

PROGRAM

Thursday October 25th, 2018

MEETING REGISTRATION (11:30 am – 1:30 pm) Atheneum Hotel, Detroit

1:30 pm Welcome Remarks by Gregory Tall, Manoj Puthenveedu, and Alan Smrcka

TRAINEE RESEARCH SHOWCASE (10 min talks, 5 min Q/A)

1:45 pm Huaijie Feng
“An Animal Model for GNAO1-associated Movement Disorders”

2:00 pm Zara Weinberg
“ β 2-adrenergic receptor endocytic lifetimes and MAPK signaling are mediated by distinct receptor-interacting proteins”

2:15 pm Miao Pan
“A G protein-coupled chemoattractant receptor recognizes lipopolysaccharide for bacterial phagocytosis”

2:30 pm Pierre Thibeault
“Determination of the Proteinase Activated Receptor 4 (PAR4) agonist binding site through in-silico modeling and site directed mutagenesis.”

2:45 pm Ya Zhou
“Elucidating the conformational dynamics of β -arrestin1 induced by a non-GPCR binding partner”

3:00 pm Ram Kandasamy
“Positive allosteric modulation of the μ -opioid receptor produces antinociception with limited side effects by enhancing endogenous opioid activity”

3:15 pm Nicholas Kalogriopoulos
“Structural basis for non-canonical activation of a heterotrimeric Gi protein by Guanine nucleotide Exchange Modulators (GEMs)”

3:30 pm Aaron Cho, McGill University
“Elucidation of G α q/11 and G α 12/13 Functional Selectivity at the FP Receptor”

3:45 pm Coffee Break

HYMAN NIZNIK LECTURE (45 min talk, 10 min Q/A)

Chairs: Alan Smrcka and Stephen Ferguson

4:30 pm Mark Von Zastrow, University of California San Francisco
“Recent insights to the subcellular organization of GPCR signaling”

5:30 pm **Welcome Reception (beer, wine, and cheese) and Poster Session #1**

7:30 pm **Dinner and Introduction by Steve Lanier, Wayne State University**
"Detroit 4.4"

Friday October 26th, 2018

7:30 am **Breakfast**

SYMPOSIUM I OPIOID RECEPTOR SIGNALING (20 min talks, 5 min Q/A)

Chairs: John Traynor and Steve Husbands

8:55 am **Louis Gendron**, University of Sherbrooke
"Identification of Rab10 as a regulator of the delta-opioid receptor trafficking using an epitope tagged knockin mouse"

9:20 am **Laura Bohn**, Scripps Institute
"Using biased agonism to make safer opioid analgesics"

9:45 am **Aashish Manglik**, University of California San Francisco
"Structure-based discovery of opioid analgesics"

10:10 am **Coffee Break**

SYMPOSIUM II GPCR SIGNALING FROM INTRACELLULAR SITES (20 min talks, 5 min Q/A)

Chairs: Manoj Puthenveedu and Christine Lavoie

10:30 am **JoAnn Trejo**, University of California at San Diego
"A Tyrosine Switch on NEDD4-2 E3 Ligase Transmits GPCR Endosomal Signaling"

10:55 am **Aylin Hanyaloglu**, Imperial College, London
"Multi-endosomal programming of GPCR signaling; applications to sex, drugs and...food"

11:20 am **Karen O'Malley**, Washington University
"Intracellular metabotropic glutamate receptor mGlu5 plays a key role in synaptic plasticity"

11:45 am **Craig Nash**, University of Michigan (10 min talk, 5 min Q/A)
"An Internal Pool of beta-Adrenergic Receptors Activates PLC-mediated PI4P Hydrolysis in Cardiac Myocytes"

12:15 pm *Lunch Fishbone's Restaurant*

TECHNOLOGIES FOR ANALYSIS OF GPCR ACTIVITY

1:30 pm – 1:55 pm Hamamatsu Corporation and Codex Biosolutions (20 min talk, 5 min Q/A)
SYMPOSIUM III STRUCTURAL BIOLOGY OF GPCRs and SIGNALING PROTEINS (20 min talks, 5 min Q/A)

Chairs: John Tesmer

2:00 pm **Angeline Lyon**, Purdue University
“Molecular Mechanisms of Phospholipase C α Regulation”

2:25 pm **Roger Sunahara**, University of California at San Diego
“Structure- and function-based discovery of orthosteric and allosteric ligands for GPCRs”

2:50 pm **Oliver Ernst**, University of Toronto
“How GPCRs talk to G proteins: Insights from X-ray, EPR and cryo-EM.”

3:15 pm **Jennifer Cash**, University of Michigan
“Cryo-EM Reconstruction of the P-Rex1-Gbg Complex Reveals Mechanisms Underlying GPCR-Mediated Cellular Migration”

3:30 pm **Coffee Break**

SYMPOSIUM IV PEPTIDE-ACTIVATED GPCRs (20 min talks, 5 min Q/A)

Chairs: Rithwik Ramachandran and Gregory Tall

4:00 pm **James Bridges**, University of Cincinnati
“G Protein Signaling in Pulmonary Alveolar Homeostasis”

4:25 pm **Carole Parent**, University of Michigan
“Exosomes and Neutrophil Chemotaxis”

4:50 pm **Morley Hollenberg**, University of Calgary
“Protease activated receptor activation”

5:15 pm **Cheng Zhang**, University of Pittsburgh (Short Talk 10 min talk, 5 min Q/A)
“Structure and pharmacology of the chemoattractant C5a receptor”

5:30 pm **Reception (beer, wine, and cheese) and Poster Session #1**

7:30 pm **Dinner**
Introduction by Stephen Lanier, Wayne State Univ

9:30 pm **Board Meeting, Sophocles Room (All PIs welcome)**

Saturday October 27th, 2018

7:30 am Breakfast

SYMPOSIUM V G protein Signaling (20 min talks, 5 min Q/A)

Chairs: Alan Smrcka and Stephané LaPorte

8:30 am **Terry Hebert**, McGill University
"G protein Signaling in the Nucleus"

8:55 am **Nevin Lambert**, Augusta University
"Diversity in GPCR-G protein coupling"

9:20 am **Kirill Martemyanov**, Scripps Florida
"Deciphering G protein signaling diversity"

9:45 am **Ajith Karunarathne**, University of Toledo (10 min talk, 5 min Q/A)
"G protein Signaling at the Golgi apparatus"

10:00 am Coffee Break

HUBERT VAN TOL SYMPOSIUM (ANIMAL MODELS/PHYSIOLOGY) (20 min talks, 5 min Q/A)

Chairs: Rick Neubig and Michael Holinstat

10:25 am **Steve Ferguson**, University of Ottawa
"Metabotropic Glutamate Receptors as targets in Neurodegeneration"

10:50 am **Julien Sebag**, University of Iowa
"Role of MRAP2 in the regulation of energy and glucose homeostasis"

11:15 am **Mark Rasenick**, University of Illinois Chicago (Late Breaking talk 15 min, 5 min Q/A)
"GPCR signaling in Patient-derived lymphoblasts and induced Neural Stem Cells to model both depression and antidepressant response"

JOHN F MACDONALD LECTURE (40 min talk, 10 min Q/A)

Chairs: Steve Ferguson and Greg Tall

11:35 pm **Roger Cone**, University of Michigan
"Melanocortin Receptor Signaling in Metabolism"

12:25 pm **Closing Remarks** by Alan Smrcka, Greg Tall and Manoj Puthenveedu

Lunch and Farewell