

CURRICULUM VITÆ
NORA SHIPP

CONTACT INFORMATION

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EDUCATION & EXPERIENCE

MIT Kavli Institute for Astrophysics
and Space Research, Cambridge, MA
Postdoctoral Scholar

September 2021 - present

University of Chicago, Chicago, IL

Ph.D., Astronomy & Astrophysics

August 2021

Schramm Graduate Fellow, Harper Dissertation Fellow

- Thesis: *Discovery & Modeling of Milky Way Stellar Streams*
- Advisor: Alex Drlica-Wagner

LSSTC Data Science Fellow

2016-2018

NASA Goddard Space Flight Center, Greenbelt, MD

Postbaccalaureate Researcher

2014-2015

- Project: *Exploring Evidence for Cosmic Ray Acceleration in Westerlund 1*
- Advisor: Terri J. Brandt

Brown University, Providence, RI

Sc.B., with honors in Astrophysics

May 2014

- Thesis: *Fermi Unidentified Sources: Dark Matter or Astrophysics*
- Advisor: Savvas M. Koushiappas

HONORS & AWARDS

- Princeton Rising Stars in Physics *2022*
- MIT Infinite Expansion Award *2021*
- Schramm Graduate Student Fellowship *2020 - 2021*
- William Rainey Harper Dissertation Fellowship *2020 - 2021*
- Yoichiro Nambu Fellowship *2019*
- University Research Association Visiting Scholars Program *2018 - 2020*
- Department of Energy SCGSR Fellowship *2018 - 2019*
- Illinois Space Grant Consortium Graduate Fellowship *2018 - 2019*
- McCormick Fellowship *2015 - 2017*
- NASA Rhode Island Space Grant Scholarship *2012 - 2013*
- Brown University Undergraduate Teaching and Research Award *2012 - 2013*

PRESENTATIONS

Seminars

- Texas A&M Mitchell Institute Seminar *September 2022*
- Carnegie Mellon Astro Lunch *September 2022*
- CITA Seminar *August 2022*
- NASA Star Science Interest Group Seminar *April 2022*
- Cambridge Milky Way Group *September 2021*
- Michigan Galaxy Group *February 2021*
- Carnegie Lunch Talk *January 2021*
- CCAPP Seminar *November 2020*
- Yale Galaxy Lunch *September 2020*
- KIPAC Tea Talk *September 2020*

