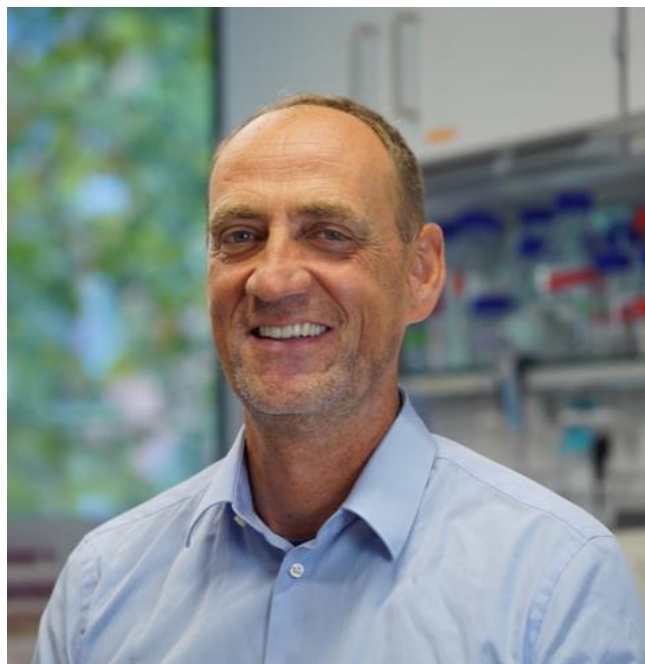


## Meet Jens C Brüning, our 2024 Geoffrey Harris Awardee



Professor Jens C Brüning, from Cologne, Germany, is our 2024 Geoffrey Harris Awardee. He will deliver his Award Lecture in Stockholm at ECE 2024. Read on to learn more about his career in endocrinology, his advice for future endocrinologists, and what you can look forward to hearing him talk about at the Congress.

### **Please tell us about your current role**

I am currently Director of the Policlinic for Endocrinology, Diabetes and Preventive Medicine at the University Hospital in Cologne, Germany, as well as Director of the Max Planck Institute for Metabolism Research, also in Cologne. In this way, I am privileged to combine clinical work as an endocrinologist with basic and translational studies on how the brain regulates systemic metabolism.

### **How were you inspired to work in endocrinology?**

My interest was nurtured early in my residency training, when I wanted to better understand the mechanisms of insulin action and insulin resistance during the development of type 2 diabetes mellitus. This led me to study insulin action in the central nervous system, and has stimulated my interest in how the brain orchestrates systemic metabolic homeostasis.

### **What will you discuss in your Award Lecture at ECE 2024?**

My laboratory has been investigating how the hypothalamus integrates signals from the periphery of the organism, not only to adapt food intake in accordance with energy availability, but also to co-ordinate glucose and lipid metabolism in peripheral tissues.

We have revealed that fasting-activated hypothalamic neurones, characterised by the expression of agouti-related peptide, play a critical role in insulin's ability to suppress hepatic glucose production, and also represent a critical relay to promote activation of the

hypothalamic-pituitary-adrenal axis upon starvation. Collectively, these data indicate that these highly specialised neurones serve to adapt the integrative physiology of the organism to fluctuations in energy availability.

Moreover, we have recently identified neurones in the hypothalamus which are profoundly activated upon consumption of highly palatable food and contribute to the development of obesity under these conditions. Finally, we have provided a unified single cell sequencing atlas of the murine hypothalamus, revealing the striking heterogeneity of hypothalamic neurones in control of energy and glucose homeostasis, and serving as a basis for further functional investigations.

**What is likely to be the next breakthrough in your area of interest?**

The complexity of neuronal circuits regulating endocrine homeostasis is just unfolding. Novel technologies in modern molecular neuroscience will allow us to define the fundamental principles of brain-dependent regulation, at unprecedented resolution and detail. In my opinion, this knowledge is critical in ultimately devising novel therapies for prevalent endocrine diseases. Following the principles of Max Planck – insight must precede application – I feel that a thorough understanding of physiological principles in endocrine regulation is also a prerequisite for clinical advances.

**What are you most proud of in your career, and in life in general?**

In relation to my work, I am most proud of the talented clinicians, graduate students and postdoctoral fellows that I have had the pleasure of working with, and of seeing them succeed in different areas of medicine, academia and elsewhere across the world. In life in general, I am grateful for my family, my wonderful wife and our three amazing children.

**What is the most enjoyable aspect of your work?**

The aspects I enjoy most are, on one hand, the interaction with patients and, on the other, the opportunity to discuss and develop ideas and projects with a group of outstanding young researchers.

**What are you most looking forward to at ECE 2024?**

It will be an opportunity to learn about exciting new developments in endocrinology, and for discussion with experts from all over the world.

**Why should people join ESE?**

I feel that joining ESE extends the scope of one's interactions beyond national science communities. ESE provides a unique international platform for scientific exchange, as well as outstanding training opportunities for endocrinologists at all career stages.

**What words of wisdom do you have for aspiring endocrinologists?**

My advice is to live up to the fascination of endocrinology. On one hand, the logic and regulatory principles of endocrinology have always intrigued me. On the other hand, endocrinology is a wonderful area for basic science discovery, with immediate clinical relevance. Endocrinology is a subject which, importantly, overlaps with almost all areas of internal medicine, allowing us to gain a more holistic view of medicine as a discipline. It is a

compelling field, and I can only recommend maintaining a passion for this exciting area of modern medicine.

**Is there anything else you would like to add?**

I am grateful for being selected to give the Geoffrey Harris Award Lecture, named after the 'father of neuroendocrinology', the field that has given me so much joy and excitement over the recent decades of my professional life. I look forward to meeting the community attending ECE 2024.