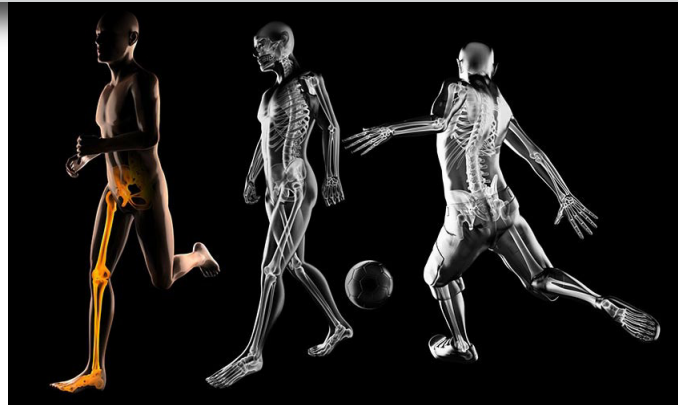
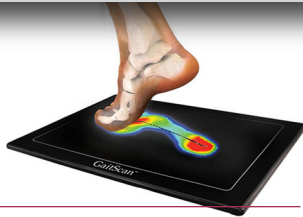




Affordable Motion Capturing for Gait Analysis, Clinical Rehabilitation and Sports



Speakers

Dr. Pujitha Silva

Director, Centre for Biomedical Innovation | Senior Lecturer, Department of Electronics and Telecommunication, University of Moratuwa

Dr. Oren Tirosh

Senior Lecturer in Biomechanics, Swinburne University of Technology

Mr. Gopi Kitnasamy

Head of Rehabilitation Services - MJF Charitable Foundation, Colombo, Sri Lanka | Founder/Director of Cerebral Palsy Lanka Foundation (CPLF) | Director of National Centre for Children with Cerebral Palsy and other Developmental Disorders (NCCCPDD)

Ms. Cinthuja Pathmanathan

Lecturer, Department of Allied Health Sciences, Faculty of Medicine, University of Colombo

Mr. Udana Bandara

PhD Candidate, Research Institute for Sport and Exercise Science, Faculty of Health, University of Canberra, Australia

Mr. Jayamini Ranaweera

Data Scientist - Bath Rugby, UK | PhD Candidate - Leeds Beckett University, UK

Mr. Sanjaya Mallikarachchi

Research Assistant, Centre for Biomedical Innovation, University of Moratuwa

Mr. Kithmin Wickramasinghe

Junior Lecturer on Contract, Department of Electronics and Telecommunication, University of Moratuwa

Mr. Ruwan Udayanandana

Research Engineer, Centre for Biomedical Innovation, University of Moratuwa

Ms. Chathurani Dias

Research Engineer, Centre for Biomedical Innovation, University of Moratuwa

Rehabilitation medicine in Sri Lanka and the South Eastern Region serves a large community of people with minimal facilities while almost solely depending on the experience and the limited numbers of physiotherapists, podiatrists, orthopedic and vascular surgeons and other clinicians and orthotists working in the medical sector. The high cost of prosthetics, orthotics, prosthetic and orthotic fabrication equipment, customization equipment and diagnostic equipment such as motion capturing, gait analysis and plantar pressure measuring systems is still fully unavailable in the Public medical care, leaving majority of the public and the clinical practitioners cut off from the technologies and health care progress available in the developed world.

The same technologies of motion capturing, gait analysis and pressure analysis can also help in evaluating sports men from the youngest age, in order to help them achieve injury free professional careers rich with technique. Further the big data analysis of sports can help in achieving success for national teams through sports analytics, and player management, training and coaching management tools.

The Centre for Biomedical Innovation, together with the collaborations with Kairos Sensing and clinical rehabilitation partners from University of Colombo and MJF Foundation has been working on developing a more affordable solution for motion capturing, aiming clinical rehabilitation and sports.

This workshop focuses on sharing the need, and the value and development that can be achieved in the areas of clinical rehabilitation and sports through more affordable solutions of motion capturing, gait analysis and foot pressure measurement by sharing the real life experiences of the clinical, sports and engineering members engaged in this effort. Their stories while engaging in R&D, commercialization and clinical applications in this field will be shared with practical demonstrations of the commercially available motion capturing systems for the audience to gain a first hand experience and be able to apply the learnings for the benefit of future work.

Workshop Programme

Session	Topic	Presenter	Duration
1	Welcome and Introduction	Dr. Pujitha Silva	10 min
2	Key Note Speech - Search for affordable motion capturing	Dr. Oren Tirosh	40 min
3	Persisting needs in Clinical Rehabilitation in Sri Lanka	Mr. Gopi Kitnasamy	25 min
4	Gait Analysis Hardware and Software	Mr. Sanjaya Mallikarachchi	25 min
5	Gait analysis and medical treatments in Sri Lanka without sophisticated sensors	Ms. Cinthuja Pathmanathan	25 min
6	A Practical Data Capturing session using Shimmer IMU System	Mr. Kithmin Wickramasinghe	40 min
7	Use of Plantar Pressure Measurements in Clinical and Gait related studies	Mr. Ruwan Udayanandana	25 min
8	Motion capturing in sports	Mr. Udana Bandara	15 min
9	Innovative technology needs for Sri Lankan Sports	Mr. Jayamini Ranaweera	15 min
10	Conclusion and Discussion	Dr. Pujitha Silva	15 min

Image Credits: <https://www.perfectbalanceclinic.com/services/gait-analysis-in-london/>, <https://www.manlyfootclinic.com.au/project/gait-analysis-and-sport-injuries/>

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

WORKSHOP 6

7th International Multidisciplinary Engineering Research Conference

30th July 2021

1.30 pm - 5.30 pm



Participation is **FREE** of charge!