

Ian CHOW

Astronomy Ph.D Student | University of Washington

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🎓 EDUCATION

PRESENT	University of Washington	Seattle, WA, USA
Sep. 2025	PH.D ASTRONOMY	
	SUPERVISOR : Prof. Mario Jurić	
Aug. 2025	University of Western Ontario	London, ON, Canada
Sep. 2023	MSC. ASTRONOMY	
	Thesis : Orbital and Physical Properties of Decameter-Sized Earth Impactors	
	SUPERVISOR : Prof. Peter G. Brown	
May 2023	University of Toronto	Toronto, ON, Canada
Sep. 2018	HONOURS BSC. W/ HIGH DISTINCTION – ASTRONOMY & PHYSICS SPECIALIST, STATISTICS MAJOR, MATHEMATICS MINOR	
	Astronomy Thesis : Analyzing Radial Velocity Data from the Resonant Planetary System HD 45364	
	SUPERVISORS : Dr. Sam Hadden, Prof. Hanno Rein	
	Statistics Thesis : Probabilistic Dimensionality Reduction Methods for Stellar Chemodynamics	
	SUPERVISOR : Prof. Joshua S. Speagle	

ADDITIONAL RESEARCH POSITIONS

Aug. 2023	Dunlap Institute for Astronomy & Astrophysics, University of Toronto	Toronto, ON, Canada
May 2023	SUMMER UNDERGRADUATE RESEARCH ASSISTANT	
	Project : Understanding the impact of Bayesian inference on ultra-light axion limits	
	SUPERVISOR : Dr. Keir K. Rogers, Prof. Renée Hložek	
Aug. 2022	Canadian Institute for Theoretical Astrophysics (CITA)	Toronto, ON, Canada
May 2022	SUMMER UNDERGRADUATE RESEARCH FELLOW	
	Project : Modelling Migration Scenarios of Resonant Planets Using Radial Velocity Data	
	SUPERVISORS : Dr. Sam Hadden, Prof. Hanno Rein, Prof. Norman Murray	

📘 PEER-REVIEWED JOURNAL PUBLICATIONS

FIRST AUTHOR

1. Chow, I., Jurić, M., Jones, R.L., Kicer, K., Moeyens, J., Brown, P.G., Heinze, A.N., & Kurlander, J.A. “Predictions of Imminent Earth Impactors Discovered by LSST”, in review at ApJ.
2. Chow, I., & Brown, P.G. “Decameter-sized Earth Impactors – II : A Bayesian Inference Approach to Meteoroid Ablation Modelling”, accepted for publication in JGR : Planets.
3. Chow, I., & Brown, P.G. “Decameter-sized Earth impactors – I : Orbital properties.” 2025, Icarus, 429, 116444.
4. Chow, I., & Hadden, S. “Influence of Modeling Assumptions on the Inferred Dynamical State of Resonant Systems : A Case Study of the HD 45364 System.” 2025, ApJ, 980(2), 236.

CONTRIBUTING AUTHOR

1. Cheng, Q., Scolnic, D., Kurlander, J.A., Chow, I., & Fernandes, M.B. “Assessing the Vera Rubin Observatory’s Ability to Discover Asteroid Impactors Before They Collide with Earth”, in review at AJ.

🏆 SELECTED AWARDS, SCHOLARSHIPS, FELLOWSHIPS & HONOURS

2025	Top Scholar Award , \$10,830 USD	University of Washington
2025-2028	NSERC Postgraduate Scholarship – Doctoral (PGS-D) , \$120,000 CAD	NSERC
2024	NASA International Space Apps Challenge Global Winner , honour	NASA
2024-2025	Ontario Graduate Scholarship (OGS) , \$15,000 CAD	University of Western Ontario
2023-2025	Western Graduate Research Scholarship , \$13,137 CAD	University of Western Ontario
2023	SURP Poster Competition Award , \$50 CAD	University of Toronto

2023	Summer Undergraduate Research Program (SURP) Award, \$9,980 CAD	University of Toronto
2022	Summer Undergraduate Research Fellowship (SURF), \$9,500 CAD	CITA
2022	Smith Solis Research Scholarship in Astronomy and Astrophysics, \$1,250 CAD	University of Toronto
2020-2023	Dean's List Scholar, honour	University of Toronto

