

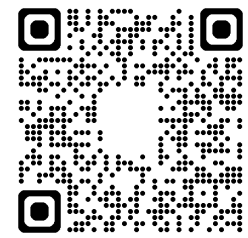
Bioelastic State Recovery for Haptic Sensory Substitution

Human skin's mechanoreceptors can be used to transmit information for various applications, but wearable systems that effectively engage them are challenging to develop. We introduce a small electromechanical structure that works with the skin's natural elasticity to enable stable, self-sensing deformation. This haptic unit targets specific mechanoreceptors to deliver different types of touch stimuli. A wireless, skin-conforming interface using these units can process input from smartphone-based scanning and sensors, with potential uses like sensory aids for people with visual or movement impairments.

**HOSTED BY THE DEPARTMENT OF
MECHANICAL AND
AEROSPACE ENGINEERING**

Friday, February 7, 2025 | 11:00 am
Communication International Building
Room E3053

Register here!



Dr. Yonggang Huang

Achenbach Professor, Northwestern University

Yonggang Huang is the Achenbach Professor of Mechanical Engineering, Civil & Environmental Engineering, and Materials Science at Northwestern University. A member of the US National Academy of Engineering, National Academy of Sciences, and multiple international academies, he specializes in stretchable electronics and 3D assembly. He has published over 700 journal papers, including in Science and Nature, and is a Highly Cited Researcher in multiple fields. His recent honors include major international research awards and a renamed Engineering Science Medal in his honor. He has also received multiple teaching and advising awards, including the Cole-Higgins Teaching Award twice. He is the Editor-in-Chief of Applied Mechanics Reviews, significantly increasing its impact factor.