WRF/ITHS Summer Commercialization Fellows Projects 2025

ActivaTeen – Companion App to Support Mental Health Treatment in Teens
Project Lead: Jessica Jenness, Psychiatry & Behavioral Sciences

Depression is commonly experienced by many teens and young adults. However, adherence to evidence-based depression treatment is low, ultimately leading to reduced benefit from care. At the same time, health systems that provide treatment to patients with depression experience large health costs related to outpatient treatment that are likely to grow in the coming years. To combat these issues, we have developed a treatment companion app, ActivaTeen, that aims to improve treatment engagement, depression outcomes, and the cost-effectiveness of administering depression treatment. ActivaTeen has been designed with user input to include core features shown to improve depression treatment engagement and outcomes, such as patient-therapist collaboration tools, in-the-moment treatment skill support, and as-needed access to therapist messaging and built-in peer communities. We are currently finalizing software development in order to complete a randomized clinical trial to more fully demonstrate ActivaTeen's effectiveness prior to marketing our tool more broadly. In preparation for this launch, a Summer Fellow would help us develop a go-to-market plan by performing customer discovery with potential buyers/payers, evaluating the regulatory/policy landscape, and working to identify a sustainable business model.

C1Bio – Carbon Capture for Sustainable Chemical Manufacturing
Project Leads: Ryan Cardiff & James Carothers, Chemical Engineering

Despite the urgent need for decarbonization, there are limited existing strategies to economically store or upgrade CO_2 emissions at scale. Biological carbon upgrading represents a promising solution. C1Bio is engineering industry-grade bacteria that can turn carbon from industrial waste streams (ex. CO_2, CO, methane) into value-added, drop-in chemicals through engineered metabolic pathways. These bacteria can tolerate and even sequester common industrial pollutants such as sulfur and nitrogen oxides and trace metals, allowing them to be highly adaptable to industrial waste streams with variable compositions. A Summer Fellow will help us model the economics of bringing this bioprocess to scale and identify potential partners/customers seeking to take advantage of renewable carbon and energy.

IA@Home – At-Home Monitoring of Chronic Inflammation
Project Lead: Paul Yager, Bioengineering

The rapidly growing longevity/healthspan market reflects a shift toward proactive health management and disease prevention amongst patients. Chronic conditions such as cardiovascular disease, autoimmune disorders, metabolic dysfunction and cancer are increasingly understood to be driven by a common factor: chronic inflammation. Addressing inflammation before it triggers full-blown diseases can optimize wellness and extend healthspan. Our innovative platform empowers consumers with affordable, paper-based microfluidic tools for at-home monitoring of critical biomarkers of inflammation, metabolic health, and aging. This will enable individuals and their healthcare providers to uncover potential risks early and address them before they trigger full-blown disease. Our goal is to make cutting-edge biomarker measuring and health optimization solutions accessible — tools that are often out of reach due to high costs or the lack of access to the healthcare system. Our platform gives people the power to participate in the longevity revolution, enabling them to take charge of their health in a way that was previously reserved for a select few. A Summer Fellow will help us understand the longevity market, identifying potential beachheads for entry and potential channel partners/customers. They will also explore revenue models and provide strategic insights that will guide our approach to market entry and scaling.

AIRLEAD – Ultrasonic Sensors to Detect Gas Leaks in Industrial Settings

Project Leads: Harris Nakajima & Nathan Holterhoff, Electrical and Computer Engineering

Compressed gas leaks are a significant source of energy loss and operational costs for manufacturers, with industrial manufacturing losing billions annually to compressed air and natural gas leaks alone. Current methods for leak detection are labor-intensive and often impractical for large facilities with pipes located in difficult-to-reach locations (ex. underground, across the ceiling, etc). Our solution, the Advanced Integrated Real-time Leak Evaluation and Detection (AIRLEAD) system, employs sensors across compressed gas pipes that detect subtle vibrations caused by gas leaks and provide automated real-time leak detection with high precision. By eliminating the need for manual inspections, AIRLEAD significantly reduces energy waste and operational costs while enhancing safety and sustainability. The system's scalable, low-power network design makes it adaptable for various applications, from compressed air systems in industrial facilities to high-pressure gases in research and commercial buildings. A Summer Fellow will assist us with identifying our beachhead market(s) and potential initial users/customers for this system, along with identifying any other potential applications/markets for this technology that the team has overlooked.