



University of
Lethbridge

NEWS RELEASE

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GreenSTEM funding supports startup dsBioscience Inc. as it builds off iGEM project success

Have you ever wondered how clean surfaces really are — even after you’ve tried to disinfect them? What’s really there and what can you do to ensure invisible microbes and pathogens are gone?

Spurred on by the continued development of a gold medal winning iGEM (international genetically engineered machine) project and start-up funding from GreenSTEM, Dustin Smith’s fledgling dsBioscience Inc. may one day have that answer at your fingertips. Smith’s company provides metagenome analysis services. In short, he uses technology that focuses on directly sequencing DNA from samples to determine what microbes or viruses are present.



“It has utility in a wide range of applications, including the health-care sector, bioremediation and water testing,” says Smith (BSc ’13, MSc ’17), who’s currently pursuing a PhD in biomolecular science after earning both his undergraduate and master’s degrees in biochemistry at the University of Lethbridge. “This all started in 2016 with the U of L iGEM team and a project we worked on with Lethbridge EMS when they asked us to help them evaluate cleaning practices in their emergency services vehicles.”

The project, which characterized the microbial community within ambulances, won gold at the annual iGEM World Jamboree. It also garnered industry attention.

“After the study was [published in 2019](#), I was able to apply for funding through the Alberta GreenSTEM program, which supports start-ups that hope to spin off academic technologies to form viable businesses,” he says. “We always thought this would be a useful venture to explore based on the fact it was driven by an industry need.”

The GreenSTEM program has been invaluable in helping Smith get dsBioscience Inc. off the ground.

“Aside from the financial aspect, which gave us the funding to explore whether there’s a viable business opportunity, we have access to valuable mentoring from other fellows who are all going through the same challenges of starting a business,” he says. “In our advisor panels we have a mix of people with scientific backgrounds and those with industry or business backgrounds. It really gives us a comprehensive view of our business.”

Smith foresees a number of applications for metagenome analysis. In addition to health care, he envisions examining what microbes are present in tailings ponds or pit lakes in various stages of remediation, and then using that information to forward engineer better remediation processes. And while that will require much greater development of the technology, the fact he can now see a path forward as a viable business is a huge step.

“With the timing of COVID, this definitely put these types of uses more in the spotlight,” he says. “My main focus currently is evaluating market potential and what's the most useful way I could use this technology to help with industry. There’s still a lot of work to do, but it’s exciting.”

To view online: <https://www.ulethbridge.ca/unews/article/greenstem-funding-supports-startup-dsbioscience-inc-it-builds-igem-project-success#.YlrV5mZKjt0>

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