ILLINOIS INNOVATION PRIZE

ILLINOIS
Technology Entrepreneur Center
COLLEGE OF ENGINEERING

Over the past decade, medical research has revealed thousands of diagnostic biomarkers capable of identifying diseases ranging from influenza to cancer. Despite immense demand, no technology has yet achieved the sensitivity, speed, and multiplexing needed to broadly apply these tests for patient diagnostics.
To improve protein quantification, **Lucas Smith** designed a new method to simplify the protocol while simultaneously increasing the test sensitivity >40×. Lucas also worked on nucleic acid biomarkers and developed a novel method for quantifying those indicators with sensitivity that reaches the fundamental limit of single molecule detection. Lucas further demonstrated that this test could be highly multiplexed using a benchtop device present in nearly all academic and medical labs, enabling the potential for the quantification of thousands of biomarkers at the same time. Together, these innovations represent revolutionary advancements in medical testing with the potential to transform molecular analysis and revolutionize patient diagnosis.

#IIP2018

2018 FINALIST

LUCAS SMITH

PhD Candidate, Bioengineering