

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 SUPERVISORS : 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." 2026, ApJ, 1001(1), 61.
Media Coverage/Press Release : Universe Today ([YouTube Interview](#), [Article](#)), [Sky and Telescope](#), [University of Washington](#)
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.", 2026, AJ, 171(5), 309.

SELECTED AWARDS, SCHOLARSHIPS, FELLOWSHIPS & HONOURS

2026	Schweickart Prize Honorable Mention , honour	B612 Foundation
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 Symposium 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

2026Q3	Apache Point Observatory ARC 3.5m , 2 half-nights	PI
	<i>A Pilot Program for Photometric Characterization of Small Near-Earth Objects in the LSST Era</i>	
2026B	Gemini Observatories Gemini South 8.1m , 9.8 hours ToO	Co-I
	<i>Near-Infrared Spectroscopic Characterization of Sub-140 m Near-Earth Asteroids with Gemini/FLAMINGOS-2 : A Pilot Survey for the LSST Era</i>	
2026Q3	Apache Point Observatory ARC 3.5m , 1 half-night ToO	Co-I
	<i>UW Solar System Rapid Follow-up Campaign : Imminent Impactors, Interstellar Objects, and Cataclysmic Cometary Events</i>	
2026Q3	Apache Point Observatory ARC 3.5m , 4 half-nights	Co-I
	<i>Shape and Spin Pole Orientation of Active Small Bodies</i>	
2026Q3	Apache Point Observatory ARC 3.5m , 5 half-nights	Co-I
	<i>Follow-up and Characterization of Rubin Discoveries by the UW Solar System Group : A Coordinated Campaign</i>	
2026Q3	Apache Point Observatory ARC 3.5m , 4 half-nights	Co-I
	<i>Discovery and Characterization of Unusual Active Minor Planets</i>	
2026Q3	Apache Point Observatory ARC 3.5m , 4 half-nights	Co-I
	<i>Characterising Elusive, Neglected, and Understudied tRansient Small-bodies (CENTAURS) : Photometric Properties and Activity Screening of Uncharacterised Centaurs</i>	
2026Q2	Apache Point Observatory ARC 3.5m , 1 half-night ToO	Co-I
	<i>UW Solar System Rapid Follow-up Campaign : Imminent Impactors, Interstellar Objects, and Cataclysmic Cometary Events</i>	
2026Q2	Apache Point Observatory ARC 3.5m , 2 half-nights	Co-I
	<i>Shape and Spin Pole Orientation of Main-belt Comets</i>	
2026Q2	Apache Point Observatory ARC 3.5m , 2 half-nights	Co-I
	<i>Recovery and Characterization of Faint Trans-Neptunian Objects</i>	
2026Q2	Apache Point Observatory ARC 3.5m , 3 half-nights	Co-I
	<i>Discovery and Characterization of Unusual Active Minor Planets</i>	

OBSERVING EXPERIENCE

2025-2026	Apache Point Observatory ARC 3.5m (IAU code 705), 17 half-nights, remote	Observer
2026	Višnjan Observatory TT1 1.0m (IAU code L01), 1 night, on-site	Observer

SELECTED ACADEMIC PRESENTATIONS

CONTRIBUTED TALKS

Oct. 2026	58th Annual DPS Meeting , AAS Division for Planetary Sciences	Spokane, WA, USA
Aug. 2026	Monsoon Workshop 2026 , Catalina Sky Survey	Tucson, AZ, USA
Jul. 2026	Asteroids Comets Meteors 2026 , Adam Mickiewicz University	Poznań, Poland
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

CONTRIBUTED 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 INVITED PRESENTATIONS

Apr. 2026	Center for Astrophysics and Cosmology Graduate Seminar , University of Nova Gorica	Ajdovščina, Slovenia
Feb. 2026	Cosmology Group Seminar , Duke University	Durham, NC, USA
Jun. 2025	NASA Funding Review , NASA Meteoroid Environment Office (remote)	Huntsville, AL, USA
Feb. 2025	CSA Executive Committee Meeting , Canadian Space Agency (remote)	Virtual
May 2024	NASA Funding Review , NASA Meteoroid Environment Office (remote)	Huntsville, AL, USA

PUBLIC OUTREACH TALKS

Mar. 2026	"Great Balls of Fire : Meteors and Meteorites in the Past, Present and Future" , Astronomy on Tap Seattle	Seattle, WA, USA
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	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

OTHER PROFESSIONAL EXPERIENCE

Sep. 2020	Innovere Medical	Markham, ON, Canada
Jun. 2020	SOFTWARE DEVELOPER	

- 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	Plantiga Technologies	Vancouver, BC, Canada
Jun. 2019	SOFTWARE DEVELOPER	

- 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	Synced Review	Toronto, ON, Canada
Jun. 2017	RESEARCH INTERN	
	➤ 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	

SELECTED LEADERSHIP, VOLUNTEERING & SERVICE

PRESENT	Apache Point Observatory	Seattle, WA, USA
Feb. 2026	TELESCOPE ALLOCATION COMMITTEE (TAC) GRADUATE STUDENT REPRESENTATIVE	
	➤ Served as the University of Washington's graduate student representative for allocating time at the 3.5-meter Apache Point Observatory ARC telescope ➤ Read and evaluated observing proposals to equitably allocate 40+ nights quarterly in collaboration with faculty and postdoctoral members of the TAC	
Aug. 2025	Hume Cronyn Memorial Observatory	London, ON, Canada
Jun. 2024	OUTREACH VOLUNTEER	
	➤ Volunteered at astronomy Public Nights attended by 80+ visitors weekly at the University of Western Ontario's Cronyn Observatory	
May 2023	University of Toronto Academic Trivia Club	Toronto, ON, Canada
Jan. 2019	VICE PRESIDENT, COMPETITOR, TOURNAMENT ORGANIZER & QUESTION WRITER/EDITOR	
	➤ 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 ➤ 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. Press Release : University of Western Ontario HTMLCSSJavaScript	
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	

SKILLS

Programming	Python (NumPy, SciPy, Astropy, 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, SAOImageDS9, Microsoft Excel

OTHER AFFILIATIONS AND ORGANIZATIONAL MEMBERSHIPS

2025-PRESENT	LSST Solar System Science Collaboration
2025-PRESENT	American Astronomical Society
2025-PRESENT	Europlanet Society
2023-PRESENT	Canadian Astronomical Society