

MIT Deploys Openwater's Open-LIFU to Advance Neuroscience Research

MIT's Lincoln Laboratory first to receive latest version of the device, with the goal to use low-intensity focused ultrasound for conscious perception research.

SAN FRANCISCO, CA, UNITED STATES, July 24, 2025 /EINPresswire.com/ -- [Openwater](#), an open-source medical technology company delivering portable, hospital-grade diagnostic and therapeutic devices, today announces the Massachusetts Institute of Technology's (MIT) Lincoln Laboratory is the first to receive the latest version of the company's [Open-LIFU](#) device.

The deployment marks a major milestone for Openwater and expands access to low-intensity focused ultrasound (LIFU) for clinical and academic research.



Openwater, an open-source medical technology company delivering portable, hospital-grade diagnostic and therapeutic devices.

Open-LIFU is a portable, non-invasive ultrasound device that delivers millimeter-level precision in targeting specific brain regions without affecting surrounding tissue. Early research involving a prior version of Open-LIFU, including studies from the University of Arizona, demonstrates its potential to treat neurological diseases, cancer, and mental health disorders. Its open-source design enables researchers to customize and adapt the device for a wide range of clinical applications. With a dramatically smaller form factor and an open-source, modular design, the newest version of Open-LIFU is built to be configured for a wide range of targets, empowering rapid innovation in neuromodulation research and other applications of low-intensity focused ultrasound.

Led by Daniel Freeman, Ph.D., the MIT research team is embarking on a groundbreaking effort to uncover how the brain produces conscious experience, like how we feel pain, see colors, or become aware of our thoughts. Using the Open-LIFU system, the team is able to non-invasively modulate brain activity through the skull, giving an unprecedented new way to study how specific brain regions contribute to perception and awareness. What makes this technology especially powerful is its ability to reach deep brain structures with a level of precision that has

not been possible outside the operating room.

“Partnering with MIT on this pioneering research exemplifies Openwater’s mission to empower scientists with neuromodulation tools and accelerate breakthroughs in brain science,” said Aaron Timm, CEO of Openwater.

While most LIFU devices can cost hundreds of thousands of dollars, Openwater aims to make advanced neuromodulation more accessible. The company’s goal is to reduce the cost of the device to \$500 in just a few years. By developing a portable, modular device and leveraging AI-driven technology, Openwater aims to simplify use for researchers and clinicians, improving precision, usability, and outcomes across specialties.

“Consciousness remains one of the great mysteries of science. We still don’t understand how brain activity gives rise to subjective experience,” said Dr. Freeman. “With Open-LIFU, researchers now have a tool that could finally open the door to real breakthroughs in the field. It’s very exciting.”

To learn more about Openwater and its open-source devices, visit www.openwater.health.

About Openwater

Openwater is an AI-driven medical technology company founded by Dr. Mary Lou Jepsen to make hospital-grade care universally accessible. Backed by notable supporters including Khosla Ventures, Plum Alley, BOLD Capital Partners, Vitalik Buterin, Esther Dyson, and Peter Gabriel, Openwater employs open-source development and consumer electronics manufacturing to lower the cost and speed the delivery of non-invasive medical devices. The company collaborates with leading institutions worldwide to research, validate, and distribute these technologies, aiming to reach patients across borders and income levels.

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