

John F. Wu

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EDUCATION

Ph.D. in Physics and Astronomy <i>Rutgers, The State University of New Jersey</i>	Piscataway, NJ 2013 – 2019
B.Sc. in Physics/Astrophysics, with MCS Honors <i>Carnegie Mellon University</i>	Pittsburgh, PA 2009 – 2013

EXPERIENCE

Postdoctoral Researcher <i>Space Telescope Science Institute (continued)</i> <i>Johns Hopkins University</i>	Baltimore, MD 2020 – Present 2019 – 2020
Graduate Research Assistant <i>Rutgers, The State University of New Jersey</i>	Piscataway, NJ 2013 – 2019
Undergraduate Research Assistant <i>McWilliams Center for Cosmology, Carnegie Mellon University</i>	Pittsburgh, PA 2012 – 2013
Research Intern <i>Carnegie Mellon University CyLab</i>	Pittsburgh, PA 2011

WORKSHOPS AND OTHER EXPERIENCE

Kavli Institute of Theoretical Physics <i>Building a physical understanding of galaxy evolution [...]</i>	Santa Barbara, CA (scheduled) Jan – Mar 2023
Pascal Institute <i>The Self-Organized Star Formation Process</i>	Paris, France Sept 2019
MIAPP Topical Workshop <i>Nine Billion Years of Gas Evolution</i>	Munich, Germany July 2019
USAID Research & Innovation Fellowship <i>Improving the LADUMA Pipeline Using MeerKAT Early Science Data</i>	Cape Town, South Africa Sept – Nov 2016
SKA Pathfinders HI Science Coordination Committee <i>2015 PHISCC Workshop: HI Surveys Get Real</i>	Piscataway, NJ Mar 2015
Vatican Observatory Summer School <i>Galaxies, Near and Far, Young and Old</i>	Castel Gandolfo, Italy June 2014
NRAO Synthesis Imaging Workshop <i>14th Synthesis Imaging Workshop</i>	Socorro, NM May 2014

PROFESSIONAL MEMBERSHIPS

American Astronomical Society	2015 – Present
International Astronomical Union	2021 – Present

GRANTS AND AWARDS

Google, <i>GCP Research Credits Program</i> , \$5,000	2019
Rutgers, <i>Robert A. Schommer Prize</i> , \$500	2018
USAID, <i>Research and Innovation Fellowship</i> , \$11,636	2016
Rutgers, <i>Special Study Award</i> , \$1,350	2014
Rutgers, <i>Claud Lovelace Graduate Fellowship</i> & <i>Excellence Fellowship Supplement</i> , \$1,000	2013
CMU, <i>MCS College Honors</i> & <i>Senior Leadership Recognition</i>	2013

ADVISING AND MENTORSHIP

Co-advisor, <i>John Solitis (JHU/Graduate Student)</i>	2021 – Present
Mentor, <i>Kamonte Johnson (Frostburg State University/CollegeBound Foundation)</i>	2020 – Present
Co-mentor, <i>Antoine Washington (Rutgers University/Undergraduate senior thesis)</i>	2017 – 2020
Near peer mentor, <i>Marcell Howard (Case Western Reserve University/REU)</i>	2018
Near peer mentor, <i>Manuel Perez III (University of Redlands/REU)</i>	2017

SERVICE

Journal Reviewer for <i>ApJ</i> (2020–), <i>AJ</i> (2021–), <i>MNRAS</i> (2020–), and <i>A&A</i> (2019–)	
Program Coordinator/Diversity Lead, <i>KITP Program</i>	(scheduled) 2023
Leveler, <i>JWST Cycle 1 Panel</i>	2021
Co-organizer, <i>Low Density Universe (LDU) Meetings</i>	2020 – Present
STScI Liason, <i>JHU Physics and Astronomy Postdocs + Research Scientists</i>	2020
Session Chair, <i>ISM-BIG meeting-in-meeting at AAS 236</i>	2020
Co-organizer, <i>JHU CAS Astro Coffee</i>	2020
Co-organizer, <i>Rutgers Gaia DR2 Hackathon</i>	2018
Co-organizer, <i>Rutgers SPS/RAS Astro Hack Sessions</i>	2018
Webmaster, <i>Rutgers Physics GSO and SSPAR</i>	2014 – 2017
Time Allocation Committee, <i>SALT 2015-2 Rutgers TAC</i>	2015
Local Organizing Committee, <i>2015 PHISCC Workshop</i>	2015
Organizer, <i>Student Seminars in Physics and Astronomy at Rutgers (SSPAR)</i>	2014 – 2015
Vice President, <i>Rutgers Physics Graduate Student Organization (GSO)</i>	2014 – 2015

