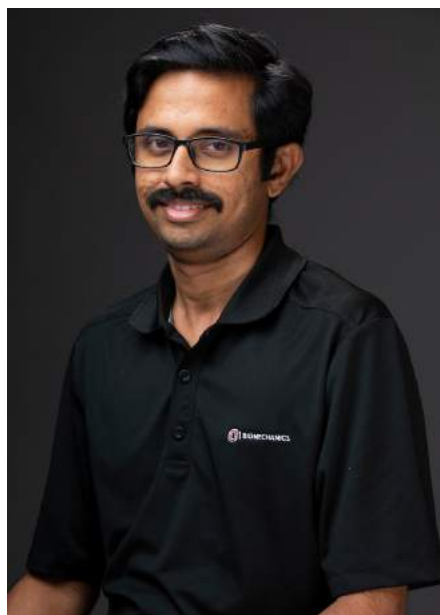


# SEMINAR SERIES

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



## Neuroimaging Insights Into Motor Learning in Prosthetic Use

Featuring Dr. Arun Karumattu Mannatu  
University of Nebraska at Omaha



Friday, Sept. 8 | 10:00 am – 11:00 am | BRB 167

### PRESENTATION ABSTRACT

Motor learning in the context of prosthetic use is a dynamic and evolving field of research, particularly when studying its effects in children with upper limb deficiencies. This seminar explores the application of functional Near-Infrared Spectroscopy (fNIRS) neuroimaging as a powerful tool for unraveling the intricate neural mechanisms underlying the process of motor learning in prosthetic use among pediatric populations. Children with upper limb deficiencies face unique challenges in adapting to and mastering the use of prosthetic devices. Understanding the neurobiological underpinnings of this process is essential for optimizing prosthetic interventions and improving the quality of life for these individuals.

### 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 the Government of India. He is currently involved in a project that investigates changes in brain plasticity and prosthesis acceptance after an eight-week intervention for children with congenital upper limb deficiencies. His research interests lie in the integration of various neuroimaging modalities, including resting-state and structural brain connectivity to study neural circuits and their connections.

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

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