



## Workshop 1: Emerging Challenges in Wearable Haptics

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As computing shifts from desktops to embedded systems, haptic feedback is likewise evolving toward wearable devices that enable whole-body interactions. Advances in VR/AR further drive demand for untethered haptics that do not impede vision or hearing. However, engineering wearable haptics poses unique challenges such as delivering stimuli across anatomical regions of varying sensitivity, miniaturizing actuators, and managing trade-offs between bandwidth, resolution, and power density. Emerging solutions include soft polymers, smart materials, pneumatics, fluidics, and compliant mechanisms that better match the biomechanics of skin and overcome the limits of conventional electromagnetic actuators. Embedding these actuators into garments requires a human-centered design ensuring conformability, adjustability, and user acceptance across diverse body shapes. Equally important is integrating touch with vision and sound to craft immersive multimodal experiences, mediate emotion, and explore perceptual illusions. This workshop will gather researchers from multidisciplinary fields to discuss the latest breakthroughs and emerging challenges in wearable haptics.

Workshop Website: <https://www.tdaunizeau.com/workshops/whc2025/>