School of Social and Behavioral Sciences
Arizona State University

CBI Colloquium

Unconscious Gaze in Infants, Monkeys, and Schizophrenia: What can it tell us about the brain and behavior?

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Talk Abstract

We move our eyes on average four times every second, unconsciously gathering information about the visual world for our brains to stitch into our conscious experience. Despite being a core determinant of what we experience, what we remember, and what choices we make, the neural and behavioral rules underlying the timings and targets of these gaze shifts are not well understood. In this talk, I review work elucidating the neural causes of gaze shifts by combining neurophysiological and behavioral investigations between animal species and stages of development, including mouse, marmoset, macaque, human infant, and human adult. I will cover both my original goal of understanding the interaction of gaze and early word learning in human infants, as well as recent developments applying differential gaze analysis to neuropsychiatric disorders such as schizophrenia. Gaze is useful both as a behavioral biomarker for diagnosis of schizophrenia, as well as how it serves as a window into understanding the changes in the brain and behavior which contribute to the disorder itself. These insights can give us a better understanding of how changes in gaze behavior can influence changes in perception, with wide-ranging applications in learning and development as well as therapies for adult disorders.