

The integration of microbial diversity research with state of the art functional genomics techniques enables us to assess the complexity of microbial-dominated metabolic circles in a new dimension. The comprehensive analysis of the genomic diversity and activity of marine microorganisms is a key to a better understanding of unexplored microbial interactions in marine ecosystems. Advanced molecular biological methods to determine the theoretical genomic potential and the identification of metatranscriptomes and metaproteomes of marine microbial assemblages as expressed in situ allow for a detailed elucidation of specific microbial activities.

The discussion of these techniques and their potential for the elucidation of bacteria-mediated ecosystem functions will be a focus of this conference.

The cultivation-independent determination of the composition and function of marine microbial communities will broaden our understanding of ecophysiological activities and adaptations of microorganisms in marine habitats. Beyond that, this knowledge has also an enormous biotechnological potential. On the basis of detailed functional genome analyses of cultivable model bacteria, new environmentally relevant metabolic pathways and adaptation strategies can be explored, which might be of biotechnological interest. The conference will present recent results of these new research fields and discuss the potential of molecular methods for the discovery of new natural compounds from marine microorganisms.

Scientific Chairs:

Professor Dr. Rudi Amann (Bremen)
Professor Dr. Michael Hecker (Greifswald)
Professor Dr. Ulrike Lindequist (Greifswald)
Professor Dr. Jörn Piel (Bonn)
Professor Dr. Thomas Schweder (Greifswald)

Conference Venue:

Alfried Krupp Wissenschaftskolleg Greifswald
Martin-Luther-Straße 14
D - 17489 Greifswald

Conference Office:

Alfried Krupp Wissenschaftskolleg Greifswald
Tagungsbüro
D-17487 Greifswald
Telefon: +49 (0) 3834 / 86-19029
Telefax: +49 (0) 3834 / 86-19005
E-Mail: tagungsbuero@wiko-greifswald.de

Registration:

Please register for the conference at the following URL:

<http://marine-biotechnologie.de/mimas2011/>

Alfried Krupp Wissenschaftskolleg Greifswald

Das Alfried Krupp Wissenschaftskolleg Greifswald ist eine wissenschaftlich unabhängige Einrichtung in der Trägerschaft der Stiftung Alfried Krupp Kolleg Greifswald.

Die Initiative zur Errichtung des Alfried Krupp Wissenschaftskollegs Greifswald ging vom Vorsitzenden des Kuratoriums der Alfried Krupp von Bohlen und Halbach-Stiftung, Professor Dr. h. c. mult. Berthold Beitz, aus. Professor Beitz verband mit dieser Initiative die Idee, dass ein Wissenschaftskolleg in der Universitäts- und Hansestadt Greifswald dazu beitragen könne, die Region Greifswald wieder zu demjenigen „liberalen, weltoffenen Zentrum für Begegnungen im Ostseeraum“ werden zu lassen, das sie jahrhundertlang war. Diesem Ziel ist das Alfried Krupp Wissenschaftskolleg Greifswald verpflichtet. Das wissenschaftliche Programm des Alfried Krupp Wissenschaftskollegs wird durch Fördermittel ermöglicht, die von der Alfried Krupp von Bohlen und Halbach-Stiftung zur Verfügung gestellt werden.

Alfried Krupp Wissenschaftskolleg Greifswald

The Alfried Krupp Wissenschaftskolleg is an academically independent institution sponsored by the Stiftung Alfried Krupp Kolleg Greifswald.

The initiative to establish the Alfried Krupp Wissenschaftskolleg came from the Chairman of the Board of Trustees of the Alfried Krupp von Bohlen und Halbach-Stiftung, Professor Dr. h. c. mult. Berthold Beitz. Professor Beitz associated this initiative with the idea that an institute for advanced study in the Hanseatic and university city of Greifswald could assist Greifswald to become once again the „liberal, cosmopolitan centre for encounters in the Baltic Sea region“ that it used to be for centuries. The Alfried Krupp Wissenschaftskolleg is committed to this goal. The academic programme of the Alfried Krupp Wissenschaftskolleg is made possible by financial support provided by the Alfried Krupp von Bohlen und Halbach-Stiftung.



