

Fluorescent and Bioluminescent Probes for Imaging and Diagnostics

The topic of professor Johnsson's presentation will be how a combination of protein engineering and synthetic chemistry can be exploited to generate fluorescent and bioluminescent probes for live-cell imaging.

Specifically, professor Johnsson will review their attempts to introduce new fluorescent dyes and sensor proteins that permit to visualize biochemical activities in living cells with high spatial and temporal resolution. He will also discuss how these sensor proteins can be utilized for point-of-care therapeutic drug monitoring.



Kai Johnsson is Director at the Max Planck Institute for Medical Research, Department of Chemical Biology since 2017. He was appointed after being Full Professor at the Institute of Chemical Sciences and Engineering of the École Polytechnique Fédérale de Lausanne (EPFL) and co-director of the NCCR Chemical Biology. His current research interests are the development and application of chemical approaches to study and manipulate protein function. His past achievements include the introduction of different approaches to specifically label proteins in living cells; among these the SNAP-tag and CLIP-tag have become popular in the biological community.

Kai Johnsson is Executive Editor of the Journal of the American Chemical Society since 2021. He is member of the Editorial Advisory Board of Science and of the Research Council of the Swiss National Science Foundation. He is co-founder of Covalys Biosciences which was based on protein labeling technologies developed in his laboratory; these technologies are now available through New England BioLabs. He received the Prix APLE for the invention of the year 2003 of EPFL, the Novartis Lectureship Award 2012/13, the Karl-Heinz Beckurts Prize 2016 and is elected member of EMBO.