

# SEMINAR SERIES

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The Center for Research in Human Movement Variability (MOVCENTR)



## UNDERSTANDING FUNCTIONAL BRAIN CONNECTIVITY: A MOTOR CONTROL PERSPECTIVE

Featuring Dr. Arun Karumattu Manattu  
University of Nebraska at Omaha



Friday, Sept. 17 | 12:00 - 1:15 pm | Via Zoom

<https://unomaha.zoom.us/j/92012305734>

### PRESENTATION ABSTRACT

Motor control is the process of initiating, directing, and grading purposeful voluntary movement. The major part in regulating the mechanisms essential to movement is happening in the motor cortex and associated areas in the brain. Studying the segregation and integration of different brain areas in brain helping to achieve the motor control is extremely critical. Functional brain connectivity is the virtue of cohesive interaction between the brain areas for performing a particular task. With the advent of network concept more mathematical theories like graph theory are applied to study the brain responses. The current functional brain imaging research focuses on this hot topic of understanding the brain connectivity for different functional organizations while the brain is at 'rest'. We here at Dr Zuniga's lab try to understand the brain responses in connection with prosthesis use and try to see changes in the motor cortex connectivity.

### ABOUT DR. KARUMATTU MANATTU

Dr. Arun Karumattu Manattu is a Research Associate in the Department of Biomechanics at the University of Nebraska at Omaha. He co-directs the functional near-infrared spectroscopy (fNIRS) research in the Additive Manufacturing Laboratory under the guidance of Dr. Jorge Zuniga. Prior to arriving at UNO, he received his Ph.D. degree in Bioengineering from the Sree Chitra Tirunal Institute for Medical Sciences and Technology, an institute of national importance under government of India. His dissertation work focused on the resting state brain functional connectivity changes in the motor cortex during the recovery from upper limb deficiency due to stroke. He has experience in various brain imaging techniques like fNIRS, fMRI, EEG etc

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

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