



Neurotheory Forum

Residual population dynamics as a window into neural computation

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Neural activity in frontal and motor cortices can be considered to be the manifestation of a dynamical system implemented by large neural populations in recurrently connected networks. The computations emerging from such population-level dynamics reflect the interaction between external inputs into a network and its internal, recurrent dynamics. Isolating these two contributions in experimentally recorded neural activity, however, is challenging, limiting the resulting insights into neural computations. I will present an approach to addressing this challenge based on response residuals, i.e. variability in the population trajectory across repetitions of the same task condition. A complete characterization of residual dynamics is well-suited to systematically compare computations across brain areas and tasks, and leads to quantitative predictions about the consequences of small, arbitrary causal perturbations.

Friday, December 4, 2020 03:00pm - 04:00pm

Online



This invitation is valid as a ticket for the ISTA Shuttle from and to Heiligenstadt Station.

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<https://ista.ac.at/en/campus/how-to-get-here/> The ISTA Shuttle bus is marked ISTA Shuttle (#142) and has the Institute Logo printed on the side.