NICHOLAS M. LUBER

nicholas.m.luber@gmail.com ♦ nicholasluber.github.io

ACADEMIC APPOINTMENTS

Lecturer in Astronomy & Postdoctoral Science Fellow *07/2022 - Present*
Columbia University, New York, New York

Graduate Research Assistant *06/2019 - 06/2022*
West Virginia University, Morgantown, West Virginia

Graduate Teaching Assistant *08/2018 - 05/2019*
West Virginia University, Morgantown, West Virginia

Undergraduate Research Assistant *05/2016 - 07/2018*
Columbia University, New York, New York

EDUCATION

West Virginia University *06/2020 - 07/2022*
Ph.D, Astrophysics
Thesis: Deep Radio Observations and the Role of the Cosmic Web in Galaxy Evolution
Advisor: Professor D.J. Pisano
M.S., Astrophysics *08/2018 - 06/2020*

Columbia University *08/2014 - 05/2018*
B.A., Major: Astrophysics, Concentration: Mathematics
Advisor: Professor J. H. van Gorkom
Ben E. Horowitz Scholar

PUBLICATIONS

[17] J. Blue Bird, **N. Luber**, H. B. Gim, [8 authors], *CHILES XI: Resolved HI morphologies and the evolution of the H_2 / HI ratio over the last five billion years*, ***submitted to ApJ, positively refereed***

[16] Sabrina Stierwalt, **Nicholas Luber**, Zelie Goldberg Little, [7 authors], *TiNy Titans HI: An Isolated, Compact, HI-Rich Group of Dwarf Galaxies: Discovering Satellites around Dwarf Hosts via HI Gas*, ***submitted to ApJ, positively refereed***

[15] Kelley M. Hess, John Hibbard, [2 authors], **Nicholas M. Luber**, [8 authors], *CHILES X: Molecular and atomic gas at intermediate redshift*, ***accepted to A&A***, arXiv: 2510.07966

[14] **Nicholas Luber**, Sabrina Stierwalt, George C. Privon, [7 authors], *Caught in the Cosmic Web: A Low-Mass Galaxy Undergoing Ram-Pressure Stripping*, ***accepted to ApJL***, arXiv: 2509.15405

[13] Hansung Gim, Min Yun, **Nicholas M. Luber**, Emmanuel Momjian, D.J. Pisano, Kelley M. Hess, Julia Blue Bird, Lucas Hunt, *The CHILES Continuum & Polarization Survey-II: Radio Continuum Source Catalog and Radio Properties*, AJ, 170, 60, arXiv: 2504.20200

[12] **Nicholas Luber**, Min Yun, Hansung Gim, Daniel Krista-Kelsey, D.J. Pisano, Emmanuel Momjian, Chris Hales, *The CHILES Continuum & Polarization Survey: Survey Design and Noise Characterization*, AJ, 170, 59, arXiv: 2504.20253

[11] **Nicholas M. Luber**, Farhan Hasan, J. H. van Gorkom, [14 authors], *CHILES IX: Observational and Simulated HI Content and Star Formation of Blue Galaxies in Different Cosmic Web Environments*, ApJ, 985, 214, arXiv: 2504.03585

[10] **Nicholas Luber**, D.J. Pisano, Jacqueline van Gorkom, [9 authors], *CHILES VIII: Probing Evolution of Average HI Content in Star Forming Galaxies over the Past 5 Billion Years*, ApJ, 985, 215, arXiv: 2504.02100

[9] A. Bianchetti, F. Sinigaglia, G. Rodighiero, [3 authors], **N. Luber**, [23 authors], *MIGHTEE-HI and CHILES Team Up: new constraints on the evolution of the M_{HI}-M_* scaling relation*, ApJ, 982, 82, arXiv: 2502.00110

[8] Tirna Deb, Marc A.W. Verheijen, Bianca M. Poggianti, [11 authors], **Nicholas Luber**, [2 authors], *GASP XXXIX: MeerKAT hunts Jellyfish in A2626*, MNRAS, 516, 2683, arXiv: 2208.12950

[7] Adam R. Kobelski, Lucas A. Tarr, Sarah A. Jaeggli, **Nicholas Luber**, [2 authors], *A publicly available multi-observatory data set of an enhanced network patch from the Photosphere*, ApJS, 261, 15, arXiv: 2205.01766

