



BEILSTEIN SYMPOSIUM

Natural Products

28 – 30 September 2015

Prien, Germany

SECOND CIRCULAR

INTRODUCTION

Natural products provide a variety of challenges to the chemist. The most difficult task is the total synthesis, in particular the enantioselective synthesis, which is also an important part of the structure elucidation and provides sufficient material for extensive drug testing. Chemists also receive insights into the biosynthesis by involving genetic and molecular biological methods. This offers fruitful interaction opportunities for scientists in related disciplines in the field of chemical biology. Genetic engineering allows the fermentative preparation of novel derivatives of natural products as well as the heterologous expression of an efficient production. Especially the structural biology provides important insights into enzyme mechanisms, so that targeted mutations for obtaining derivatives can be performed now. Other topics are the often overlooked volatile natural products and chemical ecology, which deals with the function of natural products in their ecological context.

The symposium is organized by the Beilstein-Institut and has been inspired by the Thematic Series "Natural products in synthesis and biosynthesis" published in the Open Access Beilstein Journal of Organic Chemistry and edited by Jeroen S. Dickschat.

SCIENTIFIC ORGANIZER

Jeroen S. Dickschat / University of Bonn, Germany

TOPICS

Total Synthesis

Biosynthesis of Microbial Natural Products

Volatile Natural Products

Enzymology and Structural Biology

Chemical Ecology

Analysis and Structure Elucidation

New Active Substances

DATES

- **Scientific program** 28 to 30 September
- **Travelling days** 27 September and 1 October
- **Welcome reception** 27 September at 6 pm
- **Welcome dinner** 27 September at 7 pm

SYMPOSIUM HOTEL

The conference, lunches and dinners will take place at:

<p>Yachthotel Chiemsee Harasser Straße 49 83209 Prien am Chiemsee Germany</p>	<p>T +49 8051-6960 F +49 8051-5171 info@yachthotel.de www.yachthotel.de</p>
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ORGANIZATION AND CONTACT

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The symposium hotel on the western shore of the lake Chiemsee

SCIENTIFIC PROGRAM**Monday, 28 September**

Time	Talk
9:00	Welcome and Introduction Martin G. Hicks and Jeroen S. Dickschat
	Chemical Ecology
9:30	Entomopathogenic Bacteria and their Hosts – Understanding the “Natural” Function of Natural Products Helge Bode
10:10	Natural Product Pathways from Sponge Symbionts Jörn Piel
10:50	Coffee Break
11:10	Chemical Communication and Defense in Arthropods and Amphibia – Parallels and Differences Stefan Schulz
11:50	Metabolites from Marine-derived Fungi: Structural Diversity, Biosynthesis and Bioactivity Gabriele König
12:30	Lunch
	Biosynthesis of Polyketides and Peptides (I)
14:00	Innovative Antibiotics from Microorganisms: Two Case Studies Rolf Müller
14:40	Characterisation of Key Enzymes from the Biosynthetic Pathways of Unusual Polyketides for Chemoenzymatic Synthesis Frank Hahn
15:20	Coffee Break
15:40	Evolution of Natural Products for Cancer Chemotherapy Jürgen Rohr
16:20	Diverse Solutions to β-Lactam Synthesis in Nature Craig Townsend
17:00	End
19:00	Dinner

Tuesday, 29 September

Time	Talk
	Synthesis
9:00	The Chemistry and Biology of Englerin A Mathias Christmann
9:40	Formal Total Synthesis of Solanoclepin A Henk Hiemstra
10:20	Coffee Break
10:40	Natural Products as a Rich Source of Bioactive Compounds and Inspiration for Chemical Transformations Thomas Magauer
11:20	Covergent Synthesis of Monoterpenoid Indole Alkaloids and Ent-kaurane Diterpenoids Dawei Ma
12:00	Total Synthesis and Functional Exploration of Bioactive Natural Macrocycles Karl-Heinz Altmann
12:40	Lunch
14:00	Excursion
19:30	Dinner

Wednesday, 30 September

Time	Talk
	Biosynthesis of Terpenoids
9:00	Catalytic Mechanisms of the [Fe₄S₄] Enzymes IspG and IspH in the Non-mevalonate Isoprenoid Pathway Michael Groll
9:40	Metal Matters! Co and Mg Ions Control Chain Length of Prenyl Diphosphates in Insects Wilhelm Boland
10:20	Coffee Break
10:40	Biosynthesis of Fungal Meroterpenoids Ikuro Abe
11:20	Terpenes from Microorganisms Jeroen Dickschat
12:00	Lunch
	Biosynthesis of Polyketides and Peptides (II)
13:30	Crafting Complex Molecules Utilizing Enzymatic Pathways in Vivo and in Vitro Tobias A. M. Gulder
14:10	A Genomics-led Approach to Deciphering the Enzymology of Polyketide Antibiotic Biosynthesis Peter Leadlay
14:50	Coffee Break
15:10	Peptide Antibiotics in Bacterial Host Pathogen Interactions Roderich Süßmuth
15:50	Polyketide Biosynthesis in Neglected Bacteria Christian Hertweck
16:30	End
19:00	Dinner

EXCURSION

The excursion on Tuesday starts with a boat trip to the Herreninsel at 2.00 pm. There we will walk to the New Castle of Herrenchiemsee and have a guided tour at 3.40 pm.

All participants are invited to join us for this beautiful tour. The Price per person is 20.- € and includes the tickets for the boat trip and entry to the castle as well as the guided tour.

In 1873 King Ludwig II of Bavaria acquired the Herreninsel as the location for his Royal Palace of Herrenchiemsee (New Palace). Modelled on Versailles, this palace was built as a "Temple of Fame" for King Louis XIV of France, whom the Bavarian monarch fervently admired.

The actual building of this "Bavarian Versailles" was begun in 1878. When Ludwig II died in 1886 the palace was still incomplete, and sections of it were later demolished.



Foto: Anton J. Brandl, © Bayerische Schlösserverwaltung www.herrenchiemsee.de

The highlights of the large state rooms are the State Staircase, the State Bedroom and the Great Hall of Mirrors. The king's own rooms were in the intimate Small Apartment, designed in the French rococo style.

PARTICIPANTS

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