



MERCCon 2019

Moratuwa Engineering Research Conference

Workshop on **SOFT ROBOTICS**

*Conducted by the CSSM lab of
Department of Mechanical Engineering,
University of Moratuwa*



Soft Robotic Glove of Harvard Biodesign Lab

Soft Robotics is a key disruptive technology in the 21st Century that is poised to take on the challenges faced by rigid robotics in safe interaction with humans and the environment. The term “soft robotics” is the general term that covers all types of active and reactive compliant systems ranging from soft actuators, soft stretchable sensors, soft energy harvesting, and even soft electronics. However, a soft robot is an engineered mobile machine that is largely constructed from soft materials (ex: silicone) and most commonly powered by the flow of fluids (ex: air and liquid). Soft robots deform during normal use and range from being simply flexible to being extremely ‘squishy’ and capable of dramatically changing their size and shape (morphing). This allows for unique kinds of movements which often mimic animal behaviour. These robots usually tend to have higher degrees of freedom and dexterity. This technology has spun out various applications ranging from industrial to medical in various degrees of stiffness.

This workshop intends to broaden the view of attendees by discussing the concept of soft robotics, fabrication of necessary hardware for implementing such systems, control of soft robot systems and how they can be used in applications such as exoskeleton systems, VR systems and industrial robotics. Apart from discussions, the organizers intend to include a hands-on session on current research conducted at Universities of Sri Lanka.

Speakers:

Dr. Isuru Godage
DePaul University, USA

Dr. Kumara Jayawikrama
University of Ruhuna, Sri Lanka

Mr. Kanchana Karunanayake
Finite Element Analysis and Simulation Center, Sri Lanka

Dr. Damith Chathuranga
University of Moratuwa, Sri Lanka

Date: 5th July 2019

Venue: University of Moratuwa

Time: 9 am to 12.30 pm

Payments:

*Participants with foreign affiliation: USD 60
Participants with Sri Lankan affiliation: LKR 3000*

Register @:

<http://mercon.mrt.ac.lk/workshops.html>

WORKSHOP 2

5th International Multidisciplinary Engineering Research Conference

5th
July 2019

University of
Moratuwa,
Sri Lanka