

## Hannah Dykaar

Postdoctoral Fellow  
McGill University

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### (a) Education

University of Toronto    Toronto, ON    Astrophysics    Ph.D., 2025  
McGill University    Montreal, QC    Honours Physics    B.Sc., 2018

### (b) Research Experience

2025 – present    Postdoctoral Fellow, Physics, McGill University  
**Supervisors:** Daryl Haggard and John Ruan  
2018 – 2025    Research Assistant, Astronomy and Astrophysics, University of Toronto  
**Supervisors:** Bryan Gaensler and Maria Drout  
2017 – 2018    Undergraduate Research Assistant, Physics, McGill University  
**Supervisor:** Daryl Haggard  
2016            Undergraduate Research Assistant, Physics and Astronomy, University of Waterloo  
**Supervisors:** Robert Mann and Niayesh Afshordi

### (c) Honours and Awards

2021    Walter C. Sumner Memorial Fellowship  
2020    NSERC Postgraduate Scholarship - Doctoral  
2019    NSERC Canada Graduate Scholarship - Master's  
2018    CITA Graduate Fellowship  
2017    Dr. Robert E. Bell Science Undergraduate Research Award  
2016    NSERC Undergraduate Student Research Award

### (d) Publications

#### *Articles published or accepted in refereed journals*

1. Lauren Rhodes, Ben Margalit, Joe S. Bright, **Dykaar, Hannah**, Rob Fender, David A. Green, Daryl Haggard, Assaf Horesh, Alexander J. van der Horst, Andrew Hughes, Kunal Mooley, Itai Sfaradi, David Titterington, and David Williams-Baldwin, Thermal electrons in the radio afterglow of relativistic tidal disruption event ZTF22aaajecp/AT2022cmc, *arXiv e-prints* , [arXiv:2506.13618](https://arxiv.org/abs/2506.13618) (2025), [arXiv:2506.13618](https://arxiv.org/abs/2506.13618) [astro-ph.HE] .
2. Nicholas Earl, K. Decker French, Enrico Ramirez-Ruiz, Katie Auchettl, Sandra I. Raimundo, Kyle W. Davis, Megan Masterson, Iair Arcavi, Wenbin Lu, Vivienne F. Baldassare, David A. Coulter, Thomas de Boer, Maria R. Drout, **Dykaar, Hannah**, Ryan J. Foley, Christa Gall, Hua Gao, Mark E. Huber, David O. Jones, Danial Langeroodi, Chien-Cheng Lin, Eugene A. Magnier, Brenna Mockler, Margaret Shepherd, and Margaret E. Verrico, AT 2020nov: Evidence for Disk Reprocessing in a Rare Tidal Disruption Event, *983*, 28 (2025), [arXiv:2412.12991](https://arxiv.org/abs/2412.12991) [astro-ph.HE] .
3. **Dykaar, Hannah**, Maria R. Drout, B. M. Gaensler, David L. Kaplan, Tara Murphy, Assaf Horesh, Akash Anumarlapudi, Dougal Dobie, Laura N. Driessen, Emil Lenc, and Adam Stewart, An Untargeted Search for Radio-Emitting Tidal Disruption Events in the VAST Pilot Survey, *arXiv e-prints* , [arXiv:2406.08371](https://arxiv.org/abs/2406.08371) (2024), [arXiv:2406.08371](https://arxiv.org/abs/2406.08371) [astro-ph.HE] .
4. Akash Anumarlapudi, Dougal Dobie, David L. Kaplan, Tara Murphy, Assaf Horesh, Emil

- Lenc, Laura Driessen, Stefan W. Duchesne, **Dykaar, Hannah**, B. M. Gaensler, Timothy J. Galvin, Joe Grundy, George Heald, Aidan W. Hotan, Minh Huynh, James K. Leung, David McConnell, Vanessa A. Moss, Joshua Pritchard, Wasim Raja, Kovi Rose, Gregory Sivakoff, Yuanming Wang, Ziteng Wang, Mark H. Wieringa, and Matthew T. Whiting, Radio Afterglows from Tidal Disruption Events: An Unbiased Sample from ASKAP RACS, **974**, 241 (2024), arXiv:2407.12097 [astro-ph.HE] .
5. Vikram Ravi, **Dykaar, Hannah**, Jackson Codd, Ginevra Zaccagnini, Dillon Dong, Maria R. Drout, B. M. Gaensler, Gregg Hallinan, and Casey Law, FIRST J153350.8+272729: The Radio Afterglow of a Decades-old Tidal Disruption Event, **925**, 220 (2022), arXiv:2102.05795 [astro-ph.HE] .
  6. Kaya Mori, Charles J. Hailey, Shifra Mandel, Yve E. Schutt, Matteo Bachetti, Anna Coerver, Frederick K. Baganoff, **Dykaar, Hannah**, Jonathan E. Grindlay, Daryl Haggard, Keri Heuer, Jaesub Hong, Benjamin J. Hord, Chichuan Jin, Melania Nynka, Gabriele Ponti, and John A. Tomsick, NuSTAR and Chandra Observations of New X-Ray Transients in the Central Parsec of the Galaxy, *The Astrophysical Journal* **885**, 142 (2019), arXiv:1910.03459 [astro-ph.HE] .
  7. **Dykaar, Hannah**, Robie A. Hennigar, and Robert B. Mann, Hairy black holes in cubic quasi-topological gravity, *Journal of High Energy Physics* **2017**, 45 (2017), arXiv:1703.01633 [hep-th] .
  8. Jahed Abedi, **Dykaar, Hannah**, and Niayesh Afshordi, Echoes from the abyss: Tentative evidence for Planck-scale structure at black hole horizons, *Physical Review D* **96**, 082004 (2017), arXiv:1612.00266 [gr-qc] .

