



Speaker's Bio:

Professor Kamran Iqbal obtained his BE (Avionics) from CAE, and Masters and Ph.D. in Electrical Engineering from the Ohio State University. He has held teaching/research appointments at CAE, GIK Institute, the Ohio State University, Northwestern University, University of California, Riverside, and California State University at Fullerton. He is currently employed as Professor of Systems Engineering in the College of Engineering and Information Technology at University of Arkansas at Little Rock. Dr. Iqbal's research interests include biomechanical models of human movement, motor control, postural stability, prosthetic devices, and neuro-prostheses. These endeavors aim to uncover the neurological and biomechanical principles underlying posture and movement control and extend them to engineering use. He is a senior member of IEEE, member of IET (UK), IASTED, ASEE, and Sigma Xi (past president of the Central Arkansas Chapter). More information about his research activities is available at <http://ualr.edu/systemsengineering/personnel/faculty/kamran-iqbal/>.

The Department of Electrical Engineering, cordially invites you to a seminar on

The Emerging Field of Biomechatronics

By

Prof. Kamran Iqbal

Date: Tuesday, Sept. 10, 2013

Time: 11:00 am - 12:00 pm

Venue: G-209

Abstract

Biomechatronics is the growing science of designing and developing prostheses, assistive devices, rehabilitation robotics, exoskeletons, and related technologies. Biomechatronics field integrates mechanical engineering, electronics, computer science, and embedded systems with biology, and encompasses the fields of robotics and neuroscience. Biomechatronic devices interact with human neuro-musculo-skeletal systems at various levels to recover motor modalities that were impaired or lost due to trauma, disease, or birth defects. Rehabilitation robotics has helped restore mobility to paraplegics and stroke patients. Interest in biomechatronics and rehabilitation robotics has grown considerably in the past decade. Major efforts to develop next generation prosthetic devices are currently underway in different parts of the world. They include development of effective brain-machine interfaces for intelligent communications with the central nervous system. This talk is aimed to provide an overview of the fields of biomechtronics and rehabilitation robotics. It will cover the recent development of the field, active research centers, application areas, and current state-of-the-art in prosthetic devices and neuro-prostheses.