxidation of methane: diversity of lipid signatures and habitats.*

2005

M. Sc. Program in Oceanography. University of Concepción, Chile.

Thesis project: *Last Glacial Maximum to Holocene changes in export production and sea surface temperature from the continental margin of Concepción, Chile.*

2002

Marine Biology (oceanography and environmental quality). University of Concepción, Chile.

Thesis: *Microbial degradation of organic matter in the water column: The effect of oxygen.*

Project leader in:

1) *The Chilean Patagonia: A natural laboratory for studying the role of dissolved organic matter in sub-polar ecosystems in a changing climate.* Project funded by Deutsche Forschungsgesellschaft (DFG) for bilateral research cooperation between Germany and Chile.

2) *The leakage of organic matter into the oceanic water column.* Project funded by Schlumberger oil service, USA. Finished in 2013.

Other projects:

1) *Assessing the impact of solar radiation on microbial communities in a stratified Patagonian fjord: Reviewing the role of photoinhibition in the carbon cycle*. Project funded to Dr. Claudia Hernández Rondón by National Commission for Science and Technological Research (CONICYT), Chile.

2) *Once upon a time*. Project funded by the Bundesministerium für Bildung und Forschung (BMBF) and Wissenschaft im dialog (VID), Germany. A project to communicate science to adults in contact with children in different languages.

Professional Experience

2005-2008. Participation as PhD student in the research project MUMM “Methane in the Geo/bio-System – Turnover, Metabolism and Microbes”. Duties: extraction and analysis of lipids from anaerobic methane-oxidizer communities by HPLC-MS and GC-MS.

2004. Training for 8 months at Woods Hole Oceanographic Institution, Laboratory of Dr. Daniel Repeta. Duties: analysis of degradation products of chlorophyll in sediments samples.

2003. Training for 3 months at Woods Hole Oceanographic Institution, Laboratory of Dr. Maureen Conte in the framework of the Time Series of the Ocean Carbon Flux (OFP). Duties: preparation of sampling procedure, lipids analysis and cruise participation.

2000 – 2003. Participation as undergraduate student in the research project “Decomposition of organic matter in the water column: The role of bacteria and zooplankton in modifying chemical structure and fluxes in the oxygen minimum zone (OMZ) off Chile”. FONDECYT 1000366. Duties: preparation and participation of oceanographic cruises, amino acid analyses by HPLC, bacterial abundance and nutrients analyses, and general laboratory assistance.

2000 – 2002. Participation as undergraduate student in the project “The use of dissolved ATP as an energy source for the pelagic bacterial community of highly productive ecosystem”. FONDECYT 1000373. Duties: preparation of laboratory incubation experiments using leucine and glucose for measurements of bacterial incorporation and respiration experiments.

Educational Experience

2007 and 2004. Teaching Assistant for the Austral Summer Institute (ASI-7 and ASI-4). Department of Oceanography, University of Concepción, Chile

2002. Teaching Assistant for the following courses to undergraduate students (Marine Biology). Department of Oceanography, University of Concepción, Chile.

- * Environmental Toxicology (2002)
- * Pelagic Systems (2002)
- * International Courses Series in Oceanography (2002)
- * Marine Pollution (2001)
- * Evaluation of Environmental Impact (2001)

Experience in Analytical Techniques

- * FT-ICR-MS (Fourier transform-ion cyclotron resonance-mass spectrometry)
- * HPLC and HPLC-MS (High-performance liquid chromatography alone and with mass

spectrometry)

* GC and GC-MS (Gas-chromatography alone and with mass spectrometry)

Awards and Honors

2016. *Once upon a time.* Project funded by the Bundesministerium für Bildung und Forschung (BMBF) and Wissenschaft im dialog (VID), Germany.

2010. *The Chilean Patagonia: A natural laboratory for studying the role of dissolved organic matter in sub-polar ecosystems in a changing climate.* Project funded by Deutsche Forschungsgesellschaft (DFG) for bilateral research cooperation between Germany and Chile.

2004. Carl Storm Fellowship to attend the Gordon Research Conference on Organic Geochemistry (August 8-13, 2004), Plymouth, USA.

2003. Fundación Andes/University of Concepción/Woods Hole Oceanographic Institution student fellowship. Student research visit to Woods Hole Oceanographic Institution (Dr. D. Repeta).

