



**University of
Zurich** ^{UZH}

Department of Economics – Neuroeconomics Seminar

May 06, 2021 - 17:00 - 18:00

Anne Collins
UC Berkeley

Setting the frame for reinforcement learning

Reinforcement learning frameworks have contributed tremendously to our better understanding of learning processes in brain and behavior. However, this remarkable success obscures the reality of multiple underlying processes, and in particular hides how executive functions set the frame over which reinforcement learning computations operate. What is a choice? What is a reinforcer? In this talk, I will show that executive functions define the learning substrates (such as choices and reinforcers) for other learning mechanisms, setting the stage for what we learn about. Clarifying the contributions and interaction of different learning processes is essential to understanding individual learning differences, particularly in clinical populations and development. This work highlights the importance of studying learning as a multi-dimensional phenomenon that relies on multiple separable but inter-dependent computational mechanisms.