



University of  
Lethbridge

NEWS RELEASE

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## Graduate student Alicia Anderson earns world renowned Gates Cambridge Scholarship to study at Trinity College

Alicia Anderson (BSc '20) has always aimed high — her study of astrophysics can attest to that — and she's now earned one of the highest honours in academia. Anderson has been awarded a Gates Cambridge Scholarship, which will see her study her PhD at Trinity College on the grounds of the University of Cambridge (United Kingdom) beginning this fall.

"It's a major success," says Dr. David Naylor, physics and astronomy professor, Board of Governors' Research Chair and head of the Astronomical Instrumentation Group (AIG) at the University of Lethbridge. "This is about flat-out excellence. You basically have the best talent on the planet going after this award and she won it."



Established in 2000 with a \$210-million gift from the Bill and Melinda Gates Foundation to support graduate students' study, it is considered one of the most competitive and prestigious scholarships in the world. Since the first class in 2001, Gates Cambridge has awarded 2,081 scholarships to scholars from 111 countries who represent more than 600 universities globally, and more than 80 academic departments and all 31 colleges at Cambridge.

Anderson is one of 79 new Gates Cambridge Scholars from 30 countries, including just two other Canadians. Over the 22-year history of the award, just one other Canadian physicist has earned a Gates Cambridge Scholarship, while three others have studied astronomy.

“As a 17-year-old, when I first came to the University of Lethbridge, I hadn’t really planned on any of this,” says Anderson, who completed her bachelor of science with great distinction in 2020 and just recently successfully defended her master’s thesis. “You start by making connections with professors and I’ve been lucky to have really passionate professors teaching me undergraduate physics and inspiring me to join a research group and take it to the next level. I really owe it all to my department and all the professors who have taught me.”

Naylor and his colleagues recognized early Anderson’s potential. Once she turned her focus to space and the AIG group in her third year of studies, she flourished. Upon earning her undergraduate degree, she jumped at the chance to enrol as a master’s student and work on what promised to be the next great infrared space mission — the European Space Agency’s (ESA) SPICA, a far infrared space observatory scheduled to launch in 2030. Unfortunately, midway through her master’s work, ESA chose not to pursue SPICA and the global pandemic hit.

“It was tough for her because her entire thesis was under the umbrella of a pandemic,” says Naylor. “She wasn’t able to travel to conferences and make the connections you normally do as a graduate student. So, when I could see that SPICA was no longer an option, I promised we’d get her a position for her PhD.”

Like all Naylor’s graduate students, Anderson’s research has been generously supported by industrial partner Blue Sky Spectroscopy Inc. to the tune of \$1.1 million, without which she would not have been able to take on her thesis project. With Blue Sky’s support, Naylor was able to send Anderson to Cambridge to work with one of his colleagues, professor Stafford Withington. As head of the Quantum Sensors Group, Withington is a world-leading physicist and one of the most respected scholars on campus. Anderson not only impressed Withington over the course of her six-week stay, she learned something about herself as well.

“I had this image of Cambridge in my mind where it was this place I could never fit into because I was used to such a small university,” she says. “But being there for six weeks, I felt right at home. It was a research lab, just like I’d worked at in Lethbridge for five years.”

When word got out that Anderson was seeking a PhD position, interested schools lined up. McGill, University of British Columbia and others made substantial offers but with her eyes now wide open to the opportunities before her, she applied for the Gates Scholarship.

“When I interviewed with my supervisor, who had won the Nobel Prize in Physics in 2019, he told me I was one of the best-prepared students he’d ever seen and that my background was the highest calibre of any of the applications this year. It just speaks to

the training and the incredible projects I'd worked on with David and Blue Sky and how it had prepared me for this."

Anderson will head to Cambridge in October to work in the exoplanet research centre where she will focus her attention on planets that exist outside our solar system but orbit around other stars within the Milky Way Galaxy.

"The newest technology in exoplanet astronomy will allow astronomers to observe Earth-like planets that are orbiting around stars like our sun. The ultimate goal is to identify potentially habitable exoplanets," says Anderson, noting her supervisor just received a £10-million grant to answer what makes an exoplanet habitable. "Ground-based observatories, like the one I will work on in my PhD, will locate these exoplanets so that future missions can follow up and study them in more detail."

For Naylor, who predicted two years ago Anderson would be following the footsteps of his most accomplished graduates, to see her destined for the Cambridge program is gratifying on many levels.

"Life is a series of lessons learned and our role as educators is to help students climb the knowledge ladder," he says. "In my own case, I had a physics teacher at grammar school who had a major impact on my career path. Over the last 41 years at the University, I have mentored dozens of students — seven are now professors, three hold research chairs, four others work at various space agencies (NASA Ames, JPL, SRON, Space-X), and another built the motor that operates the drill on NASA's Insight lander that sits on the surface of Mars. While Alicia is the latest member of our family, and I will take great pride in seeing where she goes and visiting her while she's at Trinity, I'm proud of them all."

To view online: <https://www.ulethbridge.ca/unews/article/graduate-student-alicia-anderson-earns-world-renowned-gates-cambridge-scholarship-study>

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