

Yasmeen Asali

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RESEARCH INTERESTS

Low-mass galaxy formation and evolution, satellite galaxies and environmental effects, star formation and quenching, stellar-halo mass relation

EDUCATION

Yale University , New Haven, CT Ph.D. in Astronomy M.S., M.Phil. in Astronomy (2023)	2020 - Present
Columbia University , New York, NY B.A. in Astrophysics with Departmental Honors in Physics Dean's List Spring 2017, Fall 2017, Spring 2018, Spring 2019	2016 - 2020

RESEARCH APPOINTMENTS

Graduate Researcher <i>Yale Astronomy Department</i> Thesis Advisor: Marla Geha Rotation Advisor: Meg Urry	September 2020 - Present <i>New Haven, CT, USA</i>
Undergraduate Researcher <i>Columbia Astronomy Department</i> Advisors: Szabi Marka, Zsuzsa Marka	September 2017 - August 2020 <i>New York, NY, USA</i>
Summer Undergraduate Researcher <i>Dutch National Institute for Subatomic Physics (Nikhef)</i> University of Florida's International REU Program in Gravitational Physics Advisor: Chris Van Den Broeck	June 2019 - April 2020 <i>Amsterdam, The Netherlands</i>
Summer Undergraduate Researcher <i>Instituto de Astrofísica, Pontificia Universidad Católica de Chile</i> Advisors: Germán Gómez-Vargas, Andreas Reisenegger	June 2018 - August 2018 <i>Santiago, Chile</i>

PUBLICATIONS

[NASA ADS](#) | 66 refereed publications (2 first-author, 6 second-author or significant contribution) | 3 non-refereed publications | Stars (*) denote papers by students I helped advise.

First-author:

2. **Y. Asali**, M. Geha, E. Kado-Fong, Y.-Y. Mao, R. H. Wechsler, M. A. C. de los Reyes, I. Pasha, N. Kallivayalil, E. O. Nadler, E. J. Tollerud, Y. Wang, B. Weiner, and J. F. Wu. "The SAGA Survey. VI. The Size-Mass Relation for Low-Mass Galaxies Across Environments", arXiv e-prints, page arXiv:2509.25335, Sept. 2025
[\[ADS\]](#)

1. **Y. Asali**, P. T. H. Pang, A. Samajdar, and C. Van Den Broeck. “Probing resonant excitations in exotic compact objects via gravitational waves”, Phys. Rev. D, 102(2):024016, July 2020 [\[ADS\]](#)

Second-author or significant contribution:

7. J. Zhu, **Y. Asali**, M. Putman, T. Westmeier, W. J. G. de Blok, B. Catinella, N. Deg, B.-Q. For, D. Kleiner, K. Lee-Waddell, F. Maccagni, D. J. Pisano, A. X. Shen, K. Spekkens, and L. Staveley-Smith. “Baryonic Masses and Properties of Gaseous Satellite Galaxies”, arXiv e-prints, page arXiv:2510.27019, Oct. 2025 [\[ADS\]](#)
6. E. Kado-Fong, Y.-Y. Mao, **Y. Asali**, M. Geha, R. H. Wechsler, M. A. C. de los Reyes, Y. Wang, E. O. Nadler, N. Kallivayalil, E. J. Tollerud, and B. Weiner. “SAGAbg III: Environmental Stellar Mass Functions, Self-Quenching, and the Stellar-to-Halo Mass Relation in the Dwarf Galaxy Regime”, arXiv e-prints, page arXiv:2509.20444, Sept. 2025 [\[ADS\]](#)
5. M. A. C. de los Reyes, **Y. Asali**, R. H. Wechsler, M. Geha, Y.-Y. Mao, E. Kado-Fong, R. Pucha, W. Grant, P. J. Gandhi, V. Manwadkar, A. Engelhardt, F. Munshi, and Y. Wang. “Stellar Mass Calibrations for Local Low-mass Galaxies”, ApJ, 989(1):91, Aug. 2025 [\[ADS\]](#)
4. M. Geha, Y.-Y. Mao, R. H. Wechsler, **Y. Asali**, E. Kado-Fong, N. Kallivayalil, E. O. Nadler, E. J. Tollerud, B. Weiner, M. A. C. de los Reyes, Y. Wang, and J. F. Wu. “The SAGA Survey. IV. The Star Formation Properties of 101 Satellite Systems around Milky Way–mass Galaxies”, ApJ, 976(1):118, Nov. 2024 [\[ADS\]](#)
3. Y.-Y. Mao, M. Geha, R. H. Wechsler, **Y. Asali**, Y. Wang, E. Kado-Fong, N. Kallivayalil, E. O. Nadler, E. J. Tollerud, B. Weiner, M. A. C. de los Reyes, and J. F. Wu. “The SAGA Survey. III. A Census of 101 Satellite Systems around Milky Way–mass Galaxies”, ApJ, 976(1):117, Nov. 2024 [\[ADS\]](#)
2. C. Neufeld, P. van Dokkum, **Y. Asali**, A. Covelo-Paz, J. Leja, J. Lin, J. Matthee, P. A. Oesch, N. A. Reddy, I. Shivaiei, K. E. Whitaker, S. Wuyts, G. Brammer, D. Marchesini, M. V. Maseda, R. P. Naidu, E. J. Nelson, A. Velichko, A. Weibel, and M. Xiao. “FRESCO: The Paschen- α Star-forming Sequence at Cosmic Noon”, ApJ, 972(2):156, Sept. 2024 [\[ADS\]](#)
1. *A. G. Sullivan, **Y. Asali**, Z. Márka, D. Sigg, S. Countryman, I. Bartos, K. Kawabe, M. D. Pirello, M. Thomas, T. J. Shaffer, K. Thorne, M. Laxen, J. Betzwieser, K. Izumi, R. Bork, A. Ivanov, D. Barker, C. Adams, F. Clara, M. Factourovich, and S. Márka. “Timing system of LIGO discoveries”, Phys. Rev. D, 108(2):022003, July 2023 [\[ADS\]](#)

Other co-author:

4. E. Kado-Fong, M. Geha, Y.-Y. Mao, M. A. C. de los Reyes, R. H. Wechsler, B. Weiner, **Y. Asali**, N. Kallivayalil, E. O. Nadler, E. J. Tollerud, and Y. Wang. “SAGAbg. II. The Low-mass Star-forming Sequence Evolves Significantly between $0.05 < z < 0.21$ ”, ApJ, 976(1):83, Nov. 2024 [\[ADS\]](#)
3. Y. Wang, E. O. Nadler, Y.-Y. Mao, R. H. Wechsler, T. Abel, P. Behroozi, M. Geha, **Y. Asali**, M. A. C. de los Reyes, E. Kado-Fong, N. Kallivayalil, E. J. Tollerud, B. Weiner, and J. F. Wu. “The SAGA Survey. V. Modeling Satellite Systems around Milky Way–Mass Galaxies with Updated UNIVERSEMACHINE”, ApJ, 976(1):119, Nov. 2024 [\[ADS\]](#)
2. E. Kado-Fong, M. Geha, Y.-Y. Mao, M. A. C. de los Reyes, R. H. Wechsler, **Y. Asali**, N. Kallivayalil, E. O. Nadler, E. J. Tollerud, and B. Weiner. “SAGAbg. I. A Near-unity Mass-loading Factor in Low-mass Galaxies via Their Low-redshift Evolution in Stellar Mass, Oxygen Abundance, and Star Formation Rate”, ApJ, 966(1):129, May 2024 [\[ADS\]](#)
1. R. Abbasi and IceCube Collaboration (incl. **Y. Asali**). “IceCube Search for Neutrinos Coincident with Gravitational Wave Events from LIGO/Virgo Run O3”, ApJ, 944(1):80, Feb. 2023 [\[ADS\]](#)

Non-Refereed Publications:

3. **Y. Asali**, M. Siegel, D. Gonzalez, I. Forjaz de Lacerda, J. Imamura, and G. Hurley. “Teaching How-To: A Grad Student’s Guide to Teaching at Yale and Beyond”, Yale Poorvu Center for Teaching and Learning, June 2025 [\[link\]](#)
2. A. Polzin, **Y. Asali**, S. Bhimani, M. Brady, M. C. Chen, L. DeMarchi, M. Gurevich, E. Lichko, E. Loudon, J. Malewicz, S. Pagan, M. Rice, Z. Shen, E. Simon, C. Stauffer, J. Luna Zagorac, K. Auchettl, K. Breivik, H.-W. Chen, D. Coppejans, S. Kolwa, R. Margutti, P. Natarajan, E. Nelson, K. L. Page, S. Toonen, K. E. Whitaker, and I. Zhuravleva. “Astronomy as a Field: A Guide for Aspiring Astrophysicists”, arXiv e-prints, page arXiv:2312.04041, Dec. 2023 [\[ADS\]](#)
1. **Y. Asali**, K. Gerbig, A. Ghosh, C. Lindsay, Z. Shen, and M. Geha. “A Standardized Framework for Collecting Graduate Student Input in Faculty Searches”, In *Bulletin of the American Astronomical Society*, volume 54, page 091, Dec. 2022 [\[ADS\]](#)

Included on the following author lists:

- LIGO Scientific Collaboration O3 Author List (incl. 42 publications)
- LIGO O3 Detector Author List (incl. 12 publications)

PRESENTATIONS

Invited Talks:

Columbia University, Astronomy Seminar	November 2025
Dartmouth College, Astronomy Seminar	November 2025
Rutgers University, Astronomy Journal Club	October 2025
University of Utah, Astronomy Journal Club	September 2025
University of Pennsylvania, Astronomy Lunch	April 2025
Amherst College, Colloquium	March 2024
Vanderbilt University, EMIT Astronomy Seminar	March 2024

Conferences, Workshops, and Informal Talks: (°oral presentation; *poster presentation)

*Galactic Frontiers II: Dwarf Galaxies in the Local Volume and Beyond, Dartmouth College	June 2025
*Small Galaxies, Cosmic Questions II, Durham University	August 2024
°CCA Galactic Frontiers: Dwarf Galaxies in the Local Volume and Beyond	July 2023
*APS Conference for Undergraduate Women in Physics, Yale University	January 2020
*235th Meeting of the American Astronomical Society, Honolulu, HI	January 2020
*Conference for Undergraduate Women in Astronomy, West Virginia University	November 2019
*Undergraduate Research Showcase, Columbia University	October 2019
*Astrofest, Columbia University, (2nd Place Prize)	September 2019
*233rd Meeting of the American Astronomical Society, Seattle, WA	January 2019
°Columbia Astronomy Department Lunch	December 2018
*Astrofest, Columbia University	September 2018

TEACHING AND EDUCATIONAL DEVELOPMENT

Yale Poorvu Center for Teaching and Learning, <i>McDougal Graduate Fellow</i>	May 2022 - Present
AstroCodEx, <i>Development Lead</i>	May 2025 - Present
Yale Astronomy Research Preparation Series, <i>Instructor</i>	Spring 2024, Spring 2025
Expanding Ideas of Time and Space, Astronomy Department, <i>Guest Lecture</i>	Fall 2024
Warrior Scholar Project, <i>Research Project Leader</i>	June 2023, June 2024
Yale Certificate of College Teaching Preparation	Spring 2023
La Serena School for Data Science, <i>Teaching Assistant</i>	August 2021, August 2022
Introduction to General Relativity and Black Holes, Astronomy Department, <i>Guest Lecture</i>	Fall 2020
Yale University, <i>Teaching Fellow</i>	
Research Methods in Astrophysics, Astronomy Department	Fall 2022

