

Kyle McGregor

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EDUCATION

McGill University

Montreal, QC

Doctor of Philosophy in Physics

September 2026 – Present

- Continuing graduate student researcher in the CHIME/FRB Collaboration, contributing to telescope facility hardware and software upgrades
- Advisors: Vicky Kaspi, Jason Hessels, and Amanda Cook

McGill University

Montreal, QC

Master of Science in Physics

August 2024 – September 2026

- Graduate student researcher in the CHIME/FRB Collaboration, studying fast radio burst populations and astrophysical survey selection effects
- Thesis: *Between the Pipes: Fast Radio Burst Selection Effects and Population Inference with CHIME/FRB*
- Advisors: Vicky Kaspi and Jason Hessels
- GPA: 3.80/4.0

Wesleyan University

Middletown, CT

Bachelor of Arts in Astronomy & Physics (High Honors in Astronomy)

August 2020 – May 2024

- Thesis: *A New Metric Revealing an Overabundance of Multiple Planet Systems Near Mean-Motion Resonance*
- Advisor: Seth Redfield
- GPA: 3.72/4.0

RESEARCH INTERESTS

Fast radio bursts (FRBs) and other radio transients; astrostatistics and statistical methods for astrophysical surveys; survey selection effects, missing-data problems, signal processing

RESEARCH EXPERIENCE

Graduate Researcher, CHIME/FRB Collaboration

August 2024 – Present

McGill University

Montreal, QC

- Working on characterizing the CHIME/FRB survey selection function and understanding how observational biases shape the detected FRB population.
- Contributing to the development and analysis of the CHIME/FRB injection pipeline used to test system sensitivity and validate population studies.

NSF Research Experiences for Undergraduates (REU)

May 2023 – August 2023

West Virginia University

Morgantown, WV

- Worked with Dr. Duncan Lorimer on population synthesis of repeating FRBs.
- Published first-author paper in the *Astrophysical Journal* (McGregor & Lorimer 2024).

Undergraduate Researcher

February 2021 – May 2024

Wesleyan University Department of Astronomy and Van Vleck Observatory

Middletown, CT

- Modeled exoplanet system architectures and resonant chains in Prof. Seth Redfield's ISM/Exoplanet Group.
- Developed a statistical metric quantifying commensurability offsets in multi-planet systems.

PUBLICATIONS

Lead Author

Debiasing the Observed Fast Radio Burst Population with the CHIME/FRB Selection Function

- **McGregor, K.**, Hessels, J. W. T., Kaspi, V. M., et al., 2026, submitted to *ApJ*. arXiv:2606.26334

Modeling Current and Future High-Cadence Surveys of Repeating FRBs

- **McGregor, K.**, Lorimer, D. R., 2024, *ApJ*, 961, 10. arXiv:2309.11522

Contributing Author

Evidence for Enhancement in the Rate of Fast Radio Bursts Toward Galaxy Clusters

- Sammons, M. W., Ahuja, A., Dobbs, M., et al., (incl. **McGregor, K.**), submitted to *ApJ*. arXiv:2608.10358

Discovery of 30 Repeating Fast Radio Burst Sources and Uniform Population Statistics of 80 Repeating Sources from CHIME/FRB

- Cook, A. M., Shin, K., Pleunis, Z., et al., (incl. **McGregor, K.**), submitted to *ApJ*. arXiv:2605.08410

Probing the maximum energy of fast radio bursts using thousands of sources from the Second CHIME/FRB Catalog

- Shah, V., Hessels, J. W. T., Kaspi, V. M., et al., (incl. **McGregor, K.**), submitted to *ApJ*. arXiv:2602.19335

The Second CHIME/FRB Catalog of Fast Radio Bursts

- CHIME/FRB Collaboration (incl. **McGregor, K.**), et al., submitted to *ApJ*. arXiv:2601.09399

A Spatial Gap in the Sky Distribution of Fast Radio Burst Detections Coinciding with Galactic Plasma Overdensities

