TOPIC	**Brain-Computer Interface (BCI)**
ORGANIZERS	Student Leadership Council and Faculty of ACIT Institute and TECHLAV Center
AREA	Brain-Computer Interfaces: Research in Communication, Control and Human Cognition
SPEAKER	Chang S. Nam, Ph.D.
DATE	Friday January 13, 2017
TIME	3:00 – 4:00 P.M. (EST)
VENUE	Fort IRC 410, North Carolina A&T State University, UTSA and SIPI will be joining through video-conferencing
FEES	No Charge

SYNOPSIS

During the last decades, a new capability has emerged by which the human brain can directly communicate with the environment, called brain-computer interface (BCI). As a communication and control system that does not depend on the brain's normal output pathways of peripheral nerves and muscles, BCIs are known for providing alternate methods to interact with the outside world not only for healthy people, but also for patients who cannot use their muscles but are cognitively intact. Despite advances in BCI technology and a considerable amount of ongoing research, current efforts in the area of BCI research and development still have significant gaps.

In this talk Dr. Nam will present various BCI projects performed to address these issues, in particular his recent research aimed at investigating a collaborative BCI where the mental strategy of the user and the algorithms of the BCI system are jointly optimized, efficacy of the BCI-driven rehabilitation systems (e.g., hand orthosis; functional electrical stimulation), and neural mechanisms of human cognition (e.g., emotion). In addition, he will introduce a project on a multifunctional BCI with remote home support where a wearable sensor-based monitoring system is integrated into a BCI system to remotely monitor brain functions of people with and without limited mobility in their homes.

ABOUT THE SPEAKER

Dr. Chang S. Nam is currently an associate professor of Edward P. Fitts Industrial and Systems Engineering at North Carolina State University. He is also an associated professor of the UNC/NCSU Joint Department of Biomedical Engineering, as well as Department of Psychology. He received a PhD from the Grado Department of Industrial and Systems Engineering at Virginia Tech in 2003. He teaches and conducts basic and applied research in human factors and ergonomics engineering to advance the science of Human-Computer Interaction (HCI) with a broad prospective on the application of systems and information engineering to human-centered technologies, including brain-computer interface and neurorehabilitation, wearable sensor-based remote healthcare, neuroergonomics, and adaptive and intelligent human-computer interaction. His research has been supported by federal agencies including National Science Foundation (NSF), Air Force Research Laboratory (AFRL) and National Security Agency (NSA). Dr. Nam has received the NSF CAREER Award (2010), Outstanding Researcher Award (2010-2011), and Best Teacher Award (2010-2011). Currently, Nam serves as the Editor-in-Chief of the journal Brain-Computer Interfaces.