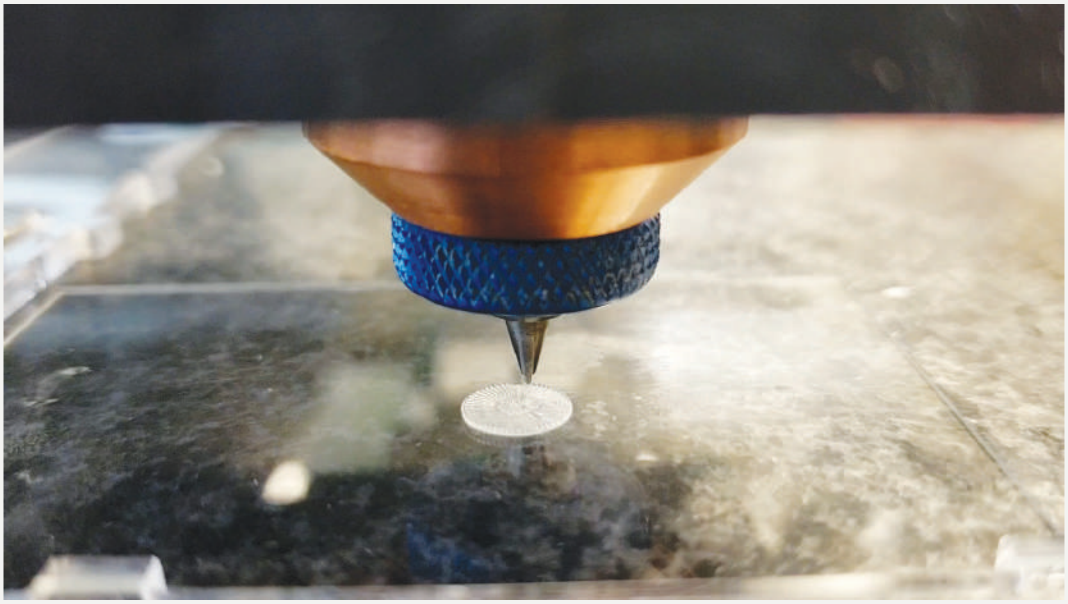
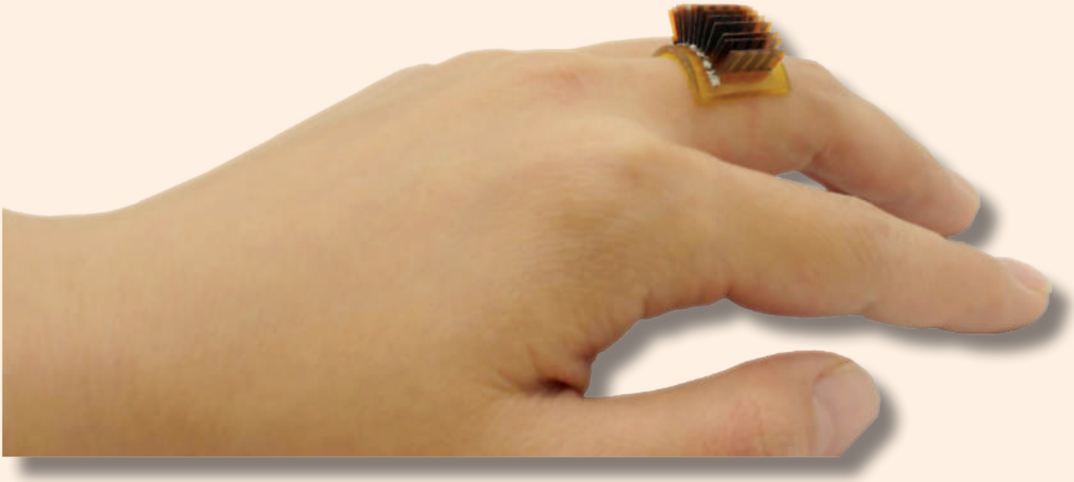
PhonoGraft — Biomimetic Device

A team of scientists at Wyss Institute along with ENT clinicians at the Massachusetts Eye and Ear in Boston has developed an easy-to-use, biomimetic device called PhonoGraft – a biomimetic membrane that recapitulates the structure and functioning of normal human eardrum. It enables better hearing ability and the regeneration of perforated eardrum after injury. These grafts are manufactured from biodegradable elastomers in the form of biomimetic circular and radial scaffolds to accommodate different ear sizes. The study was published in *Hearing Research*.

Source: https://wyss.harvard.edu/





A thermoelectric wearable device worn as a ring
(*Image Credit: Xiao Lab*)

Wearable Device Turning Body into a Battery

RESEARCHERS at the University of Colorado Boulder, US, have developed a new, economical wearable device that transforms the human body into a biological battery. It's a stretchable device that can be worn like an accessory, ring or bracelet touching ones skin. The device is capable of converting a person's internal temperature into electricity which could be enough to power gadgets like watches and fitness trackers. The research was published in the *Journal of Science Advances*.

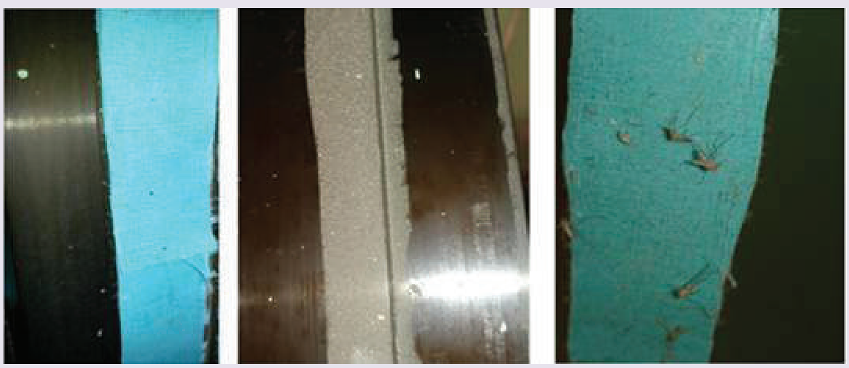
Source: www.colorado.edu

Sticky mat

SCIENTISTS from the Department of Chemical Engineering, IIT Kanpur, have developed a sticky mat that takes away dust from a contacting surface, ensuring a clean, hygienic, healthy, and refreshing atmosphere at homes, offices, hospitals, and laboratories as also smooth functioning of many expensive equipments. The nanoscopic pyramidal bump present on the surface of the adhesive attracts dust particles towards it thereby cleaning the sole of our shoes when we step on it. When the adhesive gets completely covered with particulate matter, it is washed in a way that we wash our clothes and the surface gets back its ability to stick and remains usable through hundreds of such cycles.

Source: PIB, Press release

Capturing the dust from shoe sole | **soiled adhesive** | **cleaning of soiled adhesive** | **cleaned adhesive**



Example of washable adhesive used for catching dust and even mosquitoes inside home

Perovskite Solar Modules

RESEARCHERS from the Okinawa Institute of Science and Technology Graduate University (OIST), Japan, have developed perovskite solar modules with improved stability and efficiency by using a new fabrication technique that reduces defects. The study was published in *Advanced Energy Materials*.

Source: OIST, Press release