

# John F. Wu

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## Education

### Rutgers, The State University of New Jersey

*Ph.D., Physics and Astronomy*

**Piscataway, NJ**

*Sept 2013–present*

### Carnegie Mellon University

*B.Sc., Physics/Astrophysics*

**Pittsburgh, PA**

*Sept 2009–May 2013*

## Professional Experience

### Rutgers, The State University of New Jersey

Graduate research assistant, advised by Andrew Baker

- *Investigating star formation in galaxies in massive clusters by using multi-wavelength observations and stacking.*

**Piscataway, NJ**

*July 2013–present*

Teaching assistant

*Jan 2015–May 2015*

- *Instructed lab sections for Physics 343: Observational radio astronomy.*
- *Graded assignments for Physics 342: Principles of astrophysics.*

### McWilliams Center for Cosmology, Carnegie Mellon University

Undergraduate research assistant, advised by Rachel Mandelbaum

- *Characterized galaxies in rich clusters by using Sloan Digital Sky Survey observations.*

**Pittsburgh, PA**

*July 2012–May 2013*

### Carnegie Mellon University CyLab

Research intern

**Pittsburgh, PA**

*May 2011–Aug 2011*

- *Developed and tested robust facial recognition software.*
- *Created a proof of concept image manipulation tool for artificial aging.*

## Other Experience

### USAID Research & Innovation Fellowship

Improving the LADUMA Pipeline Using MeerKAT Early Science Data

- *Worked with Sarah Blyth (UCT) and Bradley Frank (UCT) to analyze simulated MeerKAT data using ARCADE (African Research Cloud).*
- *Developed a pipeline to test and benchmark source-finding software.*

**Cape Town, South Africa**

*Sept 2016–Nov 2016*

### SKA Pathfinders HI Science Coordination Committee

2015 PHISCC Workshop: *HI Surveys Get Real*

- *Served on the local organizing committee (LOC).*

**Piscataway, NJ**

*March 2015*

### Vatican Observatory Summer School

VOSS: *Galaxies, Near and Far, Young and Old*

- *Completed projects with Michele Trenti (Melbourne), Jacqueline van Gorkom (Columbia), and Chris Carilli (NRAO).*

**Castel Gandolfo, Italy**

*June 2014*

### NRAO Synthesis Imaging Workshop

National Radio Astronomy Observatory 14th Synthesis Imaging Workshop

- *Reduced ALMA data using Common Astronomy Software Applications (CASA).*

**Socorro, NM**

*March 2014*

## Honors and Awards

**Special Study Award, Rutgers**

*March 2014*

**Claud Lovelace Fellowship, Rutgers**

*Sept 2013–June 2014*

**Senior Leadership Recognition, Carnegie Mellon**

*May 2013*

**Mellon College of Science College Honors, Carnegie Mellon**

*May 2013*

## Leadership, Service, and Outreach

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<b>Guest Lecturer</b> , <i>Byrne Seminar: The Poetry of Astronomy</i>	Feb 2016
<b>TAC member</b> , <i>SALT 2015-2 Rutgers Time Allocation Committee</i>	Sept 2015
<b>Organizer</b> , <i>Student Seminars in Physics and Astronomy at Rutgers (SSPAR)</i>	Oct 2014–May 2015
<b>Vice President</b> , <i>Rutgers Physics Graduate Student Organization</i>	Sept 2014–May 2015
<b>Public Talk</b> , <i>Rutgers Astronomical Society</i> <i>Anisotropies in the Cosmic Microwave Background: B-modes and Inflation</i>	March 2014

## Seminars and Conference Talks

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<b>Princeton-Rutgers 3rd annual extragalactic science day</b> , <i>Contributed talk</i>	May 2016
<b>American Astronomical Society (AAS) 227th meeting</b> , <i>Contributed talk</i>	Jan 2016
<b>Australian Astronomical Observatory (AAO)</b> , <i>Colloquium</i>	Dec 2015

## Telescope Proposals and Observing

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### Southern African Large Telescope (SALT)

PI, <i>Fabry-Pérot imaging of two massive galaxy clusters</i> (2016-1-SCI-040)	2016-1
<ul style="list-style-type: none"><li>• Awarded an additional 14000 seconds of P1 (high priority) time for increased spectral sampling of [OII] emitters.</li><li>• Continuation of 2015-2-SCI-052.</li></ul>	
PI, <i>Fabry-Pérot imaging of two massive galaxy clusters</i> (2015-2-SCI-052)	2015-2
<ul style="list-style-type: none"><li>• Awarded 14000 seconds of P1 (high priority) time to observe star-forming galaxies in two massive, <math>z \sim 1</math> galaxy clusters by using the Fabry-Pérot instrument on SALT.</li><li>• Continuation of the 2015-1 semester proposal through regular time allocation.</li></ul>	
PI, <i>SALT Fabry-Pérot imaging of two massive galaxy clusters</i> (DDT)	2015-1
<ul style="list-style-type: none"><li>• Awarded 5600 seconds of P2 (medium priority) Rutgers discretionary time to pilot a blind Fabry-Pérot search for [OII] emitting galaxies in two massive, <math>z \sim 1</math> clusters.</li></ul>	

### Anglo-Australian Telescope (AAT)

Col, <i>Redshifts in the LADUMA Field to <math>z \sim 0.6</math></i> (N0334)	2015B
<ul style="list-style-type: none"><li>• Awarded four nights of AAT/AAOmega time to measure galaxy redshifts in preparation for studying neutral hydrogen with the LADUMA survey.</li><li>• Observed at the AAT and detected <math>\sim 1600</math> galaxy redshifts.</li></ul>	

### Atacama Large Millimeter/submillimeter Array (ALMA)

Col, <i>Galaxies in (and behind) two massive high-redshift clusters</i> (2013.1.01358.S)	Cycle 2
<ul style="list-style-type: none"><li>• Obtained Band 6 (230 GHz) mosaic observations to study atomic carbon and molecular CO emission of cluster galaxies, and also to study the dust continuum emission of cluster and background galaxies.</li><li>• Reduced data by using the NAASC computing facilities at NRAO in Charlottesville.</li></ul>	

## Skills

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**Programming:** Python, MATLAB/Octave, Java, C++

**Software:** SciPy/matplotlib/pandas/seaborn, AstroPy, git, SAOImage DS9, Miriad, CASA, Source Extractor, HTML5/CSS, L<sup>A</sup>T<sub>E</sub>X

**Data reduction:** ALMA, SALT Fabry-Pérot