

# Decision Processes Colloquia

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Monday, December 9<sup>th</sup>, 2024

Where: JMHH F 55

When: 12:00 – 1:20 pm

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## A Cognitive Foundation for Perceiving Uncertainty

### ABSTRACT:

We propose a framework where perceptions of uncertainty are driven by the interaction between cognitive constraints and the way that people learn about it—whether information is presented sequentially or simultaneously. People can learn about uncertainty by observing the distribution of outcomes all at once (e.g., seeing a stock return distribution) or sampling outcomes from the relevant distribution sequentially (e.g., experiencing a series of stock returns). Limited attention leads to the overweighting of unlikely but salient events—the dominant force when learning from simultaneous information—whereas imperfect recall leads to the underweighting of such events—the dominant force when learning sequentially. A series of studies show that, when learning from simultaneous information, people are overoptimistic about and are attracted to assets that mostly underperform, but sporadically exhibit large outperformance. However, they overwhelmingly select more consistently outperforming assets when learning the same information sequentially, and this is reflected in beliefs. The entire 40-percentage point preference reversal appears to be driven by limited attention and memory; manipulating these factors completely eliminates the effect of the learning environment on choices and beliefs, and can even reverse it.