2003. POGO Fellowship (Partnership for Observational of the Global Oceans) Training at Woods Hole Oceanographic Institution (Dr. M. Conte)

2002-2003. Graduate School Scholarship. University of Concepción, Chile.

Participation in Scientific Cruises

2007. M74/3 on board of R/V Meteor (Fujairah to Maldives, Indian Ocean) in the framework of the “Methane seeps and sediment transport on the Makran accretionary prism and biogeochemical investigations of the oxygen minimum zone”. October 31- November 27.

2004. R/V Brown (Valparaiso to Punta Arenas, South Pacific) in the framework of the “Paleoceanographic changes associated with intensity of El Niño events in the eastern south pacific recorded in sedimentary organic matter in the continental shelf off Chile” Fondecyt 1040503. December 29- January 6.

2003. R/V WeatherBird (off Bermuda, North Atlantic) in the framework of the Time Series of the Ocean Carbon Flux (OFF). September 15-21.

2002. COOK 24 on board of R/V Melville (off Hawaii, North Pacific). June 9-17.

2001. FLUMO on board of R/V “Abate Molina” (off Antofagasta, South Pacific). April 15-30.

Poster and Presentations

Rossel, P.E., Stubbins, A., Rebling, T., Koschinsky, A., Hawkes, J.A., Dittmar, T. Dissolved organic matter cycling in hydrothermal systems: the effect of temperature and pH. American Society of Limnology and Oceanography, Aquatic Science Meeting, Granada, Spain, February 2015. (talk).

Rossel, P., E, Bienhold, C., Boetius, A., Dittmar, T. Dissolved organic matter in pore water of Arctic Ocean sediments: influence of the environment on the molecular composition. Gordon Research Conference in Organic Geochemistry, Plymouth, USA, August 2014.

Rossel, P., E, Mullins, O.C., Goual, L., Dubilier, N., Klevenz, V., Koschinsky, A., Dittmar, T. The release of dissolved organic matter to the deep ocean from fossil sources. Gordon Research Conference in Organic Geochemistry, Plymouth, USA, August 2010 (invited talk).

- Rossel, P. E., Vähätalo, A.V., Witt, M., Dittmar, T.** Molecular composition of terrigenous dissolved organic matter after long-term degradation (2.4 years). Goldschmidt Conference, Knoxville, USA, June 2010 (talk).
- Rossel, P. E., Elvert, M., Ramette, A., Boetius, A., Hinrichs, K-U.** Factors controlling the distribution of anaerobic methanotrophic communities in marine environments: evidence from intact polar membrane lipids. International Meeting on Organic Geochemistry Conference, Bremen, Germany, September 2009 (poster).
- Rossel, P. E., Elvert, M., Ramette, A., Boetius, A., Hinrichs, K-U.** Intact polar membrane lipids associated with microbial communities performing AOM from globally distributed hydrocarbon seeps. Gordon Research Conference in Organic Geochemistry, Plymouth, USA, August 2008 (poster).
- Rossel, P. E., Elvert, M., Lipp, J., Heuer, V., Boetius, A., Hinrichs, K.-U., Arnds, J.** Diversity of polar lipids from anaerobic methanotrophic communities and their stability in marine sediments. International Conference and 97th Annual Meeting of the Geologische Vereinigung e.V., Bremen, Germany, October 2007 (poster).
- Rossel, P. E., Elvert, M., Holler, T., Treude, T., Boetius, A., Hinrichs, K.-U.** Polar and apolar lipids of anaerobic methanotrophic communities from marine seep environments and their relation to environmental conditions. International Meeting on Organic Geochemistry Conference, Torquay, UK, September 2007 (poster).
- Rossel, P. E., Elvert, M., Holler, T., Treude, T., Boetius, A., Hinrichs, K-U.** Diversity of polar lipids in anaerobic methanotrophic communities. Gordon Research Conference in Organic Geochemistry, Plymouth, USA, August 2006 (poster).
- Rossel, P. E., Pantoja, S., Repeta, D., Lange, C., Castro, R., Nuñez, L., Hebbeln, D.** Last Glacial Maximum to Holocene changes in export production and Sea Surface Temperature from the continental margin off Concepcion, Chile. Gordon Research Conference in Organic Geochemistry, Plymouth, USA, August 2004 (poster).

References

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 Environment (ICBM).
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