

v241104		Chair/Speaker	Title
Time\Date	Sunday-17-Nov-2024		Title
12:00-14:30			Registration
14:30-14:50		Gebhard Schertler, Massimo Olivucci	Welcome speech
14:50-15:00	Session A	Chair = Steven Smith	Session A = Trends of retinal protein signaling research
15:00-15:20	Talk A1	Oliver Ernst	Structural insights into light-gating of potassium-selective channelrhodopsin
15:20-15:40	Talk A2	Martha E. Sommer	What rhodopsin shows us about arrestin coupling at 7TMRs
15:40-16:00	Talk A3	Josef Wachtveitl	Near-UV und IR spectroscopic markers for retinal configuration during the photocycle of microbial rhodopsins
16:00-16:20	Talk A4	Ching-Ju Tsai	Active state structures of a bistable visual opsin bound to G proteins
16:20-17:00			Coffee break & mount poster
17:00-18:00	Keynote 1	Brian Kobilka (chaired by Gebhard Schertler)	Mechanisms of GPCR activation
18:00-18:20		Poster presenters	Flash poster Talks. 6 poster presenters, 1-2 min plus one slide
18:20-18:30			<<buffer time>>
18:30-22:00			Poster session at the bar, light dinner provided
Time\Date	Monday-18-Nov-2024		Title
08:30-09:00			<<preparation>>
09:00-09:10	Session B	Chair = Kwang-Hwan Jung	Session B = Structural mechanism of microbial rhodopsins
09:10-09:30	Talk B1	Clemens Glaubitz	Molecular mechanisms and evolutionary robustness of a color switch in proteorhodopsins – a solid-state NMR and computational approach
09:30-09:50	Talk B2	Hideaki Kato	Structural diversity of channelrhodopsins
09:50-10:10	Talk B3	Matthias Broser	Structural elucidation of the far-red absorbing and highly fluorescent retinal chromophore in fungal neorhodopsins
10:10-10:30	Talk B4	Ritsu Mizutori	Structural basis for proton transporting mechanism in viral heliorhodopsin, V2HeR3
10:30-11:00			Coffee break
11:00-11:10	Session C	Chair = Xavier Deupi	Session C = Discovery of new animal rhodopsins
11:10-11:30	Talk C1	Zuzana Musilova	See you in the dark: rhodopsin-based visual system in the deep-sea fishes
11:30-11:50	Talk C2	Marjorie Lienard	Functional evolution and spectral tuning mechanisms of insect visual Gq opsins
11:50-12:10	Talk C3	Polina Isaikina	Characterization of Butterfly Long-Wavelength Opsin for Advanced Optogenetics
12:10-12:30	Talk C4	Alina Pushkarev	Crustaceans as a source of new bistable rhodopsins for optogenetic applications
12:30-13:30			Group photo Lunch + Poster
13:30-13:40	Session D	Chair = Josef Wachtveitl	Session D = Dynamics of retinal proteins
13:40-14:00	Talk D1	Stefan Haacke	New Insights on the Ultrafast Photophysics of Archaelrhodopsin-3 and its Fluorescent Mutants
14:00-14:20	Talk D2	Gerrit Lamm	The photochemistry of a microbial rhodopsin from Cryobacterium levicorallinum investigated by time-resolved optical spectroscopy
14:20-14:40	Talk D3	Giorgia Ortolani	Structural Basis for the Prolonged Photocycle of Sensory Rhodopsin II Revealed by Serial Synchrotron Crystallography
14:40-15:00	Talk D4	Yosuke Mizuno	Light-induced FTIR spectroscopy of microcrystals of visual rhodopsin grown in LCP
15:00-15:30			Coffee break
15:30-15:40	Session E	Chair = Keiichi Inuoe	Session E = Advanced methods for retinal proteins Pioneering the Next Revolution in Protein Mechanistic Insights with Cutting-Edge Methodologies
15:40-16:00	Talk E1	Miroslav Kloz	Femtosecond Stimulated Raman Spectroscopy: A Tool Tailored for the Study of Rhodopsin Dynamics
16:00-16:20	Talk E2	John Kennis	Reaction Dynamics and Mechanisms of Newly Discovered Bistable Microbial Rhodopsins
16:20-16:40	Talk E3	Thomas Perkins	Quantifying a light-induced energetic change in a single molecule of bacteriorhodopsin by atomic force microscopy
16:40-17:00	Talk E4	Feng-jie Wu	Elucidating GPCR conformational dynamics by a novel NMR method
17:00-17:30			Coffee break
17:30-18:30	Keynote 2	Rich Mathies (chaired by Massimo Olivucci)	Evolution of a Coherent Picture of Visual Photochemistry
18:30-18:50		Poster presenters	Flash poster Talks. 10-15 poster presenters, 1-2 min plus one slide
18:50-19:00			<< buffer time >>
19:00-22:00			Poster session at the bar (Advisory board dinner at 19:30 in a restaurant)
Time\Date	Tuesday-19-Nov-2024		Title
08:30-09:00			<<preparation>>
09:00-09:10	Session F	Chair = Thomas Sakmar	Session F = Function of animal rhodopsins and related proteins
09:10-09:30	Talk F1	Takahiro Yamashita	Characterization of red-sensitive non-visual opsins
09:30-09:50	Talk F2	Yuji Furutani	Structural key elements crucial for function of Krokinobacter rhodopsin 2 and dynamics of heliorhodopsin
09:50-10:10	Talk F3	Kota Katayama	How far can structure-spectroscopy studies of cone pigments approach the essence of the spectral tuning mechanism?
