Adhesion GPCR Workshop 2020/22

COPENHAGEN

Art by *Pablo Walser*

Hosted by the University of Copenhagen's Panum Institute

Blegdamsvej 3B, 2200 Copenhagen N

Organizing committee:

Sofie Bagger, Emily Beaman, Olav Larsen, Maja Lind Nybo, Anna Walser, and Mette Rosenkilde

We would like to thank our sponsors:

novo nordisk fonden

BCPT Basic & Clinical Pharmacology & Toxicology

CARLSBERGFONDET

aGPCR Workshop 2020/22 Program

Welcome to the conference! Here's a little info to help you find your way.

All presentations take place in the Holst auditorium at the University of Copenhagen's Panum Building. Coffee breaks are outside Holst auditorium. Poster sessions will be held at the top of the entry staircase.

Bathrooms are located down the hallway by the conference room and behind the stairs at the main entrance.

Hosts will be wearing shirts identifying them as someone you can ask for help or directions if needed.

We hope you enjoy your visit!

FRIDAY MAY 6

15.00	**Registration**	
16.30	**Welcome address**	
17.00	**Cell biology and tissue organization** Discussion leader: Prof. Simone Prömel	
	Dr. Alain Garcia De Las Bayonas *University of California, Berkeley*	An adhesion GPCR controls aggregative multicellularity in the closest relatives of animals
	Beatriz Blanco-Redondo *Leipzig University*	The non-autonomous role of the adhesion GPCR Mayo/CG11318 in the ion regulation of larval hemolymph of *Drosophila melanogaster*
	Prof. Uwe Wolfrum *Johannes Gutenberg University*	Novel insight into cellular functions of the adhesion GPCR VLGR1/ADGRV1 - in cell migration, autophagy and Ca^{2+} homeostasis
	Joshua Linnert *Johannes Gutenberg University*	The adhesion GPCR VLGR1 controls autophagy at internal membranes of the ER and mitochondria
	Prof. Karen Martinez *University of Copenhagen*	To be announced
	Prof. Tobias Langenhan *Leipzig University*	Memorial talk for Sasha Petrenko
19.30	**Dinner at Mærsk Tower 15.**	

SATURDAY MAY 7

7.30	**Opening coffee**	
8.00	**Signaling and activation, pt.I** Discussion leader: Assoc. Prof. Gregory Tall	
	Dr. Signe Mathiasen *University of Copenhagen*	G12/13 is activated by acute tethered agonist exposure in the adhesion GPCR ADGRL3
	Associate Prof. Dmitris Placantonakis *NYU School of Medicine*	To be announced
	Dr. Gabriele Stephan *NYU Grossman School of Medicine*	Modulation of GPR133 (ADGRD1) signaling by antibodies targeting the N-terminus and by its intracellular interaction partner Extended Synaptotagmin 1 (ESYT1)
	Prof. Torsten Schöneberg *Leipzig University*	How the new cryo-EM structures help to interpret previous data on aGPCR activation
	Jakob Mitgau *Leipzig University*	The N terminus of adhesion G protein-coupled receptor GPR126/ADGRG6 as allosteric force integrator
	Dr. Dorota Latek *University of Warsaw*	Gradient boosting in GPCR ligands classification tasks
10.00	**Coffee break**	
10.30	**aGPCRs in health and disease, pt.I** Discussion leader: Dr. Nicole Scholz	
	Prof. Simone Prömel *Heinrich Heine University*	The adhesion GPCRs latrophilin control insulin release
	Dr. Katja Spiess *University of Copenhagen, Statens Serum Institut*	Interaction between ADGRA3 and the SH-protein from mumps virus reveals a route for mumps virus entry into the brain
	Salvador Cazorla Vázquez *Friedrich Alexander University of Erlangen-Nuremberg*	Adhesion G protein-coupled receptor Adgrg6 expression in kidney development and disease
	Dr. Stephanie Pick *Heinrich Heine University*	The role of GPR110 (ADGRF1) in renal function
	Dr. Nathan Zaidman *Johns Hopkins University*	ADGRF5 is a critical regulator of V-ATPase proton pumps in the kidney
12.30	**Lunch at the cantina**	
13.30	**Structure and function, pt.I** Discussion leader: Dr. Signe Mathiasen	
	Prof. Tobias Langenhan *Leipzig University*	A transgenic system to monitor adhesion GPCR heterodimer separation in vitro and in vivo
	Dr. Joshua D. Frenster *NYU School of Medicine, Universitat Pompeu Fabra*	GPR133 (ADGRD1) signaling is hyperactivated by the dissociation of its extracellular NTF as well as by binding of PTK7 in *trans*.
	Dr. Björn Kieslich *Leipzig University*	The dimerized pentraxin-like domain of the adhesion G protein-coupled receptor 112 (ADGRG4) suggests a grappling hook function of the large N terminus
	Dr. Swati Srivastava *Universitätsklinikum Erlangen*	Gpr126 is required for proper N-cadherin localization and myocardial Notch activity to regulate trabeculation
	Dr. Nicole Scholz *Leipzig University*	7TM and 1TM isoforms cooperate to shape neuronal mechanosensing through adhesion GPCRs
15.10	**Coffee break**	
15.40	**Structure and function, pt.II** Discussion leader: Prof. Mette Rosenkilde	
	Associate Prof. Gregory Tall *University of Michigan*	Investigations into the adhesion GPCR tethered-peptide-agonist mechanism
	Keynote address Prof. Georgios Skiniotis *Stanford University*	CryoEM of GPCRs: from structure to dynamics and drug discovery
17.00	**Poster session**	
19.00	**Dinner & drinks in the cantina**	

