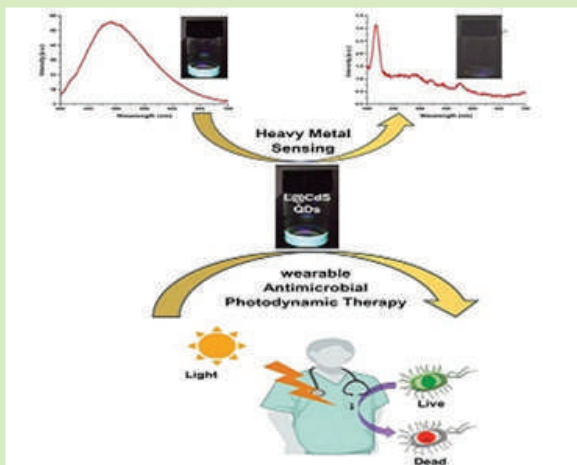


Antimicrobial Coating from Agricultural Waste



TO create biodegradable nanomaterials for biomedical applications, a team of researchers from the DBT-CIAB (Center of Innovative and Applied Bioprocessing), Mohali, have developed L@CdS QDs (Quantum Dots), a nanocomposite made of lignin and cadmium sulphide nanoparticles. The team also demonstrated the efficacy of the nanocomposite in destroying bacteria by coating it on Personal Protective Equipment (PPE). The study results were published in *ACS Applied Nano Materials*.

Source: India Science Wire

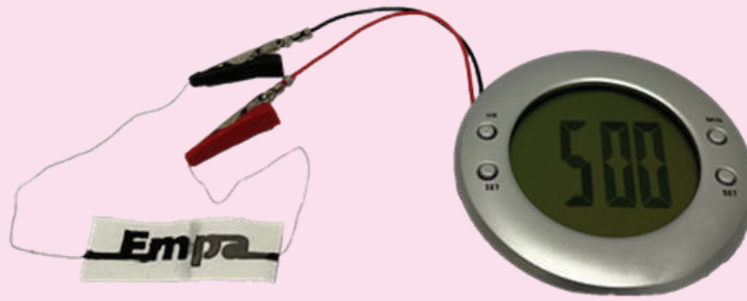
Viroclog®



IIT Delhi's incubated startup Medicfibers, in collaboration with AIIMS, New Delhi, has developed an antimicrobial solution Viroclog® that when applied as a coating on textiles, provides long-lasting protection against Hospital-Acquired Infections (HAIs) by reducing bacteria, virus, fungi survival on fabric. It has long lasting antimicrobial properties for more than 100 washes. Coating the Viroclog® on textiles reduces surface energy, preventing microbe adhesion and destroying microbe membrane integrity. The destruction of the lipid-based membrane barrier renders the microbes inactive, preventing the spread of infection.

Source: IIT Delhi

A Paper Battery with Water Switch

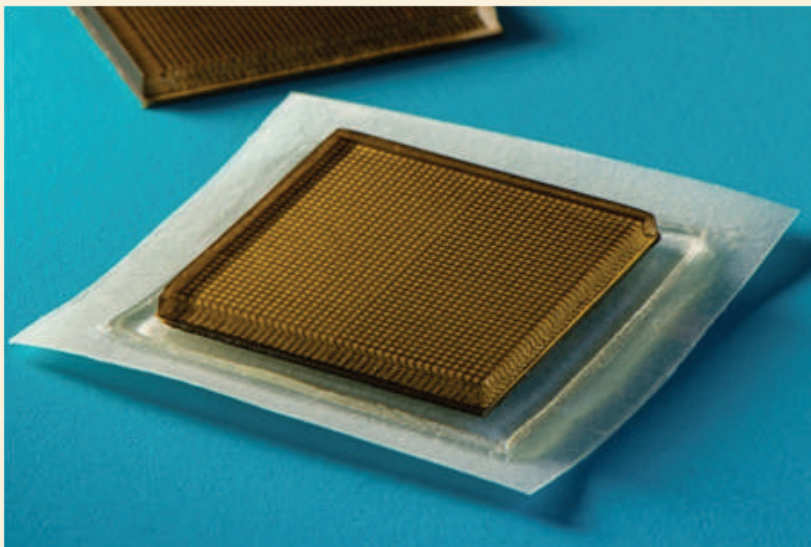


A stencil-printed paper battery designed to spell out the name of research institute ("Empa"). The battery can run low-power electronics such as the Liquid Crystal Display (LCD) alarm clock connected to the battery. Image: Empa

RESEARCHERS at Empa Research Institute, Switzerland, have developed a water-activated disposable paper battery. According to the researchers, it could be used to power a variety of low-power, single-use disposable electronics, such as smart labels for tracking objects, environmental sensors, and medical diagnostic devices, while minimising their environmental impact. The proof-of-principle study has been published in the journal *Scientific Reports*.

Source: <https://www.empa.ch/web/empa/>

Ultrasound Sticker for Imaging Organs



RESEARCHERS from Massachusetts Institute of Technology (MIT) have developed an ultrasound sticker postage stamp-sized ultrasound adhesives device. This device can be affixed to the skin and is capable of transmitting high-resolution images continuously for 48 hours. It produces clear images of heart, lungs, and other internal organs. The study is published in the journal *Science*.

Source: Massachusetts Institute of Technology (MIT),
<https://news.mit.edu/2022/ultrasound-stickers-0728>