

# Alice P. Curtin

Canadian SKA Scientist at McGill University

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<https://curtina.github.io>

## Research Interests

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Fast radio bursts; Pulsars; Radio Telescopes; Magnetars; Galactic Magnetic Field; Very Long Baseline Interferometry; Compact Object Mergers; Interstellar Medium

## Research Experience

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**Canadian SKA Scientist**, McGill University Fall 2025 – Present  
Affiliated with the University of Amsterdam/ApI; Advisor: Jason Hessels

**CHIME/FRB Operations Co-Lead**, McGill University Summer 2025 – Present  
Affiliated with the University of Amsterdam/ApI; Advisor: Jason Hessels

**Vanier Canada Graduate Fellow**, McGill University Fall 2022 – Fall 2025  
Advisor: Victoria Kaspi as a part of CHIME/FRB

**McPhee Fellow / Research Assistant**, McGill University Fall 2019 – Fall 2022  
Advisor: Victoria Kaspi as a part of CHIME/FRB

**Research Assistant**, Carleton College Jan. 2016 – Aug. 2024  
Supervisor: Joel Weisberg with collaboration with Joanna Rankin

**REU Research Assistan**, University of Utah June – Aug. 2018  
Supervisor: David Kieta as a part of VERITAS & HAWC

## Education

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**Doctor of Philosophy, Physics**, McGill University Sept. 2021 – Aug. 2025  
Thesis: *Probing the Origins of FRBs using CHIME: High-energy Counterpart Searches and Burst Morphology*  
Advisor: Victoria Kaspi  
General GPA: 4.0

**Master of Science, Physics**, McGill University Sept. 2019 – Sept. 2021  
Thesis: *The Canadian Hydrogen Intensity Mapping Experiment Fast Radio Burst Project: Monitoring the Interference Environment and Studying the Bursting Behaviour of SGR 1935+2154*  
Advisor: Victoria Kaspi  
General GPA: 4.0

**Bachelor of Arts, Physics & Astronomy**, Carleton College Sept. 2015 – June 2019  
Thesis: *Jets in Active Galactic Nuclei*  
Advisor: Joel Weisberg  
General GPA: 3.75

## Awards and Recognitions

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Canadian SKA Scientist, \$600k over 5 years 2025 – 2030

|   |             |
|---|-------------|
| President's Prize for Public Engagement, as a part of the McGill Eclipse team   | 2025        |
| Marcel Grossman Award, as part of the CHIME/FRB team  | 2024        |
| McGill Faculty of Science Funding for Science in Space Outreach Initiative, \$5000  | 2023        |
| Best Graduate Student Talk at CASCA, Penticton, BC:   | 2023        |
| Honorable Mention for EPO Poster at CASCA, Penticton, BC:   | 2023        |
| McGill Department of Physics Community Building Award, \$1000   | 2023        |
| Vanier Canada Graduate Fellow, NSERC, McGill University, \$150000<br>(Ranked #6 out of all NSERC Vanier candidates in Canada) | 2022 – 2025 |
| 2022 Brockhouse Canada Prize, as part of the CHIME team   | 2022        |
| Lancelot M. Berkeley – New York Community Trust Prize, as part of the CHIME/FRB team  | 2022        |
| AAS Berkeley Prize, as part of the CHIME/FRB team   | 2022        |
| McGill University McPhee Fellowship, \$10000  | 2020        |
| Governor General's Innovation Award, as part of the CHIME team  | 2020        |
| Distinction in Physics & Astronomy Bachelor Degree, Carleton College  | 2019        |
| Distinction on Physics Thesis, Carleton College   | 2019        |
| Honorable Mention for Research on SS 433, University of Utah  | 2018        |
| Mike Ewers Award, Minnesota Space Grant Consortium, Carleton College, \$1000  | 2018        |
| Minnesota Space Grant Consortium Award, Carleton College, \$1000  | 2016        |

## Publications

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**Summary:** Six first-author refereed publications; four first-author non-refereed contributions; twelve publications as a lead co-author; 40+ total refereed works. Total: 2400 citations; h-index: 22. Last updated Winter 2026.

