

Biophysics and Structural Biology

Kurt Wüthrich (Scripps Research, La Jolla, and ETH Zürich and
iHuman Institute, ShanghaiTech University)

We focus on present work in structural biology regarding G-protein-coupled receptors (GPCRs), which are represented by 826 different proteins in the human proteome and are the targets for more than 30% of all prescription drugs approved by the Food and Drug Administration (FDA). The current structural biology of this class of membrane proteins is characterized by integrative use of multiple experimental techniques, with X-ray crystallography, cryo-electron microscopy (cryo-EM), nuclear magnetic resonance spectroscopy (NMR) and single-molecule spectroscopy. The mutual complementarity of the results obtained will be discussed, with an outlook to the impact of these results on the human well-being in the 21st century.