

# Ea E T

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## EDUCATION

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### University of Illinois Urbana-Champaign

*Doctor of Philosophy, Mathematics*

Calgary, AB

*Aug 2024 – May 2029*

### University of Calgary

*Bachelor of Science, Honours Mathematics*

Calgary, AB

*Sept 2019 – Apr 2024*

GPA: 4.0/4.0

### University of Calgary

*Bachelor of Science, Honours Physics*

Calgary, AB

*Sept 2019 – Apr 2024*

GPA: 4.0/4.0

## ACADEMIC ACHIEVEMENTS

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**Canadian Graduate Scholarship - Master's**, Dalhousie University,

(2024)

National Sciences and Engineering Research Council of Canada (\$27 000)

Declined

**Adam Richard Leinweber Memorial Scholarship**, University of Calgary (\$10 000)

(2023)

**Louise McKinney Scholarship**, Alberta Government (\$2500)

(2022, 2023)

**Undergraduate Student Research Award**, NSERC (\$6000)

(2022, 2023)

**Program for Undergraduate Research Experience Award**, University of Calgary (\$7500),

(2022)

Declined

**Arthur Thomas Evans Scholar**, University of Calgary (\$2600)

(2022)

**R.J. Torrence Memorial Scholarship**, University of Calgary (\$1400, \$1500)

(2021, 2022)

**Dr. David John Fry Scholarship in Physics and Astronomy**, University of Calgary (\$2400)

(2021)

**Jason Lang Scholarship**, Alberta Government (\$1000)

(2021)

**Faculty of Science Dean's List**, University of Calgary

(2020-2023)

**President's Admission Scholarship Recipient**, University of Calgary (\$5000)

(2019)

**Evelyn Mitchell Emerson Entrance Bursary Recipient**, University of Calgary (\$6500)

(2019)

**Alexander Rutherford Scholarships Recipient**, Alberta Government (\$2500)

(2019)

**The Governor General's Academic Bronze Medal Recipient**, Alberta Government

(2019)

## PROJECTS AND RESEARCH EXPERIENCE

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**Topos Institute Summer Research Associate**

(Jun – Aug 2025)

*"Exponentiability of Virtual Double Categories"* (Supervisor: Kevin Carlson)

**Topos Institute Summer Research Associate**

(Jun – Aug 2025)

*"Lax Double Functors for Sheaves of Attractor Lattices"* (Supervisor: Sophie Libkind)

**Honours Mathematics Thesis | University of Calgary**

(Jan – Apr 2024)

*"Extending Universal Properties for Chain Complex Polynomial Functors"* (Supervisor: Kristine Bauer)

**Honours Physics Thesis | University of Calgary**

(Sept 2023 – Apr 2024)

*"Resource Theories for Random Discrete Dynamical Systems"* (Supervisor: Carlo Maria Scandolo)

**Research Assistant | University of Calgary**

(May – Aug 2023)

*"Determining edges from distances of segments tangent to a circle"* (Supervisor: Tracey Balehowsky)

**Student Researcher | University of Calgary**

(Nov 2022 – Apr 2023)

*“p-Atlas VXML Project via the Pacific Institute of Mathematical Sciences”* (Supervisor: Clifton Cunningham)

**Research Assistant | University of Calgary**

(May – Aug 2022)

*“Algorithms for multiplicity matrices in local representation theory”* (Supervisor: Clifton Cunningham)

## TALKS AND POSTERS

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**UIUC Graduate Homotopy Theory Seminar,**

(presentation) University of Illinois Urbana-Champaign

(2024,2025)

**Alberta Graduate Mathematics and Statistics Conference,**

(presentation) University of Alberta

(2024)

**Pacific Institute of Mathematical Sciences**

**Algebraic Geometry Course,** (lecture) PIMS

(2024)

**Canadian Mathematical Society Summer Meeting,** (presentation) University of Ottawa

(2023)

**Pacific Institute of Mathematical Sciences**

**Virtual Experimental Math Lab,** (presentation and poster)

(2023)

**Society of Undergraduate Mathematics-Calgary**

**Summer Seminar,** (presentation) University of Calgary

(2023)

**Society of Undergraduate Mathematics-Calgary**

**Summer Seminar,** (presentation) University of Calgary

(2022)

