

Chinese scientists design new photoacoustic imaging technology

21 September 2018 | News

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Researchers from Jinan University in China have developed a smart photoacoustic imaging approach by using a combination of laser light and ultrasound. The new technique is believed to have the potential for application in medical diagnostics, wearable devices and instrumentation.

By leveraging optical fibre technology, the researchers have devised new sensors for photoacoustic imaging. The team developed a unique ultrasound sensor comprising a compact laser built within the 8 microns diameter core of a single-mode optical fibre, which is doped with ytterbium and erbium to get necessary optical gain.

It is expected that the fibre laser-based ultrasound sensors will be helpful in photoacoustic microscopy. The laser sensor could also be used for endoscopes and has wearable applications. As it has an 8 microns diameter, the new sensor may offer an alternative for current commercial endoscopic products with larger dimensions.