Alfried Krupp Wissenschaftskolleg
Greifswald



IMaB Institut für
Marine Biotechnologie e.V.

ERNST MORITZ ARNDT
UNIVERSITÄT GREIFSWALD



Wissen
lockt.
Seit 1456

MIMAS Symposium

MICROBIAL INTERACTIONS
IN MARINE SYSTEMS

July 06-08, 2011

Wednesday, July 6, 2011

13:00 – 13:10

Welcome address

Bärbel Friedrich (Academic Director of the Alfried Krupp
Wissenschaftskolleg Greifswald)
Conference chairs' address

13:10 – 13:30

Environmental genomics – the past and the future

Rudolf Amann (Bremen) & Thomas Schweder (Greifswald)

Environmental genomics I

Chair: Rudolf Amann (Bremen)

13:30 – 14:00

Ecology and Evolution of Bacterial Populations in the Ocean

Martin Polz (Cambridge)

14:00 – 14:30

Role of light in microbial control of depleted phosphate in the North Atlantic Ocean

Mikhail Zubkov (Southampton)

14:30 – 15:00

Coffee break

Environmental genomics II

Chair: Frank Oliver Glöckner (Bremen)

15:00 – 15:30

Marine Genomics: From Sequences to Standards

Frank Oliver Glöckner (Bremen)

15:30 – 16:00

Genome and metagenome analysis of members of the Roseobacter clade and marine communities

Rolf Daniel (Göttingen)

16:00 – 16:30

Genome-Enabled Explorations of Evolutionary Ecophysiology in Marine Diatoms

Chris Bowler (Paris)

16:30 – 17:00

Coffee break

Applied marine genomics/Natural products

Chair: Ute Hentschel Humeida (Würzburg)

17:00 – 17:30

Exploring natural product pathways in invertebrate metagenomes

Jörn Piel (Bonn)

17:30 – 18:00

The ascidian metagenome

Eric W. Schmidt (Salt Lake City)

18:00 – 18:30

Novel Microbe-Derived Natural Products: Structural Chemistry and Biosynthesis

Gabriele König (Bonn)

18:30 – 19:00

Mar y monte – Actinomycete drugs and their molecular targets

Roderich Süßmuth (Berlin)

19:00 – 22:00

Poster session / *Cheese & Wine Buffet*

Thursday, July 7, 2011

MIMAS

Chair: Rudolf Amann (Bremen)

09:00 – 09:20

North Sea, German Bight: A Review of 45 Years of Change

Lars Gutow (Helgoland)

09:20 – 09:40

Diversity studies and ecosystem monitoring at the model habitat "Kabeltonne Helgoland"

Bernhard Fuchs (Bremen)

09:40 – 10:00

Bridging the gap between biodiversity and function in NGS-based broad scale marine metagenomics exemplified by the MIMAS project.

Hanno Teeling (Bremen)

10:00 – 10:20

Metatranscriptomics at Helgoland Roads with Next Generation Sequencing techniques

Christine Klockow (Bremen)

10:20 – 10:40

Mass spectrometry based proteomics from different points of view

Dörte Becher (Greifswald)

10:40 – 11:00

Metaproteomics of a bacterioplankton community after an algal bloom

Antje Gardebrecht (Greifswald)

11:00 – 11:30

Coffee break

11:30 – 11:50

Genomic and physiological characterization of a marine epsilonproteobacterium responsible for sulfide detoxification

Klaus Jürgens (Warnemünde)

11:50 – 12:10

Mutual interconnectedness of chemosynthetic and heterotrophic bacteria and archaea in pelagic marine oxygen depletion zones

