

**PiezoBioMembrane Inc.**  
Advance Technology  
Laboratory  
1392 Storrs Road  
Storrs, CT, 062069-1177



**Linh T Le**

(959)-245-8474

**Industry:** Osteoarthritis therapeutics

**Management:**

Linh T Le, PhD - Founder, Interim CEO  
Thanh Nguyen, PhD - Founder, CTO  
Udith Ashok, Product Manager, MBA (Finance)  
Thinh Le, PhD - Head of Research

**Seeking to fill additional roles:**

Chief Science officer  
Chief Medical Officer  
VP of Finance  
VP of Sales

**Board:** Seeking members

**Number of Employees:** 4

Funding to Date:

SBIR grant:  
\$276,416

**Financing Sought:**

\$1.2M

For:

Pilot Studies  
R&D  
IP  
Operating Costs  
Overhead

**Business Description / Company Background:**

Piezobiomembrane is developing a cutting-edge approach to treat joint injuries and alleviate the symptoms of arthritis by regrowing cartilage in damaged joints. We intend to initially treat equine and pet osteoarthritis to provide valuable data for future studies and to support the development of the technology for use in humans. Unlike current treatment methods that only address symptoms, our approach has the potential to revolutionize the treatment of human osteoarthritis by regenerating cartilage. Our goal is to bring this new and effective treatment option to the clinic for patients suffering from joint injuries and arthritis.

**Market Opportunity / Unmet Need:**

More than 32.5 million American adults suffer from osteoarthritis, and current treatments including pain medicines and anti-inflammatory drugs only alleviate symptoms but do not cure the disease. Our team has demonstrated that a biodegradable piezoelectric poly(l-lactic acid) (PLLA) nanofiber scaffold under applied force or joint load could act as a battery-less electrical stimulator to promote chondrogenesis and cartilage regeneration.

**Products / Services – Launched & Pipeline:**

Our flagship product is a groundbreaking Piezoelectric Bio-Membrane designed to treat osteoarthritis upon implantation. This innovative bio-membrane harnesses piezoelectric materials to stimulate cartilage regeneration and promote healing in affected joints. Implanted directly into the joint, the PiezoBioMembrane converts mechanical forces generated by joint movement into electrical energy, which in turn enhances chondrogenesis and cartilage regeneration. Our current portfolio includes the PiezoBioMembrane, which has undergone extensive studies in rodents. As we expand our product pipeline, we will explore additional applications for our piezoelectric technology in various areas of regenerative medicine, including treatments for other degenerative joint disorders and wounds.

**Commercial / Technical Milestones:**

Achieved: PiezoBioMembrane started as research project (2021); Clinical studies in rodents (2021); Incorporated (Q2 2021); 1st research paper (Q1 2022); SBIR-NIH Federal Grant (Q3 2022); Selected for UCONN TIP program (Q1 2023);

Pending: Secure License Agreement with Uconn (Q2 2023); Set up the lab at Uconn Tip (Q3 2023)

**Competition / Competitive Advantages / Customer Benefits:**

Potential competitors include current medical therapies that focus on anti-inflammatory or pain-relieving drugs that only alleviate symptoms but do not cure the disease. Stem cell therapy by intravascular injection, intra-articular injections, or cell scaffold transplantation showed limited evidence of efficiency.