SEMINAR SERIES

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The Center for Research in Human Movement Variability (MOVCENTR)

A MULTISCALE PERSPECTIVE ON HUMAN MOVEMENT VARIABILITY

Featuring Dr. Aaron Likens

University of Nebraska at Omaha

November 6, 2020 | 12:00 - 1:00 pm

Zoom Link: https://unomaha.zoom.us/j/94614566130

ABOUT DR. LIKENS

Dr. Likens is an Assistant Professor in the Department of Biomechanics at the University of Nebraska at Omaha (UNO). He specializes in the methodological and theoretical development of dynamical systems theory in movement sciences. Dr. Likens also has extensive experience applying linear and nonlinear time series analysis in a range of areas related to human performance. Dr. Likens earned a PhD (2016) in Perception, Action, and Cognition at Arizona State University; completed a postdoctoral fellowship in Cognitive Science (2016-2018); and worked as a Research Associate in Biomechanics (2018-2020) at the University of Nebraska at Omaha, where he transitioned to his current role in January of this year. Dr. Likens' research asks: What is the nature of human movement variability, and what can it tell us about learning and performance? Do optimal forms of variability exist, and can we leverage these forms of variability to develop new technologies that improve learning, performance, and health? These questions have led him to discover novel metrics of team coordination based on the coordinated neural activity of team members and to develop new statistical tests for a nonlinear time series method called fractal regression. So far, Dr. Likens' research has generated 16 publications in scholarly journals, 6 book chapters, and several conference papers and presentations. His research has been supported by National Institutes of Health/Center for Research in Human Movement Variability and the National Strategic Research Institute.

ABSTRACT

Human movement varies considerably from one moment to the next. Even simple movements like finger tapping seem to change erratically over time. Motor control theories often suggest that this variability is not meaningful, that movement variability simply reflects random noise, masking an intended goal. My research suggests an alternative interpretation. Variability – the noise – often deviates from randomness, and its structure reflects the ongoing coordination and control of action. In this talk, I will summarize my past findings and methodological developments related to variability in contexts ranging from human locomotion to team coordination. I will also present future directions and my perspective on the major challenges to be overcome in the study of human movement variability.

more info at **cobre.unomaha.edu**

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