



**University of
Zurich** ^{UZH}

Department of Economics – Neuroeconomics Seminar

December 7, 2023 17:00 - 18:00

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Causal inference in perceptual decision making: Behaviour, computations and neural mechanisms

Our senses are constantly bombarded with a myriad of diverse signals. Transforming this sensory cacophony into a coherent percept of our environment relies on solving two computational challenges: First, we need to solve the causal inference or binding problem— deciding whether signals come from a common cause and thus should be integrated or come from different sources and should be treated independently. Second, when there is a common cause, we should integrate signals across the senses weighted in proportion to their sensory precisions. In this talk, I discuss our recent research at the behavioural, computational, and neural systems level that investigates how the brain addresses these two computational challenges in multisensory perception. Combining Bayesian modelling and fMRI/EEG our research has shown that the brain solves the causal inference problem by dynamically encoding multiple perceptual estimates along the visual and auditory processing pathways.

Zoom Link:

<https://uzh.zoom.us/j/66083933314?pwd=SnpXTCswQ05DSGtCTTc3OTRTMVBRdz09>

Meeting ID: 660 8393 3314