

Caleb Lammers

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EDUCATION

University of Toronto — Honours BSc

2019 - Present

Mathematics and Physics Specialist

Cumulative GPA: 3.97/4.00

Relevant Coursework: Analysis I, Linear Algebra I, Linear Algebra II, Foundational Physics I, Foundational Physics II, Astronomy, Introduction to Computer Science, Computational Astrophysics

St. Ignatius High School — OSSD

2015 - 2019

Top 6 Grade 12 average of 99.5%

Graduate Rank: 1/257

First St. Ignatius student to achieve 100% in Grade 12 AP Chemistry, Physics, and Calculus

RESEARCH EXPERIENCE

University of Toronto, Department of Astronomy and Astrophysics

2020

Undergraduate Researcher

Will continue to develop new SED fitting tools and study active galactic nuclei (AGN) driven star-formation quenching with Dr. Kartheik Iyer. Using the new methods, we hope to fit a large sample of AGN and control galaxies in the SDSS-IV MaNGA survey to better understand AGN-driven quenching.

University of Toronto, Department of Astronomy and Astrophysics

Summer 2020

Undergraduate Researcher (Summer Undergraduate Research Program)

Studied the quenching of galaxies due to feedback from active galactic nuclei (AGN) under the supervision of Dr. Kartheik Iyer. This involved developing new tools for SED fitting with machine learning and using these tools to fit a subset of AGN and control galaxies in the SDSS-IV MaNGA survey.

Nominated SURP student of the week (interview link)

Lakehead University and TBRHRI

Summer 2019

Summer Research Assistant (Summer School of Medical Imaging)

Developed computational tools for performance evaluation of the positron emission mammography system as a part of Prof. Alla Reznik's research group. These tools will play a role in the configuration of the system as it moves into clinical trials.

PRESENTATIONS AND POSTERS

Active Galactic Nuclei Quenching Star-Formation in Galaxies (Poster)

Summer 2020

Summer Undergraduate Research Program

Awarded prize for top 3 poster presentations

Can Active Galactic Nuclei Feedback Quench Star-Formation in Galaxies?

Summer 2020

Summer Undergraduate Research Program

Quantitative Configuration and Evaluation of a Novel PEM Device

Summer 2019

Summer School of Medical Imaging

TECHNICAL SKILLS

Programming Systems Python (e.g. numpy, matplotlib, scikit-learn), Jupyter, Java, C++, Git, L^AT_EX
Windows, Linux

SELECTED HONOURS AND AWARDS

Astronomy and Astrophysics SURP Fellowship (\$9,500) 2020
University of Toronto

Research stipend awarded to successful applicants in the Astronomy and Astrophysics SURP program

Schulich Leader Scholarship (\$80,000) 2019
University of Toronto

Awarded to the top 4 STEM students, two in science and two in engineering, entering the University of Toronto on the basis of academic excellence and leadership

Mathematics National Scholarship (\$12,000) (Declined) 2019
University of Waterloo

Awarded to the top 10 math students entering the University of Waterloo on the basis of academic standing, accomplishment in math/computer science contests, and interest in math/computer science

SEME Scholarship (\$2,665) 2019
John, Annie & John SEME II Memorial Scholarship Trust

Award for graduating with the highest marks in Thunder Bay, Ontario

Governor General's Academic Bronze Medal (\$300) 2019
St. Ignatius High School

Award for graduating with the highest academic average at St. Ignatius High School

Paterson Scholarship (\$500) 2019
St. Ignatius High School

Awarded to a student on the basis of academic calibre, character, and contribution to the community

Best Design-Entrepreneurship Project 2018
SHAD Carleton

Award for design project that used electromagnetic radiation to detect trapped earthquake victims

Bronze Medal (\$1,000) 2017
Canada-Wide Science Fair

Award for science fair project analyzing word frequency in speech