Current Research in Astrophysics, Astronomy Department	Fall 2021
Frontiers & Controversies in Astrophysics, Astronomy Department	Spring 2021
Introduction to General Relativity and Black Holes, Astronomy Department	Fall 2020
Columbia University, <i>Teaching Assistant</i>	
Theories of the Universe, Astronomy Department	Spring 2020
Weapons of Mass Destruction, Physics Department	Spring 2018, Spring 2019
Stars and Atoms, Astronomy Department	Fall 2018

AWARDED OBSERVING PROPOSALS

Palomar Observatory (NGPS) - 2 nights awarded (PI)	Yale 2025B
<i>Completing the SAGA Survey at Lower Masses: Faint Satellite Candidate Redshifts with NGPS</i>	
Green Bank Observatory (GBT) - 57.5 hours awarded (PI)	NRAO/GBO 2025B
<i>A Complete Sample of HI Masses for Satellite Galaxies around Milky Way Analogs (GBT24B-276)</i>	
Palomar Observatory (NGPS) - 7 nights awarded (CoI)	Yale 2025A
<i>Follow-up of Faint SAGA Candidate Satellite Galaxies</i>	
Green Bank Observatory (GBT) - 60 hours awarded (PI)	NRAO/GBO 2024B
<i>Expanding the Sample of HI Measurements in Satellites of Milky Way Analogs (GBT24B-384)</i>	
Palomar Observatory (CWI) - 4 nights awarded (PI)	Yale 2024B
<i>The Mass Functions of Satellites around Milky Way Analogs</i>	
Palomar Observatory (CWI) - 7 nights awarded (PI)	Yale 2024A
<i>The Mass Functions of Satellites around Milky Way Analogs</i>	
Perkins Telescope Observatory (PRISM) - 4 nights awarded (CoI)	FCAD 2023B
<i>Star Formation in Dwarf Galaxies as a Function of Environment</i>	
Palomar Observatory (CWI) - 6 nights awarded (PI ; Highest Ranked in 2023B Cycle)	Yale 2023B
<i>The Mass Functions of Satellites around Milky Way Analogs</i>	

OBSERVING EXPERIENCE

Green Bank Telescope (100 m) - Green Bank Observatory, West Virginia	115 hours
Hale Telescope (5.1 m), NGPS - Palomar Observatory, California	9 nights
Hale Telescope (5.1 m), CWI - Palomar Observatory, California	20 nights
Hale Telescope (5.1 m), DBSP - Palomar Observatory, California	18 nights
Hale Telescope (5.1 m), TripleSpec - Palomar Observatory, California	1 night
Anglo-Australian Telescope (3.9 m), 2dF - Siding Spring Observatory, Coonabarabran	3 nights
Hiltner Telescope (2.4 m) - MDM Observatory, Arizona	4 nights

AWARDS, SCHOLARSHIPS AND GRANTS

John Ender's Grant, Yale Graduate School of Arts and Sciences	2025
Dean's Emerging Research Scholar Award, Yale Graduate School of Arts and Sciences	2024
Teaching Innovation Project Grant, Yale Poorvu Center	2023
Flipped Science Fair First Place Prize, Yale Open Labs	2023
Dean's Fund for Seminars and Colloquia, Yale Graduate School of Arts and Sciences	2022, 2023, 2025
GPPD Career Grant, POD Network	2022
Office of Academic Affairs Conference Fund, Columbia University	2018, 2020
ACM-W Scholarship for Women in Computing	2019
Sigma Xi Grant in Aid of Research	2019
Senior Thesis Research Fund, Columbia University	2018
C.S. Wu Fund for Women in Physics, Columbia University	2018

PUBLIC OUTREACH

Invited Presentations (°outreach talk; *panel participant):

*EMIT Women in Astronomy Event, Vanderbilt University	March 2024
°Yale Pathways Summer Scholars Program	July 2022
°Girls Advancing in STEM (GAINS) Conference at Yale	March 2022
°Astronomy on Tap NYC	November 2021
*Columbia University Center for Undergraduate Global Engagement	November 2019
°Columbia University Public Outreach Lecture for Skt. Josef's School	April 2019