OBSERVING PROGRAMS

OBSERVING PROPOSALS AWARDED

- Winter 2026 **Apache Point Observatory (APO) 3.5-meter**, 1 half-night ToO (PI : Colin Orion Chandler)
UW Solar System Rapid Follow-up Campaign : Interstellar Objects, Potential Impactors, and Cataclysmic Cometary Events Co-I

OTHER OBSERVING EXPERIENCE

- Fall 2025 **APO 3.5-meter**, 4 half-nights (remote) Observer
Instruments : ARCTIC, KOSMOS

CONFERENCE PRESENTATIONS

CONTRIBUTED TALKS

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| Sep. 2025 | EPSC-DPS 2025 , Europlanet/AAS Division for Planetary Sciences | Helsinki, Finland |
| Jul. 2025 | Meteoroids 2025 , Curtin University | Perth, WA, Australia |
| Mar. 2025 | 56th Lunar and Planetary Science Conference , NASA/Lunar and Planetary Institute | The Woodlands, TX, USA |
| May 2024 | 55th Annual DDA Meeting , AAS Division on Dynamical Astronomy | Toronto, ON, Canada |
| Aug. 2022 | 2022 CITA Planet Day , Canadian Institute for Theoretical Astrophysics | Toronto, ON, Canada |

POSTER PRESENTATIONS

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|-----------|--|-----------------------|
| Jun. 2024 | 2024 CASCA Annual General Meeting , University of Toronto/York University | Toronto, ON, Canada |
| Jun. 2023 | 2023 CASCA Annual General Meeting , NRC Herzberg/University of British Columbia | Penticton, BC, Canada |

OTHER PRESENTATIONS

SELECTED ACADEMIC PRESENTATIONS

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|-----------|---|---------------------|
| Jun. 2025 | NASA Funding Review Presentation , NASA Meteoroid Environment Office | Virtual |
| Feb. 2025 | CSA Executive Committee Meeting Presentation , Canadian Space Agency | Virtual |
| May 2024 | NASA Funding Review Presentation , NASA Meteoroid Environment Office | Virtual |
| Aug. 2023 | SURP Poster Symposium , University of Toronto | Toronto, ON, Canada |

OUTREACH TALKS

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| Aug. 2025 | "Brighter than the Sun : Fireballs in Earth's Atmosphere" , Hume Cronyn Memorial Observatory | London, ON, Canada |
| Apr. 2025 | "SkyShield : Protecting Earth and Space Infrastructure From Space Hazards" , Royal Astronomical Society of Canada | London, ON, Canada |

TEACHING EXPERIENCE

My duties in the following course included delivering lectures, conducting in-class demonstrations, holding office hours, and proctoring, grading and reviewing exams.

- 2024-2025 **Astronomy 1021 : General Astronomy**, Teaching Assistant (x2) & Guest Lecturer University of Western Ontario

My duties in the following course included supervising lab sessions and grading lab reports.

- 2023-2024 **First-Year Physics Labs**, Teaching Assistant (x2) University of Western Ontario

My duties in the following courses included delivering in-person tutorials and help centres, running midterm viewing sessions, and proctoring, grading and reviewing exams.

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| 2024 | Physics 1402 : Physics for Engineering Students II , Teaching Assistant | University of Western Ontario |
| 2023 | Physics 1201 : Physics for the Sciences I , Teaching Assistant | University of Western Ontario |

RELEVANT PROFESSIONAL EXPERIENCE

Sep. 2020 Jun. 2020	Innovere Medical SOFTWARE DEVELOPER <ul style="list-style-type: none">➤ Automated detection of dropouts in time-series audio data from an MRI scanner's wireless audio system using power spectrum analysis in MATLAB and Python, eliminating 20+ hours of work weekly➤ Developed and tested TechSmart, an in-house multimedia app for patient use during MRI scans, with company's software development team	Markham, ON, Canada
MATLAB Python Signal Processing		
Aug. 2019 Jun. 2019	Plantiga Technologies SOFTWARE DEVELOPER <ul style="list-style-type: none">➤ Developed methods to compute physical fitness heuristics from time-series acceleration (g-force) data, using signal processing techniques like digital filtering and convolution in Python (NumPy, SciPy, Pandas) to improve detection of foot impacts➤ Field-tested and validated hardware such as sensor shoe insoles that track movement➤ Acquired data from company partners such as physiotherapy clinics, universities (University of British Columbia, Simon Fraser University), and sports organizations (Houston Rockets, US Tennis Association)➤ Wrote documentation of company products and services for clients	Vancouver, BC, Canada
Python Signal Processing Data Analysis		
Aug. 2017 Jun. 2017	Synced Review RESEARCH INTERN <ul style="list-style-type: none">➤ Conducted literature review focusing on advancements in reinforcement learning used in adversarial-search board and video game artificial intelligence programs for a company report➤ Worked with company team to research and edit review articles on industry trends in machine learning and robotics technology	Toronto, ON, Canada
Machine Learning Artificial Intelligence Literature Review		

