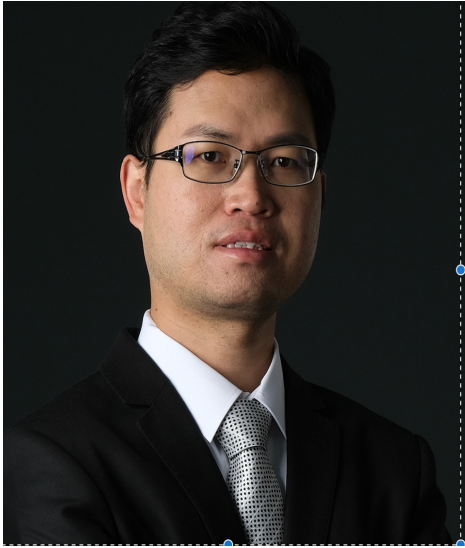




Order parameters for emergence of consciousness?



Speaker: Prof. 黄海平
Host: Prof. 曹俊
Time: 16:00, Apr. 28 2024
Location: 122 Multidisc. Building
Indico: <https://indico.ihep.ac.cn/event/22337/>
Zoom ID: 9519 555 9647
Password: 202404

Abstract:

Most non-equilibrium dynamics are not driven by a gradient of potential, and thus properties of steady states cannot be analytically packed into an explicit function like a Boltzmann distribution. Here, we take a new angle that only slow points in phase space are considered, and an optimization-based equilibrium measure can thus be constructed. Our theory reveals the continuous nature of chaos transition in a neural network model, and further identifies a response order parameter peaked at the transition, surprisingly consistent with cortical observation of conscious brain states. Our framework thus opens a new route to analyze non-equilibrium steady states.

About the speaker:

报告人简介：黄海平，中山大学教授，博士生导师，2011年获得中科院理论物理所博士学位，随后在香港科技大学物理系，东京工业大学计算智能系，日本理化学研究所 (RIKEN) 脑科学中心从事统计物理与机器学习、神经计算交叉的基础理论研究，曾获得JSPS博士后资助、RIKEN 杰出研究奖，国家自然科学基金优秀青年基金等，著有英文专著《神经网络的统计力学》（德国施普林格出版社和高等教育出版社2022年联合出版）。