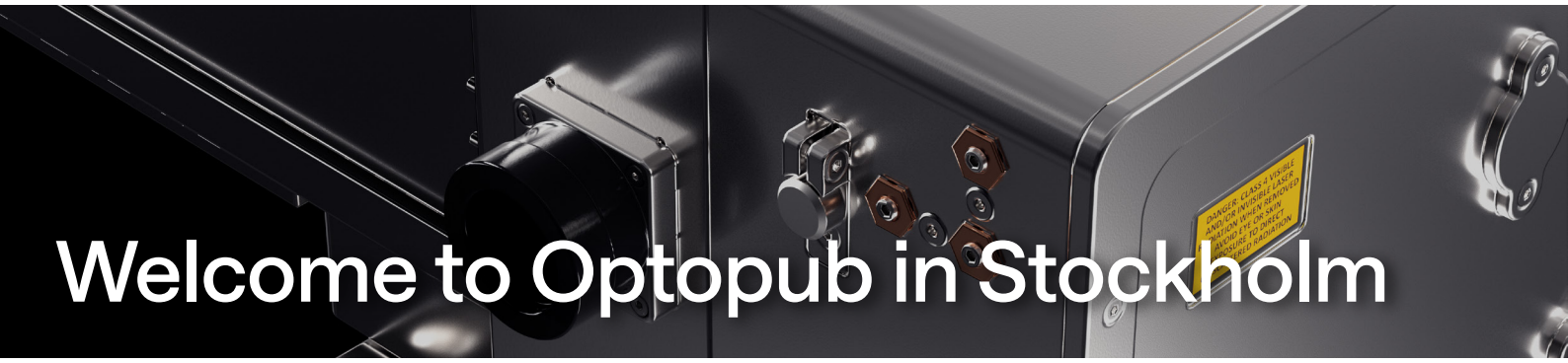
LIGHT CONVERSION

PhotonicSweden
The Swedish Technology Platform in Optics and Photonics



Welcome to Optopub in Stockholm

Thursday May 23rd 2024, 17:30-21:00
Room FD5, Roslagstullsbacken 21, AlbaNova, KTH, Stockholm, Sweden

Towards ultrafast studies of catalytic processes at ambient conditions

Prof. Dr. Martin Beye, Stockholm University

Catalytic processes are ubiquitously used to produce chemicals for everyday usage, not least in the production of fuels. In the face of a changing climate, new chemical processes are needed to achieve a more sustainable production of chemicals. Ultrafast studies of chemical reactions on surfaces can yield a substantially improved understanding of the underlying mechanisms. With dedicated instrumentation, lab-based and at large accelerator-driven sources of pulsed X-rays, we can provide the necessary fundamental insights to drive such transformations.

Unravelling interfacial complexity: the power of non-linear vibrational spectroscopy

Prof. Dr. Eric Tyrode, KTH Royal Institute of Technology

The properties and overall performance of many systems and materials are governed by phenomena occurring at their surfaces and interfaces, typically extending only to the first few molecular layers. Investigating these interfaces from a molecular perspective is challenging, especially when dealing with aqueous condensed phases. Vibrational sum frequency spectroscopy (VSFS), a second-order non-linear optical technique, offers distinct advantages as it can separate those few surface molecules from the vast excess located within the bulk. This presentation provides an overview of VSFS, highlighting examples ranging from simple liquids and surfactant adsorption to biophysically relevant protein-lipid bilayer interactions.

Femtosecond frequency metrology for future airborne and spaceborne LIDARs

Prof. Dr. Valdas Pasiskevicius, KTH Royal Institute of Technology

Enhancing climate models demands increased accuracy and spatial resolution in measuring atmospheric greenhouse gas concentrations. This goal is attainable through active laser-based high-spectral resolution sensors deployed on airborne and spaceborne platforms. The talk will present an example of a simple yet robust solution employing femtosecond laser frequency comb metrology, which we developed and tested during the airborne differential absorption LIDAR campaign.

Femtosecond lasers - exciting and enabling

Konstantinas Zakalskis, Light Conversion

An overview of the femtosecond laser market and a glimpse of what could be the next big thing in this exciting segment. A review of applications ranging from scientific research to industrial use, presented from a company perspective.

Followed by Optopub
Light Conversion invites everyone who pre-registered for food and drinks

Please, register here ›
No later than Tuesday May 21st before 13:00

Welcome!
Lennart B.M. Svensson (PS) & Konstantinas Zakalskis (Light Conversion)