

Warsaw Doctoral School in Natural and Biomedical Sciences and the Institute of Organic Chemistry PAS cordially invites you to **Advanced Lecture Series**:

“Reactive intermediates”

given by

Professor Dr. Holger F. Bettinger

University of Tübingen, Germany



Holger Bettinger was born in Nördlingen, Germany, in 1970. He studied chemistry at the Friedrich-Alexander Universität Erlangen-Nürnberg and graduated in 1998 with a Ph.D. under the supervision of Prof. Paul von Ragué Schleyer. After postdoctoral research at the University of Georgia (Athens, GA, USA), Ruhr-Universität Bochum (Germany) and Rice University (Houston, Texas, USA), he started his independent research group at Bochum in 2001 and achieved habilitation in organic chemistry in 2005. Since 2008 he is professor at the Eberhard Karls University Tübingen, where he currently acts as director of the Institute of Organic Chemistry. His research interests include reactive molecules of organic and organometallic nature as well as their use as building blocks in organic materials. He received a number of awards among them an ERC Synergy Grant, and is author of more than 190 papers.

Agenda

Reactive intermediates are central to the understanding of chemical reactions. Due to their short lifetime their detailed study is challenging. One method that allows convenient study of highly reactive species is cryogenic matrix isolation. Here, reactive molecules or their precursors are frozen out in a large excess of inert gas (mostly argon, but also neon, krypton or xenon can be employed). This precludes intermolecular reactions and provides an environment for the spectroscopic study of the entrapped molecules. Typically, infrared spectroscopy, UV/vis spectroscopy and electroparamagnetic spectroscopy are employed for the analysis. The method is also well suited for the study of weak intermolecular interactions, e.g., hydrogen bonding, dative interactions etc. I will present the method and some of its seminal applications in the student lectures before reporting our own work in this area and its interconnection to the development of novel materials for energy storage.

LECTURE SERIES: November 21, 2024 (Thursday) – conference room IOC PAS, Warsaw, Kasprzaka 44/52

15:00 – 16:30 Lecture 1: The study of reactive intermediates with the matrix isolation technique.

16:45 – 18:15 Lecture 2: Organic and organometallic diradicaloids studied by matrix isolation.

Registration at aleksandra.butkiewicz@icho.edu.pl

OPEN LECTURE:

“Boron-nitrogen heterocycles for energy storage”

Professor Dr. Holger F. Bettinger

University of Tübingen, Germany

November 22, 2024 (Friday) – 10 a.m.

aula IOC/ICP PAS, Warsaw, Kasprzaka 44/52

This event is supported by the Polish National Agency for Academic Exchange, grant no. BPI/STE/2021/1/00034/U/00001