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OKINAWA INSTITUTE OF SCIENCE AND TECHNOLOGY
沖縄科学技術大学院大学

VISITING PROGRAM

TSVP TALK

From Structure to Cognitive Function in Neural Circuits

2026
THU. **Nov. 19**

10:00–11:00

HYBRID L5D23, ZOOM

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Humans and other animals have a remarkable capacity to learn efficiently and behave flexibly in the face of new information, which is critical for survival in a changing world. These abilities require brain regions including the prefrontal cortex and hippocampus, but little is known about their implementation in the recurrent dynamics of biological circuits. In recent work, we showed that known prefrontal sequence representations can be combined with the ubiquitous principle of neural attractor dynamics to solve challenging planning tasks by inferring sequences of future behaviour. To study how such algorithms for decision making can be learned efficiently, we have developed an analytically tractable theory of the interactions between planning and learning. We hope this can shed new light on how the recurrent dynamics between prefrontal cortex and hippocampus contribute to flexible behaviour.

University College London

Kristopher Jensen

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