

Warsaw Doctoral School in Natural and Biomedical Sciences and the Institute of Organic Chemistry PAS cordially invites you to **advanced lecture series**:

Photocatalysis workshop

given by

Prof. Burkhard König (Universität Regensburg)

Prof. Oliver Wenger (University of Basel)

PART 1 – Monday, Nov 14, 2022 - 2 p.m. – zoom platform

Lecture: "Chemical Photocatalysis in Organic Synthesis - Fundamentals, Opportunities and Limits",

Prof. Dr. Burkhard König, Institut fuer Organische Chemie, Universitaet Regensburg

Burkhard König received his Ph.D. in 1991 from the University of Hamburg. He continued his scientific education as a post-doctoral fellow with Prof. M. A. Bennett, Research School of Chemistry, Australian National University, Canberra, and Prof. B. M. Trost, Stanford University. Since 1999, he is a full professor of organic chemistry at the University of Regensburg. His current research interests are the development of synthetic methods in photoredox catalysis.

Agenda

Visible light is an ideal reagent for chemical reactions: Easy to generate, safe to use and non-toxic, it is selectively applied to specific chromophores and will leave no trace even if used in large excess. The rediscovery of sensitized photochemistry of the last two decades has led to many applications in synthesis. We will briefly review the basic concepts of sensitized photochemistry and photoredox catalysis and discuss some recent reactions that illustrate the power of the technology. Finally, we will look at the current limitations in photochemistry and potential approaches to overcome these in the future.

PART 2 – Thursday, Nov 17, 2022 - 3 p.m. – aula IOC/IPC PAS

Lecture: " Photocatalysis from a mechanistic perspective",

Prof. Dr. Oliver Wenger, Department of Chemistry, University of Basel

Oliver S. Wenger received a Ph. D. degree from the University of Berne (Switzerland) in 2002 after work with Hans U. Güdel. Following postdoctoral stays at Caltech (with Harry B. Gray, 2002-2004) and University of Strasbourg (with Jean-Pierre Sauvage, 2004-2006), he became assistant professor at University of Geneva in 2006. In 2009, he moved to the University of Göttingen (Germany) as associate professor. He returned to Switzerland in 2012 to the University of Basel, where he was promoted to full professor in 2018.

Agenda

The aim of this presentation is to illustrate how mechanistic insight into organic photoredox catalysis can be gained and how this information can advance the discovery of new photochemical reactivities. Several individual case studies will be considered for this purpose, including for example red light-based dual photocatalysis, or sensitization-initiated electron transfer. Several of these exemplary studies involve the use of two-fold photoexcitation, to combine the energy content carried by two individual photons, in order to accomplish chemical transformations that are thermodynamically challenging.

OPEN LECTURE – Friday, Nov 18, 2022 – 10 a.m. – aula IOC/ICP PAS

Lecture: "New photoactive transition metal complexes",

Prof. Dr. Oliver Wenger, Department of Chemistry, University of Basel

Registration at aleksandra.butkiewicz@icho.edu.pl

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