- Patil, S. S., Main, R. A., Fonseca, E., **McGregor, K.**, et al., submitted to *ApJL*. arXiv:2509.06721

FRB 20250316A: A Brilliant and Nearby One-Off FRB Localized to 13 pc Precision

- CHIME/FRB Collaboration (incl. **McGregor, K.**), submitted to *ApJL*. arXiv:2506.19006

A study of centaur (54598) Bienor from multiple stellar occultations

- Rizos, J. L., Fernández-Valenzuela, E., Ortiz, J. L., (incl. **McGregor, K.**), et al., 2024, *A&A*, 689, A82. arXiv:2405.17235

The Two Rings of (50000) Quaoar

- Pereira, C. L., Sicardy, B., Morgado, B. E., (incl. **McGregor, K.**), et al., 2023, *A&A*, 673, L4. arXiv:2304.09237

PRESENTATIONS

Poster - Dynamic Radio Sky 2026 (Montreal, QC) August 2026

Correcting for selection effects in the second CHIME/FRB catalog

Poster - Extragalactic Transient Universe (Marseille, FR) June 2026

Uncovering the intrinsic population of fast radio burst observables using injected events

Contributed Talk - CASCA 2026 (Montreal, QC) June 2026

Revealing the intrinsic population of fast radio burst observables through injection analysis

Seminar Talk - University of Hong Kong November 2025

Selection function analysis for the second CHIME/FRB catalog

Contributed Talk - Hong Kong Laureate Forum November 2025

How well do we detect the universal population of fast radio bursts?

Contributed Talk - Fast Radio Burst 2025 (Montreal, QC) July 2025

Selection function analysis for the second CHIME/FRB catalog

Poster - 243rd Meeting of the American Astronomical Society (New Orleans, LA) January 2024

Predictions for Current and Future High-Cadence Observations of the Repeating FRB Population

An Empirical Population Analysis of Multiple-Planet Systems Near Resonance (co-presenter)

Contributed Talk - 2022 Northeast Star and Planet Formation Meeting (Middletown, CT) July 2022

Commensurability Offsets as a Tool for Comparative Characterization of Resonant Exoplanet Chains

HONORS AND AWARDS

Wolfe Fellowship in Scientific and Technological Literacy, McGill University

Young Scientist Participant, Hong Kong Laureate Forum (1 of ~200 selected globally)

FRQNT Masters Research Scholarship, Fonds de recherche du Québec

Littell Prize for Excellence in Astronomy, Wesleyan University

High Honors in Astronomy, Wesleyan University

Undergraduate Scholarship, Connecticut Space Grant Consortium

LEADERSHIP AND SERVICE

Convener of Populations Working Group, CHIME/FRB Collaboration
Local Organizing Committee, Dynamic Radio Sky 2026
Local Organizing Committee, Fast Radio Bursts 2025
Convener of Transient Discussion group, Trottier Space Institute
Co-founder and organizer of CHIME/FRB's social media

COMMUNITY OUTREACH

Judge and Mentor, McGill Physics Hackathon <i>McGill University Department of Physics</i>	February 2026 <i>Montreal, QC</i>
Judge, Weizmann Canada Physics Tournament <i>McGill University Department of Physics</i>	February 2026 <i>Montreal, QC</i>
Judge, Arbor Vale Elementary School Science Fair <i>McGill University Department of Physics</i>	May 2025 <i>Montreal, QC</i>
Volunteer, McGill Family Science Day <i>McGill University Department of Physics</i>	May 2025 <i>Montreal, QC</i>
Judge and Mentor, McGill Physics Hackathon <i>McGill University Department of Physics</i>	November 2024 <i>Montreal, QC</i>
Volunteer, WVU Planetarium and Observatory <i>West Virginia University</i>	May – July 2023 <i>Morgantown, WV</i>
Volunteer, Space/Kids Nights <i>Van Vleck Observatory</i>	2023 – 2024 <i>Middletown, CT</i>
Organizer, Public Observing Nights <i>Van Vleck Observatory</i>	2021 – 2023 <i>Middletown, CT</i>