IST AUSTRIA
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Neuroscience data talk

Neuroscience Seminar Series - Gasper Tkacik

Gasper Tkacik (IST Austria)

Ideas about optimization are at the core of how we approach biological complexity. Quantitative predictions about biological systems have been successfully derived from first principles in the context of efficient coding, metabolic and transport networks, evolution, reinforcement learning, and decision making, by postulating that a system has evolved to optimize some utility function under biophysical constraints. Yet as normative theories become increasingly high-dimensional and optimal solutions stop being unique, it gets progressively hard to judge whether theoretical predictions are consistent with, or "close to", data. I will illustrate these issues using efficient coding applied to simple neuronal models as well as to a complex and realistic biochemical reaction network. As a solution, we developed a statistical framework which smoothly interpolates between ab initio optimality predictions and Bayesian parameter inference from data, while also permitting statistically rigorous tests of optimality hypotheses.

Webinar ID: 948 1982 4190

Password: 283739

Tuesday, June 2, 2020 02:00pm - 03:00pm

IST Austria Campus https://istaustria.zoom.us/j/94819824190?pwd=TEsvSzdYUmYxRzlQVlNiVVlOYms0Zz09

This invitation is valid as a ticket for the IST Shuttle from and to Heiligenstadt Station. Please find a schedule of the IST Shuttle on our webpage: https://ist.ac.at/en/campus/how-to-get-here/ The IST Shuttle bus is marked IST Shuttle (#142) and has the Institute Logo printed on the side.