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Chinese researchers develop electronic skin

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An electronic skin that mimics the full range of biological skin's sensitivity has great potential to transform prosthetics and robotics.



A team of researchers at the Huazhong University of Science and Technology in China has developed a jellyfish-inspired electronic skin that mimics the sensitivity range of biological skin and lights up in response to pressure.

An electronic skin that mimics the full range of biological skin's sensitivity has great potential to transform prosthetics and robotics. Current technologies are very sensitive, but only within a narrow range of weak pressures. Under high pressures that could cause damage, the electronic skins' sensitivity fades.

Jellyfish as a bioluminescent deep-sea creature can feel changes in environmental pressure and flashes dramatically when it senses danger.

The researchers have combined electric and optical systems in an electronic skin to detect both slight and high force pressures.

The researchers embedded two layers of stretchy, poly-dimethysiloxane (PDMS) film with silver nanowires. These layers produce an electrical signal in response to slight pressures.

The team believes that this approach better mimics the wide range of pressures the human skin can feel.