TEACHING AND OUTREACH

Guest Speaker, <i>Marymount School of New York, Independent Science Research</i>	2021
Teaching Assistant, <i>STScI ML Office Hours</i>	2021
Guest Lecturer, <i>Rutgers Byrne Seminar: The Poetry of Astronomy</i>	2016, 2019
Certificate, <i>Seminar In Graduate Mentoring in Astronomy and Physics (SIGMA-P)</i>	2018
Plenary Talk, <i>Friends of Rutgers Astronomy</i>	2017
Leadership Team, <i>Parsons Community Outreach</i>	2015 – 2016
Volunteer, <i>Parsons Community Outreach</i>	2013 – 2016
Teaching Assistant, <i>Rutgers 343: Observational Radio Astronomy</i>	2015
Public Talk, <i>Rutgers Astronomical Society</i>	2014
Certificate, <i>Developing Educational Leaders among TAs in Physics (DELTA-P)</i>	2013

SEMINARS AND TALKS (†INVITED)

†Seminar, <i>Université de Montréal, Astrophysics Seminar</i>	2021
†Seminar, <i>University of Toronto, Statistics and Machine Learning Journal Club</i>	2021
†Seminar, <i>Western Sydney University, Machine Learning in Astronomy</i>	2021
Seminar, <i>Space Telescope Science Institute, Galaxies Journal Club</i>	2021
†Seminar, <i>Fermilab, Cosmic Physics Center Seminar</i>	2021
†Talk, <i>NCSA – Accelerated Artificial Intelligence for Big-Data Experiments</i>	2020
Seminar, <i>NOIRLab, Flash Seminar</i>	2020
†Seminar, <i>Wayne State University, Particle/Astro/Nuclear Physics Seminar</i>	2020
†Talk, <i>The ISM in the Era of Big Data (AAS 236)</i>	2020
Talk, <i>JHU Astro Coffee</i>	2020
†Talk, <i>Astronomers Turned Data Scientists Meeting (AAS 235)</i>	2020
Poster, <i>AAS 235th Meeting</i>	2020
Seminar, <i>STScI, Science Coffee Seminar</i>	2019
Seminar, <i>JHU, CAS Wine & Cheese Seminar</i>	2019
†Deep learning workshop, <i>MIAPP – Galaxy Evolution in a New Era of HI Surveys</i>	2019
Talk, <i>ESO — Nine Billion Years of Gas Evolution</i>	2019
†Seminar, <i>Rutgers Statistics, Foundations of Probability Seminar</i>	2019
Dissertation talk, <i>AAS 233rd Meeting</i>	2019
Seminar, <i>Princeton, Galread Seminar</i>	2018
Seminar, <i>Princeton, Data Science/COMPASS Seminar</i>	2018
Seminar, <i>University of Cape Town, Lunch Seminar</i>	2018
Poster, <i>École Normale Supérieure – Galaxy Evolution Across Time</i>	2017
Talk, <i>Princeton-Rutgers Extragalactic Science Day</i>	2016
Talk, <i>AAS 227th Meeting</i>	2016
Seminar, <i>Australian Astronomical Observatory, Colloquium</i>	2015

PROFESSIONAL COLLABORATIONS

ALMA Lensing Cluster Survey (ALCS): *Member*
 Dark Energy Spectroscopic Instrument (DESI): *External Collaborator (LOWZ Program)*
 DECam Local Volume Exploration (DELVE): *WIDE Survey WG Member*
 Deep Skies Lab: *Contributor*
 LADUMA: *Pipeline & Calibration WG, Source-finding WG, and Ancillary Data WG Member*
 LSST Galaxies Science Collaboration: *Member*

TELESCOPE OBSERVING PROPOSALS

Very Large Array (VLA)	
CoI, <i>19A-433 (10 hrs)</i>	2019A
Anglo-Australian Telescope (AAT)	
CoI, <i>N0331 (5 nights), N0334 (4 nights)</i>	2015, 2017
Atacama Large Millimeter/submillimeter Array (ALMA)	
CoI, <i>2019.1.00949.S (5.0 hrs), 2018.1.00035.L (95.5 hrs), 2013.1.01358.S (6.3 hrs)</i>	Cycles 2, 6, 7
Southern African Large Telescope (SALT)	
CoI, <i>2017-1-MLT-014 (11.3 hrs), 2016-2-SCI-051 (20.4 hrs),</i>	2016-2 — 2017-1
PI, <i>2016-1-SCI-040 (3.9 hrs), 2015-2-SCI-052 (3.9 hrs), DDT (1.6 hrs)</i>	2015-1 — 2016-1

John F. Wu — Publication List

For an up-to-date list of my publications, please see [my ADS Library](#) or [my ORCID](#).

