

# Jaclyn B. Champagne

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## EDUCATION

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### University of Texas Austin

*Ph.D., Astronomy (in progress)*

Supervisor: Prof. Caitlin Casey

*M.A., Astronomy*

Thesis: "No Evidence for 1.2 mm Source Overdensities

in the Fields of  $z \geq 6$  Quasars," Supervisor: Prof. Caitlin Casey

### Rutgers, State University of New Jersey

*B.S., Physics & Astrophysics*

Summa Cum Laude with Highest Honors in Physics,

Supervisor: Prof. Charles Keeton

**Austin, TX**

*Aug. 2016–current*

*Aug. 2018*

**New Brunswick, NJ**

*May 2016*

## RESEARCH INTERESTS

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Cosmological large-scale structure, dusty star-forming galaxies, high-redshift galaxy evolution, galaxy protoclusters, infrared/submillimeter/radio observations, interferometry

## PREVIOUS APPOINTMENTS

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- **Research Intern**, Max Planck Institute for Astronomy, 2015 (Supervisor: Dr. Fabian Walter)
- **Research Experience for Undergraduates**, Cornell University, 2014 (Supervisor: Prof. Dominik Riechers)
- **Senior Peer Instructor**, Aresty Research Center for Undergraduates, Rutgers University, 2014-2016 (Supervisor: Prof. Charles Keeton)

## TEACHING & MENTORING

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- **Teaching Assistant**, AST376 (Observational Methods in Astronomy; Spring 2020), AST307 (Introductory Astronomy, Spring 2018)
- **Inquiry Design Team Leader**, Institute for Science & Engineer Educators (ISEE) Professional Development Program (PDP), 2019–2020
- **Python Crash Course Developer**, Texas Astronomy Undergraduate Research for Underrepresented Students (TAURUS) Summer Program, 2017–2019
- **Undergraduate Teaching Assisant**, Analyzing the Universe, Rutgers University, Fall 2015

## DATA & OBSERVING EXPERIENCE

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- **Australian Telescope Compact Array**: 11 nights observing (PI: H. Dannerbauer)
- **Jansky Very Large Array**: Reduction and imaging of 33 GHz spectroscopic data (PI: C. Casey)
- **Atacama Large Millimeter Array**: 15 hours awarded (PI: J. Champagne, 2019)
- **Hubble Space Telescope**: Photometric analysis of ACS/WFC3 images (PI: C. Casey)
- **Submillimeter Array**: 1 night observing (PI: J. Champagne, SMA Interferometry School 2020)

## PUBLICATIONS

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### Refereed Papers

- **Champagne, J. B.**, Casey, C. M., Zavala, J. A., Dannerbauer, H., Fabian, A., et al. *Molecular Gas Characterization of a Complex Galaxy Cluster Progenitor at  $z = 2.5$* . 2019, *in prep.*
- Zavala, J. A., Casey, C. M., Scoville, N., **Champagne, J. B.**, et al., *On the Gas Content, Star Formation Efficiency, and Environmental Quenching of Massive Galaxies in Proto-Clusters at  $z \approx 2.0 - 2.5$* . 2019, *ApJ*, 887, 183
- **Champagne, J.B.**, Decarli, R., Casey, C. M., Venemans, B., Bañados, Eduardo, Walter, F., Bertoldi, F., Fan, X., Farina, E. P., Mazzucchelli, C., Riechers, D. A., Strauss, M. A., Wang, R., Yang, Y. *No Evidence for Millimeter Continuum Source Overdensities in the Environments of  $z \geq 6$  Quasars*. **2018**, *ApJ*, 867, 153

### White Papers & Conference Proceedings

- Casey, C. M., Capak, P., Staguhn, J., Armus, L., Blain, A., Bethermin, M., **Champagne, J. B.** (7 of 27), Cooray, A., et al. *Taking Census of Massive, Star-Forming Galaxies formed  $< 1$  Gyr After the Big Bang*. **2019**, Astro2020 White Papers, 2019arXiv190305634C
- Casey, C. M., Narayanan, D., Carilli, C., **Champagne, J. B.** (4 of 12), Hung, C.-L., Davé, R., Decarli, R., Murphy, E. J., Popping, G., Riechers, D., Somerville, R. S., Walter, F. *Imaging Cold Gas to 1 kpc Scales in High-Redshift Galaxies with the ngVLA*. **2018**, *ASPC*, 517, 629

## CONFERENCE PRESENTATIONS

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### "Molecular Gas Characterization of a Complex Galaxy Cluster Progenitor at $z = 2.5$ "

Poster by J. B. Champagne, C. M. Casey, J. A. Zavala, H. Dannerbauer, et al.

