MChG
Münchener Chemische Gesellschaft e. V.

GDCh-Vortragsreihe

Münchener Chemische Gesellschaft

Sommersemester 2015

Dienstag, 09.06.2015

17:00 c.t., CH 26411

Prof. Dr. Tobias A. M. Gulder
TU München, Department Chemie, CIPSM,
Biosystems Chemistry

Thema:

Chemistry by and with Bacteria

Antrittsvorlesung
Inaugural Lecture

CIPSM

Im Anschluss an den Vortrag wird ein geselliges Beisammensein mit Snacks und Kaltgetränken stattfinden.

Prof. Dr. Aymelt Itzen
Department für Chemie
AG Proteinchemie

Lichtenbergstr. 4
85748 Garching
Germany

Tel +49.89.289.13343
Fax +49.89.289.13345
aymelt.itzen@tum.de

MChG
Münchener Chemische Gesellschaft e. V.

Chemistry by and with Bacteria

Prof. Dr. Tobias A. M. Gulder
Department Chemie, Technische Universität München (TUM), Garching, Germany.
E-mail: tobias.gulder@ch.tum.de

Bacterial natural products continue to serve as one of the main sources of innovative chemical structures with diverse biological functions. It is thus not surprising that such molecules have been crucial for the development of a large number of modern chemotherapeutics across most diverse medical applications. Many of these compounds are derived from large, multi-enzyme biosynthetic machineries, in particular polyketide synthases (PKS), non-ribosomal peptide synthetases (NRPS), as well as mixed PKS/NRPS systems. The flexibility of such biosynthetic systems to integrate and structurally alter most diverse small organic building blocks in order to shape complex secondary metabolites results in an almost inexhaustible diversity of natural product structures and functions.

Our group is particularly interested in the development and application of methods for the directed discovery of novel natural product structures with potential biomedical value and in elucidating unusual natural strategies yielding chemical complexity. By applying the underlying biosynthetic concepts in the laboratory, we furthermore aim to prepare and manipulate complex scaffolds chemo-enzymatically. In this talk, a selection of recent results showcasing the potential of our multidisciplinary approach towards natural product discovery and development by combining natural product chemistry and analytics, molecular biology and biochemistry will be presented.