

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 | 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., 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) *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

- | | | |
|-----------|---|------------------------|
| 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

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.

- | | | |
|------|--|-------------------------------|
| 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. 2025 Jun. 2024 | Hume Cronyn Memorial Observatory OUTREACH VOLUNTEER <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 | 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

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