



**University of  
Zurich** <sup>UZH</sup>

## Department of Economics – Neuroeconomics Seminar

**November 25, 2021 - 17:00 - 18:00**

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### **Choice history bias as a window into cognition and neural circuits**

Perceptual choices not only depend on the current sensory input, but also on the behavioral context, such as the history of one's own choices. Yet, it remains unknown how such history signals shape the dynamics of later decision formation. In models of decision formation, it is commonly assumed that choice history shifts the starting point of accumulation towards the bound reflecting the previous choice. I will present results that challenge this idea. By fitting bounded-accumulation decision models to behavioral data from perceptual choice tasks, we estimated bias parameters that depended on observers' previous choices. Across multiple animal species, task protocols and sensory modalities, individual history biases in overt behavior were consistently explained by a history-dependent change in the evidence accumulation, rather than in its starting point. Choice history signals thus seem to bias the interpretation of current sensory input, akin to shifting endogenous attention towards (or away from) the previously selected interpretation. MEG data further pinpoint a neural source of these biases in parietal gamma-band oscillations, providing a starting point for linking across species.