[6] **N. Luber**, A. Müller, J. H. van Gorkom, et al., [19 authors], *GASP XXXVII: The HI Properties of Galaxies in Clusters with Jellyfish Galaxies*, ApJ, 927, 39, arXiv: 2201.00853

[5] R. Dodson, E. Momjian, D.J. Pisano, **N. Luber**, [15 authors], *CHILES VII: Deep Imaging for the CHILES project, a SKA prototype*, AJ, 163, 59, arXiv: 2112.06488

[4] **N. Luber**, Sarah Pearson, Mary E. Putman, Gurtina Besla, Sabrina Stierwalt, Joel P. Meyers, *Investigating the Baryon Cycle in Interacting Dwarfs with the Very Large Array and Pan-STARRS*, AJ, 163, 49, arXiv: 2111.04795

[3] J. Blue Bird, J. Davis, **N. Luber**, [15 authors], *CHILES VI: HI and Hα observations for $z < 0.1$ galaxies; probing HI spin alignment with filaments in the cosmic web*, 2020, MNRAS, 492, 153, arXiv: 1811.12405

[2] **N. Luber**, J. H. van Gorkom, K. M. Hess, D. J. Pisano, X. Fernández, E. Momjian, *Large-scale Structure in CHILES Using DisPerSE*, 2019, AJ , 157, 254, arXiv: 1904.10511

[1] K. M. Hess, **N. M. Luber**, X. Fernández, [27 authors], *CHILES: HI morphology and galaxy environment at $z = 0.12$ and $z = 0.17$*, 2019, MNRAS, 484, 2234, arXiv: 1811.12405

MENTORED STUDENTS

[2] **Mariska Laky**, Undergraduate Research Assistant, Barnard College, Columbia University

[1] **Colby Malcom**, Undergraduate Research Assistant, Columbia University, *Current Graduate student at University of Leiden*

ACCEPTED TELESCOPE PROPOSALS

[10] Very Large Array 25A-364, Gregory Walsh, **Nicholas Luber**, 2025, *The State of HI Across The Major Merger Sequence*, -/90 hrs.

[9] Very Large Array 24A-355, Sabrina Stierwalt, **Nick Luber**, Nitya Kallivayalil, [3 authors], 2024, *Gas Kinematics in Dwarf-Dwarf Interactions: Fueling Hierarchical Assembly*, 180/180 hrs.

[8] Very Large Array 24A-349, Jingyao Zhu, **Nick Luber**, Mary Putman, 2023, *Probing ram pressure stripping in dwarf satellite galaxies using 21-cm HI*, 24/24 hrs.

[7] Large Millimeter Telescope 2021-S1-US-22/2023-S1-US-8, Hansung Gim, Min Yun, Danielle Lucero, [4 authors], **Nick Luber**, [4 authors], 2021/2023, *Exploring the evolution of total gas contents with the observations of galaxies within z=0.11-0.17*,

[6] Large Millimeter Telescope 2021-S1-US-16/2023-S1-US-18, Julia Blue Bird, Min Yun, Hansung Gim, [3 authors], **Nick Luber**, [5 authors], 2021/2023, *Total Gas Content at High Redshift with CHILES and LMT*,

[5] Very Large Array 22B-244, **Nick Luber**, Pierre-Jacques, T., 2022, *Dynamics and Evolution of Spiral-Elliptical Mergers using Neutral Hydrogen*, 12/18 hrs.

[4] Very Large Array 21A-386, **Nick Luber**, Terrence Pierre-Jacques, D.J. Pisano, 2021, *Studying Spiral-Elliptical Mergers with Neutral Hydrogen*, 8/18 hrs.

[3] Very Large Array 21A-304, Blue Bird, J., **Nick Luber**, J.H. van Gorkom, [8 authors], 2021, *CHILES in C-configuration, spin alignment in nearby galaxies and HI in filaments*, 24/24 hrs.

[2] Green Bank Telescope 19B-328, **Nick Luber**, D.J. Pisano, 2019, *Diffuse HI Mapping of Host-Dwarf Galaxy Interaction*, 2/2 hrs.

[1] Green Bank Telescope 18B-357, D.J. Pisano, Jennifer Donovan Meyer, Evan Smith, [8 authors], **Nick Luber**, [2 authors], 2018, *More mapping of CO(1-0) in the highest redshift HI detection in CHILES*, 7.5/7.5 hrs.

