

New sensor could light the way forward in low-cost medical imaging

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New research published today in Nature's *Scientific Reports*, identifies a new type of light sensor that could allow medical and security imaging, via low cost cameras.

The team of researchers from the University of Surrey have developed a new 'multispectral' <u>light</u> sensor that detects the full spectrum of light, from ultra-violet (UV), to visible and near infrared light.

Indeed, near <u>infrared light</u> can be used to perform non-invasive medical procedures, such as measuring the oxygen level in tissue and detecting tumours. It is also already commonly used in security camera systems and for quality control in the agriculture and food industry.

Researchers believe that having a single low cost near infrared system, in addition to conventional imaging, opens up many new possibilities.

"Until now specialist <u>light sensors</u> have been limited in the kinds of light they can detect, with multiple <u>sensors</u> required to measure different ranges of the light spectrum, significantly increasing cost," said lead researcher Dr Richard Curry from the University of Surrey's Advanced Technology Institute.

"This new technology could allow surgeons to 'see' inside tissue to find tumours prior to surgery as well as equip consumer products, such as cameras and mobile phones, with night imaging options. This is useful for capturing quality pictures in the dark, and may eventually enable



parents to simply monitor a child's blood or tissue oxygenation level via a smartphone camera which could be linked to healthcare professionals."

The sensors are highly flexible and can be produced cheaply, using the same laser-printers found in homes and offices, and unlike other sensors, do not require specialised manufacturing conditions.

Provided by University of Surrey

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