10:10-10:30	Talk F4	Lee Harkless	The role of RGS proteins in determining melanopsin signaling outcomes
10:30-11:00			Coffee break
11:00-11:10	Session G	Chair = Judith Klein-Seetharaman	Session G = Physiology of animal retinal proteins

11:10-11:30	Talk G1	Stephan Neuhaus	From Light to Sight: Retinal Proteins in the Regulation of Photoreceptor Signaling in the Zebrafish Retina
11:30-11:50	Talk G2	Deborah Walter	Engineering an OptoGPCR based on jumping spider rhodopsin for optogenetic applications
11:50-12:10	Talk G3	W Ajith Karunarathne	Melanopsin Governs Wavelength-Dependent Cell Signaling and Animal Behavior
12:10-12:30	Talk G4	Thomas Mager	ChReef – An improved ChR for Future Optogenetic Therapies
12:30-13:30			Lunch + Poster
13:30-13:40	Session H	Chair = Richard Neutze	Session H = Photopharmacology and dynamics of retinal proteins
13:40-14:00	Talk H1	Amadeu Llebaria	Photopharmacology: light and molecules for dynamic structural crystallography
14:00-14:20	Talk H2	Jörg Standfuss	Photopharmacology the Movie: How Rhodopsins Pave the Way for a Dynamic Future in Structural Biology
14:20-14:40	Talk H3	Eriko Nango	Structural Dynamics of Microbial Rhodopsins Captured by X-ray Free Electron Lasers
14:40-15:00	Talk H4	Valerie Panneels	Ultrafast Dynamics of Our Light-Receptor for Vision Rhodopsin, Using an X-ray Free Electron Laser
15:00-15:30			Coffee break
15:30-15:40	Session I	Chair = Igor Schapiro	Session I = Theoretical approaches in retinal proteins
15:40-16:00	Talk I1	Massimo Olivucci	Comparative Computational Studies of Animal Rhodopsins
16:00-16:20	Talk I2	Flurin Hidbar	LAMBDA: Light Absorption Modeling via Binding Domain Analysis
16:20-16:40	Talk I3	Ana-Nicoleta Bondar	Graph-based methodologies for direct comparisons of protein-water hydrogen-bond networks in visual and microbial rhodopsins
16:40-17:00	Talk I4	Xavier Deupi	Rhodopsin Activation at Different Time Scales
17:00-17:30			Coffee break
17:30-18:30	Keynote 3	Richard Neutze (chaied by Jörg Standfuss)	Structural mechanism of proton pumping by bacteriorhodopsin: an historical overview
18:30-18:50		Poster presenters	Flash poster Talks. 10-15 poster presenters, 1-2 min plus one slide
18:50-19:00			<< buffer time >>
19:00-22:00			Poster session at the bar
Wednesday-20-Nov-2024			
Time\Date	Wednesday-20-Nov-2024		Title
08:30-09:00			<<preparation>>
09:00-09:10	Session J	Chair = Yuji Furutani	Session J = Carotenoids in retinal protein function
09:10-09:30	Talk J1	Andrey Rozenberg	Carotenoid antennas in proton-pumping rhodopsins from bacteria and archaea
09:30-09:50	Talk J2	Keiichi Inoue	Spectroscopic study on carotenoid binding ion-transporting microbial rhodopsins
09:50-10:10	Talk J3	María del Carmen Marín Pérez	Light-harvesting by antenna-containing xanthorhodopsin from an Antarctic cyanobacterium
10:10-10:30	Talk J4	Shin-Gyu Cho	Heliorhodopsin-mediated light-modulation of ABC transporter
10:30-11:00			Coffee break
11:00-11:10	Session K	Chair = Joerg Standfuss	Session K = Ion channel rhodopsins
