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Scientists develop in vivo skin imaging technology

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The research is part of the "Innovative Visualization Technology to Lead to Creation of a New Growth Industry" project.



A team of scientists from Tohoku University in collaboration with Advantest has developed in vivo skin imaging technology that can simultaneously generate dual-wavelength photoacoustic images and ultrasound images.

The research is part of the "Innovative Visualization Technology to Lead to Creation of a New Growth Industry" project operated by Takayuki Yagi and supported by the Impulsing Paradigm Change through Disruptive Technologies Program (ImPACT), run by Japan's Council for Science, Technology and Innovation.

The newly developed in vivo imaging technology utilizes a focused ultrasonic sensor that can detect multiple ultrasonic signals. The photoacoustic waves and ultrasonic waves can be measured with the same sensor, while signals are generated on two alternating wavelengths, allowing the detection of ultrasonic waves that image the microvascular network in the dermis as well as blood oxygen saturation.

This photoacoustic imaging method is expected to be used for monitoring of photoaging of the skin as well as in other applications.