

Bionic Skin and Collaborative Robots in the context of Healthcare 4.0

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Abstract:

In this talk, a framework that unites bio-inspired flexible electronics and deliberate collaborative robot manipulations will be presented, aiming for Healthcare 4.0 with the context of Human-Cyber-Physical Systems (HCPS). As humans and robots begin to coexist in work, hospital and even household environments, pure collision avoidance is insufficient, as human-robot contact is inevitable, and in some situations, the contact is desired. This talk will share research progress in 1) bio-inspired “robot skin” and its robot-sensing digital twin; 2) wearable human motion capture system for dual-arm robot teleoperation, as well as the human-motion digital twin; 3) human-robot interactions and applications in COVID-19 prevention.