

# SEMINAR SERIES

Supported by The Department of Biomechanics and  
The Center for Research in Human Movement Variability (MOVCENTR)



## RHYTHM, MUSIC AND MOVEMENT: NEURAL MECHANISMS AND APPLICATIONS

Featuring Dr. Michael Hove  
Fitchburg State University



February 28, 2020 | 12:00 - 1:15 pm | BRB 167  
Parking Available in Lot T

### PRESENTATION ABSTRACT

Some rhythmic stimuli can activate motor networks in the brain and induce movement. In this talk, I present a series of behavioral and cognitive neuroscience studies on how people synchronize to rhythmic stimuli and what factors most strongly influence movement. First, I will discuss advantages of synchronizing with auditory over visual rhythms, and how visuo-motor synchrony improves with *moving* stimuli. Second, in musical contexts, we have established that movement is especially influenced by low-frequency (bass) tones. The link between bass and movement appears rooted in physiology (i.e., in auditory encoding and somato-motor activation) and explains the musical convention for low-pitched instruments to lay down the rhythm. Finally, I discuss applications of rhythm to: 1) improve gait in Parkinson's patients; 2) increase social cohesion; and 3) induce trance states of consciousness.

### ABOUT DR. HOVE

Dr. Hove is an Assistant Professor at Fitchburg State University. He received his PhD in Psychology from Cornell University with a focus in perception/cognition & behavioral neuroscience. He received postdoctoral training at Max Planck Institute for Cognitive and Brain Sciences and was a research fellow at both McMaster University in Ontario and Harvard Medical School. His research interests are primarily rhythm, timing, and the integration of perception and action.

more info at [cobre.unomaha.edu](http://cobre.unomaha.edu)

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