



Braden Tierney

Co-Founder & Executive Director · Two Frontiers Project

Director of Exposomics & Microbial Data Science, Harvard Medical School

Braden Tierney is a co-founder and the Executive Director of the Two Frontiers Project, a nonprofit biotech research organization that leverages life's adaptation to extreme environments to address major societal challenges including bioremediation of forever chemicals, sustainable agriculture, and ecosystem restoration. Dr. Tierney is a combined experimental microbiologist and data scientist who has studied the role and function of microorganisms in a diverse array of ecologies, from the human gut to low-Earth orbit.

During his PhD at Harvard Medical School, Dr. Tierney built machine learning tools for the identification of microbes causative for and associated with human disease in sequencing and clinical datasets encompassing hundreds of thousands of individuals. He subsequently developed applications for the use of microbes in mitigating gut microbiome imbalance across disease etiologies — from constipation to cancers to coral bleaching — and managed successful clinical trials for microbiome therapeutics through industry partnerships.

Since founding Two Frontiers in 2022, Dr. Tierney has led expeditions on five continents, discovered one of the most efficient organisms for carbon sequestration ever identified, and spun out a company in the sustainable aquaculture space. Outside the lab, he enjoys winter hiking in the White Mountains, making music with friends, and training and guiding scuba divers in the waters of his hometown of Boston, Massachusetts.

AREAS OF EXPERTISE

- Microbiology & Microbiome Science
- Machine Learning & Bioinformatics
- Bioremediation & Carbon Sequestration
- Sustainable Agriculture & Aquaculture
- Clinical Trial Management
- Ecosystem Restoration