MOVCENTR

Stories

COBRE Phase II Junior Investigator, Dr. Nate Hunt received an Innovation Award from UNeMed for his Wearable Apparatus for Slip Perturbations

The award ceremony was held virtually, October 29th. Each year the Innovation Awards recognize all UNMC and UNO faculty, students and staff who, during the previous fiscal year, contributed to a new invention submission, were issued a U.S. patent or had a technology licensed.

Core Director and COBRE Phase I Junior Investigator, Dr. Sara Myers, received recognition as an alumni and professorship

Dr. Myers was the Graduate Studies Early Career Achievement Award Recipient from UNMC. Award recipients are chosen based on the substantial impact in their professions and setting the bar high for other alumnus.

Additionally, Dr. Myers received a three year named professorship this year, the D.B. and Paula Varner Professorship. The D.B. and Paula Varner Professorship is awarded on the basis of outstanding performance in research/creative activity and a demonstrated development of professional contacts and/or external funding.

COBRE Phase II Junior Investigator, Dr. Philippe Malcolm accepted as a participant in the 2020 TIGRR Workshop

A proposal from UNO researcher, Philippe Malcolm, was selected for the 2020-Training in Grantsmanship for Rehabilitation Research (TIGRR) workshop organized by the Medical University of South Carolina. This proposal was supported by Dr. Malcolm's COBRE mentor, Dr. Dan Ferris from the University of Florida. TIGGR is an intensive grant-writing workshop where participants are mentored by highly experienced senior faculty and program officers. The MOVCENTR is grateful for many others of our junior investigators who benefited from attending this workshop in the past including Drs. Myers, Kyvelidou, and Takahashi.

COBRE PI and MOVCENTR Director, Dr. Nick Stergiou, gave two virtual Keynote Lectures

Dr. Stergiou was the Keynote Lecturer for the Virtual 8th International Conference on Sport Sciences Research and Technology Support that was help November 5-6th. Additionally, he was a Keynote Lecturer for the 2nd International Symposium on Mathematical and Computational Oncology that was help October 8-10th.

The Fifth Annual Conference in Human Movement Variability

Our conference was held virtually on Friday, September 4, 2020 with a record breaking 269 registrants. Although MOVCENTR organizers wanted to gather in-person, the virtual format was a huge success and allowed scientists from all over the globe to "come to Omaha." The MOVCENTR would like to thank Drs. Amelia Lanier, Nate Hunt, Vivien Marmelat and Ms. Laura Rotert for their hard work in quickly transitioning from an in-person conference to an interactive virtual setting. We would like to thank our sponsors and Podium for technical support.

Upcoming & Recent Events

- **The Sixth Annual Conference in Human and Movement Variability will take place May 20-21, 2021. Abstract submission opens from Nov. 1, 2020 through Jan. 31, 2021.**

Research Cores

The MOVECENTR Has Three Research Cores

Machining & Prototyping Core

Dr. Brian Knarr, Core Director
Contact: bmchmpcore@unomaha.edu

The Machining and Prototyping Core Facility involves the use of three major facilities within the University of Nebraska at Omaha Biomechanics Research Building: The Machine Shop, Design Studio, and the 3D Printing Laboratory. The most basic function of the Core is to provide services that utilize these spaces and their personnel and equipment. These services are for professional in the University of Nebraska system, the local area, but also to people outside our state to progress their research or other projects. This core can design, prototype, manufacture and repair, maintain, or install a wide range of devices and instrumentation.

Movement Analysis Core

Dr. Sara Myers, Core Director
Contact: bmchmovan@unomaha.edu

The Movement Analysis Core provides resources, education, advisement and services related to the analysis of human movement. Equipment such as motion capture, dynamometry, electromyography (EMG), electroencephalography, functional near-infrared spectroscopy, virtual reality and high-speed digital video are provided. Contact the core for a comprehensive PDF of our facilities, resources and services.

Nonlinear Analysis Core

Dr. Jenna Yentes, Core Director
Contact: bmchonan@unomaha.edu

The Nonlinear Analysis Core provides resources and services necessary for innovative analysis of human movement. These methods go beyond averages by looking at the time-varying characteristics of a time signal. The Core provides access to a multitude of nonlinear analysis tools, assistance in experimental design, data processing, quality assurance, interpretation and dissemination. The Core is also actively exploring and validating new techniques and algorithms for future use. In addition to our nonlinear methods, standard analyses can also be performed.

Featured Collaborative Research Core

November's Featured Collaboration Research Core: Neuroimaging Core at the University of Nebraska Medical Center

Neuroimaging Core

The Neuroimaging Core provides direct access to state-of-the-art instrumentation for multiple MRI modalities (e.g., structural T1/T2, functional, diffusion, perfusion, and spectroscopy), high density MEG, mobile electroencephalography (mEEG), and functional near-infrared spectroscopy (fNIRS). The Core also houses the latest tools for neuromodulatory research, including both conventional and high definition transcranial direct- and alternating-current stimulation systems (tDCS/tACS), and a fully-equipped transcranial magnetic stimulation (TMS) system with stereotactic neuro-navigation tools. The Core provides access to cognitive assessment suites, high performance computing infrastructure, and the analytical expertise necessary to develop rigorous experiments, analyze the resulting neural data using cutting-edge methods (e.g., multimodal fusion, dynamic functional connectivity), and merge neuroimaging and cognitive assessment data using the latest approaches and statistical models.

University of Nebraska at Omaha
College of Education, Health, and Human Sciences

Center for Research in Human Movement Variability (MOVCENTR)
402.554.3228 | cobre.unomaha.edu
Biomechanics Research Building | 6061 University Drive South | Omaha, NE 68182