International Society for Autonomic Neuroscience

Cardiac Neurobiology: Concepts to Clinic

23rd-24th July 2024, Oxford
## Contents:

<table>
<thead>
<tr>
<th>Section</th>
<th>Page(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Programme: Tuesday 23\textsuperscript{rd} July 2024</td>
<td>4</td>
</tr>
<tr>
<td>Programme: Wednesday 24\textsuperscript{th} July 2024</td>
<td>5-8</td>
</tr>
<tr>
<td>Natural History Museum</td>
<td>9</td>
</tr>
<tr>
<td>Acknowledgments</td>
<td>12</td>
</tr>
</tbody>
</table>

Cover Photo: © Martin Kohl
Programme:
Tuesday 23rd July 2024

15:00  Registration

16:00  Refreshments

17:00  Optogenetics: opportunities for autonomic neuroscientists
       Professor Gero Miesenboeck, University of Oxford, UK

       Chaired by Professor David Paterson, University of Oxford, UK

18:00  Drinks Reception
08:50 Overview of the day
Professor David Paterson, University of Oxford, UK

09:00 Session 1: Central Nervous System to Peripheral Nervous System
Chairled by Professor Andre Ng, University of Leicester, UK and Dr Peter Hanna, University of California, Los Angeles, USA

09:00 Setting the scene for cardiac autonomic neuroscience: challenges and opportunities
Professor Kalyanam Shivkumar, University of California, Los Angeles, USA

09:45 Autonomic control of the heart during exercise
Professor Alex Gourine, University College London, UK

10:15 Mechanisms of sympathetic hyperactivity in cardiovascular disease
Professor Beth Habecker, Oregon Health and Science University, USA

10:45 Sympathetic neural networks and obesity
Professor Ana Domingos, University of Oxford, UK

11:15 Refreshments
Programme:
Wednesday 24th July 2024

11:50 Session 2: Cell-Cell Communication in the Heart
Chaired by Dr Julia Shanks, University of Auckland, New Zealand and Professor Jack Cheng, University of Central Florida, USA

11:50 Parasympathetic neurons derived from human pluripotent stem cells model human diseases and development
Dr Nadja Zeltner, University of Georgia, USA

12:10 Human iPSC derived cardiac myocytes and sympathetic neurons in CPVT
Dr Dan Li, University of Oxford, UK

12:30 Central amplification of respiratory sinus arrhythmia: behavioural implications
Dr Clement Menuet, Mediterranean Institute of Neurobiology, France

12:50 Neurocardiac aspects of the long QT syndrome
Dr Annika Winbo, University of Auckland, New Zealand

13:10 Lunch and networking
14:10  **Session 3: The Bridge to Translation: Model Systems**  
*Chaired by Dr Nadja Zeltner, University of Georgia, USA and Dr Marco Mongillo, Università degli Studi di Padova, Italy*

14:10  **Mimicking cardiac autonomic variability for therapeutic effect**  
Professor Julian Paton, University of Auckland, New Zealand

14:40  **Translational & clinical aspects of sympathetic neural remodeling after cardiac injury**  
Dr Olu Ajijola, University of California, Los Angeles, USA

15:10  **Neural plasticity and its role in atrial fibrillation**  
Professor Johanna Montgomery, University of Auckland, New Zealand

15:40  **Cardiac sympathetic neuropathology supports the multicellularity of Arrhythmogenic Cardiomyopathy**  
Dr Tania Zaglia, Università degli Studi di Padova, Italy

16:10  **Autonomic neuromodulators as potential biomarkers and therapeutic targets**  
Professor Neil Herring, University of Oxford, UK

16:30  **Refreshments**
17:00  **Session 4: Neuromodulation and Target Therapies to the Heart**  
*Chaired by Professor Igor Efimov, Northwestern University, Illinois, USA and Professor Beth Habecker, Oregon Health and Science University, USA*

17:00  **The "Research Evaluating Vagal Excitation and Anatomical Links" (REVEAL) study**  
Professor John Osborn, University of Minnesota, USA

17:30  **Neuromodulation network dynamics in the fast and slow lanes of the cardiac vagus**  
Professor Rajanikanth Vadigepalli, Thomas Jefferson University, USA

17:50  **Mapping ANS connectivity in the SPARC project**  
Professor Sir Peter Hunter, University of Auckland, New Zealand

18:10  **Using data-driven insights from the nervous system to build neural digital therapies - the next big trend in precision medicines**  
Dr Emil Hewage, BIOS Health Neural Engineering, Cambridge, UK

18:30  **End of meeting**

19:00  **Drinks and Dinner in Oxford University Museum of Natural History**
We are grateful for the support of the following organisations:

Leducq Foundation

University of California, Los Angeles

Scope Research Institute of Electrophysiology

Bios Health Ltd