

Department of Psychology Distinguished Speaker



Dr. Matthew Hutchison (Harvard University)

Do you see what I see? Brain responses to free viewing of dynamic social and non-social object interactions.

ABSTRACT

Explorations of neurophysiological response properties in naturalistic and less controlled settings have historically played a major role in discovering organizational and functional properties in the visual and reward systems.

Recently, functional MRI analyses of humans viewing naturalistic scenes and complex streams of stimuli have yielded robust responses that are stable across participants and capture dynamics that are not evident in constrained paradigms. Motivated by this background, we conducted an extensive exploration of response properties during movie viewing of scenes depicting different levels of social interaction.

In addition to results demonstrating consistent effects of movie type, there was tremendous variability in the responses to individual movies across every region analyzed, variance that was reproduced between independent subject groups and across individual subjects. Hemispheric specialization, changes in regional network membership, and a stereotyped evolution of whole brain activity were also observed across subjects.

Taken together, the results suggest that dynamic social stimulus conditions, despite the seemingly uncontrolled nature of the task, evoke highly consistent and time-locked brain activity that may be leveraged to better probe large-scale brain patterns.

BIOGRAPHY

Dr. Hutchison is a Sir Frederick Banting Postdoctoral Fellow. He received his undergraduate and doctoral training at the University of Western Ontario in Canada. Matt's previous work focused on evolutionarily preserved and divergent large-scale brain circuits.

He is currently exploring the dynamic and coordinated integration of information flow in normal and disease state.

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