

## Skin-Inspired Organic Electronics

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### Abstract

Skin is the body's largest organ and is responsible for the transduction of a vast amount of information. This conformable, stretchable, self-healable and biodegradable material simultaneously collects signals from external stimuli that translate into information such as pressure, pain, and temperature. The development of electronic materials, inspired by the complexity of this organ is a tremendous, unrealized materials challenge. However, the advent of organic-based electronic materials may offer a potential solution to this longstanding problem. In this talk, I will describe the design of organic electronic materials to mimic skin functions. These new materials and new devices enabled arrange of new applications in medical devices, robotics and wearable electronics.

**Keywords:** stretchable, self-healing, biodegradable, robotic, medical

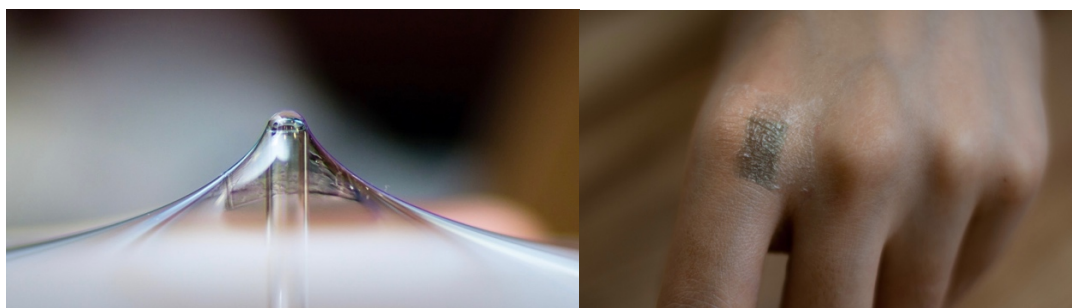


Figure 1. Images of stretchable organic transistors and stretchable organic semiconductor. Image credit: Amir Foudeh, Jie Xu, Sihong Liu of Bao Group, Stanford University.