



Leopoldina
Nationale Akademie
der Wissenschaften

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 "inflammaging" 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 pathophysiological 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