LEADERSHIP, VOLUNTEERING & EXTRACURRICULAR EXPERIENCE

Aug. 2024 Jun. 2024	Hume Cronyn Memorial Observatory OUTREACH VOLUNTEER <ul style="list-style-type: none">➤ Volunteered at summer astronomy Public Nights attended by 80+ visitors weekly at the University of Western Ontario's Cronyn Observatory	London, ON, Canada
Jun. 2024 Sep. 2023	Consensus Trivia QUESTION WRITER/EDITOR <ul style="list-style-type: none">➤ Wrote and edited trivia questions for Consensus Trivia, a registered nonprofit organization that runs team-based trivia tournaments for high school and collegiate teams across Canada and the U.K.➤ Moderated and kept score for tournament games as a staffer	
May 2023 Jan. 2019	University of Toronto Academic Trivia Club VICE PRESIDENT, COMPETITOR, TOURNAMENT ORGANIZER & QUESTION WRITER/EDITOR <ul style="list-style-type: none">➤ Elected Vice President of the University of Toronto's Academic Trivia Club during the 2020-2021 and 2021-2022 academic years organizing twice-weekly practices and social events, managing club social media presence, and moderating practices and tournament games➤ Represented the University of Toronto at 30+ trivia (quiz bowl) tournaments across Canada and the U.S. as a competitor with several top finishes at North American championships➤ Organized and directed several collegiate and high school tournaments, including the 2021 University of Toronto Collegiate Novice and the 2022 University of Ottawa ACF Fall tournaments, played by 30+ collegiate teams in total across Canada and the U.S.➤ Wrote and edited trivia questions across a wide range of academic disciplines (including astronomy and physics) for 2022 WORKSHOP, 2023 Canadian Novice, and 2024 MRNA III, collegiate tournaments played by 80+ teams in total across Canada, the U.S., and the U.K.	Toronto, ON, Canada

RELEVANT PROJECTS

SKYSHIELD ORRERY

2024

 spaceapp-wmpgang2024orrrery.netlify.app/

An interactive, physics-based digital Solar System orrery highlighting near-Earth objects and meteoroids. Developed by myself, Dakota Cecil, Simon Van Schuylenbergh and Maximilian Vovk for the [2024 NASA International Space Apps Challenge](#) and selected by NASA as one of 10 Global Winners out of 10,000 submitted projects.

HTML CSS JavaScript

FASANO-FRANCESCHINI-TEST

2024

 github.com/wmpg/fasano-franceschini-test

A Python package implementing the multivariate extension of the two-sample Kolmogorov-Smirnov (K-S) statistical test described by [Fasano & Franceschini \(1987\)](#). Published as part of [Chow & Brown \(2025\)](#).

Python

MEDIA COVERAGE

Jan. 2025 [Team of Western students wins NASA Space Apps Challenge](#)

University of Western Ontario

Oct. 2023 [SURP Student Spotlight](#)

University of Toronto

SKILLS

Programming Python (NumPy, SciPy, Pandas, Matplotlib, Keras/TensorFlow, scikit-learn), MATLAB, R (ggplot, dplyr), HTML5 (Bootstrap), CSS, JavaScript (Node.js)

Software L^AT_EX, Git/GitHub, Jupyter Notebook, Anaconda, R Suite, Bash, Linux (ssh), SAOImageDS9, Microsoft Excel

Languages English (fluent), French (intermediate), Cantonese (spoken)

OTHER AFFILIATIONS AND ORGANIZATIONAL MEMBERSHIPS

2025-PRESENT American Astronomical Society

2025-PRESENT Europlanet Society

2024-2025 Western Institute for Earth and Space Exploration

2023-PRESENT Canadian Astronomical Society