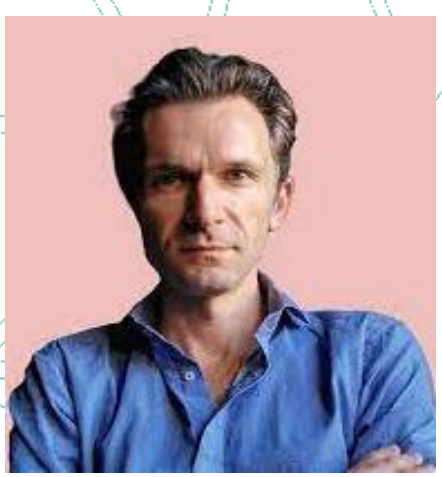
Organized by Tohoku University Neuro Global International Graduate School Program
Endorsed by Tohoku University RIEC Nation-wide Cooperative Study Group
Endorsed by Advanced Institute of So-Go-Chi (Convergence Knowledge) Informatics

NEURO GLOBAL Seminar

Date & Time

Wednesday, June 24, 2026
10:30 – 12:00 (including Q&A)



Speaker

Parashkev Nachev, PhD, FRCP

Professor of Neurology,
UCL Queen Square Institute of Neurology
Honorary Consultant Neurologist, the National Hospital for Neurology and Neurosurgery

Title

Deep inference: the use of complex models for mechanistic understanding

Venue

片平北門会館 社会連携スペース (A01)　エスパス　片平キャンパス
Katahira Kitamon Commons (A01) Espace, Katahira Campus
【MAP】https://www.tohoku.ac.jp/map/ja/?f=KH_A01

Format On-site

Language English

【Neuro Global生・[先進] 脳科学セミナーシリーズEx】【NGP students, [Advanced] brain science seminar series Ex】1 point
【医学系研究科・医学履修課程】国際交流セミナー【Medical Science Doctoral Course】 International Interchange Seminar 1回分
【生命科学研究科・イノベーションセミナー（留学生）、単位認定セミナー】【Innovation seminar, Credit-granted seminar】2 points

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NEURO GLOBAL
Seminar

Title

Deep inference: the use of complex models for mechanistic understanding

Abstract

It is widely believed that the primary role of richly expressive models in neuroscience is prediction rather than inference: their intuitive opacity is perceived as an insurmountable obstacle to mechanistic understanding. Here I argue this belief is mistaken. Where the target neural process is simple, expressive models are often necessary to control irrelevant, complex background variation, especially under small-scale data experimental regimes. Where the target process is complex, a faithful model must be commensurately expressive, whether intuitively apprehensible or not. I discuss the challenges of complex modelling approaches in neuroscience, and illustrate their development and application in the context of anatomical inference from disruptive data--direct cortical stimulation and focal lesions--and higher order cognition.

Speaker information

Parashkev Nachev is a Professor of Neurology at the Queen Square Institute of Neurology and an Honorary Consultant Neurologist at the National Hospital for Neurology and Neurosurgery. He leads a multi-disciplinary research group focused on the development and Application of complex modelling in neurology and neuroscience, spanning representational, predictive, and prescriptive tasks, with scientific, clinical, and operational objectives.

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