**Society of Undergraduate Mathematics-Calgary**

**Summer Seminar,** (presentation) University of Calgary

(2021)

## PROFESSIONAL EXPERIENCE

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**Physics and Astronomy Students’ Association (PASA) |**

**University of Calgary Vice President Academic**

(May 2022 – Apr 2024)

I conducted academic workshops and events including:

- graduate school seminars,
- L<sup>A</sup>T<sub>E</sub>X workshops for first and second year students,
- research night events where professors in the Physics and Astronomy Department presented on their work to undergraduates, and discussed summer student research opportunities
- weekly tutorial nights for undergraduate physics students

**PHAS Equity, Diversity, Inclusion (EDI) Committee |**

**University of Calgary**

(Oct 2021 – Jun 2024)

I participated in the UofC PHAS EDI committee, which is a group focused on the implementation of Physics and Astronomy based initiatives for the sake of increasing accessibility and improving department culture.

## TEACHING EXPERIENCE

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**Teaching Assistant - Math 220: Calculus, Merit Section**

**| University of Illinois Urbana-Champaign**

(Aug 2025 – Dec 2025)

I wrote materials and designed activities for discussion sessions with 24 students, which I taught 4 hours per week.

**Teaching Assistant - Math 220: Calculus**

**| University of Illinois Urbana-Champaign**

(Aug 2024 – Dec 2024, Jan 2025 – May 2025)

I assisted students in ~30 person discussion sessions and larger scale help sessions.

**Teaching Assistant - Math 275: Calculus for engineers and scientists | University of Calgary**

(Sept 2023 – Dec 2023)

I assisted students in large group worksheet sessions and smaller scale math help sessions. I also graded weekly worksheets and invigilated midterm and final exams.

**Physics and Math Tutor | Independent**

(Sept 2019 – May 2024)

I provided regular one-on-one and one-on-many tutoring for first and second year undergraduate physics and mathematics courses at the University of Calgary.

## OUTREACH EXPERIENCE

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**Math Circle | University of Illinois Urbana-Champaign**

(Sept 2025 – date)

I designed interactive lesson plans for middle school and high school students interested in advanced mathematics.

**Physics and Astronomy Mentor Talks | University of Calgary**

(Jan 2022 – date)

The Physics and Astronomy Mentor (PAM) Talks is a web series on women and gender minorities in physics started in 2022. I have participated both in the workshopping and recording video and podcast episodes for the web series, as well as the promotion of the web series as a whole.

**Girls Excel in Math Summer Camp | University of Calgary**

(2023)

I volunteered in supporting a group of grade 6-9 students who identify as girls work through problems in graph theory, problems in game theory, exercises with fractals, and geometric exercises with origami.

**Mentor | University of Calgary, PASA**

(Sept 2021 – May 2024)

I participated as a mentor for two first and second year physics students from 2021-2023, as well as two additional physics students from 2023-2024. I assisted all students with course work, degree planning, and getting involved in summer research opportunities.

## EDUCATION DEVELOPMENT EXPERIENCE

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**Undergraduate Liaison Committee | University of Calgary**

(Apr 2022 – Apr 2024)

I worked with faculty members and peers to improve course structure in the Physics and Astronomy department, and implemented new policies intended to assist with greater student learning and mental health.

**Undergraduate Affairs Committee | University of Calgary**

(Apr 2022 – Apr 2024)

I actively participated in curriculum development for the Physics and Astronomy undergraduate program, helping to identify areas which were in need of extra support or restructuring so as to best serve the needs of undergraduate students.

## ACADEMIC AFFILIATIONS

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Kristine Bauer Research Group

(Sept 2023 – date)

Voganish Project Group Member

(May 2022 – Apr 2023)

## REFERENCES

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**Kristine Bauer**, Associate Professor in the Department Mathematics and Statistics  
University of Calgary  
bauerk@ucalgary.ca

**Carlo Maria Scandolo**, Associate Professor in the Department Mathematics and Statistics  
Associate Professor in the Institute of Quantum Science and Technology  
University of Calgary  
carlomaria.scandolo@ucalgary.ca

**Clifton Cunningham**, Professor in the Department Mathematics and Statistics  
University of Calgary  
ccunning@ucalgary.ca

**Tracey Balehowsky**, Assistant Professor in the Department Mathematics and Statistics  
University of Calgary  
tracey.balehowsky@ucalgary.ca