Pre-conference workshop on Biomedical Engineering

Organized by KDU & NSF

"Expanding Access to Healthcare through Bioengineering Advances"

Date: 2nd August 2017

Time: 8.30 am to 4.30 pm

Venue: Auditorium of University Hospital KDU, Werahera, Sri Lanka

Participants: Researchers, academics, clinicians and students from Biomedical Engineering and Healthcare sector (a maximum of 200 participants will be accommodated on a first come first serve basis)

Objective: To discuss major developments in Bioengineering and to promote collaborative research in developing affordable solutions for healthcare requirements of our country.

Summery

Increasing life expectancies together with aging populations, increasing prevalence of chronic diseases, shortage of qualified medical professionals, inaccessibility of adequate medical care are among the major challenges faced by healthcare systems around the world. Bioengineers working at the intersection between engineering, life sciences and medicine, develop innovative tools, equipment and methods to meet the demands of the healthcare systems. As an emerging field in Sri Lanka, Bioengineering is beginning to expand into a dynamic field where bioengineers and healthcare professionals work alongside to develop affordable and innovative solutions to address the healthcare needs of our country. This Pre-conference workshop, co-organized by Kotelawala Defence University and The National Science Foundation under the theme of "*Expanding Access to Healthcare through Bioengineering Advances*" aims to bring together the experience and the expertise of leading international and local researchers, academics, professionals and university students in Bioengineering and Healthcare to discuss major developments and promote collaborative research in Bioengineering.

- The **agenda** of the workshop would be **available soon**.
- The **material of the workshop**, **lunch**, **refreshments and certificate of participation** will be **provided for free** to all participants.
- There is **no registration fee**, but the workshop is **limited to 200 participants**. Registration is based on first come first served basis. To **register**, please send an email to **bmesoc@kdu.ac.lk** indicating your name with title, affiliated institute, designation, official address, NIC number and mobile number. Call (Mr Kanchana Wijesinghe) **+94 772399586** for more details.

Invited International Speakers

Dr. James B. Phillips

Senior Lecturer in Biomaterials & Tissue Engineering, University College London, UK

Dr. James Phillips is a Senior Lecturer in Biomaterials & Tissue Engineering at UCL. From 2004 to 2013 he was a Lecturer in Health Sciences at the Open University, involved in a range of teaching, research and public engagement activities. His first degree was in Biochemistry at Imperial College London, followed by a PhD in Pharmacology at the School of Pharmacy, University of London, awarded in 2000. He was a postdoctoral researcher on an EU project in the Tissue Repair and Engineering Centre at UCL developing tissue engineered devices for peripheral nerve and spinal cord repair, then worked as a Research Fellow in the Surgery Department at UCL, investigating the effects of the cancer treatment photodynamic therapy on the nervous system.

Dr. James Phillips is currently involved in a range of research projects including collaborations with scientists, clinicians and engineers working in academia and industry. He is a member of the Editorial Board for the Journal of Biomaterials Applications, part of the Executive Committee of the Tissue and Cell Engineering Society and a Board Member of the European Society for the Study of Peripheral Nerve Repair and Regeneration. His lab is based in the Biomaterials & Tissue Engineering Department in the UCL Eastman Dental Institute and his research group is affiliated with the UCL Institute of Healthcare Engineering and the Neuroscience in Health and Disease research cluster.

Prof. Eduardo Fernández

Professor of Cellular Biology, Chairman of the Department of Histology and Anatomy, Director of the Neuroengineering and Neuroprosthesis Unit at the Bioengineering Institute, University Miguel Hernández, Spain

Prof. Eduardo Fernández received a M.D. degree from the University of Alicante (1986) and a Ph.D. in Neuroscience with honors in 1990. He has been visiting professor at the University of Utah (USA), University of Oldenburg (Germany), Beth Israel Medical Deaconess Center (USA) and University of Vienna (Austria). His research interests is in developing solutions to the problems raised by interfacing the human nervous system and on this basis develop a two-way direct communication with neurons and ensembles of neurons. He is actively working on the development of neuroprocessing and brain-machine interfaces. In the last five years he has been using histological and electrophysiological techniques to assess the response to implantation and general biocompatibility issues regarding intracortical microelectrodes. He is also working on brain plasticity and reorganization in severe vision loss and developing non-invasive methodologies for the selection of appropriate candidates for implantation of visual neuroprosthesis.