Christian Bruckner (Warnemünde)

Symbioses I

Chair: Stefan Sievert (Woods Hole)

12:10 – 12:40

Cell cycle dynamics in fast growing hydrothermal vent and slow growing cold seep vestimentiferan tubeworms

Monika Bright (Vienna)

12:40 – 13:00

Physiological proteomics of thioautotrophic tubeworm symbionts

Stephanie Markert (Greifswald)

13:00 – 13:20

Metaproteomics and metabolomics of a gutless marine worm and its symbiotic microbial community: Discovery of novel pathways for carbon and energy use

Manuel Kleiner (Bremen/Greifswald)

13:20 – 14:30

Lunch

13:45 – 14:05

Lunch seminar

Next Generation Sequencing

LGC Genomics (Berlin)

Parallel session A (Main hall)

Genomics of model organisms

Chair: Michael Wagner (Vienna)

14:30 – 15:00

Metagenomics of viral photosynthesis

Oded Béjà (Haifa)

15:00 – 15:30

Linking ecophysiology and functional genomics in bacterial consortia – a step towards understanding complex microbial communities

Jörg Overmann (Braunschweig)

15:30 – 16:00

Making magnets by microbes: New insights into magnetosome formation in magnetotactic bacteria

Dirk Schüler (München)

16:00 – 16:30

Proteomic view of anaerobic aromatic compound catabolism in denitrifying „Aromatoleum aromaticum“ EbN1

Ralf Rabus (Oldenburg)

Parallel session B (Library)

Metabolomics and natural products

Chair: Ulrike Lindequist (Greifswald)

14:30 – 15:00

Approaches to Investigate the Metabolome of Microbial Communities

Michael Lalk (Greifswald)

15:00 – 15:30

Biotechnology of myxobacteria to produce bioactive natural products

Silke C. Wenzel (Saarbrücken)

15:30 – 16:00

Marine Natural Products – An innovative source of new products

Andrew Mearns Spragg (Edinburgh)

16:00 – 16:30

"Geo-metabolomics" – a key for understanding function and reactivity of dissolved organic matter

Jutta Niggemann (Oldenburg)

16:30 – 17:00

Coffee break

Future Ocean

Chair: Ruth Schmitz-Streit (Kiel)

17:00 – 17:30

Future Ocean – Interdisciplinary marine research in Kiel

Martin Visbeck, (Kiel)

17:30 – 18:00

Metaorganisms as the new frontier

Thomas Bosch (Kiel)

18:00 – 18:30

Diversity distribution and activity of organisms involved in N-cycle in the oxygen minimum zone off Peru

Ruth Schmitz-Streit (Kiel)

20:00

Conference dinner at the Landesmuseum

Friday, July 08, 2011

Symbioses II

Chair: Horst Felbeck (San Diego)

09:00 – 09:30

Who eats what in sponges: Pyrosequencing and NanoSIMS analyses of microbial sponge symbionts

Michael Wagner (Vienna)

09:30 – 10:00

Insights into the lifestyle of a marine sponge symbiont by single cell genomics

Ute Hentschel Humeida (Würzburg)

10:00 – 10:30

Xylotrophy (wood-eating) in shipworms: insight from genomics and proteomics

Dan Distel (Ipswich)

10:30 – 11:00

Coffee break

Metaproteomics

Chair: Thomas Schweder (Greifswald)

11:00 – 11:30

Integration of Metagenomics/Metaproteomics for the Molecular Characterization of Microbial Consortia and Communities

Robert Hettich (Oak Ridge)

11:30 – 12:00

Marine Microbial Plasticity: A Tale of Two Basins

Robert Morris (Seattle)

12:00 – 12:30

Metaproteogenomic enabled insights into chemolithoautotrophy at deep-sea hydrothermal vents

Stefan Sievert (Woods Hole)

12:30 – 13:30

Closing remarks and Farewell Lunch