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UNIVERSITÄT BERN

Seminar über Biomedizinische Photonik

Referent/in: **Prof. Dr. Dmitry Veprintsev**
Centre of Membrane Proteins and Receptors
University of Nottingham, Nottingham, UK

Titel: **Combining Biophysics and protein engineering to understand dynamics in G protein coupled receptor (GPCR) signalling**

G protein coupled receptors (GPCRs) are membrane proteins that sense the hormones circulating in our body and coordinate the signalling responses inside the individual cell. There are ca 400 hormone receptors in humans, and each one is selective to a particular hormone. GPCRs are valuable therapeutic targets, and over a third of current drugs act on them. These receptors are very dynamic and change their shape to activate signalling effectors upon binding of the hormone or a drug. Understanding this dynamic behaviour is important to our ability to develop better drugs.
By using NMR, biophysical methods, alanine-scanning mutagenesis, *in silico* modelling and machine learning we identified important amino acids in the receptor as well as the pattern of ligand-receptor interactions that mediate receptor activation. The next challenge is to use this information for improved drug design.

Zeit: Mittwoch, 5.10.2022, 10:15 Uhr

Ort: **Hörsaal A97**, Gebäude Exakte Wissenschaften, Sidlerstrasse 5, Bern, Schweiz