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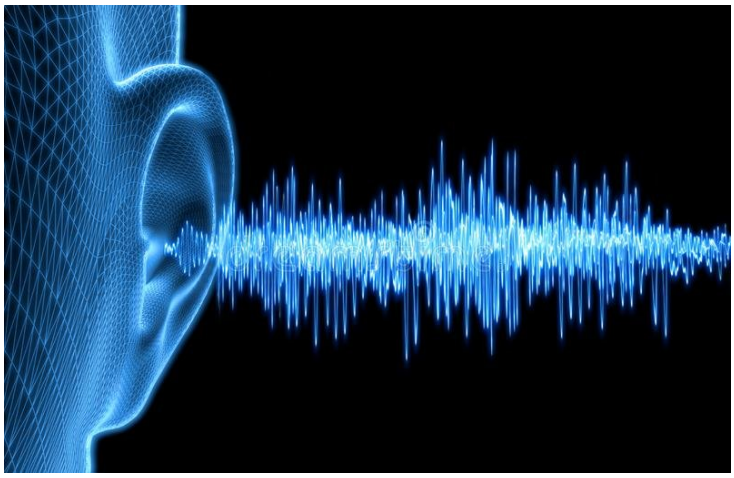
Korea develops novel skin-attachable auditory sensor

22 October 2022 | News

Useful for healthcare devices that diagnose respiratory diseases



A research team at the Department of Chemical Engineering, Pohang University of Science and Technology (POSTECH), South Korea has developed a skin-attachable microphone sensor that clearly detects voices even in harsh noisy environments.

The research team has applied polymer electrets to microelectromechanical systems (MEMS) to develop an auditory sensor. The electret-powered and hole-patterned polymer diaphragm is incorporated into a skin-attachable auditory sensor, which reduces the necessity of a battery to work. The sophisticated diaphragm structure based on MEMS technology gives the auditory sensor high wearability and portability.

This new technology can be used for disaster-response communication between medical professionals wearing protective equipment against respiratory diseases, including COVID-19, and firefighters wearing gas masks and other forms of turnout gear.

Furthermore, this technology will be applicable as a diagnostic device that identifies respiratory diseases by measuring the number or severity of coughs in real time or as a healthcare monitoring device that analyses voice usage patterns to figure out whether the vocal cords are healthy.