	<ul style="list-style-type: none"> • STScI Galaxies Journal Club • Fermilab Astrophysics Seminar 	<i>September 2020</i> <i>February 2018</i>
	<i>Invited Conference Talks</i>	
	<ul style="list-style-type: none"> • DES Collaboration Meeting Plenary Talk • LSST Dark Matter Workshop • Fermilab New Perspectives • DECam Community Science Workshop 	<i>May 2021</i> <i>August 2019</i> <i>June 2019</i> <i>May 2018</i>
	<i>Contributed Conference Talks</i>	
	<ul style="list-style-type: none"> • Towards Real-Time Galactic Dynamics • Satellites and Streams in the Framework of Cosmological Models at EAS • 53rd Meeting of the AAS Division on Dynamical Astronomy • Streams 21: Constraints on Dark Matter • 237th Meeting of the American Astronomical Society • STScI Symposium, The Local Group: Assembly and Evolution • Small Galaxies, Cosmic Questions • KICP Near-field Cosmology Workshop • American Physical Society April Meeting • 231st Meeting of the American Astronomical Society 	<i>July 2022</i> <i>June 2022</i> <i>April 2022</i> <i>February 2021</i> <i>January 2021</i> <i>August 2020</i> <i>July 2019</i> <i>June 2018</i> <i>April 2018</i> <i>January 2018</i>
	<i>Poster Presentations</i>	
	<ul style="list-style-type: none"> • Stasis and Disequilibrium in the Milky Way • 233rd Meeting of the American Astronomical Society • 225th Meeting of the American Astronomical Society 	<i>April 2019</i> <i>January 2019</i> <i>January 2015</i>
PUBLIC PRESS	<ul style="list-style-type: none"> • Rivers in the Sky, Symmetry Magazine • Dark Energy Survey finds remains of 11 galaxies eaten by the Milky Way, UChicago News • Dark Energy Survey Reveals That The Milky Way Has Devoured 11 Other Galaxies, IFL Science 	
MENTORING	<ul style="list-style-type: none"> • Adriana Dropulic (PhD student at Princeton) co-supervision of PhD project, 1 publication in prep. • Nondh Panithanpaisal (PhD student at UPenn) co-supervision of PhD project, contributed to 1 publication. • Kiyan Tavangar (Former undergrad at UChicago; PhD student at Columbia) co-supervision of undergrad project, 1 publication, and contributed to 1 publication. 	<i>2021-present</i> <i>2021-2022</i> <i>2019-2021</i>
OUTREACH, EQUITY & INCLUSION	<ul style="list-style-type: none"> • Co-founder, UChicago IDEA (Inclusion, Diversity, and Equity in Astronomy) • Co-lead organizer, Working Groups to Support Black Astronomers at UChicago • Member, UChicago Graduate Admissions Working Group • Member, UChicago Graduate Advising and Mentoring Working Group • Presenter, Life Long Learning Chicago • Founder, UChicago Astronomy & Astrophysics Graduate Mentoring Program • Co-chair, Astrobites Diversity Committee • Research Coordinator, Astrobites in the Classroom Study • Writer for Astrobites • Presenter, Astronomy Conversations at Adler Planetarium • Founding Member, Astronomy on Tap Chicago 	<i>2017 - 2021</i> <i>2020-2021</i> <i>2020-2021</i> <i>2020-2021</i> <i>2019</i> <i>2018</i> <i>2019 - 2020</i> <i>2017 - 2018</i> <i>2016 - 2018</i> <i>2015 - 2017</i> <i>2015 - 2017</i>
PROFESSIONAL SERVICE & LEADERSHIP	<i>Department Committees, University of Chicago</i> <ul style="list-style-type: none"> • Graduate Admissions Committee • Diversity Committee • Undergraduate Education Committee 	
		<i>2020 - 2021</i> <i>2017 - 2020</i> <i>2016 - 2017</i>

Workshops and Seminars Organized

- MIT Milky Way Journal Club *2021 - present*
- UChicago Milky Way Discussion Group *2019 - 2021*
- [IDEA \(Inclusion, Diversity, and Equity in Astronomy\) Week](#) *August 2020*
- KICP LSST Dark Matter Workshop *August 2019*
- [IDEA \(Inclusion, Diversity, and Equity in Astronomy\) Day](#) *May 2019*

Reviewer for Astrophysical Journal, Nature Astronomy, MNRAS

2019 - present

Observing

- Dark Energy Survey (DES)
- DECam Local Volume Exploration (DELVE) Survey

Collaboration Membership

- Member, Dark Energy Survey (DES)
- Member, DECam Local Volume Exploration Survey (DELVE)
- Builder, Southern Stellar Stream Spectroscopic Survey (S⁵)
- Member, LSST Dark Energy Science Collaboration (DESC)
- Member, Feedback in Realistic Environments (FIRE)

TEACHING

Lead Instructor

University of Chicago

- [Space Explorers KICP Summer Institute](#)

Summer 2018

Guest Lecturer

MIT

- Gaia DR3 Hackathon

June 2022

University of Chicago

- ASTR13300: Introduction to Astrophysics
- ASTR11901: Physics of Stars

Spring 2020

Summer 2018

Teaching Assistant

University of Chicago

- ASTR018200: The Origin and Evolution of the Universe
- PHSC12620: The Big Bang
- PHSC12610: Black Holes
- PHSC12600: Matter, Energy, Space, and Time

Winter 2018

Spring 2016

Winter 2016

Fall 2015

Brown University

- PHYS0270: Introduction to Astronomy
- PHYS0220: Astronomy

Spring 2012, 2014

Fall 2012, 2013, 2014

REFERENCES **Prof. Alex Drlica-Wagner**, Fermilab and UChicago, kadrlica@fnal.gov

Prof. Denis Erkal, University of Surrey, d.erkal@surrey.ac.uk

Prof. Lina Necib, MIT, lnecib@mit.edu

Prof. Ting Li, University of Toronto, ting.li@astro.utoronto.ca

Dr. Brian Yanny, Fermilab, yanny@fnal.gov

Primary Contributor

Papers where I was a primary contributor to analysis and/or writing.