### Refereed First-Author Publications

1. **Curtin, A.P.** on behalf of the SKA Transients SWG (2026), The astrophysics of fast radio bursts, Chapter in *Advancing Astrophysics with the SKA – II*, *submitted*
2. **Curtin et al.** (2026), CHIME/FRB Discovery and Localization of the Swift-observed FRB 20241228A, *ApJ*, 998, 97. doi:10.3847/1538-4357/ae2ea0
3. **Curtin et al.** (2025), Morphology of 20 Repeating Fast Radio Burst Sources at Microsecond Time Scales with CHIME/FRB, *ApJ*, 992, 206. doi:10.3847/1538-4357/adf844.
4. **Curtin, Weisberg, & Rankin** (2024), Determining the Magnetic Field in the Galactic Plane from New Arecibo Pulsar Faraday Rotation Measurements, *ApJ*, 975, 215, <https://doi.org/10.3847/1538-4357/ad7b15>.
5. **Curtin et al.** (2024), Constraining Near-simultaneous Radio Emission from Short Gamma-Ray Bursts Using CHIME/FRB, *ApJ*, 972, 125, <https://doi.org/10.3847/1538-4357/ad5c65>.
6. **Curtin et al.** (2023), Limits on Fast Radio Burst-like Counterparts to Gamma-Ray Bursts Using CHIME/FRB, *ApJ*, 954, 154, <https://doi.org/10.3847/1538-4357/ace52f>.

### Non-Refereed Contributions

1. **Curtin, A.P. et al.** (2026), One Attempt at Building an Inclusive & Accessible Hybrid Astronomy Conference: FRB 2025, doi:10.48550/arXiv.2601.14357

2. **Curtin, A. P.** & Cook A.M. (2025), Fast Radio Bursts 2025, NatAs, 9, 1760. doi:10.1038/s41550-025-02741-1
3. **Curtin, A.P.** and CHIME/FRB Collaboration (2024), “CHIME/FRB Updated Position for Repeating Source FRB 20240316A,” ATel 6780, <https://www.astronomerstelegam.org/?read=16780>.
4. **Curtin, A.P.** and CHIME/FRB Collaboration (2023), “Non-detection of radio emission from GRB 231115A with CHIME/FRB,” ATel 16341, <https://www.astronomerstelegam.org/?read=16341>.

**Co-authored Contributions:** A full list of my contributions (40+) can be found through ADS. Below, I list only those I was major co-author for.

1. Shin, **Curtin** et al. (2026), CHIME/FRB Discovery of the Extremely Active Fast Radio Burst Source FRB 20240114A, , 997, 334.
2. Anderson et al. **incl. Curtin** (2026), Rapid response triggering for radio transients with the SKA Observatory, Chapter in Advancing Astrophysics with the SKA – II, *Submitted*
3. CHIME/FRB Collaboration **incl. Curtin** (2025), CHIME/FRB Outriggers: Design Overview, ApJ, 993, 55. doi:10.3847/1538-4357/adfdcc.
4. Dong, Kilpatrick, Fong, **Curtin**, et al. (2025), Searching for Historical Extragalactic Optical Transients Associated with Fast Radio Bursts, ApJ, 991, 199. doi:10.3847/1538-4357/adfb74.
5. Dong, Clarke, **Curtin**, et al. (2025), CHIME/Fast Radio Burst/Pulsar Discovery of a Nearby Long-period Radio Transient with a Timing Glitch, ApJL, 990, L49. doi:10.3847/2041-8213/adfa8e.
6. Ng, Pandhi, Mckinven, **Curtin**, et al. (2024), Polarization properties of 28 repeating fast radio burst sources with CHIME/FRB, ApJ, 982, 154. doi:10.3847/1538-4357/adb0bc.
7. Sand, **Curtin** et al. (2024), Morphology of 137 Fast Radio Bursts down to Microseconds Timescales from The First CHIME/FRB Baseband Catalog, accepted in ApJ, <https://arxiv.org/abs/2408.13215>.
8. Giri, Anderson, Chawla, **Curtin** et al. (2023), Comprehensive Bayesian analysis of FRB-like bursts from SGR 1935+2154 observed by CHIME/FRB, submitted to ApJ, <https://arxiv.org/abs/2310.16932>.
9. Rankin, Venkataraman, Weisberg, & **Curtin** (2023), Polarization measurements of Arecibo-sky pulsars: Faraday rotations and emission-beam analyses, MNRAS, 524, 5042, <https://doi.org/10.1093/mnras/sta>
10. CHIME/FRB Collaboration et al. **incl. Curtin** (2021), The First CHIME/FRB Fast Radio Burst Catalog, ApJS, 257, 59, <https://doi.org/10.3847/1538-4365/ac33ab>.
11. Josephy, Chawla, **Curtin**, et al. (2021), No Evidence for Galactic Latitude Dependence of the Fast Radio Burst Sky Distribution, ApJ, 923, 2, <https://doi.org/10.3847/1538-4357/ac33ad>.
12. CHIME/FRB Collaboration et al. **incl. Curtin** (2020), A bright millisecond-duration radio burst from a Galactic magnetar, Nature, 587, 54, <https://doi.org/10.1038/s41586-020-2863-y>.