11:10-11:30	Talk K1	Quentin Clement Bertrand	Structural effects of high laser power densities on an early bacteriorhodopsin photocycle intermediate
11:30-11:50	Talk K2	Matthias Mulder	Structural insights into the opening mechanism of Channelrhodopsin C1C2
11:50-12:10	Talk K3	Han Sun	Channel opening and ion conduction mechanism in channelrhodopsin C1C2, ChR2, and iChloC
12:10-12:30	Talk K4	Joachim Heberle	Mechanism of the chloride pump NmHR in protein crystals, detergent micelles, and living cells
12:30-13:20			Lunch
13:20-17:00			Excursion
17:00-17:30			<< buffer time >>
17:30-22:00			Poster session at the bar Conference dinner at 18:30
Thursday-21-Nov-2024			
Time\Date	Thursday-21-Nov-2024		Title
08:30-09:00			<<preparation>>
09:00-09:10	Session L	Chair = Robert Lucas	Session L = Optogenetics with bistable rhodopsins
09:10-09:30	Talk L1	Akihisa Terakita	Diverse coral opsins and their molecular properties
09:30-09:50	Talk L2	Mitsumasa Koyanagi	Evolution of jumping spider rhodopsin for optimizing depth perception from image defocus
09:50-10:10	Talk L3	Sonja Kleinlogel	A visual opsin from jellyfish enables precise temporal control of G protein signaling
10:10-10:30	Talk L4	Johannes Vierock	pHRoG: pH Regulating optoGenes for all-optical control of subcellular pH
10:30-10:50	Talk L5	Richard McDowell	Spectral tuning of mammalian melanopsins
10:50-11:20			Coffee break
11:20-11:30	Session M	Chair = Ana-Nicoleta Bondar	Session M = Ion-transporting mechanism in microbial rhodopsins
11:30-11:50	Talk M1	Kirill Kovalev	4D structural studies of the light-driven sodium pump ErNaR
11:50-12:10	Talk M2	Moran Shalev-Benami	‘Light Up the Dance Floor’ – Cryo-EM Studies of Bestrhodopsins Provide New Snapshots of Light-Based Activation Mechanisms
12:10-12:30	Talk M3	Przemysław Nogły	((Sodium/Chloride pumping retinal proteins))
12:30-12:50	Talk M4	Kwang-Hwan Jung	Dual roles of proton pumping rhodopsin in Gloeobacter: Energy production and gene regulation
12:50-13:50			Lunch + Poster
13:50-14:00	Session N	Chair = Peter Hegemann	Session N = From structure to physiology of retinal proteins
14:00-14:20	Talk N1	Shunki Takaramoto	ApuRhs, a new family of anion channelrhodopsin from apusomonads
14:20-14:40	Talk N2	Shoko Hososhima	Proton transport mechanism of viral heliorhodopsin, V2HeR3
14:40-15:00	Talk N3	Wayne Busse	Localization of the Fluorescent Rhodopsin NeoR in Fungal Zoospores with Insights into Its Enzymatic Functionality
15:00-15:20	Talk N4	Judith Klein-Seetharaman	A Comprehensive Rhodopsin Dataset and Quantitative Molecular Docking Analysis of Rhodopsin-Retinal Interactions

15:20-15:40	Talk N5	Phyllis Robinson	Melanopsin, from Molecule to Behavior
15:40-16:20			Coffee break unmount poster
16:20-17:20	Keynote 4	Robert J Lucas (chaired by Akihisa Terakita)	Animal opsins, from understanding unconventional vision to optogenetic application(s)
17:20-18:20			Plenary discussion
18:20-18:30			<< buffer time >>
18:30			Conference End