

GPCR WORKSHOP 2023

AGENDA

DAY 1 January 3, 2023

2:00 - 4:00 pm **REGISTRATION** Foyer of Kamakahonu Ballroom

SESSION 1

4:00 - 4:20 pm Opening remarks
Brian Kobilka
Stanford University, CA, USA

4:20 - 5:00 pm Non-canonical activation of β -arrestin and G protein
Asuka Inoue
Tohoku University, Japan

5:00 - 5:40 pm Receptor signaling at the nanometer scale
Martin Lohse
SAR Bioscience Institute Munich/University of Wuerzburg

6:00 - 9:00 pm **RECEPTION**

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Day 2 January 4, 2023

7:30 - 8:30 am **Breakfast (provided)** Foyer of ballroom

SESSION 2 - Chair Brian Kobilka

8:30 - 9:10 am Chemogenetic approaches to identify targets for novel antidiabetic drugs
Jurgen Wess
NIH

9:10 - 9:50 am Illuminating endogenous G proteins with CRISPR
Nevin Lambert
Augusta University

9:50 - 10:30 am Letting the little light of mind shine with genetically encoded indicators based on GPCRs
Lin Tian
UC Davis

10:30 - 11:10 am Leveraging novel GPCR signaling cascades in fat tissue to counteract metabolic disease.
Zachary Gerhart-Hines
University of Copenhagen

11:10 - 11:30 am Break

11:30 - 11:50 am Short Talk - Investigation of G-protein specificity and biased agonism at the beta-2 adrenergic receptor (β 2AR)
Marina Casiraghi
Stanford University

11:50 - 12:10 pm Short Talk - RXFP2 Small Molecule Agonists: Potential Therapeutics For Osteoporosis
Alexander Agoulnik
Florida International University

12:10 - 3:00 pm Lunch (on your own) and poster viewing

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SESSION 3 - Chair Mark von Zastrow

3:00 - 3:40 pm GPCR-mediated B-arrestin activation deconvoluted with single-molecule precision

Jonathan Javitch
Columbia University

3:40 - 4:20 pm Autoregulation of GPCR signaling through the third intracellular loop

Sivaraj Sivaramakrishnan
University of MN

4:20 – 5:00 pm Development of selective ligands for Class A GPCRs: functional selectivity and location-specific activity

Peter Gmeiner
Friedrich Alexander University Erlangen-Nürnberg

5:00 - 6:00 pm Poster viewing

6:00 - 8:00 pm Dinner (provided)

Location tbd

8:00 - 10:00 pm INTERACTIVE SESSION 1

Chair Roger Sunahara
UC San Diego

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Day 3 January 5, 2023

7:30 - 8:30 am **Breakfast (provided)** Foyer of ballroom

SESSION 4 - Chair Jonathan Javitch

8:30 – 9:10 am Seeing scents: towards a structural understanding of olfaction
Christian Billesboelle
UCSF

9:10 - 9:50 am G protein-coupled versus arrestin-coupled receptors: exploiting mechanistic differences for therapeutic benefit.
Evi Kostenis
University of Bonn

9:50 - 10:30 am GPCRs as guidance receptors for immune cells.
Jason Cyster
UCSF

10:30 - 11:10 am Fantastic adhesion GPCRs and how to target them
Ines Liebscher
Leipzig University

11:10 - 11:30 am Break

11:30 - 11:50 am Short Talk - A novel orphan GPCR screening platform for the identification of small molecule pharmacochaperones targeting brain-specific oGPCRs
Daniela Dengler
Sanford Burnham Prebys Medical Discovery Institute

11:50 - 12:10 pm Short Talk - High-throughput Genetic Platforms to Study GPCR Biology
Matthew Howard
UCSF

12:10 - 3:00 pm Lunch (on your own) and poster viewing

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SESSION 5 - Chair Brian Kobilka

3:00 - 3:40 pm Subcellular location and movement of GPCR-mediated signaling
Mark von Zastrow
UCSF

3:40 - 4:20 pm Dynamics of class-B GPCR
Osamu Nureki
University of Tokyo

4:20 - 4:40 pm Short Talk - Probing autoinhibition and tethered agonism across the full family of Adhesion GPCRs.
Andrew Dates
Harvard

4:40 -5:00 pm Short Talk PI(4,5)P2-stimulated positive feedback drives Wnt/beta-catenin signaling
Jacob Mahoney
Stanford Univ

5 :00 - 5:20 pm Short Talk - Mapping the diversity in spatiotemporal regulation of G protein-coupled receptors
Ruth Huettenhain
UCSF

6:00 - 8:00 pm Dinner (provided)

8:00 - 10:00 pm INTERACTIVE SESSION 2
Sebastian Granier
University of Montpellier, France

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Day 4 January 6, 2023

7:30 - 8:30 am **Breakfast (provided)** Foyer of ballroom

SESSION 6 - Chair Jurgen Wess

8:30 - 9:10 am Structural mass spectrometry to probe chemokine receptors interactions and dynamics

Cherine Bechara
University of Montpellier, France

9:10 - 9:50 am Neuropeptides controlling mosquito behavior

Laura Duvall
Columbia University

9:50 - 10:30 am Structural dynamics of Class C GPCRs using single molecule FRET techniques

Josh Levitz
Cornell University

10:30 - 11:10 am GPCR Drug Discovery from the Bench to the Patient: Paltusotine

Scott Struthers & Stephen Betz
Crinetics

11:10 - 11:30 am Break

11:30 - 11:50 am Structure driven drug discovery and design: case study of a Family A GPCR

Bingfa Sun
ConfometRx, Inc

11:50 - 12:10 pm Short Talk- Monitoring neuropeptide release with genetically encoded biosensors.

Yihan Jin
UC Davis

12:10 - 3:00 pm Lunch (on your own) and poster viewing

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SESSION 7 - Chair Osamu Nureki

3:00 - 3:40 pm The open conformation of Gas: implications to signaling and disease.
Roger Sunahara
UC San Diego

3:40 - 4:20 pm Function-related dynamics of GPCRs by NMR
Ichio Shimada
BDR Riken, Japan

4:20 – 5:10 pm Structure and activation mechanism of the RXFP1 relaxin receptor
Andrew Kruse
Harvard University

5:10 - 5:20 pm Closing Remarks

5:20 - 6:00 pm Poster take-down

6:00 - 9:00 pm **BANQUET DINNER**