

Lindsey Byrne

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Research Interests

Theoretical/computational astrophysics: galaxy formation and evolution, hydrodynamical simulations, supermassive black holes/active galactic nuclei, star formation.

Education

- 2018 – present **Ph.D., Northwestern University** Astronomy.
Degree expected June 2024
- 2018 – 2021 **M.S., Northwestern University** Astronomy.
Certificate, Northwestern University Integrated Data Science
- 2014 – 2018 **B.A., Grinnell College** Physics with Honors.

First-Author Research Publications

Byrne, Lindsey, Faucher-Giguère C-A., et al. “Formation of quenched massive galaxies in FIRE cosmological zoom-in simulations with multi-channel AGN feedback.” Submitted to ApJ.
<https://arxiv.org/abs/2310.16086>

Byrne, Lindsey, Faucher-Giguère C-A., et al. 2023. “Stellar feedback-regulated black hole growth: driving factors from nuclear to halo scales.” MNRAS 520, 722. doi: 10.1093/mnras/stad171

Byrne, Lindsey, Christensen, C., et al. 2019. “Implementing Dust Shielding as a Criteria for Star Formation.” The Astrophysical Journal 871, 213. doi: 10.3847/1538-4357/aaf9aa

Presentations

- June 2023 **Contributed Talk** “Multi-channel AGN Feedback Produces Realistic Massive Galaxies in FIRE.”
AGN Winds on the Chesapeake. Easton, MD.
- Sept. 2022 **Contributed Talk** “Stellar-feedback regulated black hole growth: confinement by gravity and circumgalactic gas.”
What drives the growth of black holes: a decade of reflection. Reykjavik, Iceland.
- Aug. 2019 **Contributed Talk** “AGN Growth and Feedback in FIRE Cosmological Simulations.”
From AGN to Starburst: A Multi-Wavelength Synergy. Guiyang, China.
- Jan. 2018 **Contributed Talk** “Implementing dust shielding as a criteria for star formation in hydrodynamical simulations of galaxy formation.”
American Astronomical Society Meeting. National Harbor, MD
- Jan. 2016 **Contributed Talk** “Comparing the effects of supernovae feedback models on the interstellar medium.”
Astronomical Society Meeting. Grapevine, TX.

Work Experience

- 2020 **Teaching Assistant** Northwestern University, Department of Physics and Astronomy
Led discussion sections, held office hours, and graded student homeworks for Physics 352: Intro to Computational Physics.
- 2015 – 2016 **Grader** Grinnell College, Departments of Math and Physics
Graded student homeworks for Calculus II (two semesters) and General Physics I (one semester).

Department Service

- 2020 – present **Graduate Student Council Equity & Inclusion Committee Chair** Northwestern University, Department of Physics and Astronomy
- 2019 – 2021 **Graduate Student Council Treasurer** Northwestern University, Department of Physics and Astronomy
- 2020 – present **Member, Departmental Committee for Equity and Inclusion** Northwestern University, Department of Physics and Astronomy
- 2017 – 2018 **Student Educational Policy Committee** Grinnell College Department of Physics

Awards and Fellowships

- 2019-2023 **DOE Computer Science Graduate Fellowship**
- 2018 **NSF GRFP Honorable Mention**
- H. George Apostle Prize in Physics** Grinnell College

References

Available on Request