

## Australia develops nanotech imaging tool for smartphone disease diagnosis

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### Developing phase-imaging metasurfaces to create high contrast, pseudo-3D images without the need for computer post-processing

Scientists at the University of Melbourne and the Australian Research Council Centre of Excellence for Transformative Meta-Optical Systems (TMOS) have developed a low-cost microscopic imaging device small enough to fit on a smartphone camera lens, with the potential to make mobile medical diagnosis of diseases affordable and accessible.

This new technology could one day lead to at-home disease detection, where the patient could obtain their own specimen through saliva or a pinprick of blood, and then transmit an image to a laboratory anywhere in the world. The lab could then analyse and diagnose the illness.

Lead researcher, University of Melbourne Dr Lukas Wesemann said similar to expensive phase-imaging microscopes, these metasurfaces can manipulate the light passing through them to make otherwise invisible aspects of objects like live biological cells visible.