* indicates work led by a student I advised or co-advised.

- [1] **Shipp, N.**, *Panithanpaisal, N., Necib, L., et al. "*Streams on FIRE: Populations of Detectable Stellar Streams in the Milky Way and FIRE*", 2022, submitted to ApJ, [arXiv:2208.02255](#)
- [2] Li, T. S., Ji, A. P., Pace, A. B., Erkal, D., Koposov, S. E., **Shipp, N.**, et al. "*S⁵: The Orbital and Chemical Properties of One Dozen Stellar Streams*" 2022, ApJ, 928, 30, [arXiv:2110.06950](#)
- [3] *Tavangar, K., Ferguson, P. S., **Shipp, N.**, et al. "*From the Fire: A Deeper Look at the Phoenix Stream*" 2022, ApJ, 925, 118 [arXiv:2110.03703](#)
- [4] Ferguson, P. S., **Shipp, N.**, Drlica-Wagner, A., et al. "*DELVE-ing into the Jet: a thin stellar stream on a retrograde orbit at 30 kpc*" 2022, 163, 18, [arXiv:2104.11755](#)
- [5] **Shipp, N.**, Erkal, D., Drlica-Wagner, A., et al. "*Measuring the Mass of the LMC with Stellar Streams Observed by S5*", 2021, ApJ, 923, 149, [arXiv:2107.13004](#)
- [6] Li, T. S., Koposov, S., Erkal, D., Ji, A. P. **Shipp, N.**, et al. "*Broken into Pieces: ATLAS and Aliqa Uma as One Single Stream*" 2021, ApJ, 911, 194, [arXiv:2006.10763](#)
- [7] **Shipp, N.**, Price-Whelan, A., *Tavangar, K., et al. "*Discovery of Extended Tidal Tails Around the Globular Cluster Palomar 13*" 2020, AJ, 160, 244, [arXiv:2006.12501](#)
- [8] Li, T. S., Koposov, S., Zucker, D., Lewis, G. F., Kuehn, K., Simpson, J. D., Ji, A. P., **Shipp, N.**, et al. "*The Southern Stellar Stream Spectroscopic Survey (S5): Overview, Target Selection, Data Reduction, Validation, and Early Science*" 2019, MNRAS 490, 3508, [arXiv:1907.09481](#)
- [9] **Shipp, N.**, Li, T. S., Pace, A. B., et al. "*Proper Motions of Stellar Streams Discovered in the Dark Energy Survey*" 2019, ApJ, 885, 3, [arXiv:1907.09488](#)
- [10] Drlica-Wagner, A., Mao, Yao-Yuan, [...], **Shipp, N.**, et al. "*Probing the Fundamental Nature of Dark Matter with the Large Synoptic Survey Telescope*" 2019, [arXiv:1902.01055](#)
- [11] **Shipp, N.**, Drlica-Wagner, A., Balbinot, E., et al. "*Stellar Streams Discovered in the Dark Energy Survey*" 2018, ApJ, 862, 114, [arXiv:1801.03097](#)

