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Dr Li Dak-Sum Research Centre
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The University of Hong Kong

**Department of Pharmacology and Pharmacy
& Dr. Li Dak-Sum Research Centre**

Present

Seminar series – Drug Delivery and Translational Medicine

**New Approaches to Photoswitchable Reagents allowing Optically
Precise Imaging and Control over Biology**

by



Prof. Oliver Thorn-Seshold

W3 Professor of Organic Chemistry
Faculty of Chemistry and Food Chemistry
Technische Universität Dresden, Germany

Date: 18 October 2024 (Friday)

Time: 4:00 p.m. – 5:00 p.m.

Venue: Zoom Seminar

Zoom Link: <https://hku.zoom.us/j/93153218025>

Meeting ID: 931 5321 8025

Password: 523091

Abstract:

Photoswitchable drugs can be powerful tools to reversibly manipulate biology in cells and tissue culture. Recent advances in bioactivity photocontrol are now poised to energise this field. Work on biomimetic photoswitching modes is allowing more effective pharmacology for in vivo studies; and biocompatible singlet-manifold NIR photoswitching has almost reached 1000 nm. In parallel, the switches themselves are revealing previously hidden performance traits. Azobenzenes are widely used as fluorescence quenchers and photoswitches; but are not usually imaged as signal generators. Expressing two latent aspects of their photochemistry now accesses ultra-stable fluorophores for single-molecule microscopy, and high-powered photoacoustic agents for in vivo tomographic imaging.

Bio:

Professor Oliver Thorn-Seshold studied chemistry at the University of Sydney and University of Gothenburg, Sweden, then took his PhD in chemical biology in 2013 under Prof. Jens Hasserodt at the ENS Lyon, France, on imaging probes for hydrolases. He postdoc'd in photopharmacology with Prof. Dirk Trauner at the LMU Munich then started his independent career in chemical biology at the LMU in 2016, from 2018 as a DFG Emmy Noether group leader. In 2024 he started as W3 Professor of Organic Chemistry at the TU Dresden, focusing on the function-oriented design of organic chemical reagents and photochemical imaging agents to study cell biology.

Moderator: Prof. Weiping Wang, Associate Professor, Department of Pharmacology and Pharmacy & Dr. Li Dak-Sum Research Centre, The University of Hong Kong
For enquiries, please contact Ms. Esther Ng at +852 3917-9123 or esther09@hku.hk

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website QR code

