ITUM IRC
INTERNATIONAL RESEARCH CONFERENCE

Keynote Speaker
Dr. Ishara Dharmasena

**Wolfson School of Mechanical,
Electrical and Manufacturing Engineering
Loughborough University
England**

ℹ Short Biography:

Dr. Ishara Dharmasena is a Senior Lecturer (Associate Professor) at the Wolfson School of Mechanical, Electrical and Manufacturing Engineering at Loughborough University, and a Royal Academy of Engineering (RAEng) Research Fellow. He also holds the Fellowship of the Higher Education Academy (FHEA).

Ishara's research focuses on nanogenerators, smart textiles and wearable electronics. His work has been published in world-leading journals including Energy & Environmental Science and Advanced Energy Materials. He has been an invited speaker at globally recognized conferences, such as the European Materials Society Meetings.

In addition to his research, Ishara actively engages with media and outreach activities, showcasing his work at major UK events like the Royal Society Summer Science and through media channels, including the BBC.

He has received several prestigious awards, including the UK's Young Engineer of the Year for 2024, the EPSRC Doctoral Prize Fellowship, the ABTA Doctoral Researcher Award - UK, and The Textile Institute Gold Medal. Ishara has secured over £1 million in funding for his research from notable funders, including RAEng, the Royal Society, and EPSRC.

🎓 Education:

2014
UNIVERSITY OF MORATUWA
B.Sc. Engineering (Hons)

2019
UNIVERSITY OF SURREY
Postgraduate Certificate in Learning and Teaching

2019
**ADVANCED TECHNOLOGY INSTITUTE,
UNIVERSITY OF SURREY**
Ph.D. in Electronics Engineering

''Super-Smart Textiles: A Cross-Disciplinary Journey Towards Future Wearable Technologies''

Synopsis:

Super-Smart Textiles are a novel wearable technology that converts natural body movements into electrical signals through advanced fibre materials. The technology operates based on static charging and electrostatic induction at the fibre level. Super-Smart Textiles can function as self-powered active sensors to monitor body movements and physiological parameters, or as energy generators to operate low-power electronics. Unlike conventional wearables, this technology integrates seamlessly with clothing and has the potential to provide excellent electrical performance, autonomous operation, wearability, low cost, and comfort. The applications of this technology are explored in remote health sensing, sports, communication, and personal electronics. Herein, we will discuss our pioneering research in Super-Smart Textiles: a cross-disciplinary journey from theory to devices and wearable applications.

📅 **18 DECEMBER 2024** 🕘 **9.40 AM- 10.10 AM**
SRI LANKA (GMT + 5.30) 📍 **Institute of Technology
University of Moratuwa, Sri Lanka**