Co-Author

- [12] Lilleengen, S., Petersen, M. S., Erkal, D., [...], **Shipp, N.**, et al. "*The effect of the deforming dark matter haloes of the Milky Way and the Large Magellanic Cloud on the Orphan-Chenab stream*" 2022, submitted to MNRAS, [arXiv:2205.01688](#)
- [13] Bechtol, K., Birrer, S., Cyr-Racine, F., [...], **Shipp, N.**, et al. "*Snowmass2021 Cosmic Frontier White Paper: Dark Matter Physics from Halo Measurements*" 2022, [arXiv:2203.07354](#)
- [14] Ji, A. P., Koposov, S. E., Li, T. S., [...], **Shipp, N.**, et al. "*Kinematics of Antlia 2 and Crater 2 from The Southern Stellar Stream Spectroscopic Survey (S5)*" 2021, [arXiv:2106.12656](#)
- [15] Drlica-Wagner, A., Carlin, J. L., Nidever, D. L., [...], **Shipp, N.**, et al. "*The DECam Local Volume Exploration Survey: Overview and First Data Release*" 2021, ApJS, 256, 2 [arXiv:2103.07476](#)
- [16] Hansen, T. T., Ji, A. P., Da Costa, G. S., [...], **Shipp, N.**, et al. "*S5: The Destruction of a Bright Dwarf Galaxy as Revealed by the Chemistry of the Indus Stellar Stream*" 2021, ApJ, 915, 103, [arXiv:2104.13883](#)

- [17] Ji, A. P., Li, T. S., Hansen, T. T., [...], **Shipp, N.**, et al. *"The Southern Stellar Stream Spectroscopic Survey (S5): Chemical Abundances of Seven Stellar Streams"* 2020, ApJ, 60, 181, [arXiv:2008.07568](#)
- [18] Wan, Z., Lewis, G., Li, T. S., [...], **Shipp, N.**, et al. *"The tidal remnant of an unusually metal-poor globular cluster"* 2020, Nature, 583, 768, [arXiv:2007.14577](#)
- [19] Mau, S., Cerny, W., Pace, A. B., [...], **Shipp, N.**, et al. *Two Ultra-faint Milky Way Stellar Systems Discovered in Early Data from the DECam Local Volume Exploration Survey* 2020, ApJ, 80, 136, [arXiv:1912.03301](#)
- [20] Koposov, S., Boubert, D., Li, T. S., [...], **Shipp, N.**, et al. *"The Great Escape: Discovery of a nearby 1700 km/s star ejected from the Milky Way by Sgr A*" 2020, MNRAS 491, 2465, [arXiv:1907.11725](#)*
- [21] Bechtol, K., Drlica-Wagner, A., [...], **Shipp, N.**, et al. *"Dark Matter Science in the Era of LSST"* 2019, [arXiv:1903.04425](#)
- [22] Erkal, D., Li, T. S., Koposov, S. E., [...], **Shipp, N.**, et al. *"Modeling the Tucana III stream - a close passage with the LMC"* 2018, MNRAS, 481, 3148, [arXiv:1804.07762](#)
- [23] Li, T. S., Simon, J. D., Kuehn, K., [...], **Shipp, N.**, et al. *"The First Tidally Disrupted Ultra-Faint Dwarf Galaxy? - Spectroscopic Analysis of the Tucana III Stream"* 2018, ApJ, 866, 22, [arXiv:1804.07761](#)
- [24] Abbott, T. M. C., Abdalla, F. B., Allam, S., [...], **Shipp, N.**, et al. *"The Dark Energy Survey Data Release 1"* 2018, ApJS, 239, 18, [arXiv:1801.03181](#)
- [25] Avva, J., Bechtol, K., Chesebro, T., [...], **Shipp, N.**, et al. *"Development toward a ground-based interferometric phased array for radio detection of high energy neutrinos"* 2017, Nucl. Inst. Meth. A, 869, 46, [arXiv:1605.03525](#)

Other

- [26] Thais, S., Leibowitz, S., Rios Gutierrez, A., Passarelli, A., Santo, S., **Shipp, N.**, *"Identifying At-Risk Communities and Key Vulnerability Indicators in the COVID-19 Pandemic"*, 2021, [medRxiv:2021.09.19.21263805](#)
- [27] Khullar, G., Kohler, S., Konchady, T., [...], **Shipp, N.**, et al. *"Astrobites as a Community-led Model for Education, Science Communication, and Accessibility in Astrophysics"* 2019, Bulletin of the American Astronomical Society, 51, 230, [arXiv:1907.09496](#)