

# JAMES LANE

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## EDUCATION

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### University of Toronto

PhD, Astronomy and Astrophysics

*Toronto, ON*

Expected December 2023

- Fellowship recipient (Faculty of Arts and Science Top Doctoral Fellowship).
- Major award recipient (Ontario Graduate Scholarship).

### University of Victoria

BSc Honours, Combined Astronomy and Astrophysics

*Victoria, BC*

Conferred June 2018

- Awarded best in Physics & Astronomy at competitive thesis presentation event.

## ACADEMIC CONTRIBUTIONS & RESEARCH

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- Published 4 first-author papers in high-impact journals (MNRAS, ApJ).
- Collaborated on 8 other published papers with between 5 and 50 fellow scientists.
- Delivered research talks to large audiences at 5 conferences.

### Project - Bayesian models of the structure of the Milky Way

- Applying inhomogeneous spatial Poisson point process models in Bayesian framework to make detailed measurements of the structure of the Milky Way Galaxy from incomplete and noisy data.

### Project - Statistical models for remnants of galaxy collisions

- Using hydrodynamical N-body simulations to assess the performance of multiple classes of distribution functions when modelling remnants of galaxy mergers.

## LEADERSHIP & VOLUNTEERING

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- Consistent volunteering at Astronomy outreach events hosted by University of Toronto, such as Astronomy on Tap and Astrotours, since 2018
- Mentoring undergraduate students and new graduate students in department of Astronomy since 2019

### University of Toronto BizTech Association

Director of Finance

*Toronto, ON*

August 2022 - August 2023

- Developing budgets, applying for funding, and overseeing financial portfolio for a new club which aims to empower students seeking employment in business and technology industries.

### University of Toronto Department of Astronomy & Astrophysics

Head Teaching Assistant, AST 101 and AST 201

*Toronto, ON*

January 2020 - Present

- Leading dynamic tutorials for students in largest undergraduate class in Canada.
- Preparing tutorial materials, and managing 15+ other teaching assistants by leading weekly meetings.

### University of Toronto Graduate Student Union

Member of Board of Directors

*Toronto, ON*

September 2019 - April 2022

- Attended monthly meetings to provide executive oversight, direct initiatives, and approve finances.

## SKILLS & INTERESTS

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- **Computing:** python, numpy, scipy, matplotlib, pandas, pytorch, git, SQL, MATLAB, LaTeX. Contributor to the galpy python package
- **Interests:** Hiking & ski touring in Strathcona Park. Riding old road bikes. Rowing (competed at Royal Canadian Henley Regatta twice). Reading Greek & Roman history.