Prof. Eduardo Fernández has a broad range of expertise in Neural Engineering ranging from cellular level to design of visual prostheses and the implementation of Brain Computer Interfaces. He is also the Founder and a member of the scientific committee of Instead Technologies Ltd, a technology-based company aimed at helping individuals with disabilities, which is promoted by a multidisciplinary team of the Miguel Hernández University, Spain.

Prof. Richard Baker

Professor of Clinical Gait Analysis, University of Salford, UK

Prof. Richard Baker moved to takeup the world's first chair in Clinical Gait Analysis in February 2010 after spending the last nine years at the Royal Children's Hospital in Melbourne, Australia. His first degree was in physics from Cambridge and his PhD was in biomechanics from Dundee. He spent 7 years managing the Gait Analysis Service at the Musgrave Park Hospital in Belfast before moving to a similar role in Mebourne. Between 2005 and 2009 he was the Director of the Centre for Clinical Research Excellence in Clinical Gait Analysis and Gait Rehabilitation (the Gait CCRE) at the Murdoch Children's Research Institute (MCRI) in Melbourne. He still holds honorary appointments with the MCRI, the University of Melbourne and La Trobe University.

Prof. Richard Baker is best known for his work in the methodology of Clinical Gait Analysis and is frequently invited to give keynote presentation to international conferences. He delivered the Bauman Lecture at the first joint meeting of the European Society for Movement Analysis in Adults and Children and the Gait and Clinical Movement Analysis Society. He has published over 100 articles in the leading peer review journals in the field.

Prof. Li-Shan Chou

Professor of Biomechanics and Head of the Department of Human Physiology, University of Oregon, USA

Professor of Biomechanics and Director of the Motion Analysis Laboratory, Dr. Chou is a tenured Professor in the Department of Human Physiology and current serves as the Department Head. He holds a PhD in Mechanical Engineering from the University of Illinois at Chicago. Dr. Chou has authored or co-authored over 90 peer reviewed research publications and continues to be an active researcher and graduate student mentor.

Current research of Prof. Li-Shan Chou includes the prevention of falling among the elderly, detection of dual-task gait instability impairment, and the effects of acute and chronic concussion on gait instability and increased risk of injury.

Prof. Ajit P. Yoganathan

Regents's Professor

Coulter Department of Biomedical Engineering at Georgia Tech and Emory University, USA

Associate Chair for Research

Professor Yoganathan's research deals with experimental and computational fluid mechanics as it pertains to artificial heart valves, left and right sides of the heart, and congenital heart diseases. His work involves the use of laser Doppler velocimetry, digital particle image velocimetry, Doppler ultrasound

and magnetic resonance imaging to non-invasively study and quantify blood flow patterns in the cardiovascular system.

He has published more than 250 peer reviewed journal articles and book chapters in leading biomedical journals and books. In 1985, Dr. Yoganathan was awarded an Alexander von Humboldt Fellowship from West Germany to spend nine months at the Helmholtx Institute of Biomedical Research, Technical University of Aachen. In 1988 he received the Edwin Walker Prize from the Institute of Mechanical Engineers, UK. He was elected a founding fellow of the American Institute of Medical and Biological Engineering in 1992. Also in 1992, he spent six months in Denmark as a Visiting Professor of the Danish Research Academy.

He received the H.R. Lissner award, for his contributions to the field of bioengineering, in 1997 from the American Society of Mechanical Engineers. In 2004 he was appointed to the prestigious Wallace H. Coulter Distinguished Faculty Chair in Biomedical Engineering at Georgia Tech & Emory. In 2005 he was awarded the Theo Pilkington award, for his contributions to Biomedical Engineering education, by the American Society of Engineering Education. He is chair of the International Standards Organization Subcommittee on Cardiovascular Implants, member of the executive committee of the Biomedical Engineering Society, past member of the NIH Surgery and Bioengineering Study Section, and past chair of the American Society of Mechanical Engineers Bioengineering Division. He is a leading consultant to the cardiovascular medical device industry.

Dr. Yoganathan is the Associate Chair for Research in The Wallace H. Coulter School of Biomedical Engineering, a Regents' Professor & the Wallace H. Coulter Distinguished Faculty Chair in Biomedical Engineering.