

IET International Travel Award 2026

EuroHaptics 2026, Siena, Italy

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In July I was fortunate to travel to Siena, Italy, for [EuroHaptics 2026](#), the 15th edition of Europe's leading conference on haptics – the science and technology of touch. Hosted by the University of Siena from 6 to 9 July, it held its sessions in some of the city's most historic buildings, including the Santa Maria della Scala complex and the Teatro dei Rinnovati. The programme was one of the largest the conference has run, with 235 presentations, 55 live demonstrations and nine workshops, and the [proceedings](#) accepted 82 full papers. Over the four days I presented a full paper with a live demonstration, co-organised the highest-attended workshop and judged the work-in-progress posters. I also came home with a new and deeply exciting collaboration and two invitations to join international committees.

My main contribution was a full paper and live demonstration of [A Multimodal Haptic Interface for Simultaneous Softness and Thermal Modulation](#), co-authored with Professor Fernando Bello (Imperial) and Dr Lynette Jones (MIT), and it ties directly back to my last IET-funded trip. In 2024, I attended the IEEE Haptics Symposium and enjoyed a lunchtime conversation in Long Beach with a senior scientist from MIT who shared my ambition to combine different touch sensations, and who invited me to her lab to build temperature-changing medical models. That scientist was Dr Jones, who leads MIT's Cutaneous Sensory Lab and gave one of the five keynotes in Siena, on the challenges of thermo-tactile displays. The visit went ahead: supported by an Imperial College-MIT Seed Grant and a Pro2 Network+ residency, I have since spent time working in her lab, and this paper is our first result.

Many conditions that doctors detect by touch are thermal as well as mechanical. An inflamed joint feels warm, a limb with poor circulation feels cold, and an abscess is both softer and warmer than the tissue around it. Simulators that reproduce only softness leave out half of that information. My device builds on the particle-jamming displays I presented in Long Beach, which become harder or softer by squeezing a bed of small particles together. It uses OpenSoftHaptics, an open-source version of that technology developed with colleagues at MIT, and adds control of surface temperature, so that softness and warmth can be changed independently and at the same time. The difficult part is that the particles that make the surface firm or soft also insulate it, so much of the design work went into getting heat to the skin without spoiling the feel of softness. The live demonstration let attendees press on the display and feel these combinations for themselves.

I also co-organised [Print and Poke: Celebrating the Open-Source Movement in Haptics](#), a half-day workshop. Haptics research often depends on expensive, custom-built

devices that other labs struggle to reproduce, which slows the field down and can be a barrier for researchers on the psychology and neuroscience side of the field. The workshop made the case for open hardware and software as a way to improve access and accelerate innovation, and was the public launch of OpenSoftHaptics, which anyone with a desktop 3D printer can build. It was the highest attended workshop of the conference by a factor of two, and featured a panel discussion between myself, Dr Jones, Prof. Katherine Kuchenbecker (Max Planck Institute for Intelligent Systems, Germany), Prof. Oliver Schneider (University of Waterloo, Canada) and Prof. Melisa Orta Martinez (Carnegie Mellon University, USA). There were also 13 hands-on demonstrations of open-source haptics hardware and software toolkits, and a student poster competition which was won by Noa Kadosh from Ben Gurion University of the Negev, Israel.

Beyond presenting my own research, I was invited to judge the work-in-progress posters, which gave me an in-depth look at the earliest-stage research in the field and the people doing it. I was also proud to see my own students present at the conference. Lou Genoud, from Imperial's MRes in Medical Robotics and Image Guided Intervention, presented a full paper and live demonstration on breast palpation training, along with a poster looking at how surgeons can use supernumerary robotic limbs to make operations easier. Dell Saxena (MEng Electronic and Information Engineering) presented two posters on using haptic feedback to support visually impaired theatre actors. I also formed a new collaboration with Sam Chin from the world-famous MIT Media Lab.

The trip also brought two invitations. I was invited to join the organising committee of the IEEE Haptics Symposium 2028, and to join the [European Academy of Robotic Surgery \(EUARS\)](#) Scientific and Innovation Advisory Network, which I have since accepted. Alongside my existing role as Workshops, Tutorials and Cross-Cutting Challenges Co-Chair for IEEE World Haptics 2027 in Boston, this means I will help shape two of the field's major conferences over the next two years and really highlights the importance of engaging with conferences as a mechanism for projecting the UK's outstanding scientific power.

I'd like to express my sincere gratitude to the IET for funding an incredibly productive trip, and to Imperial College London, the Imperial-MIT Global Seed Fund and the EPSRC Pro2 Network+ for supporting the research I presented.

