

**Mr. Cole Riley Gregg**

Astronomy PhD Candidate, The University of Western Ontario

**Degrees**

- 2021/09 (2025/09)     Doctorate, Doctor of Philosophy, Astronomy (Collaborative Specialization in Planetary Science and Exploration), University of Western Ontario  
Degree Status: In Progress  
Supervisor(s): Dr. Paul Wiegert
- 2020/09 - 2021/08     Master's, Master of Science, Astronomy (Collaborative Specialization in Planetary Science and Exploration), University of Western Ontario  
Degree Status: Completed (2021/10)  
Supervisor(s): Dr. Paul Wiegert
- 2016/09 - 2020/04     Bachelor's, Bachelor of Science, Honours Specialization in Astrophysics with distinction, University of Western Ontario  
Degree Status: Completed (2020/06)  
Bachelor's, Minor, Advanced Physics, University of Western Ontario  
Degree Status: Completed (2020/06)

**Credentials**

- 2024/05     NASA Funding Review Research Presentation, University of Western Ontario  
Delivered well-received update on research done by and on behalf of the Western Meteor Physics Group. Successfully justified funding received by NASA.
- 2022/08     Research showcased in the *Inspiring Minds 2021* Campaign, University of Western Ontario  
Research was chosen to be highlighted across Western University's social media platforms.  
Link: <https://ir.lib.uwo.ca/exhibit/inspiring-minds-showcase/using-robotic-telescopes-to-observe-lunar-co-orbital-asteroids/>
- 2020/11     Provisional discovery of Near-Earth Object ALA2xH, University of Western Ontario
- 2018/07     NASA Funding Review Research Presentation, University of Western Ontario  
Delivered well-received update on research done by and on behalf of the Western Meteor Physics Group. Successfully justified funding received by NASA.

2019/09 - 2020/04 Undergraduate Research Thesis, University of Western Ontario  
Conducted comet related research under the supervision of Dr. Paul Wiegert. Used online telescope network, iTelescope, to conduct a far-southern sky comet survey. Experience completing a full scientific report of research, submitted an observation of a previously unknown comet to the Minor Planet Center.

## **Recognitions**

2024/05 Amelia and William Wehlau Award in Astronomy  
University of Western Ontario  
Prize / Award  
Awarded annually to a student in a Master's or Doctoral program in Astronomy, based on academic achievement and research merit.

2023/06 Faculty of Science Graduate Student Teaching Award  
University of Western Ontario  
Prize / Award  
Excellent teaching is vital to the success of the Faculty of Science. Recipients are selected for their valued and effective contribution to the undergraduate programs.

2020/04 Legacies for Tomorrow Awards  
University of Western Ontario  
Prize / Award  
Awarded annually to full-time undergraduate students in any program based on academic achievement and financial need.

2019/11 Laurene Paterson Estate Scholarship  
University of Western Ontario  
Distinction  
Awarded annually to full-time undergraduate students in any year in the Faculty of Science who have demonstrated financial need and has maintained a minimum 80% average.

2019/11 Garnet Alexander Woonton Scholarship  
University of Western Ontario  
Distinction  
Awarded annually to a full-time undergraduate student registered in the Faculty of Science in any year beyond year one, who is enrolled in an Honours Specialization, Major, or Specialization in Applied Mathematics, Mathematics, Physics and Astronomy or Chemistry. Candidates must have a minimum 85% average and demonstrated financial need.

- 2017/04 - 2020/04     Dean's Honor Roll  
University of Western Ontario  
Distinction  
To be on the Dean's Honour List for that academic year, a student must have earned an A average, with no failures.
- 2016/06                Ursuline Sisters Award  
Ursuline College Chatham  
Prize / Award  
Awarded to a graduating high school student who has shown academic excellence and compassion.

