

John F Wu

Space Telescope Science Institute
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EDUCATION

Ph.D. in Physics and Astronomy

Rutgers, The State University of New Jersey

Piscataway, NJ

Sept 2013 – Oct 2019

B.Sc. in Physics/Astrophysics, with MCS Honors

Carnegie Mellon University

Pittsburgh, PA

Sept 2009 – May 2013

EXPERIENCE

Postdoctoral Researcher

Space Telescope Science Institute (continued)

Johns Hopkins University

Baltimore, MD

Aug 2020 – Present

Sept 2019 – July 2020

Graduate Research Assistant

Rutgers, The State University of New Jersey

Piscataway, NJ

July 2013 – Aug 2019

Undergraduate Research Assistant

McWilliams Center for Cosmology, Carnegie Mellon University

Pittsburgh, PA

July 2012 – May 2013

Research Intern

Carnegie Mellon University CyLab

Pittsburgh, PA

May 2011 – Aug 2011

WORKSHOPS AND OTHER EXPERIENCE

Pascal Institute

The Self-Organized Star Formation Process

Paris, France

Sept 2019

MIAPP Topical Workshop

Nine Billion Years of Gas Evolution

Munich, Germany

July 2019

USAID Research & Innovation Fellowship

Improving the LADUMA Pipeline Using MeerKAT Early Science Data

Cape Town, South Africa

Sept 2016 – Nov 2016

Vatican Observatory Summer School

Galaxies, Near and Far, Young and Old

Castel Gandolfo, Italy

June 2014

NRAO Synthesis Imaging Workshop

14th Synthesis Imaging Workshop

Socorro, NM

May 2014

SEMINARS AND TALKS (†INVITED)

†Talk, *NCSA Accelerated Artificial Intelligence for Big-Data Experiments Conference*

2020

Talk, *NOIRLab Flash Seminar*

Talk, *Wayne State University PAN Seminar*

†Talk, *The ISM in the Era of Big Data (AAS 236)*

†Talk, *Astronomers Turned Data Scientists Meeting (AAS 235)*

Poster, *AAS 235th Meeting*

Talk, *STScI Science Coffee Seminar*

2019

Talk, *JHU CAS Wine & Cheese Seminar*

†Deep learning workshop, *MIAPP — Galaxy Evolution in a New Era of HI Surveys*

Talk, *ESO — Nine Billion Years of Gas Evolution*

Talk, *Rutgers Foundations of Probability Seminar*

Dissertation talk, *AAS 233rd Meeting*

SEMINARS AND TALKS, CONTINUED.

Talk, <i>Princeton Galread Seminar</i>	2018
Talk, <i>Princeton Data Science/COMPASS Seminar</i>	
Talk, <i>University of Cape Town Lunch Seminar</i>	
Poster, <i>École Normale Supérieure — Galaxy Evolution Across Time</i>	2017
Talk, <i>Princeton-Rutgers 3rd Extragalactic Science Day</i>	2016
Talk, <i>AAS 227th Meeting</i>	
Talk, <i>Australian Astronomical Observatory Seminar</i>	2015

SERVICE

Reviewer for ApJ, MNRAS, and A&A

Co-organizer, <i>Low Density Universe (LDU) Lunch Seminars</i>	2020 – Present
Session Chair, <i>ISM-BIG meeting-in-meeting at AAS 236</i>	2020
Co-organizer, <i>JHU CAS Astro Coffee</i>	2020
Co-leader, <i>Rutgers Gaia DR2 Hackathon</i>	2018
Co-leader, <i>Rutgers SPS/RAS Astro Hack Sessions</i>	2018
Webmaster, <i>Rutgers Physics GSO and SSPAR</i>	2014 – 2017
TAC Member, <i>SALT 2015-2 Rutgers Time Allocation Committee</i>	2015
LOC member, <i>SKA Pathfinders HI Science Coordination Committee (PHISCC)</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 Lecturer, <i>Rutgers Physics 343: Observational Radio Astronomy</i>	2019
Certificate, <i>Seminar In Graduate Mentoring in Astronomy and Physics (SIGMA-P)</i>	2018
Plenary Talk, <i>Friends of Rutgers Astronomy</i>	2017
Guest Lecturer, <i>Rutgers Byrne Seminar: The Poetry of Astronomy</i>	2016
Public Talk, <i>Rutgers Astronomical Society</i>	2014
Certificate, <i>Developing Educational Leaders among TAs in Physics (DELTA-P)</i>	2013

TELESCOPE OBSERVING(★) AND ACCEPTED PROGRAMS

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>2018.1.00035.L (95.5 hrs), 2013.1.01358.S (6.3 hrs)</i>	Cycles 2, 6
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), Rutgers DDT allocation (1.6 hrs)</i>	2015-1 — 2016-1

JOHN F WU — PUBLICATION LIST

JOURNAL ARTICLES

6. *ALMA Lensing Cluster Survey: an ALMA galaxy signposting a MUSE galaxy group at $z=4.3$ behind “El Gordo”*
Caputi, K. I., Caminha, G. B., Fujimoto, S., Kohno, K., Sun, F., et al., 2020, *ApJ* (sub), arXiv:2009.04838.
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.

CONFERENCE PROCEEDINGS

9. *Predicting galaxy spectra from images with hybrid convolutional neural networks*
Wu, J. F., Peek, J. E. G., 2020, *NeurIPS workshop—Machine Learning and the Physical Sciences* (sub).
8. *The morphological indicators of gas mass fraction for low-redshift galaxies*
Wu, J. F., Peek, J., *AAS Meeting 235*, 2020, 208.14.
7. *Galaxy Groups at Low and High Redshift with RESOLVE and LADUMA*
Hutchens, Z. et al., 2020, *AAS Meeting 235*, 207.40.
6. *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.
5. *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.
4. *Using Convolutional Neural Networks to predict Galaxy Metallicity from Three-Color Images*
Boada, S. & **Wu, J. F.**, 2019, *AAS Meeting 233*, 144.30.
3. *Herschel And ALMA Observations Of The ISM In Massive High-Redshift Galaxy Clusters*
Wu, J. F. et al. 2017, *Galaxy Evolution Across Time*, 51.
2. *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.
1. *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.
0. *Investigating star formation properties of galaxies in massive clusters with Herschel and ALMA*
Wu, J. F. et al. 2016, *AAS Meeting 227*, 202.02.