KEYSTONE SYMPOSIA

Accelerating Life Science Discovery

Interoception: Neural Sensing and Control of Organ Function

April 22-24, 2025

This inaugural Keystone Symposium on Interception will serve as a nucleation point in this fast-growing field, bringing together neurobiologists, immunologists, physiologists, stem cell biologists, systems biologists, pharmacologists, bioengineers, and theorists, to integrate their perspectives and derive cross-disciplinary insights in understanding this sixth sense and its implications in health and disease.

Allen Institute | Seattle, WA, USA

Click to learn more about this meeting.

Or visit, http://keysym.us/KSInteroception25

Scientific Organizers:

Xin Sun, PhD: University of California, San Diego
Mark L. Andermann, PhD: Beth Israel Deaconess Medical Center
Rui M. Costa: Allen Institute

Interoception is poorly understood compared to the other senses of sight, hearing, smell, touch, and taste, and our mechanistic understanding of how the brain receives and reacts to signals from inside the body is just beginning to be explored. Most of our peripheral organs and tissues are innervated by nerves that connect them with the central nervous system, and increasing evidence demonstrates critical central neuronal control of peripheral organ function. Conversely, there is increasing awareness and interest in how signals from tissues such as the heart, lung, intestine, pancreas, and spleen impact neuronal activity in the brain. Such fundamental crosstalk involving interoception is at play in both normal physiology and disease pathogenesis.

This Keystone Symposium will address major questions in the field, including:

1. The delineation of circuits from peripheral tissues to the brain and back;
2. The molecular identity of neurons at specific nodes in these pathways;
3. Diverse modes of communication between neurons and tissues;
4. Alterations in interoceptive processing in the context of disease, including both peripheral and central nervous system abnormalities;
5. Therapeutic opportunities using neuromodulation of interoception circuits (e.g. vagus nerve stimulation) to treat chronic diseases.

Interoception studies provide the missing link between research initiatives centered on the brain and on peripheral internal organs. The event will serve as a platform to inspire and nurture a diverse cohort of young investigators who will shape the future of the field.

Session Topics:

- Interoception in Health and Disease
- Interoception and Emotion
- Workshop 1: Emerging Technologies and Model Systems
- Integrative Interoception
- Gut-Brain Axis
- Workshop 2: The Future of Interoception

KEYNOTE SPEAKER

David Julius

CONFIRMED SPEAKERS

Olujimi Ajijola
Amber Alhadeff
Mark Andermann
Polina Anikeeva
Rui Costa
Peter Dayan
Nadine Gogolla
Stephen Liberles
Qiufu Ma
Lauren Orefice
Asya Rolls
Xin Sun

ABSTRACT / SCHOLARSHIP DEADLINE

January 22, 2025

EARLY REGISTRATION DEADLINE

March 4, 2025

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