## **Employment**

- 2024/09 – 2024/12            Temporary Part-Time Instructor  
Physics and Astronomy, University of Western Ontario,  
ASTRONOMY 1021 – General Astronomy  
Responsible for all activities associated with the successful delivery of the course: developing, preparing, and delivering the course; setting and marking examinations; assessing the academic work of students; and reporting grades.
- 2025, 2024, 2023,  
2022/01 - /04                Graduate Teaching Assistant  
Physics and Astronomy, University of Western Ontario,  
ASTRONOMY 2201B – Planetary Systems  
Supervisor: Dr. Peter Brown
- 2023, 2022/09 - /12           Graduate Teaching Assistant  
Physics and Astronomy, University of Western Ontario,  
ASTRONOMY 2801A – Observing the Stars  
Supervisor: Dr. Paul Wiegert
- 2023, 2021/09 - /12           Graduate Teaching Assistant  
Physics and Astronomy, University of Western Ontario,  
PHYSICS 1501A – Enriched Introduction to Physics I  
Supervisor: Dr. Paul Wiegert
- 2023/01 - 2023/04            Graduate Teaching Assistant  
Physics and Astronomy, University of Western Ontario,  
PHYSICS 1202B – Physics for the Sciences II  
Supervisor: Dr. Alexei Ouriadov

2022, 2020/09 - /12	Graduate Teaching Assistant Physics and Astronomy, University of Western Ontario, NUMERICAL MATHEMATICAL METHODS 2270A – Applied Mathematics for Engineering II Supervisor: Dr. Allan MacIsaac
2022, 2021/01 - /04	Graduate Teaching Assistant Physics and Astronomy, University of Western Ontario, PHYSICS 2102B – Introduction to Modern Physics Supervisor: Dr. Els Peeters
2021/09 - 2021/12	Graduate Teaching Assistant Physics and Astronomy, University of Western Ontario, NUMERICAL MATHEMATICAL METHODS 1411A – Linear Algebra with Numerical Analysis for Engineering Supervisor: Dr. Alex Buchel
2021/01 - 2021/04	Graduate Teaching Assistant Physics and Astronomy, University of Western Ontario, PHYSICS 3900G – Senior Physics Laboratory Supervisor: Dr. Lyudmila Goncharova
2020/05 - 2020/08	Undergraduate Summer Research Position NSERC USRA Physics and Astronomy, University of Western Ontario Supervisor: Dr. Paul Wiegert Was awarded a NSERC USRA. Worked on an asteroid survey project. This research lead into my Master's project, searching for Lunar co-orbiting asteroids using small ground-based telescopes.
2019/05 - 2019/08	Undergraduate Summer Research Position NSERC USRA Physics and Astronomy, University of Western Ontario Supervisor: Dr. Paul Wiegert Was awarded a NSERC USRA. Worked on a combination of a meteor related project and a comet related project. Discovered an unknown comet and reported data to the Minor Planet Center (MPC). Assisted in the completion of a near-Sun meteor environment paper discussing supercatastrophic disruption.
2018/05 - 2018/08	Undergraduate Student-Research Physics and Astronomy, University of Western Ontario Supervisor: Dr. Paul Wiegert Conducted research on Solar System dynamics with the use of meteor data collected by the Canadian Meteor Orbit Radar (CMOR)

**Research Funding**

2023/05 - 2024/04	Ontario Graduate Scholarship, Scholarship - \$15,000 Competitive – Yes Principal Investigator Merit-based scholarship for the work of my PhD research, researching the development of interstellar meteoroid showers with n-body simulations.
2020/05 - 2020/08	NSERC Undergraduate Summer Research Award, Fellowship - \$4,500 Competitive – Yes Principal Applicant Undergraduate Summer Research Award
2019/05 - 2019/08	NSERC Undergraduate Summer Research Award, Fellowship - \$4,500 Competitive – Yes Principal Applicant Undergraduate Summer Research Award