## Proposals

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**Summary:** PI for 302 hours of awarded time with the VLBA, and co-PI on an additional 48 hours with the GBT, VLBA, and VLA.

|   |      |
|---|------|
| (Co-PI) <i>Constraining the nebular model of fast radio bursts with three new localizations</i> | VLBA |
| PI: Lazda, Hours Acquired: 25   | 2025 |
| (Co-PI) <i>Unveiling compact radio emission associated with a local universe FRB</i>            | VLBA |
| PI: Lazda, Hours Acquired: 8  | 2025 |
| (Co-PI) <i>Confirming Radio Detection of Magnetar SGR J0418+5729</i>                            | VLA  |
| PI: Sherman, Hours Acquired: 1.4  | 2025 |
| (Co-PI) <i>Searching for Radio Emission from the Four 'Low B-Field' Magnetars</i>               | GBT  |
| PI: Sherman, Hours Acquired: 14.25  | 2025 |
| (PI) <i>Precise Pulsar Positions for CHIME/FRB Outrigger Calibration</i>                        | VLBA |
| PI: Curtin, Hours Acquired: 80  | 2024 |
| (PI) <i>Precise Pulsar Positions for CHIME/FRB Outrigger Calibration</i>                        | VLBA |
| PI: Curtin, Hours Acquired: 180   | 2023 |
| (PI) <i>Precise Pulsar Positions for CHIME/FRB Outrigger Calibration</i>                        | VLBA |
| PI: Curtin, Hours Acquired: 42  | 2022 |

## Invited & Contributed Talks

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**Summary:** Seven invited talks; Ten seminars; 19 contributed or shorter institutional talks; Six posters

### Seminars & Colloquia

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|  |                      |
|--|----------------------|
| DAO Science Tea Seminar                                      | Victoria, BC, 2026   |
| DRAO Seminar   | Penticton, BC, 2026  |
| University of Madison-Wisconsin Science Seminar Series       | Online, 2026         |
| University of Vermont Physical Society Colloquium (Invited)  | Burlington, VT, 2025 |
| Marianopolis College Seminar (Invited)                       | Montreal, QC, 2024   |
| Institut d'Astrophysique Spatiale Seminar (Invited)          | Paris, France, 2024  |
| CIERA, Northwestern University Seminar                       | Evanston, IL, 2024   |
| Caltech Radio Seminar  | Pasadena, CA, 2024   |
| McGill University Seminar (Invited)                          | Montreal, QC, 2023   |
| Dominion Radio Astrophysical Observatory Tech Talk (Invited) | Online, 2021         |

### Conferences

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|  |                     |
|--|---------------------|
| CARTA Meeting (Invited)                                | Victoria, BC, 2026  |
| Rutgers Transients Conference (Invited)                | Online, 2025        |
| Structure and Polarization in the Interstellar Medium  | Online, 2024        |
| FRB 2024   | Thailand, 2024      |
| Canadian Astronomical Society Annual Meeting, EDI Talk | Toronto, ON, 2024   |
| FRB 2023   | Online, 2023        |
| Canadian Astronomical Society Annual Meeting           | Penticton, BC, 2023 |

|  |                  |
|--|------------------|
| FRB 2022   | Busan, SK, 2022  |
| Centre for Research in Astrophysics of Quebec Annual Meeting | Quebec, QC, 2022 |
| RFI 2022, Contribution 1                                     | Online, 2022     |
| RFI 2022, Contribution 2                                     | Online, 2022     |

