

# SEMINAR SERIES

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



## Face and Whole-body Identification: Challenges and Solutions

Featuring Dr. Benjamin Riggan  
University of Nebraska - Lincoln



Friday, March 3 | 12:00 - 1:15 pm | BRB 167

### PRESENTATION ABSTRACT

Biometric recognition, including verification (1:1 matching), identification (1:N matching), or re-identification using face or whole-body signatures, have been integrated into consumer devices, commercial security systems, law enforcement investigative tools, and defense/intelligence community surveillance platforms. However, there are challenges beyond conventional pose, illumination, and expression (PIE) conditions that demand unconventional solutions. Two such fundamental challenges (or concepts) that will be discussed include (1) cross-spectrum matching and (2) long-rang recognition. A few recent advancements in the context of face and whole-body biometrics will be presented to attempt to illustrate that these problems demand unconventional solutions—solutions beyond leveraging more data, more nonlinearity, or more augmentation/diversity.

### ABOUT DR. RIGGAN

Dr. Benjamin S. Riggan is an assistant professor with the department of Electrical and Computer Engineering at the University of Nebraska-Lincoln (UNL), where he has worked since Fall of 2019. Prior to joining the faculty at UNL, he was a research scientist at the U.S. Army Research Laboratory (ARL) in the Networked Sensing and Fusion branch. His research interests are in the areas of computer vision, image and signal processing, and biometrics/forensics, especially related to domain adaptation, multi-modal analytics, and machine learning. Across these topics, Dr. Riggan has published more the 30 papers and his research been supported by DEVECOM ARL, National Strategic Research Institute (NSRI), IARPA, Nebraska Department of Economic Development, and many Industry Partners. Dr. Riggan received the B.S. degree in computer engineering from N.C. State University in 2009, and M.S. and Ph.D. degrees in electrical engineering from N.C. State University in 2011 and 2014, respectively. After finishing his Ph.D., he was awarded a postdoctoral fellowship at ARL's Image Processing Branch. He has received three best papers awards (IEEE WACV 2016, BTAS 2016, WACV 2018) and serves as Associate Editor for IEEE Transaction on Aerospace and Electronic Systems (TAES). He is an inaugural fellow of the, USSTRATCOM's University Associated Research Center (UARC) at UNL. He has also served in leadership roles (chair, organizer, program committed) for IEEE WACV, IEEE FG, IEEE IJCB, and IEEE AVSS.

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

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