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The NO-Age and NO-AD Seminar Series 050

Opening Lecture of 2022

Understanding neural networks in the entorhinal cortex of the normal brain

by

Prof. Edvard Moser, Professor of Neuroscience
NTNU, Norway

at

14:00-15:00 (CET), Monday, 07th Feb. 2022

Register in advance for this webinar:
https://uio.zoom.us/webinar/register/WN_lU5WhY5fSY6qLTQhR-EWNA

Organizers:
Evandro F. Fang (UiO), Jon Storm-Mathisen (UiO), Menno P. Witter (NTNU),
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Previous recorded talks are available here: https://noad100.com/videos-previous-events/

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Speaker: Edvard Ingjald Moser

Title: Understanding neural networks in the entorhinal cortex of the normal brain

Abstract:
To be updated

Biography:
Edvard Moser is a Professor of Neuroscience and a Scientific Director of the Kavli Institute for Systems Neuroscience at the Norwegian University of Science and Technology in Trondheim. He is interested in neural network coding in the cortex, with particular emphasis on neural-population codes for space, time and memory. His work, conducted with May-Britt Moser as a long-term collaborator, includes the discovery of grid cells in the entorhinal cortex, which provides clues to a mechanism for the metric of spatial mapping. Subsequent to this discovery the Mosers have identified additional space-representing cell types in the entorhinal cortex and they are beginning to unravel how the neural microcircuit is organized at the level of interactions between large numbers of diverse neurons with known functional identity – an endeavour that is significantly boosted by the recent development of Neuropixels probes and 2-photon miniscopes for simultaneous recording of thousands of neurons in freely-moving rats and mice. The discovery of grid cells and the underlying population dynamics have led to a revision of established views of how the brain calculates self-position, and how such information is stored in memory, and spatial mapping and is becoming one of the first non-sensory cognitive functions to be characterized at a mechanistic level in neural networks.

Edvard Moser received his initial training at the University of Oslo under the supervision of Dr. Per Andersen. He worked as a post-doc with Richard Morris and John O'Keefe in 1996, before he accepted a faculty position at the Norwegian University of Science and Technology the same year. In 2002 he became the Founding Director of the Centre for the Biology of Memory (2002-2012). In 2007 the Centre became a Kavli Institute. Edvard Moser is also Deputy Director of the Centre for Neural Computation at the same institution (2013-2022). Together with May-Britt Moser, he has received a number of awards, including the 2014 Nobel Prize in Medicine or Physiology.