2019 COSMOS Team Meeting

May 2019

IAU Symposium 352: Uncovering early galaxy evolution in the ALMA and JWST era

June 2019

### "No Evidence for 1.2 mm Dust Continuum Overdensities around $z > 6$ Quasars"

Poster by J. B. Champagne, R. Decarli, C. M. Casey, F. Walter, B. Venemans, et al.

*Astrophysical Frontiers, Portland, OR*

June 2018

Large Scale Structure Summer School, Berlin, Germany

July 2018

### "Molecular Gas Content of SMGs in a $z = 2.47$ Starbursting Protocluster"

Poster by J. B. Champagne, C. M. Casey, D. B. Sanders, C. Hales, et al.

SMG20: Twenty Years of Submillimeter Galaxies, Durham University

August 2017

Bash Fest, University of Texas Austin

October 2017

### "Simulated Observations of CO(2-1) and CO(1-0) in DSFGs at $2 < z < 4$ "

Poster by J. B. Champagne, C. M. Casey, C.-L. Hung, D. Narayanan, C. Carilli, et al.

next generation Very Large Array (ngVLA) Community Studies Meeting

June 2017

### "Searching for Galaxy Overdensities in the Fields of 10 $z > 6$ Quasars"

Poster by J. C. Bradli, F. Walter, B. Venemans, R. Decarli, L. Zschaechner

*American Astronomical Society Winter Meeting*

January 2016

### "Star Formation Properties in Dusty Early Universe Galaxies using Gravitational Lensing"

Poster by J. C. Bradli, D.A. Riechers, R. S. Bussmann, D. Clements, I. Perez-Fournon

*American Astronomical Society Winter Meeting*

January 2015

### "Differential Microlensing of SDSS J0924+0129"

Poster by J.C. Bradli, C. R. Keeton

Rutgers Aresty Undergraduate Research Symposium

April 2014

## SERVICE & PUBLIC OUTREACH

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### **TAURUS Summer Program**

*June 2017–present*

- Developed and led a yearly week-long course on basic programming in Unix and Python, including lectures and exercises (available publicly at: [github.com/jbchampagne/pythontutorials](https://github.com/jbchampagne/pythontutorials))
- Organize student seminars ranging from research presentations to career advice, participated in peer mentoring program

### **Graduate Student Representative**

*May 2018–May 2019*

- Liaison between astronomy graduate students and faculty, including attendance at faculty meetings, participation in graduate admissions, representing students in faculty hiring process, and peer mediation between students

### **Astronomy on Tap ATX**

*September 2016–present*

- Help organize events and recruit speakers, lead social media advertising, give monthly public science talks including "Astronomy in the News"

### **Association of Women in Astronomy Research & Education (AWARE)**

*September 2016–present*

- Co-organize yearly Girl Day event and lead astronomy demonstrations for K-12 students

### **UT Equity & Inclusion Discussion Group**

*September 2016–present*

- Organize & participate in meetings regarding sociopolitical issues faced by under-represented groups in astronomy

## AWARDS AND ACHIEVEMENTS

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- National Science Foundation Graduate Research Fellowship, Honorable Mention 2016, 2018
- Astronomy Excellence Fellowship, UT Austin College of Natural Sciences, 2016
- Chambliss Astronomy Achievement Student Award, American Astronomical Society, 2015
- Rutgers University Department of Physics Scholarships: Mohan S. Kalelkar (2016), Mary Wheeler Wigner (2015), and Noemie B. Koller (2014) Awards
- Rutgers School of Arts & Sciences Presidential Scholarship, 2012–2016