Open Labs at Yale, <i>Scientist Volunteer</i>	February 2023 - Present
AAS Astronomy Ambassadors Program, <i>Outreach Ambassador</i>	January 2022 - Present
Skype a Scientist, <i>Scientist Volunteer</i>	March 2020 - Present
Letters to a Pre-Scientist, <i>Scientist Volunteer</i>	August 2019 - June 2021
SCiMMA Education and Public Outreach, <i>Contributor</i>	April 2020 - September 2020
Columbia Astronomy Public Outreach, <i>Volunteer</i>	February 2017 - May 2020

MENTORING

Research Co-Advising:

Grace Gogliettino , Colgate University (undergraduate)	June 2025 - Present
Meredith Stone , UMass Amherst (undergraduate, Yale Dorrit Hoffleit Scholar)	June 2021 - August 2021
Andrew Sullivan , Columbia University (undergraduate)	September 2019 - May 2022
Amanda Beck , Columbia University (undergraduate)	September 2019 - May 2021

Yale Astro Sibs Program, <i>Grad Student Mentor & Head Coordinator</i>	September 2020 - Present
Yale Graduate Affiliate for Ezra Stiles College, <i>Graduate Affiliate</i>	September 2022 - September 2024

SERVICE

Professional:

Yale Poorvu Center for Teaching and Learning, <i>Fundamentals Consultant</i>	2024 - Present
Astronomy Graduate Student Congress, <i>Co-Founder and Yale Representative</i>	2023 - Present
Yale Astronomy Committee on Diversity and Climate, <i>Steering Committee</i>	2022 - Present
Yale Data Science X Astronomy & Astrophysics Seminar, <i>Organizer</i>	2021 - Present
Yale Astronomy Student Council, <i>Elected Representative</i>	2021 - 2024
Yale GSAS Orientation, <i>Community Values Orientation Leader</i>	2023
Yale Physics Department Faculty Hiring Committee, <i>Graduate Representative</i>	2023
Columbia Alumni Representative Committee, <i>Prospective Student Interviewer</i>	2021 - 2023
AAS 237 Chambliss Poster Competition, <i>Judge</i>	2021
Columbia BlueShift Astronomy Society, <i>President and Senior Advisor</i>	January 2018 - May 2020

Community:

New Haven Counts, <i>Math Tutor</i>	July 2024 - Present
New Haven Science Fair, <i>Judge</i>	May 2023
Harlem Reading Team Math, <i>Kindergarten Tutor and Group Leader</i>	September 2017 - June 2021

MEDIA COVERAGE

How weird is the Milky Way? , Astronomy Magazine	July 2025
A Grad Student Seat at the Faculty Hiring Table , astrobites	January 2023
Senior Spotlight: Yasmeen Asali , the Blue and White Magazine	May 2020

PROGRAMMING SKILLS

Programming Languages	Python, C++, IDL
ML & Stats Tools	JAX, NumPyro, scikit-learn, PyTorch, TensorFlow
Astronomy Software	SAOImage DS9, IRAF, TOPCAT, Pyeipit, Prospector
Databases	MySQL, PostgreSQL, ADQL
Web Development	HTML, CSS, Jekyll

WEBSITE DEVELOPMENT

Personal Website (Site Link)	Primary Builder	
The SAGA Survey Website (Site Link)	Contributor, 2024	
Yale Data Science x Astronomy-Astrophysics Seminar Series (Site Link)	Primary Builder, 2024	
Astronomy Graduate Student Congress Website (Site Link)	Primary Builder, 2024	
Astronomy Research Preparation Series Website (Site Link)	Contributor, 2024	
Geha Group Website (Site Link)	Contributor, 2023	
Columbia Experimental Gravity Group Website (Site Link)	Contributor, 2020	
SCiMMA Website (Site Link)	Contributor, 2019	
LSST Optical Counterparts to GWs Workshop Website (Site Link)	Primary Builder, 2019	
Future by the Future Workshop Website (Site Link)	Contributor, 2018	