

CV - SARAH PEARSON

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APPOINTMENTS

NASA Hubble Fellow, CCPP, New York University, USA	2020 - present
Flatiron Research Fellow, CCA, Flatiron Institute, USA	2018 - 2020

EDUCATION

Columbia University in the City of New York	
PhD, Astronomy,	2018
Thesis Title: <i>“Stellar Streams, Dwarf Galaxy Pairs and the Halos in which they Reside”</i>	
Thesis Advisor: Kathryn V. Johnston	
M.A., M.Phil., Astronomy	2015, 2016
University of Copenhagen, Denmark	
B.S., Physics	2012

AWARDS & FELLOWSHIPS

Marie Skłodowska-Curie Actions (MSCA) Fellowship (USD 246k)	2023
NASA Hubble Postdoctoral Fellowship (USD 269k)	2020
Flatiron Research Fellowship (USD 300k)	2018
Danish Women in Physics Prize - remarkable contributions within physics research	2017
Rodger Doxsey Prize - AAS winter meeting	2017
ASNY Graduate Student Paper Prize - best astronomy research paper	2017
AAS Travel Grant - Support for conference in Ecuador	2017
President’s Global Innovation Fund - Research exchange to PUC, Chile	2016
AAS Travel Grant - Support for conference in Chile	2015
GSAS Yeh Family Endowment Fellowship - Columbia University	2014 - 2015
Dean’s Fellowship, Columbia University - For graduate studies at Columbia University	2013 - 2018
Nordic Women in Physics Poster Prize - For best presentation/layout of scientific poster	2011
Sophia and Tycho Brahe Undergraduate Fellowship - To conduct research at UCSC, USA	2011

STUDENTS ADVISED

Graduate students

Christian Aganze (UC San Diego PhD student, paper link)	2021 - present
Sioree Ansar (IIA PhD student, paper link)	2021 - present
Madeline Lucey (UT Austin PhD student, paper link)	2021 - 2023
Tomer Yavetz (Columbia PhD student, now IAS Fellow, paper link 1 , paper link 2)	2018 - 2022
Lachlan Lancaster (Princeton PhD student, now Simons Fellow, paper link)	2019 - 2021
Nicholas Luber (UVA PhD student, now postdoc at Columbia, paper link)	2019 - 2021

Undergraduate students

Colin Holm-Hansen (Columbia)	2023 - present
Lenin Nolasco (Rutgers)	2022 - present
Joel Meyers (Columbia University, paper link)	2019 - 2020
Alexis Demirjian (Barnard College, now PhD at Georgetown U, paper link)	2019 - 2020

RESEARCH GRANTS/TELESCOPE TIME

As PI (USD 1.13 mill.) - Villum Young Investigator Grant, Niels Bohr Institute	2023 - 2028
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As Co-I MUSE/0102.B-0325	
<i>Do All Dwarf-Dwarf Interactions Trigger Extended Starbursts?</i> 8 hours	2018
As PI VLA/17A-296	
<i>“The Baryon Cycle of Dwarf Galaxy Interactions”</i> , 28 hours	2017
As collaborator National Science Foundation	
<i>“Physical Manifestations of Chaos and Regularity Around Galaxies”</i> PI: Kathryn V. Johnston	2017
As collaborator - National Science Foundation	
<i>“The Hierarchical Evolution of Low Mass Galaxies”</i> PI: Gurtina Besla	2017
As Co-I - Spitzer Cycle 13, Proposal ID 13040	
<i>“TRACSSS-2 - Tracing More Cold Stellar Streams with Spitzer”</i> PI: Carl Grillmair, 97.0 hours	2016
As Co-I - Spitzer Cycle 12, Proposal ID 12076	
<i>“TRACSSS - Tracing Cold Stellar Streams with Spitzer”</i> PI: Carl Grillmair, 37.9 hours	2015

PUBLICATIONS

Citations: 624, *h*-index = 14, [Orcid](#), [ADS link](#), *denotes advised students

