Physiology and Pathophysiology 2023

Leopoldina Symposium

An in person conference organised jointly by the American Physiological Society’s Open Access journal FUNCTION, the German National Academy of Sciences Leopoldina and Academia Europaea’s Cardiff University Knowledge Hub

Date, Time and Place

Tuesday 7th March 2023 / 10:00 – 19:30
Wednesday 8th March 2023 / 09:15 – 17:00

German National Academy of Sciences Leopoldina
Jägerberg 1, 06108 Halle (Saale), Germany

Registration

There is no attendance fee, but registration is required:

https://www.eventbrite.co.uk/e/physiology-pathophysiology-2023-symposium-tickets-444527382367
Programme
Day 1: 7th March 2023

10:00 Welcome
Ole H Petersen ML FRS MAE (Editor-in-Chief, Function), Cardiff University

10:10 General Physiology
Chair: Liliana Schaefer, Goethe University Frankfurt
Drugs and trafficking: lessons from calcium channels
Annette Dolphin FRS MAE, University College London

10:35
Membrane protein moonlighting: never say never!
Dennis Brown MAE FAPS, Harvard Medical School

11:00
Extracellular nucleotides
R Alan North FRS MAE, University of Manchester

11:25 Coffee break

11:45
Store-operated calcium channels in health and disease
Anant Parekh FRS MAE, National Institute of Environmental Health, NIH, North Carolina

12:10
Cantu Syndrome: From a single ion channel to multi-organ pathologies
Colin Nichols FRS, Washington University School of Medicine in St Louis

12:35 General discussion
Discussion Leader: Liliana Schaefer, Goethe University Frankfurt

13:15 Lunch break
14:15  Neuroscience

**Chairs:** Gemma Modinos, *King's College London*
Robert Zorec MAE, *University of Ljubljana*

**Brain rhythms, language rhythms and reading**
Usha Goswami ML FRS, *University of Cambridge*

14:40

**Neuronal mechanisms underlying learning**
Carl Petersen MAE, *Brain Mind Institute, EPFL, Lausanne*

15:05

**Challenging "inflammageing" of the brain: glial paralysis, rather than reactivity defines brain ageing**
Alex Verkhratsky ML MAE, *University of Manchester*

15:30  Coffee break

15:50

**Turning nutrients into brain states**
Denis Burdakov, *ETH, Zürich*

16:15  General Discussion

**Discussion Leaders:** Robert Zorec MAE, *University of Ljubljana* and Gemma Modinos, *King's College London*

18:30  Leopoldina – Lecture

**How alcohol poisons the cells of the pancreas**

Ole H Petersen ML FRS MAE, *Cardiff University*
Day 2: 8th March 2023

09:15 Cardiovascular Physiology
Chair: Calum Wilson, *University of Strathclyde*

**Calcium and CaMKII: Pleiotropic signaling in cardiac function and disease**
Donald M Bers, *University of California, Davis*

09:40

A look into brain blood vessels: When they work and don’t
Mark T Nelson NAS, *University of Vermont*

10:05

Capillary-mitochondrial oxygen transport: Paradigm shifts
David Poole, *Kansas State University*

10:30 Coffee Break

11:00

**Macro- and microvascular remodeling in pulmonary hypertension**
Wolfgang Kübler FAPS, *Charité - Universitätsmedizin Berlin*

11:25 General Discussion

Discussion Leader: Calum Wilson, *University of Strathclyde*

12:15 Lunch Break

13:00 Kidney and Fluid Balance
Chair: Andras Spät MAE, *Semmelweis University, Budapest*

**Salt and Kidney Metabolism**
Allen Cowley FAPS, *Medical College Wisconsin*

13:25

Getting the most into (and out of) your kidneys
Ora Weisz FAPS, *University of Pittsburgh*

13:50 General Discussion

Discussion Leader: Andras Spät MAE, *Semmelweis University, Budapest*
14:15 The pancreas as a physiological and pathophysiologica model

Chairs: Pawel Ferdek, Jagiellonian University in Krakow
       Oleg Gerasimenko, Cardiff University

Pathological processes in exocrine pancreas: ex vivo studies
Julia Gerasimenko, Cardiff University

14:40

New challenges in the management of acute pancreatitis
Peter Hegyi MAE, Semmelweis University, Budapest

15:05 Coffee Break

15:25
Pancreatic carcinogenesis and pancreatic functions
Monika Jakubowska, Jagiellonian University in Krakow

15:50
Synergising reductionist and empirical developments to improve treatment outcomes for pancreatic cancer
John Neoptolemos MAE, University of Heidelberg

16:15 General Discussion
Discussion Leaders: Oleg Gerasimenko, Cardiff University and Pawel Ferdek, Jagiellonian University in Krakow

17:00 End of Meeting

FAPS: Fellow of the American Physiological Society
FRS: Fellow of the Royal Society
MAE: Member of the Academia Europaea
ML: Member of the German National Academy of Sciences Leopoldina
NAS: Member of the National Academy of Sciences