

Caleb Lammers

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EDUCATION

University of Toronto — Honours BSc
Mathematics and Physics Specialist

2019 - Present
Cumulative GPA: 3.96/4.00

St. Ignatius High School — OSSD
Top 6 Grade 12 average of 99.5%

2015 - 2019
Graduate Rank: 1/257

RESEARCH EXPERIENCE

University of Toronto, Department of Astronomy and Astrophysics
Undergraduate Researcher

2020 - Present

Extending the Dense Basis SED fitting method to study star-formation quenching due to active galactic nuclei (AGN) with Dr. Kartheik Iyer. Using the SDSS-IV MaNGA survey, we analyze the timescales over which star-formation quenching occurs throughout galaxies hosting AGNs.

University of Toronto, Department of Astronomy and Astrophysics
Undergraduate Researcher (Summer Undergraduate Research Program)

Summer 2020

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 study a group of AGN and control galaxies in the SDSS-IV MaNGA survey.

Nominated SURP student of the week ([interview link](#))

Lakehead University and TBRHRI
Summer Research Assistant (Summer School of Medical Imaging)

Summer 2019

Developed programs for performance evaluation and configuration of the Radialis positron emission mammography (PEM) system as a part of Prof. Alla Reznik's research group. With the help of more senior researchers, adapted and implemented a technique that is used with other PEM systems.

PRESENTATIONS AND POSTERS

Reconstructing the Properties of Galaxies With Machine Learning
Canadian Undergraduate Physics Conference

November 2020

Active Galactic Nuclei Quenching Star-Formation in Galaxies (Poster)
Astronomy and Astrophysics Summer Undergraduate Research Program
Awarded prize for top 3 poster presentations

August 2020

Can Active Galactic Nuclei Feedback Quench Star-Formation in Galaxies?
Astronomy and Astrophysics Summer Undergraduate Research Program

July 2020

Quantitative Configuration and Evaluation of a Novel PEM Device
TBRHRI Summer School of Medical Imaging

August 2019

TECHNICAL SKILLS

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

SELECTED HONOURS AND AWARDS

Drew Thompson Scholarship (\$400) 2020
Trinity College

Awarded for high academic achievement

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

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

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

Awarded 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

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

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

Awarded for science fair project analyzing word frequency in speech