First/second author journal articles

25. [Aganze, C.*](#), [Pearson, S.](#), Starkenburg, T., Contardo, G. et al. *Predictions for Gap Detections in Globular Cluster Stellar Streams in External Galaxies with the Nancy Grace Roman Space Telescope*, 2023, submitted to *ApJ*, [arXiv: 2305.12045](#)
24. [Lucey, M.*](#), [Pearson, S.](#), Hunt, J., Ness, M., Hawkins, K., Hogg, D., W., *Constraining the length and pattern speed of the Milky Way bar from direct orbit integration of APOGEE and Gaia data*, 2023, *MNRAS*, 520, 3, 4779, [arXiv: 2206.01798](#)
23. [Pearson, S.](#), Price-Whelan, A., Hogg, D. W., et al. *Mapping Dark Matter with Extragalactic Stellar Streams: the Case of the Dwarf 3 Stream in the Stellar Halo of Centaurus A*, 2022, *ApJ*, 941, 19, 17 [arXiv: 2205.12277](#)
22. [Ansar, S.*](#), [Pearson, S.](#), Sanderson, R., Wetzell, A. *Dissolving Galactic Bars in the FIRE-2 simulations*, 2022, submitted to *AAS journals*
21. [Lancaster, L.*](#), [Pearson, S.](#), Williams, B. et al. *Walter: A Tool for Predicting Resolved Stellar Population Observations with Applications to the Roman Space Telescope*, 2022, *AJ*, 164, 142L, [arXiv: 2207.02208](#)
20. [Pearson, S.](#), Clark, S. E., [Dimirjian, A.*](#), T. et al. *The Hough Stream Spotter: A new method for detecting linear structure in resolved stars and application to the stellar halo of M31*, 2022, *ApJ*, 926, 166, [arXiv: 2107.00017](#)
19. [Luber, N.*](#), [Pearson, S.](#), Putman, M. E., Besla, G., Stierwalt, S., Meyers, J.*, *Investigating the Baryon Cycle in Interacting Dwarfs with the Very Large Array and Pan-STARRS*, 2022, *AJ*, 163, 49, [arXiv: 2111.04795](#)
18. [Bonaca, A.](#), [Pearson, S.](#), Price-Whelan, A. et al., *Variations in the width, density, and direction of the Palomar 5 tidal tails*, 2020, *ApJ*, 889, 70, [arXiv: 1910.00592](#)
17. [Pearson, S.](#), Starkenburg, T., Johnston, K. V., Williams, B., and Ibata, R., *Detecting Thin Stellar Streams in External Galaxies: Resolved Stars & Integrated Light*, 2019, *ApJ*, 883, 87P, [arXiv: 1906.03264](#)
16. [Pearson, S.](#), Privon, G., Besla, G. et al., *Modeling the Baryon Cycle in Dwarf Galaxy Encounters: the Case of NGC4490 & NGC4485*, 2018, *MNRAS*, 480, 3069 [arXiv: 1807.03791](#)
15. [Pearson, S.](#), Price-Whelan, A. M., Johnston, K. V., *Gaps and Length Asymmetry in the Stellar Stream Palomar 5 as Effects of Galactic Bar Rotation*, 2017, *Nature Astronomy*, 1, 9 [arXiv: 1703.04627](#)
14. [Pearson, S.](#), Besla, G., Putman, M. E. et al., *Local Volume TiNy Titans: Gaseous Dwarf-Dwarf Interactions in the Local Universe*, 2016, *MNRAS*, 459, 1827 [arXiv: 1603.09342](#)
13. [Pearson, S.](#), Küpper, A. H. W., Johnston, K. V., Price-Whelan, A. M., *Tidal Stream Morphology as an Indicator of Dark Matter Halo Geometry: the Case of Palomar 5*, 2015, *ApJ*, 799, 1, [arXiv: 1410.3477](#)
12. [Lopez, L. A.](#), [Pearson, S.](#), Ramirez-Ruiz, E. et al., *Unraveling the Origin of Overionized Plasma in the Galactic Supernova Remnant W49B*, 2013, *ApJ*, 764, 50, [arXiv: 1309.1464](#)