### Shorter institutional & outreach talks

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|---|--------------------|
| McGill University Seminar for High School Students  | Montreal, QC, 2025 |
| Rutgers Journal Club                                | Online, 2025       |
| McGill University Transient Discussion Journal Club | Montreal, QC, 2025 |
| MIT Kavli Institute Tea Talk                        | Boston, MA, 2024   |
| UC Berkeley Astronomy Lunch Talk                    | Berkeley, CA, 2024 |
| Astronomy on Tap                                    | Montreal, QC, 2023 |
| Northwestern CIERA Observer's Group Meeting         | Online, 2023       |
| WVU Astronomy Journal Club                          | Online, 2023       |

### Posters

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|  |                     |
|--|---------------------|
| Canadian Astronomical Society Annual Meeting | Toronto, ON, 2024   |
| FRB 2023                                     | Online, 2023        |
| Canadian Astronomical Society Annual Meeting | Penticton, BC, 2023 |
| FRB 2022                                     | Busan, SK, 2022     |
| FRB 2021                                     | Online, 2021        |
| American Astronomical Society Annual Meeting | Seattle, WA, 2019   |

### Academic Leadership & Service

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|   |                           |
|---|---------------------------|
| Chair of the first Canadian SKA Community Meeting                 | Fall 2026 – Present       |
| Chair of first iteration of CRASIES <sup>1</sup>                  | Fall 2026 – Present       |
| LOC for Dynamic Radio Sky   | Winter 2026 – Present     |
| LOC for CASCA 2027  | Winter 2026 – Present     |
| CHIME/FRB Operations Co-Lead ( <i>Selected position</i> )         | Summer 2025 – Present     |
| Co-convenor of Counterparts Working Group, CHIME/FRB              | Winter 2025 – Present     |
| SKA Transient Science Working Group                               | Winter 2025 – Present     |
| CHIME RFI Committee ( <i>Selected position</i> )                  | Fall 2024 – Present       |
| Co-founder & convener of FRB Early Career Researcher Journal Club | Fall 2023 – Present       |
| NSERC CGRSM Review Committee ( <i>Invited</i> )                   | Winter 2026               |
| Co-chair of Local Organizing Committee for FRB 2025               | Fall 2024 – Fall 2025     |
| Co-chair of Scientific Organizing Committee for FRB 2025          | Fall 2024 – Fall 2025     |
| Pipeline Expert & Admin, CHIME/FRB ( <i>Selected position</i> )   | Fall 2023 – Summer 2025   |
| Convener of McGill Transient Discussion                           | Spring 2022 – Winter 2025 |

### Community Leadership & Engagement

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**Summary:** I have spent over 1500 hours since 2019 on outreach, EDI, and science communication.

<sup>1</sup>Canadian Radio Astronomy Summer Institute and Extended School

|  |                           |
|--|---------------------------|
| McGill Physics Outreach Committee Member <sup>2</sup>  | Spring 2020 – Present     |
| CERC EDI Committee, McGill University  | Fall 2025 – Present       |
| Co-founder & Principal Member of Science in Space Outreach Initiative, McGill University, Trottier Space Institute, Dell Technologies / Girls Who Game | Spring 2022 – Present     |
| CASCA Sustainability Committee   | Summer 2024 – Present     |
| CERC EDI Action Plan Committee, McGill University  | Winter – Fall 2025        |
| Co-organizer Graduate Outreach Session for CASCA 2025 ( <i>Invited</i> )   | Spring 2025               |
| Astrobites Admin Committee Member  | Fall 2023 – Fall 2024     |
| Astrobites Social Media Chair  | Fall 2021 – Fall 2024     |
| Astrobites Climate Change Committee Member   | Fall 2021 – Fall 2024     |
| Writer for Astrobites  | Winter 2021 – Fall 2024   |
| CIBC Spring Break Camp on Space, Toronto, ON ( <i>Invited</i> )  | 2024, 2025                |
| Judge & Selection Committee Member for CCUWiP Conference ( <i>Invited</i> )  | Winter 2024               |
| Mentorship Panelist for Graduate School ( <i>Invited</i> ), McGill University  | Fall 2023                 |
| Action Plan Task Force for EDI Committee, McGill Univ.   | Summer 2020 – Spring 2021 |
| Multi-National Outreach Alliance, McGill University  | Fall 2020                 |
| Values Statement Task Force for EDI Committee, McGill University   | Summer 2020               |
| Volunteer for Goodsell Observatory, Carleton College   | Summer 2016 – Summer 2019 |
| Physics Department Curriculum Committee, Carleton College  | Fall 2018 – June 2019     |
| Science Summer Educator, Berkshire Museum, Pittsfield, MA  | Summer 2017               |
| Student Leader for Young Summer Astronomy Experience, Carleton College   | Summer 2016               |

