

SEMINAR SERIES

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High-dimensional Methods for Understanding Coordination in Whole-body Tasks

Featuring Dr. Dobromir Dotov
University of Nebraska at Omaha



Friday, May 5 | 12:00 - 1:15 pm | BRB 167

PRESENTATION ABSTRACT

One of the classic problems in movement science concerns the coordination of biomechanical degrees of freedom. Does skillful movement involve fixing or releasing degrees of freedom? Evidence has been inconclusive partly because it has been difficult to analyze the multivariate motion capture recorded during whole-body tasks. Here, a newer method for measuring clusters of synchronization in high-dimensional datasets is explored. The gait kinematics of patients before and after total hip replacement and healthy participants is examined, showing that the condition is associated with increased synchronization clustering.

ABOUT DR. DOTOV

Dr. Dotov was born in Sofia, Bulgaria. His terminal degree is from the University of Connecticut where he completed curriculum combining perception, human movement science, and complex and dynamic systems theory. He has worked in the US, France, Mexico, and Canada. He studies how sensory information is used to guide movement and how augmented auditory information using assistive technology can improve movement in various populations.

more info at cobre.unomaha.edu

*This seminar was supported by the National Institutes of General Medical Sciences of the National Institutes of Health under Award Number P20GM109090
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