Other journal articles

11. [Hughes, A.*](#), [10 authors], **Pearson, S.**, [3 authors], *New Velocity Measurements of NGC 5128 Globular Clusters out to 130 kpc: Outer Halo Kinematics, Substructure, and Dynamics*, 2023, *ApJ*, 947, 34, [arXiv: 2208.08997](#)
10. Martinez-Delgado, D., [4 authors], **Pearson, S.**, [17 authors], *Hidden Depths in the Local Universe: the Stellar Stream Legacy Survey*, 2023, *A&A*, 671, 14, [arXiv: 2104.06071](#)
9. [Yavetz, T.*](#), Johnston, K. V., **Pearson, S.**, Price-Whelan, *Stream Fanning and Bifurcations: Observable Signatures of Resonances in Stellar Stream Morphology*, 2022, submitted to *ApJ*, [arXiv: 2212.11006](#)
8. Martinez-Delgado, D., [8 authors], **Pearson, S.**, [11 authors], *Once in a Blue Stream: Detection of Recent Star Formation in the NGC 7241 Stellar Stream with MEGARA*, 2021, submitted to *MNRAS*, [arXiv: 2112.07029](#)
7. [Yavetz, T.*](#), Johnston, K. V., **Pearson, S.**, Price-Whelan, A. M., Weinberg, M., *Separatrix Divergence of Stellar Streams in Galactic Potentials*, 2021, *MNRAS*, 501, 2, [arXiv: 2011.11919](#)
6. Price-Whelan, A., Mateu, C., Iorio, G, **Pearson, S.**, Bonaca, A., Belokurov, V., *Kinematics of the Palomar 5 stellar stream from RR Lyrae stars*, 2019, *AJ*, 158, 223, [arXiv: 1910.00595](#)
5. Besla, G., [6 authors], **Pearson, S.**, [2 authors], *The Frequency of Dwarf Galaxy Multiples at Low Redshift in SDSS vs. Cosmological Expectations*, 2018, *MNRAS*, 480, 3376, [arXiv: 1807.06673](#)
4. Privon, G., [3 authors], **Pearson, S.**, [3 authors], *A Widespread, Clumpy Starburst in the Ongoing Isolated Dwarf Galaxy Merger DM1647+21*, 2017, *ApJ*, 846, 74 [arXiv: 1708.02587](#)
3. Sesar, B., [3 authors], **Pearson, S.**, [9 authors], *Evidence of Fanning in the Ophiuchus Stream*, 2016, *ApJL*, 816, 1, L4 [arXiv: 1512.00469](#)
2. Price-Whelan, A., Johnston, K. V., Valluri, M., **Pearson, S.**, [2 authors], *Chaotic Dispersal of Tidal Debris*, 2016, *MNRAS*, 455, 1079 [arXiv: 1507.08662](#)
1. Lopez, L. A., Ramirez-Ruiz, E., Castro, D., **Pearson, S.**, *The Galactic Supernova Remnant W49B Likely Originates from a Jet-Driven Core-Collapse Explosion*, 2013, *ApJ*, [arXiv: 1301.0618](#)

Selected white papers and mission proposals

1. *Far Reaching Science with Resolved Stellar Populations in the 2020s*
Williams, B., Bell, E. F., [18 authors], **Pearson, S.**, [10 authors], 2019, Astro2020 White Paper, [link >>](#)
2. *From Data to Software to Science with the Rubin Observatory LSST*
Breivik et al. 2022, [arXiv:2208.02781](#)

SCIENTIFIC PRESENTATIONS

64 presentations total, 26 colloquia/invited talks (see below)

64. IAS Coffee talk , IAS, Princeton, USA	04/2023
63. Galread , Princeton, USA	04/2023
62. Invited topical talk (virtual) , IAU, Potsdam, GE	03/2023
61. Colloquium , Columbia University, NY, USA	02/2023
60. Colloquium , AIP, Potsdam, GE	10/2022
59. Talk , EAS meeting, Valencia	06/2022
58. Colloquium , Carnegie Observatories, Pasadena, CA, USA	05/2022
57. Talk , Globular Star Clusters conference, Aspen, CO, USA	03/2022
56. Talk , NASA Hubble Fellow Program Symposium, USA	10/2021
55. Seminar , CIERA, Northwestern University, Chicago, USA	10/2021
54. Invited Talk , Galread, Extragalactic Discussion Group, Princeton University, USA	09/2021
53. Conference Talk , TiNy Titans collaboration meeting, Zoom, USA	09/2021
52. Virtual Colloquium , Royal Observatory Edinburgh, UK	06/2021
51. Conference talk , Streams 21 meeting, virtual	02/2021
50. Invited Talk , ‘Brown Bag’, CAPP, NYU, USA	01/2021
49. Lunch talk , CCA, Flatiron Institute, USA	10/2020

