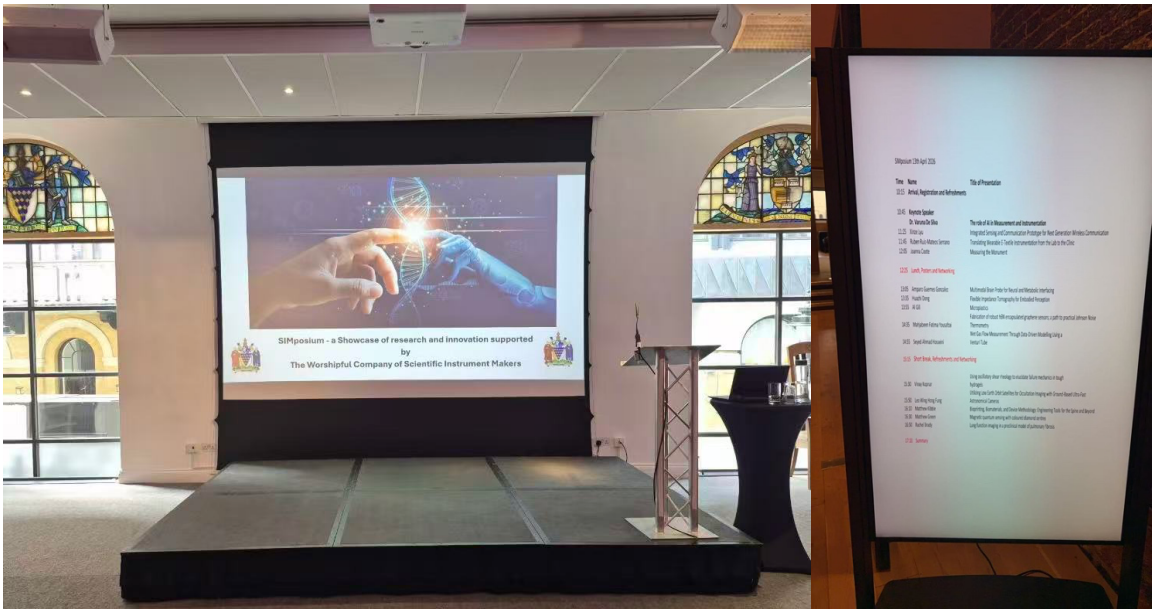
IET Travel Award Report

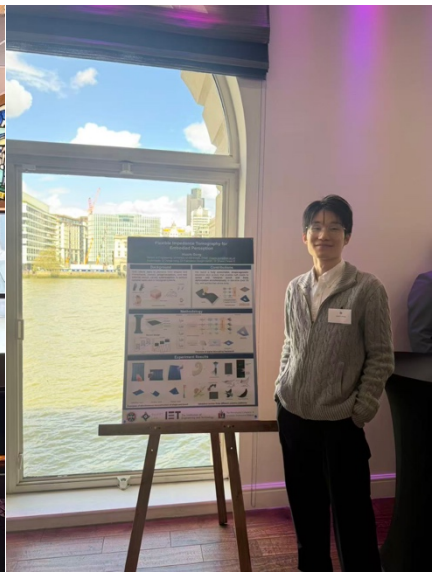
I am Huazhi Dong, a PhD student at the School of Engineering at the University of Edinburgh. My research focuses on flexible Electrical Impedance Tomography (fEIT) for embodied perception in soft robots, to enable robots to achieve whole-body awareness through integrated external tactile and global deformation sensing. I am sincerely grateful to the Institution of Engineering and Technology (IET) for awarding me the IET Travel Award, which enabled my participation in the SIMposium held at the Worshipful Company of Scientific Instrument Makers, Glaziers' Hall, London, on 13th April 2026.



The SIMposium provided an excellent opportunity to engage with researchers, engineers, and professionals working across instrumentation, sensing, and measurement-related fields. The event brought together participants from academia and industry, creating a stimulating environment for discussion on emerging technologies, practical challenges, and future directions in scientific instrumentation.

At the SIMposium, I delivered a 20-minute presentation and exhibited a poster titled *Flexible Impedance Tomography for Embodied Perception*. In both the oral presentation and the poster session, I introduced my research on fEIT-based sensing systems for soft robotics. This work explores how fEIT-based sensors can be used not only for tactile sensing but also for capturing global deformation, thereby supporting embodied perception in deformable robotic systems. I presented the motivation behind this research, the sensing principle, the system design, and the broader significance of using flexible, large-area sensing approaches to enable more adaptive and intelligent robot–environment interactions.

The presentation was a valuable opportunity to communicate my work to a multidisciplinary audience. The oral talk allowed me to explain the key concepts and technical contributions in a structured way, while the poster session enabled more detailed one-to-one discussions with attendees. These interactions were especially helpful, as they provided feedback from people with different backgrounds in instrumentation and sensing, helping me think more broadly about how this research can be positioned and developed in the future.



The support from the IET Travel Award was instrumental in making this visit possible. It enabled me to attend the event in London, present my research in both oral and poster formats, and represent the University of Edinburgh in a prestigious professional setting. The experience has strengthened my confidence in communicating with my work and broadened my academic perspective.

Overall, attending the WCSIM SIMposium was a highly enriching experience. It allowed me to share my research on flexible impedance tomography for embodied perception, receive constructive feedback, and engage with a wider community interested in scientific instrumentation and sensing. I am very grateful to the IET for its generous support, and I greatly appreciate the opportunity this award provided.