

Ian CHOW

Astronomy Ph.D Student | University of Washington

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🎓 EDUCATION

PRESENT Sep. 2025	University of Washington PH.D ASTRONOMY SUPERVISOR : Prof. Mario Jurić	Seattle, WA, USA
Aug. 2025 Sep. 2023	University of Western Ontario MSc. ASTRONOMY Thesis : Orbital and Physical Properties of Decameter-Sized Earth Impactors SUPERVISOR : Prof. Peter G. Brown	London, ON, Canada
May 2023 Sep. 2018	University of Toronto 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	Toronto, ON, Canada

ADDITIONAL RESEARCH POSITIONS

Aug. 2023 May 2023	Dunlap Institute for Astronomy & Astrophysics, University of Toronto SUMMER UNDERGRADUATE RESEARCH ASSISTANT Project : Understanding the impact of Bayesian inference on ultra-light axion limits SUPERVISOR : Dr. Keir K. Rogers, Prof. Renée Hložek	Toronto, ON, Canada
Aug. 2022 May 2022	Canadian Institute for Theoretical Astrophysics (CITA) 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	Toronto, ON, Canada

📖 PEER-REVIEWED JOURNAL PUBLICATIONS

FIRST AUTHOR

1. **Chow, I.**, Jurić, M., Jones, R.L., Kiker, 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 Modeling.” 2026, JGR : Planets, 131, e2025JE009392.
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) <i>UW Solar System Rapid Follow-up Campaign : Interstellar Objects, Potential Impactors, and Cataclysmic Cometary Events</i>	Co-I
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OTHER OBSERVING EXPERIENCE

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

CONTRIBUTED TALKS

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

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

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

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

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	Markham, ON, Canada
	<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	
	MATLAB Python Signal Processing	
Aug. 2019 Jun. 2019	Plantiga Technologies SOFTWARE DEVELOPER	Vancouver, BC, Canada
	<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	
	Python Signal Processing Data Analysis	
Aug. 2017 Jun. 2017	Synced Review RESEARCH INTERN	Toronto, ON, Canada
	<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	
	Machine Learning Artificial Intelligence Literature Review	

LEADERSHIP, VOLUNTEERING & EXTRACURRICULAR EXPERIENCE

Aug. 2025 Jun. 2024	Hume Cronyn Memorial Observatory OUTREACH VOLUNTEER	London, ON, Canada
	<ul style="list-style-type: none">➤ Volunteered at astronomy Public Nights attended by 80+ visitors weekly at the University of Western Ontario's Cronyn Observatory	
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	Toronto, ON, Canada
	<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.	



RELEVANT PROJECTS

SKYSHIELD ORRERY

2024

 spaceapp-wmpgang2024orrery.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

LaTeX, Git/GitHub, Jupyter Notebook, Anaconda, R Suite, Bash, Linux (ssh), SAOImageDS9, Microsoft Excel



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