John F. Wu

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Education

Ph.D. in Physics and Astronomy — Piscataway, NJ
Rutgers, The State University of New Jersey — *Sept 2013 – Oct 2019*

B.Sc. in Physics/Astrophysics, with MCS Honors — Pittsburgh, PA
Carnegie Mellon University — *Sept 2009 – May 2013*

Experience

Postdoctoral Researcher — Baltimore, MD
Space Telescope Science Institute (continued) — *Aug 2020 – Present*
Johns Hopkins University — *Sept 2019 – July 2020*

Graduate Research Assistant — Piscataway, NJ
Rutgers, The State University of New Jersey — *July 2013 – Aug 2019*

Undergraduate Research Assistant — Pittsburgh, PA
McWilliams Center for Cosmology, Carnegie Mellon University — *July 2012 – May 2013*

Research Intern — Pittsburgh, PA
Carnegie Mellon University CyLab — *May 2011 – Aug 2011*

Workshops and Other Experience

Pascal Institute — Paris, France
The Self-Organized Star Formation Process — *Sept 2019*

MIAPP Topical Workshop — Munich, Germany
Nine Billion Years of Gas Evolution — *July 2019*

USAID Research & Innovation Fellowship — Cape Town, South Africa
Improving the LADUMA Pipeline Using MeerKAT Early Science Data — *Sept 2016 – Nov 2016*

Vatican Observatory Summer School — Castel Gandolfo, Italy
Galaxies, Near and Far, Young and Old — *June 2014*

NRAO Synthesis Imaging Workshop — Socorro, NM
14th Synthesis Imaging Workshop — *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, *Princeton Galread Seminar* *2018*
Talk, *Princeton Data Science/COMPASS Seminar*
Talk, *University of Cape Town Lunch Seminar*
Poster, *École Normale Supérieure – Galaxy Evolution Across Time* *2017*
Talk, *Princeton-Rutgers 3rd Extragalactic Science Day* *2016*
Talk, *AAS 227th Meeting*
Talk, *Australian Astronomical Observatory Seminar* *2015*

Grants and Selected Awards

Google, *GCP Research Credits Program, $5,000* *2019*
Rutgers, *Robert A. Schommer Prize (best graduate student paper)* *2018*
USAID, *Research and Innovation Fellowship, $11,636* *2016*
Rutgers, *Special Study Award, $1,350* *2014*
Rutgers, *Claud Lovelace Fellowship & Excellence Fellowship Supplement, $1,000* *2013*
CMU, *MCS College Honors & Senior Leadership Recognition* *2013*

Service

Reviewer for ApJ, MNRAS, and A&A

Co-organizer, *Low Density Universe (LDU) Lunch Seminars* *2020 – Present*
Co-founder/STScI Liason, *JHU Physics and Astronomy Postdocs + Research Scientists (PAPRS)* *2020 – Present*
Session Chair, *ISM-BIG meeting-in-meeting at AAS 236* *2020*
Co-organizer, *JHU CAS Astro Coffee* *2020*
Co-organizer, *Rutgers Gaia DR2 Hackathon* *2018*
Co-organizer, *Rutgers SPS/RAS Astro Hack Sessions* *2018*
Webmaster, *Rutgers Physics GSO and SSPAR* *2014 – 2017*
TAC Member, *SALT 2015-2 Rutgers Time Allocation Committee* *2015*
LOC member, *SKA Pathfinders HI Science Coordination Committee (PHISCC)* *2015*
Organizer, *Student Seminars in Physics and Astronomy at Rutgers (SSPAR)* *2014 – 2015*
Vice President, *Rutgers Physics Graduate Student Organization (GSO)* *2014 – 2015*

Teaching and Outreach

Certificate, *Seminar In Graduate Mentoring in Astronomy and Physics (SIGMA-P)* *2018*
Plenary Talk, *Friends of Rutgers Astronomy* *2017*
Teaching Assistant, *Rutgers 343: Observational Radio Astronomy* *2015*
Public Talk, *Rutgers Astronomical Society* *2014*
Certificate, *Developing Educational Leaders among TAs in Physics (DELTA-P)* *2013*

Telescope Observing($\star$) and Accepted Programs

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

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

10. *Predicting galaxy spectra from images with hybrid convolutional neural networks*
    Wu, J. F., Peek, J. E. G., 2020, *NeurIPS workshop: ML & the Physical Sciences*, arXiv:2009.12318.

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.