**Event Participation**

2024/10	Participant, AAS Division for Planetary Science 56, Conference Oral presentation
2024/05	Participant, AAS Division on Dynamical Astronomy 55, Conference Oral presentation
2024/04	Participant, Space Day at Western 2024, Conference Poster Presentation
2023/06	Participant, Asteroids, Comets, Meteors Conference, Conference Oral presentation
2023/05	Participant, Space Day at Western 2023, Conference Poster Presentation
2022/10	Participant, AAS DPS 54, Conference Poster presentation
2022/05	Participant, Space Day at Western 2022, Conference Poster Presentation
2022/06	Attendee, Meteoroids 2023, Conference Virtual Attendee
2022/04	Attendee, AAS DDA 53, Conference Virtual Attendee

- 2021/04 Participant, Space Day at Western 2021, Conference  
Held a virtual poster session for my MSc research.
- 2020/03 Volunteer, Physics Undergraduate Conference (PhUnC), Conference  
Organized workshops and scheduled talks. Gave feedback to help improve successive years.
- 2019, 2018/03 Participant, Physics Undergraduate Conference (PhUnC), Conference  
Engaged in workshops and presented research poster.

### Committee Involvement

- 2023, 2022, 2021 Western Space Graduate Council  
Physics and Astronomy Representative  
Advocated for physics and astronomy students, communicating their interests and concerns to *The Institute for Earth and Space Exploration* (“*Western Space*”).

### Media Relations

- 2025/03 Western News Media Coverage  
Institutional press release regarding publication in the *Planetary Science Journal* on the transfer of interstellar material from Alpha Centauri.  
Link: <https://news.westernu.ca/2025/03/interstellar-material/>
- 2025/02 Forbes.com & ScienceNews.org Interviews  
Interviewed by *Forbes.com* and *ScienceNews.org* reporters following a publication for a feature on my research on the transfer of interstellar material from Alpha Centauri.  
Links:  
<https://www.forbes.com/sites/brucedorminey/2025/02/16/interstellar-asteroids-could-originate-from-alpha-centauri-says-paper/>  
<https://www.sciencenews.org/article/comet-alpha-centauri-solar-meteor>
- 2024/10 Sky & Telescope Interview  
Interviewed by *Sky & Telescope* reporter following a conference presentation for a feature on my research on the transfer of interstellar material. Article titled “Are Objects From Alpha Centauri Streaming by Earth” showcased the ability for material ejected from the nearest star system to travel into the Solar System. Published 2024/10/18.  
Link: <https://skyandtelescope.org/astronomy-news/are-objects-from-alpha-centauri-streaming-by-earth/>

- 2020/12      Discovery Canada  
Invited participation in #ScientistFridays campaign. Created a video explaining my research on a telescopic survey, searching for asteroids trapped in the Earth-Moon system.  
Published on Twitter (now “X”) and Facebook.
- 2020/11      CBC News, London Free Press, Radio Interviews  
Participated in a TV interview, Newspaper interview, and 4 separate radio station live interviews regarding a minor planet provisional discovery during my Master’s research.  
Link: <https://news.westernu.ca/2020/11/student-finds-asteroid/>

### **Knowledge Transfer/Public Outreach**

- 2024/11      West Hawaii Astronomy Club (Associated with Keck Observatories) Presenter  
Invited to share research talk with club members  
Presented on *A Case Study of Interstellar Meteoroid Streams: Alpha Centauri*
- 2024/05 - 2024/08      Hume Cronyn Memorial Observatory Public Night Volunteer/Presenter  
Presented a general astronomy talk to the public -  
*(Asteroids & Comets: Searching the skies)*.  
Presented demonstrations to the public on detecting exoplanets with the transit method and using spectroscopy to determine stellar composition.  
Aided with telescope operations.
- 2024/~      Scientific Advisor to Science Fiction Writer  
Providing ongoing expert advice and guidance in the mathematical components of a science fiction novella on a Solar System “scavenger hunt”.
- 2020, 2023, 2024/~      Advised on Telescope Purchases  
Provided detailed recommendations and guidance for selecting a suitable telescope, considering user requirements and budget constraints.

