



# UConn BIRC Speaker Series

Tuesday, January 26<sup>th</sup> from 12-1:30 pm ET via Zoom

## *Space, Time and Fear: Survival Decisions along Defensive Circuits*

Dean Mobbs, PhD, California Institute of Technology



**Abstract:** Naturalistic observations show that decisions to avoid or escape predators occur at different spatiotemporal scales and that they are supported by different computations and neural circuits. At their extremes, proximal threats are addressed by a limited repertoire of reflexive and myopic actions, reflecting reduced decision and state spaces and model-free (MF) architectures. Conversely, distal threats allow increased information processing supported by model-based (MB) operations, including affective prospection, replay, and planning. However, MF and MB computations are often intertwined, and under conditions of safety the foundations for future effective reactive execution can be laid through MB instruction of MF control. Together, these computations are associated with distinct population codes embedded within a distributed defensive circuitry whose goal is to determine and realize the best policy.

***Bio:** Dean Mobbs is interested in the intersection of behavioral ecology, economics, emotion, and social psychology. By understanding the neural, computational and behavioral dynamics of human social and emotional experiences, he wants to develop theoretical models that merge those fields. Using brain-imaging, computational modeling and behavioral techniques, his lab is probing the neurobiological systems responsible for fear and anxiety, revealing how people learn to control their fears, and how anxiety and psychiatric disorders disrupt those processes. He's interested in the value of social behavior. In particular, he's trying to determine the behavioral and neural signatures behind positive social interactions—for example, those involved with altruism, empathy, and when viewing others' success as rewarding (vicarious reward and reflected glory). His research also focuses on the interplay between social interaction and emotion—how fear can depend on whether you're alone or in a group (e.g. risk dilution).*

Remote access Registration: <https://bit.ly/3nujBqQ>

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\*Please note: You *must* register in advance via Zoom\*

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