SCIENTIFIC PRESENTATIONS

[16] **Colloquium,** Columbia University, New York, NY *02/2025*

[15] **Talk,** 245th AAS meeting, National Harbor, MD *01/2025*

[14] **Talk,** AstroFest, Columbia University, New York, NY *09/2024*

[13] **Talk,** IAU General Assembly, Cape Town, South Africa *08/2024*

[12] **Talk,** GASPISA, Pisa, Italy *05/2024*

[11] **Talk,** 243rd AAS meeting, New Orleans, LA *01/2024*

[10] **Talk,** AstroFest, Columbia University, New York, NY *09/2023*

[9] **Talk,** The Evolution of Gas in and around Galaxies, Stanley, ID *07/2023*

[8] **Talk,** GothamFest, Center for Computational Astrophysics, New York, NY *01/2023*

[7] **Talk,** 241st AAS meeting, Seattle, WA *01/2023*

[6] **Talk,** AstroFest, Columbia University, New York, NY *09/2022*

[5] **Dissertation Talk,** 240th AAS meeting, Pasadena, CA *06/2022*

[4] **Invited Talk,** Astronomical Sciences Seminar Series, Virginia Tech, Blacksburg, VA *11/2021*

[3] **Poster,** 231st AAS meeting, National Harbor, MD *01/2018*

[2] **Poster,** AstroFest, Columbia University, New York, NY *09/2017*

[1] **Poster,** AstroFest, Columbia University, New York, NY *09/2016*

TEACHING EXPERIENCE

- **Seminar Instructor:**

  [1] *Frontiers of Science - Columbia University*, Discussion-based course using four different scientific fields as material for learning scientific habits of mind. *07/2022-Present*

- **Lecture Instructor:**

  [4] *Life in the Universe - Columbia University*, Survey astronomy course using the Drake Equation as a template for understanding possible extra-terrestrial life. *Spring 2024, 2025, Fall 2025*

  [3] *General Physics II - Columbia University*, The algebra-based introduction to mechanics fluids and thermodynamics, aimed for those on the pre-medical track. *Summer 2024, 2025*

[2] *Another Earth - Columbia University*, Survey astronomy course that uses the Drake Equation as a vehicle to understand possible extra-terrestrial life. *Fall 2024*

[1] *General Physics I - Columbia University*, The algebra-based introduction to mechanics fluids and thermodynamics, aimed for those on the pre-medical track. *Summer 2023*

- **Grader:**

[1] *West Virginia University - Astronomy 470*, An introduction to general relativity for advanced physics undergraduate students. *Fall 2020*

- **Teaching Assistant/Lab Instructor:**

[1] *West Virginia University - Physics 102*, The introductory electricity and magnetism lab aimed toward students pursuing degrees related to health sciences. *Fall 2018, Spring 2019*

OUTREACH

[9] **Talk**, *New York, New York*, Lecture on the role of the electromagnetic spectrum in astronomy with a specific focus on the radio geared towards an all age public audience. *09/2025*

[8] **Talk**, *New York, New York*, Lecture on the the effect of the cosmic web on galaxy evolution geared towards first-year college students. *09/2025*

[7] **Talk**, *New York, New York*, Lecture on the use of long integration radio observations to understand the nature of the sky at long wavelengths. *10/2024*

[6] **Talk**, *New York, New York*, Lecture on the use of radio interferometry to understand cold gas, the cosmic web, and galaxy evolution geared towards an all age public audience. *12/2023*

[5] **Talk**, *New York, New York*, Lecture on the use of radio interferometry to understand cold gas, the cosmic web, and galaxy evolution geared towards first-year college students. *10/2023*

[4] **Talk**, *New York, New York*, Lecture on the use of radio interferometry to understand cold gas, the cosmic web, and galaxy evolution geared towards international high school students. *10/2023*

[3] **Talk**, *Fishkill, New York*, Interactive lecture overviewing astronomical objects geared towards 3rd - 5th graders. *06/2023*

[2] **Volunteer**, *Morgantown, West Virginia*, Facilitating physics demonstrations and communicating astronomy in a community fair setting for all ages. *07/2021*

[1] **Talk**, *Fishkill, New York*, Interactive lecture overviewing astronomical objects geared towards 3rd - 5th graders. *05/2021*