48. Talk , Roman 2020 conference, Galaxy Formation & Evolution	10/2020
47. Talk , WFIRST meeting, CCA, Flatiron Institute, USA	03/2020
46. Talk , AAS 235th Meeting, Honolulu, USA	01/2020
45. Colloquium , American Museum of National History, NYC, USA	11/2019
44. Colloquium , University of Victoria, Victoria, Canada	11/2019
43. Colloquium , NRC Herzberg Astronomy & Astrophysics, Victoria, Canada	11/2019
42. Colloquium , University of British Columbia, Vancouver, Canada	11/2019
41. Talk , Low Surface Brightness IAU Symposium 355, Tenerife, Spain	07/2019
40. Invited Talk , WINGS Simulating Surveys Meeting, CCA, Flatiron Institute, USA	07/2019
39. Invited Talk , Low Surface Brightness Features Workshop, Flatiron Institute, USA	05/2019
38. Talk , AAS 233rd Meeting, Seattle, WA, USA	01/2019
37. Talk , Seminar, Cosmic DAWN Center, U. Copenhagen, Denmark	12/2018
36. Lunch Talk , Bahcall Lunch, Princeton, USA	11/2018
35. Invited Talk , Astro Seminar, IAS, Princeton, USA	11/2018
34. Colloquium , Astronomy Department, UC Santa Cruz, CA, USA	10/2018
33. Dissertation talk , 231st AAS meeting, Washington DC, USA	01/2018
32. Talk , Seminar, Dark Cosmology Centre, University of Copenhagen, Denmark	01/2018
31. Invited Talk , CITA Theory Seminar, Toronto, Canada	12/2017
30. Invited Talk , Network for Women in Physics Annual Meeting, Copenhagen, Denmark	11/2017
29. Invited Talk , Astronomical Society of New York Annual Meeting, NY, USA	11/2017
28. Invited Talk , Seminar, Center for Cosmology and Particle Physics, NYU, USA	11/2017
27. Talk , Seminar, Dark Cosmology Centre, University of Copenhagen, Denmark	06/2017
26. Invited Talk , Harvard-Smithsonian CfA Galaxies & Cosmology Seminar, MA, USA	04/2017
25. Talk , Seminar, MIT Kavli Institute for Astrophysics and Space Research, MA, USA	04/2017
24. Conference Talk , On the Origin of Baryonic Galaxy Halos, Galapagos, Equador	03/2017
23. Invited Talk , Seminar, American Museum of National History, NY, USA	11/2016
22. Talk , TMT Seminar, European Southern Observatory, Santiago, Chile	10/2016
21. Talk , Seminar, Pontificia Universidad Catolica de Chile, Santiago, Chile	10/2016
20. Invited talk , MODEST-16 conference, NY, USA	09/2016
19. Talk , Columbia Astronomy Department's pizza lunch, NY, USA	04/2016
18. Invited talk , FLASH, University of Arizona, Arizona, USA	03/2016
17. Talk , Magellanic Clouds Workshop, University of Arizona, Arizona, USA	03/2016
16. Talk , Galaxies Lunch, University of Arizona, Arizona, USA	03/2016
15. Talk , Dark Cosmology Centre, University of Copenhagen, Denmark	01/2016
14. Conference talk , Life-cycle of gas in Galaxies, Dwingeloo, The Netherlands	09/2015
13. Invited talk , Stellar Streams in the Local Universe Conference, Ringberg Castle	07/2015
12. Conference talk , Satellites & Streams Conference, Santiago, Chile	04/2015
11. Talk , YODA, Yale University, New Haven, USA	03/2015
10. Talk , Columbia Astronomy Department's pizza lunch, USA	10/2013
9. Poster , Tri-State Meeting, NYC, USA	10/2013
8. Poster , High Energy Astrophysics Division Meeting, Monterey, USA	04/2013
7. Conference talk , Nordic Winter School on Particle Physics and Cosmology, Norway	01/2013
6. Talk , Dark Cosmology Centre, University of Copenhagen, Denmark	10/2012
5. Talk , Massachusetts Institute for Technology, USA	08/2012