PEER REVIEWED PAPERS

9. *Predicting the Spectrum of UGC 2885, Rubin's Galaxy with Machine Learning*
Holwerda, B. W., **Wu, J. F.**, et al., 2021, *ApJL* (in press).
8. *The DECam Local Volume Exploration Survey: Overview and First Data Release*
Drlica-Wagner, A., et al., 2021, *ApJS* (in revisions).
7. *ALMA Lensing Cluster Survey: an ALMA galaxy signposting a MUSE galaxy group at $z=4.3$ behind "El Gordo"*
Caputi, K. I. et al., 2021, *ApJ*, 908, 146.
6. *Predicting galaxy spectra from images with hybrid convolutional neural networks*
Wu, J. F., Peek, J. E. G., 2020, *NeurIPS: ML4PS workshop*, 3, arXiv:2009.12318.
(NOTE: MACHINE LEARNING CONFERENCE PAPERS ARE PEER REVIEWED)
5. *Connecting Optical Morphology, Environment, and HI Mass Fraction for Low-Redshift Galaxies Using Deep Learning*
Wu, J. F., 2020, *ApJ*, 900, 148.
4. *The Star-Forming Interstellar Medium of Lyman Break Galaxy Analogs*
Wu, J. F., Baker, A. J., Heckman, T.M., Hicks, E. K. S., Lutz, D., Tacconi, L. J., 2019, *ApJ*, 887, 251.
3. *Using convolutional neural networks to predict galaxy metallicity from three-colour images*
Wu, J. F., Boada, S., 2019, *MNRAS*, 484, 4683.
2. *Herschel and ALMA Observations of Massive SZE-selected Clusters*
Wu, J. F., Aguirre, P., Baker, A. J., Devlin, M. J., Hilton, M., et al., 2018, *ApJ*, 853, 195.
1. *Galaxy Candidates at $z \sim 10$ in Archival Data from the Brightest of Reionizing Galaxies (BORG[z8]) Survey*
Bernard, S. R., Carrasco, D., Trenti, M., Oesch, P. A., **Wu, J. F.**, et al., 2016, *ApJ*, 827, 76.

UNREFEREED CONFERENCE PAPERS AND ABSTRACTS

9. *The morphological indicators of gas mass fraction for low-redshift galaxies*
Wu, J. F., Peek, J., *AAS Meeting 235*, 2020, 208.14.
8. *Galaxy Groups at Low and High Redshift with RESOLVE and LADUMA*
Hutchens, Z. et al., 2020, *AAS Meeting 235*, 207.40.
7. *Gas and galaxy evolution in extreme $z \sim 1$ clusters and extreme $z \sim 0.2$ starbursts*
Wu, J. F. 2019, *AAS Meeting 233*, 230.03D.
6. *Probing the Evolution of Galaxies by Stacking Stellar Mass Selected Samples*
Howard, M., Baker, A. J., **Wu, J. F.**, 2019, *AAS Meeting 233*, *AAS Meeting 233*, 145.08.
5. *Using Convolutional Neural Networks to predict Galaxy Metallicity from Three-Color Images*
Boada, S. & **Wu, J. F.**, 2019, *AAS Meeting 233*, 144.30.

4. *Herschel And ALMA Observations Of The ISM In Massive High-Redshift Galaxy Clusters*
Wu, J. F. et al. 2017, *Galaxy Evolution Across Time*, 51.
3. *Characterizing and Cataloguing Star-Forming Galaxies in Preparation for the LADUMA Survey*
Perez, M. J., Baker, A. J., **Wu, J. F.** 2017. *AAS Meeting 229*, 347.30.
2. *LADUMA: Looking at the Distant Universe with the MeerKAT Array*
Blyth, S. et al. 2016, *Proceedings of MeerKAT Science: On the Pathway to the SKA*, 4.
1. *Investigating star formation properties of galaxies in massive clusters with Herschel and ALMA*
Wu, J. F. et al. 2016, *AAS Meeting 227*, 202.02.