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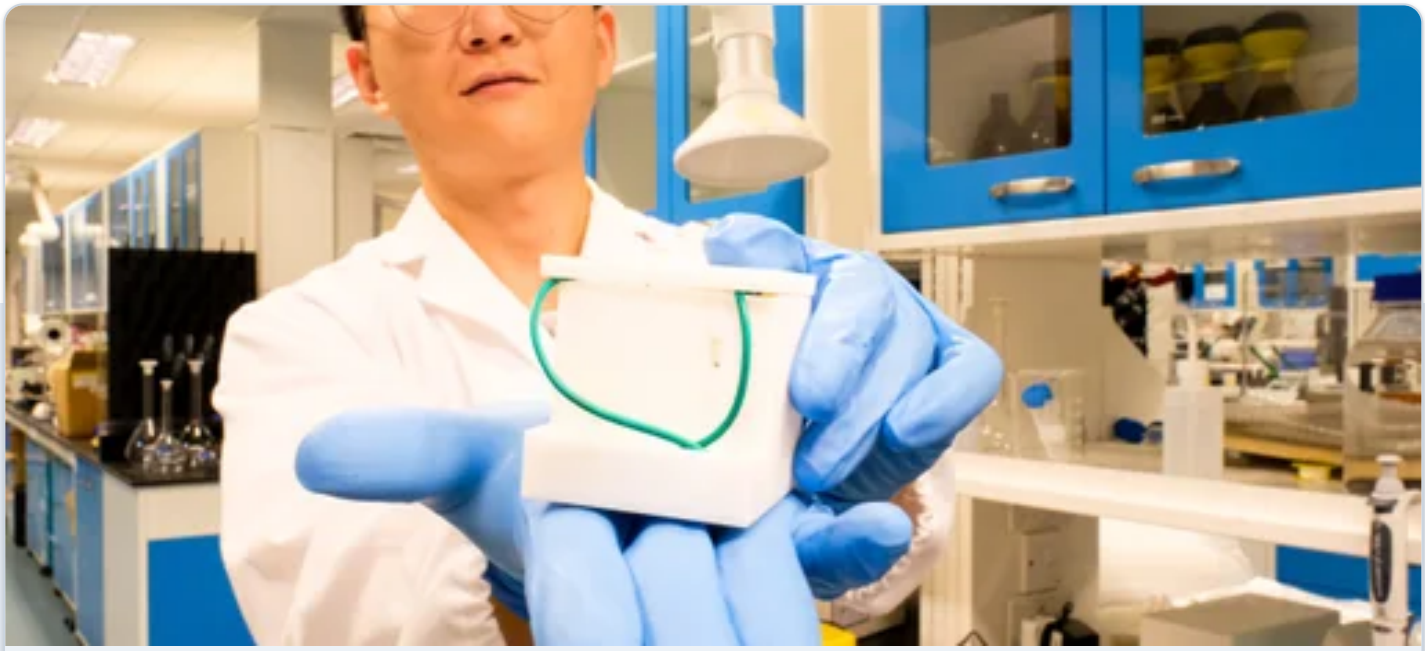

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Researchers develop portable device that creates 3-D images of skin in 10 minutes

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A team from Nanyang Technological University, Singapore (NTU Singapore) has developed a portable device that produces high-resolution 3-D images of human skin within 10 minutes. The team says

3-D skin mapping could be useful to clinicians, as most equipment used to assess skin conditions only provide 2-D images of the skin surface. As the device also maps out the depth of the ridges and grooves of the skin at up to 2mm, it could also help with monitoring wound healing. The device presses a specially devised film onto the subject's skin to obtain an imprint of up to 5 by 5 centimeters, which is then subjected to an electric charge, generating a 3-D image.

The researchers designed and 3-D printed a prototype of their device using polylactic acid (PLA), a biodegradable bioplastic. The battery-operated device, which measures 7 cm by 10 cm, weighs only 100 grams.

The made-in-NTU prototype is developed at a fraction of the cost of devices with comparable technologies, such as optical coherence tomography (OCT) machines, which may cost thousands of dollars and weigh up to 30 kilograms.

Assistant Professor Grzegorz Lisak from NTU's School of Civil and Environmental Engineering, who led the research, said, "Our non-invasive, simple and inexpensive device could be used to complement current methods of diagnosing and treating skin diseases. In rural areas that do not have ready access to healthcare, non-medically trained personnel can make skin maps using the device and send them to physicians for assessment."

Providing an independent comment on how the device may be useful to clinicians, Dr. Yew Yik Weng, a Consultant Dermatologist at the National Skin Centre and an Assistant Professor at NTU's Lee Kong Chian School of Medicine, said: "The technology is an interesting way to map the surface texture of human skin. It could be a useful method to map skin texture and wound healing in a 3-D manner, which is especially important in research and clinical trials. As the device is...

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