4. **Invited prize talk**, Nordic Women in Physics Conference, Copenhagen, Denmark 09/2011
3. **Poster**, Nordic Women in Physics Conference, Copenhagen, Denmark 09/2011
2. **Talk**, Supernova Remnant Seminar Hour, University of California, Santa Cruz, USA 07/2011
1. **Poster**, University of California, Santa Cruz, USA 07/2011

SELECTED SERVICES

Member , Equity & Inclusion Committee, Physics Department, NYU	2022 - present
SOC , EAS, "Satellite Galaxies and Tidal Streams", Valencia, Spain	2022
Organizer , Astrophysics Seminar Series, NYU	2021
SOC/Mentor , Applied Galactic Dynamics Graduate Summer School, Flatiron Institute	2021
Organizer , bi-weekly astro-ph discussion, Flatiron Institute, CCA	2019 - 2020
Reviewer/panelist , The National Science Foundation (NSF), US	2019
Referee , ApJ, ApJL, MNRAS, A&A	2018 - present
Organizer , Weekly Stars Group Meeting, Flatiron Institute, CCA	2018 - 2019
Organizer , Weekly Astro-ph Discussion, Columbia University	2016 - 2017
Organizer , Scientific Organizing Committee for the MODEST16b meeting	2016
Organizer , Local Organizing Committee for the MODEST16b meeting	2016
Mentor , Columbia astronomy graduate student mentoring program	2015, 2016

SELECTED OUTREACH

YouTube Channel , Space with Sarah (www.youtube.com/spacewithsarah)	2017 - 2020
- Creator, writer & host, ~6,000 subscribers, ~120,000 views since launch April 2017	
- Answering the most frequently posed space questions, target: teens/young adults	
Instagram account , @spacewsarah (www.instagram.com/spacewsarah)	2017 - present
- Documenting the "life of a scientist" (>11,000 followers)	
- Research updates and astronomy fun-facts	
Writer for Weekendavisen , "Ideas", popular science column, 200k weekly readers	2022 - present
- January 2023 , September 2022 , June 2022 , April 2022	
"Formiddag paa 4-eren" , radio interview , Danish radioshow on P4 for DR	2023
"Verdensklassen" , podcast interview , Danish podcast for DR Lyd with hosts Surrugue & Agger	2023
Spaced Out Podcast , podcast interview , NYU Abu Dhabi	2022
Rachel Uffner Gallery , " From the Cosmos to the Canvas ", Avery Z. Nelson, NYC	2022
Science Communication Writing Workshop , course link , NYU School of Journalism	2021
Digital Guest Teacher , video series , Danish Ministry of Education	2021
Invited Talk , SF Presents, Simons Foundation, ' Dark Matter, Stellar Streams & Galaxies '	2021
Invited Talk , Rungsted Highschool, Denmark (virtual), Dark Matter, Stellar Streams & Galaxies	2021
Invited Talk , NOVA, Denmark (virtual), Link to Danish talk	2020
Invited Public Lesson , AimHi, Inspiring Guest Lecture Series, UK (virtual)	2020
Host for the screening of "Behind the Curve" , Simons Foundation Outreach Series, NYC	2020
Invited talk , The National Academy of Sciences Filmmakers Retreat, Whole Woods, MA	2019
Invited talk , "The Mysteries of Dark matter", World Science Festival , NYC	2019
Invited talk , "Dark matter", Wine & Science , Copenhagen	2019
Judge , Young Danish Scientist competition, Copenhagen	2019
Podcast , Person, Place, Thing - NPR podcast hosted by Randy Cohen	2019
TV2 News , Danish national live TV - Discussing the NASA Parker Solar Probe	2018
Videnskab.dk , Denmark's primary science media outlet - Article on the Galactic Bar	2018
TV2 News , Danish national live TV - Discussing the total lunar eclipse	2018
Kvant , Danish Astronomy & Physics Magazine - Cover article on the Galactic Bar	2018
Blogger for Danish Engineering Magazine , Ingenioeren	2018 - 2019
- Blogging about the puzzles of our Universe to Danish engineers.	
HLN , US national live TV, " Erica Hill's show " - The total solar eclipse , Guest scientist	2017
NBC New York Live , "Man on the street" - what's a solar eclipse?	2017