#### *Non-refereed contributions*

5. Marion Burnichon, **Dykaar, Hannah**, Melania Nynka, John J. Ruan, Daryl Haggard, and Phil Evans, Combined XMM-Newton and Chandra observations of the X-ray light curve plateau in GW170817, *The Astronomer's Telegram* **11924**, 1 (2018).
6. Jahed Abedi, **Dykaar, Hannah**, and Niayesh Afshordi, Comment on: “Low significance of evidence for black hole echoes in gravitational wave data”, arXiv e-prints , arXiv:1803.08565 (2018), arXiv:1803.08565 [gr-qc] .

#### (e) Conference Presentations

1. Investigating tidal disruption events with wide-field radio surveys and targeted radio follow-up, Oral presentation at American Astronomical Society Conference, Anchorage, USA (2025).
2. Searching for tidal disruption events with radio surveys, Poster presentation at Canadian Astronomical Society Conference, Toronto, Canada (2024).
3. An untargeted search for tdes in the radio regime, Oral presentation at KITP Workshop: Towards a Physical Understanding of Tidal Disruption Events, Santa Barbara, USA (2024).
4. Searching for tidal disruption events with vast, Oral Presentation at The Transient Universe Workshop, Corsica, France (2023).
5. Searching for tidal disruption events with vlass and vast, Poster presentation at The VLA Sky Survey in the Multiwavelength Spotlight, Socorro, USA (2022).
6. The discovery of a decades-old tidal disruption event using first and vlass, Oral presentation at VLASS Transients Workshop, Virtual (2021).
7. Search for tidal disruption events in the vast pilot survey, Poster presentation at Canadian Astronomical Society Conference, Virtual (2021).

8. Wide area search for long-duration radio transients, Poster presentation at Canadian Astronomical Society Conference, Montreal, Canada (2019).
  9. Chandra analysis of an x-ray transient, Oral presentation at Canadian Undergraduate Physics Conference, Ottawa, Canada (2017).

**(f) Seminars**

1. Tidal disruption events: When a black hole destroys a star, Seminar at the Waterloo Centre for Astrophysics, Waterloo, Canada (2025).

### **(g) Public Lectures**

1. Tidal disruption events: When a black hole destroys a star, Astronomy on Tap Toronto (2023).
  2. Tidal disruption events: When a black hole destroys a star, AstroTours, University of Toronto (2022).

#### **(h) Successful Proposals for Competitive Telescope Time**

*Proposed Spectroscopic Followup of Radio-Identified TDE Candidates* 2022A, 2022B, 2023A, 2025B

## **Principal-Investigator**

Gemini-South

Follow-up of transients from the ASKAP Variables and Slow Transients survey 2022

## Co-Investigator

Australia Telescope Compact Array

### **(i) Teaching Experience**

## **Head Teaching Assistant**

AST201: Stars and Galaxies Winter 2020  
AST101: The Sun and its Neighbours Fall 2019

## Teaching Assistant

AST251: Life on Other Worlds	Winter 2023,2024
AST101: The Sun and its Neighbours	Fall 2018, Fall 2020-2023
AST201: Stars and Galaxies	Winter 2018, Winter 2020-2022

**(j) Leadership, Service and Outreach**

2022	<b>AstroTours Keynote Co-Director</b> <i>Co-led and organized an annual talk at the University of Toronto.</i>
2021 – 2022	<b>Graduate Astronomy Student Association Co-President</b> <i>Led and represented the graduate astronomy students. Attended faculty meetings, handled political issues, helped the treasurer draft the budget, organized parts of the prospective student visit, and chaired meetings.</i>
2021	Manuscript reviewer for Monthly Notices of the Royal Astronomical Society
2020 – 2022	<b>Ask An Astronomer Volunteer</b> <i>Answered astronomy-related questions from the public over email.</i>
2019 – 2021	<b>AstroTours Co-Director</b> <i>Co-led and organized a monthly series of public astronomy talks and demonstrations at the University of Toronto.</i>
2019 – 2020	Graduate Student Mentor <i>Mentored a first year astronomy graduate student as well as a final year undergraduate physics student at the University of Toronto through an organized mentorship program.</i>
2018 – 2019	Graduate Astronomy Student Association's Mediation Committee <i>Created a report on the financial situation of the astronomy graduate students, and mediated any potential issues or disputes involving students.</i>
2018	Girls in STEM Program Volunteer <i>Helped run a science workshop for about 50 grade 6–8 female students at the University of Toronto.</i>