SUNDAY MAY 8

9.00	**aGPCRs in health and disease, pt.II** Discussion leader: Prof. Ines Liebscher	
	Prof. Gabriela Aust *Leipzig University*	Loss of *Cd97/Adgre5* worsens allergic asthma
	Dr. Cheng-Chih Hsiao *Amsterdam University Medical Center*	The inhibitory receptor GPR56 (*Adgrg1*) is specifically expressed by tissue-resident memory T cells in mice but dispensable for their differentiation and function in vivo
	Prof. Erwin G. Van Meir *University of Alabama at Birmingham*	BAI1/ADGRB1 suppresses glioma invasion by inhibiting TGFβ1 maturation
	Dr. Maja Lind Nybo *University of Copenhagen*	Adhesion GPCR ADGRA3 Involved in Infertility in the Male
10.40	**Coffee break outside main entrance**	
11.10	**Signaling and activation, pt.II** Discussion leader: Prof. Antony Boucard Jr.	
	Associate Prof. Patrick Barth *EPFL*	Uncovering and reprogramming GPR56 signaling
	Dr. Caroline Wilde *Leipzig University*	Modulation of GPR114/ADGRG5 activity
	Dr. Hossein Batebi *Leipzig University*	Receptor mediated G-protein activation
	Fabian Pohl *Leipzig University*	Structural studies on the ADGRB2 (BAI2) GAIN domain and its resistance to GPS autoproteolysis
	Prof. Peter Hildebrand *Leipzig University*	Computational analysis of GAIN domain structure and dynamics
13.10	**Lunch + poster session at the top of the stairs**	
15.00	**aGPCRs in the central and peripheral nervous system, pt.I** Discussion leader: Dr. Hee-Yong Kim	
	Prof. Antony Boucard Jr. *Centro de Investigación y de Estudios Avanzados (Cinvestav)*	G-protein activation profiling of Lphn3/ADGRL3 missense variants associated with ADHD susceptibility unveils a disease-relevant inheritable pathogenicity pathway
	Baran Enes Güler *Johannes Gutenberg University*	The adhesion GPCR VLGR1 regulates the migration velocity of astrocytes by controlling focal adhesions turnover
	Dr. Nicole Perry-Hauser *Columbia University*	Functional elements of adhesion G protein-coupled receptor latrophilin 2 (ADGRL2) impact hippocampal circuit assembly
16.00	**General assembly**	
17.00	**Coffee break outside main entrance**	
17.30	**aGPCRs in the central and peripheral nervous system, pt.II** Discussion leader: Dr. Jörg Hamann	
	Dr. Hee-Yong Kim *National Institutes of Health*	Ligand-Activated GPR110 (ADGRF1) signaling in neurodevelopment and neuroprotection
	Dr. Rory Morgan *Oregon Health & Science University*	Defining small-molecule modulators of Gpr126/Adgrg6 mediating Schwann cell myelination in zebrafish
	Prof. Kimberley Tolias *Baylor College of Medicine*	The A-GPCR BAI1 mediates excitatory synapse and dendritic arbor development by dynamically regulating rho GTPase signaling
18.45	**Dinner, drinks, & discussion in the cantina**	