Zooniverse, Planet Hunters, How old could alien civilizations be? , Guest blogger	2017
Fraser Cain's YouTube Channel, Are There Dark Matter Galaxies? , Guest scientist	2017
Invited Talk, Are There Other Earths Out There? , NASA's Space Apps Challenge, SAP, NYC	2017
Meet the Scientist, Intrepid Museum , Kids Week, on site scientist	2017
Expert astronomer , The Intergalactic Travel Bureau, Guerilla Science, Mysterland Festival	2016
Lecturer , Graduate School of Arts & Sciences Dean's Dinner, Title: "Colliding Galaxies"	2016
Lecturer , Columbia Outreach Talk, Title: "The Explosive Origin of Our Elements"	2017
Lecturer , Columbia Science Evening, Title: "The Dark Matter Halo of the Milky Way"	2015
Volunteer , Sidewalk Astronomy, Take telescopes out to nearby Harlem, engage passersby	2016

TEACHING EXPERIENCE

Instructor , Stars, Galaxies & Cosmology, Columbia University	2016
Instructor , Earth, Moon & Planets, Columbia University	2015
Grader , Life in the Universe, Barnard College	2014
Grader , Stars, Galaxies and Cosmology, Barnard College	2014
Teaching assistant , Observational Astronomy Lecture & Lab, Columbia University	2013
Teaching assistant , Stars, Galaxies and Cosmology, Columbia University	2013
Teaching assistant , Thermodynamics, University of Copenhagen	2013
Lab Instructor , Classical Mechanics, University of Copenhagen	2012
Math/physics tutoring , high school/college level	2009 - 2018
Guest Lecturer , Course: Galaxies & Cosmology, Columbia University, USA	03/2016
Title: "Minor and major mergers of galaxies"	
Guest Lecturer , Course: Stellar Structure & Evolution, U. Copenhagen, Denmark	01/2014, 01/2015, 11/2015
Title: "Supernova Explosions & the Origin of the Galactic Supernova Remnant W49B"	
Guest Lecturer , Course: Stars, Galaxies and Cosmology, Columbia University, USA	10/2013
Title: "The Evolution of Massive Stars"	

PRESS

NASA Telescope to Help Untangle Galaxy Growth, Dark Matter Makeup , NASA.gov, 2022
Evidence for a Dark Matter Clump in the Milky Way , Sky & Telescope, 2019
Evidence Mounts for a Magellanic Collision , Sky & Telescope, 2019
Pairs of Small Colliding Galaxies May Seed Future Stars , Phys.org, 2018
Pairs of Small Colliding Galaxies May Seed Future Stars , Columbia Press Release, 2018
Women in Physics Prize 2017 awarded to up and coming astrophysicist Sarah Pearson , CPH, 2017
"Mind the Galactic Bar" - Nature Astronomy News & Views Article, 2017
The Milky Way's Galactic Bar Punches Holes in Stellar Streams , Columbia Astronomy, 2017
Interacting Dwarf Galaxies Shed Light On Milky Way Neighbors , Inside Science, 2016
Mapping What We Can't See: the Dark Matter Halo of the Milky Way , 2014, Columbia Astronomy, 2015
NASA's Chandra Suggests Rare Explosion Created Our Galaxy's Youngest Black Hole , NASA, 2013

REFERENCES

Prof. David N. Spergel (Flatiron Institute), email: dspergel@flatironinstitute.org
Prof. David W. Hogg (New York University), email: david.hogg@nyu.edu
Prof. Kathryn V. Johnston (Columbia University), email: kvj@astro.columbia.edu