## EDI Certificates

In progress	<p>Anti-Oppression Certificate</p> <p>Working towards the completion of the Certificate Program at Western University which provides the opportunity to learn and reflect on systems of oppression towards Indigenous Peoples, Black, Asian, Muslim, and Jewish communities, as well as people with disabilities and 2SLGBTQIA+ and Trans communities.</p> <p>Completed Certificate Requirements:</p> <p>2025/02      <i>Completion of the Award of Achievement in Anti-Oppression</i></p> <p>2024/12      <i>Unpacking and Addressing Ageism e-Learning Module</i></p> <p>2024/10      <i>Unpacking and Addressing Misogyny and Sexism e-Learning Module</i></p>
2025/03	<p>Award of Achievement in Anti-Oppression</p> <p>Completed the Award of Achievement in Anti-Oppression which allows participants to reflect on systems of oppression towards Black, Asian, Muslim, and Jewish communities.</p> <p>Completed Certificate Requirements:</p> <p>2024/11      <i>Unpacking and Addressing Microaggressions Workshop</i></p> <p>2024/06      <i>Unpacking and Addressing Anti-Black Racism e-Learning Module</i></p> <p>2024/05      <i>Unpacking and Addressing Antisemitism e-Learning Module</i></p> <p>2024/04      <i>Unpacking and Addressing Anti-Asian Racism e-Learning Module</i></p> <p>2024/03      <i>Unpacking and Addressing Anti-Islamophobia e-Learning Module</i></p>
2024/03	<p>Anti-Racism Foundations Certificate</p> <p>Completed the Certificate Program at Western University which provides the opportunity to learn about the current impact of the history of racism in the Canadian context.</p> <p><a href="https://learner.mycreds.ca/r/badges/public/assertion/ysO09WTQTfmd6FzQBxqFEw">https://learner.mycreds.ca/r/badges/public/assertion/ysO09WTQTfmd6FzQBxqFEw</a>).</p> <p>Completed Certificate Requirements:</p> <p>2024/02      <i>Historical Review of Racism in Canada e-Learning Module</i></p> <p>2024/01      <i>Bias and Microaggressions: Impact, Prevention e-Learning Module</i></p> <p>2024/01      <i>Building Inclusivity / Anti-Racism e-Learning Module</i></p> <p>2023/11      <i>Power and Privilege as Agents of Change Workshop</i></p> <p>2023/10      <i>Transforming Power and White Privilege e-Learning Module</i></p>



## Publications

1. Paul Wiegert, Vanessa Tran, Cole Gregg, Denis Vida, & Peter Brown. (2025). An upper limit on the interstellar meteoroid flux at video sizes from the Global Meteor Network. Submitted to The Astrophysical Journal.  
Co-Author  
Submitted, The American Astronomical Society, United States of America  
Refereed?: Yes  
Number of Contributors: 5
2. Cole R. Gregg & Paul A. Wiegert. (2025). A Case Study of Interstellar Material Delivery:  $\alpha$  Centauri. The Planetary Science Journal, 6(3), 56.  
<https://doi.org/10.3847/PSJ/adb1e9>.  
First Listed Author  
Published, The American Astronomical Society, United States of America  
Refereed?: Yes  
Number of Contributors: 2
3. Cole R. Gregg & Paul A. Wiegert. (2022). A dedicated Lunar Trojan Asteroid Survey with small ground-based telescopes. Monthly Notices of the Royal Astronomical Society. 511(4): 5396-5404. <http://dx.doi.org/10.1093/mnras/stac165>  
First Listed Author  
Published, Oxford University Press, United States of America  
Refereed?: Yes  
Number of Contributors: 2
4. Paul Wiegert, Peter Brown, Petr Pokorny, Quanzhi Ye, Cole Gregg, Karina Lenartowicz, Zbigniew Krzeminski, and David Clark. (2020). Supercatastrophic Disruption of Asteroids in the Context of SOHO Comet, Fireball and Meteor Observations. The Astronomical Journal. 159(4). <https://doi.org/10.3847/1538-3881/ab700d>  
Co-Author  
Published, The American Astronomical Society, United States of America  
Refereed?: Yes  
Number of Contributors: 8