## Teaching & Mentorship Experience

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**Summary:** Formally mentored four undergraduate students; Informal mentor to 5+ graduate students; 360 hours of teaching experience

### Undergraduate Mentees

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|--|---------------------------|
| Audrey Bernier, Co-supervised with J. Hessels  | Summer 2025, Winter 2026  |
| Melanie Szpigiell, Co-supervised with V. Kaspi | Summer 2025               |
| Sloane Sirota, Co-supervised with V. Kaspi     | Summer 2023 – Winter 2024 |
| Sandhya Rotoo, Co-supervised with V. Kaspi     | Summer 2022               |

### Lectures & Organized Courses

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| Instructor on record, Radio Astronomy Seminar Course, McGill University    | Winter 2027           |
| Organizer, Canadian Radio Astronomy Summer School (CRASIES)                | Summer 2026 - Present |
| Lecture, University of British Columbia - Okanagan, Radio Astronomy Course | Winter 2026           |
| Co-organizer, Graduate-level AstroStatistics Reading Course                | Fall 2023             |
| Lecture, Graduate-level AstroStatistics Reading Course                     | Fall 2023             |

### Teaching Assistantships

#### *McGill University*

|   |                    |
|---|--------------------|
| Lab Designer, Facilitator, and Grader for Introductory Physics Course | Summer – Fall 2020 |
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<sup>2</sup>Outreach initiative coordination and facilitation including public talks, school visits, and large-scale event coordination. I am the longest standing member (out of all faculty, staff, students) on the McGill Physics Outreach Committee. Served as a paid graduate coordinator from 2021–2025.

Lab Assistant and Grader for Introductory Electricity and Magnetism Fall 2019  
Lab Assistant and Grader for Introductory Mechanics Fall 2019

*Carleton College*

Grader for Math 341, Fourier Series and Boundary Values Problems Spring 2019  
Lab Assistant for Physics 165, Electricity and Magnetism Winter 2019  
Problem Solving Facilitator for First and Second Year Physics Winter 2019

## Skills

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**Computer Skills:** Advanced in Python; Advanced in IDL; Proficient in Unix, Mathematica, and Excel; Experience with C++ and ROOT

**Language Skills:** Spanish (Proficient); French (Proficient).

## Science Communication Articles & Media

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1. A. P. Curtin, "Some 'not so fast' fast radio bursts," *Astrobit*, November 2022.
2. A. P. Curtin, "An FRB way off in the distance," *Astrobit*, October 2022.
3. A. P. Curtin, "Have we found the origins of fast radio bursts?," *Astrobit*, September 2022.
4. A. P. Curtin, "Could some short and long gamma-ray bursts have the same parents?," *Astrobit*, May 2022.
5. A. P. Curtin, "You'll be a limbo star. How (s)low can you go?," *Astrobit*, February 2022.
6. A. P. Curtin, "Let's get building (some terrestrial planets)!," *Astrobit*, December 2021.
7. A. P. Curtin, "Another Mysterious Fast Radio Burst Detected... Are We One Step Closer to Discovering their Origins?," *Astrobit*, November 2021.
8. A. P. Curtin, "New Radio Source Towards the Center of our Galaxy – Say whaaaat," *Astrobit*, October 2021.
9. A. P. Curtin, "A Fast Radio Burst in a Rather Peculiar Location," *Astrobit*, August 2021.
10. A. P. Curtin, "If you had \$100 million, how would you look for aliens?," *Astrobit*, May 2021.
11. A. P. Curtin, "FRBs are spiraling out of control," *Astrobit*, March 2021.
12. A. P. Curtin, "Three Little Outliers in a Sea of Planets, Stars, and Brown Dwarfs," *Astrobit*, February 2021.
13. A. P. Curtin, Instagram reel on Nanograv gravitational wave detection, *Astrobit*, July 2023, 3000 views.
14. A. P. Curtin, Instagram reel on renewable energy in the South Pole, *Astrobit*, December 2023, 1500 views.
15. A. P. Curtin, Instagram reel on 7 eclipse facts, *Astrobit*, April 2024, 260,000 views.