

# Ian CHOW

## Astronomy Ph.D Student | University of Washington

📍 DiRAC Institute and the Department of Astronomy, University of Washington, 3910 15th Avenue NE, Seattle, WA 98195, USA  
✉ chowian@uw.edu 🌐 ia-chow.github.io 🐙 github.com/ia-chow 📞 0009-0005-9428-9590

### 🎓 EDUCATION

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

### ADDITIONAL RESEARCH POSITIONS

Aug. 2023 May 2023	<b>Dunlap Institute for Astronomy &amp; Astrophysics, University of Toronto</b> SUMMER UNDERGRADUATE RESEARCH ASSISTANT <b>Project</b> : 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	<b>Canadian Institute for Theoretical Astrophysics (CITA)</b> SUMMER UNDERGRADUATE RESEARCH FELLOW <b>Project</b> : 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 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	<b>Top Scholar Award</b> , \$10,830 USD	University of Washington
2025-2028	<b>NSERC Postgraduate Scholarship – Doctoral (PGS-D)</b> , \$120,000 CAD	NSERC
2024	<b>NASA International Space Apps Challenge Global Winner</b> , honour	NASA
2024-2025	<b>Ontario Graduate Scholarship (OGS)</b> , \$15,000 CAD	University of Western Ontario
2023-2025	<b>Western Graduate Research Scholarship</b> , \$13,137 CAD	University of Western Ontario
2023	<b>SURP Poster Competition Award</b> , \$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	<b>Apache Point Observatory (APO) 3.5-meter</b> , 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
-------------	--	------

### OTHER OBSERVING EXPERIENCE

Fall 2025	<b>APO 3.5-meter</b> , 4 half-nights (remote) Instruments : ARCTIC, KOSMOS	Observer
-----------	---	----------

## CONFERENCE PRESENTATIONS

### CONTRIBUTED TALKS

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

### POSTER PRESENTATIONS

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

## OTHER PRESENTATIONS

### SELECTED ACADEMIC PRESENTATIONS

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

### OUTREACH TALKS

Aug. 2025	<b>"Brighter than the Sun : Fireballs in Earth's Atmosphere"</b> , Hume Cronyn Memorial Observatory	London, ON, Canada
Apr. 2025	<b>"SkyShield : Protecting Earth and Space Infrastructure From Space Hazards"</b> , 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	<b>Astronomy 1021 : General Astronomy</b> , 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	<b>First-Year Physics Labs</b> , 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.

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

## RELEVANT PROFESSIONAL EXPERIENCE

Sep. 2020 Jun. 2020	<b>Innovere Medical</b> SOFTWARE DEVELOPER	Markham, ON, Canada
	<ul style="list-style-type: none"><li>➤ 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</li><li>➤ Developed and tested TechSmart, an in-house multimedia app for patient use during MRI scans, with company's software development team</li></ul>	
	MATLAB Python Signal Processing	
Aug. 2019 Jun. 2019	<b>Plantiga Technologies</b> SOFTWARE DEVELOPER	Vancouver, BC, Canada
	<ul style="list-style-type: none"><li>➤ 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</li><li>➤ Field-tested and validated hardware such as sensor shoe insoles that track movement</li><li>➤ 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)</li><li>➤ Wrote documentation of company products and services for clients</li></ul>	
	Python Signal Processing Data Analysis	
Aug. 2017 Jun. 2017	<b>Synced Review</b> RESEARCH INTERN	Toronto, ON, Canada
	<ul style="list-style-type: none"><li>➤ Conducted literature review focusing on advancements in reinforcement learning used in adversarial-search board and video game artificial intelligence programs for a company report</li><li>➤ Worked with company team to research and edit review articles on industry trends in machine learning and robotics technology</li></ul>	
	Machine Learning Artificial Intelligence Literature Review	

## LEADERSHIP, VOLUNTEERING & EXTRACURRICULAR EXPERIENCE

Aug. 2025 Jun. 2024	<b>Hume Cronyn Memorial Observatory</b> OUTREACH VOLUNTEER	London, ON, Canada
	<ul style="list-style-type: none"><li>➤ Volunteered at astronomy Public Nights attended by 80+ visitors weekly at the University of Western Ontario's Cronyn Observatory</li></ul>	
Jun. 2024 Sep. 2023	<b>Consensus Trivia</b> QUESTION WRITER/EDITOR	
	<ul style="list-style-type: none"><li>➤ Wrote and edited trivia questions for <a href="#">Consensus Trivia</a>, a registered nonprofit organization that runs team-based trivia tournaments for high school and collegiate teams across Canada and the U.K.</li><li>➤ Moderated and kept score for tournament games as a staffer</li></ul>	
May 2023 Jan. 2019	<b>University of Toronto Academic Trivia Club</b> VICE PRESIDENT, COMPETITOR, TOURNAMENT ORGANIZER & QUESTION WRITER/EDITOR	Toronto, ON, Canada
	<ul style="list-style-type: none"><li>➤ 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</li><li>➤ 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</li><li>➤ 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.</li><li>➤ 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.</li></ul>	

## RELEVANT PROJECTS

---

### SKYSHIELD ORRERY

2024

 [spaceapp-wmpgang2024orrery.netlify.app/](https://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](https://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

**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](#)