

ANNE BURNHAM

Yale University

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EDUCATION

Bachelor of Science in Aerospace Engineering

University of Texas at Austin, 2004

GPA: 3.93, Magna Cum Laude

RESEARCH INTERESTS

Active galactic nuclei, high-redshift galaxies, galaxy formation and evolution, black holes, dark matter

AWARDS & HONORS

John W. Cox Endowment for the Advanced Studies in Astronomy, UT-Austin	2017
Outstanding Woman Engineer Award, UT-Austin	2004
Engineering Scholar (Outstanding Academic Achievement), UT-Austin	2002, 2003, 2004
Distinguished Scholar (4.0 GPA), UT-Austin	2002, 2003
Treasurer of Sigma Gamma Tau (Aerospace Engineering Honor Society), UT-Austin	2003
Group Achievement Award (Contribution to STS-110 Space Shuttle Mission), NASA Johnson Space Center	2002
Outstanding Achievement Award, NASA Johnson Space Center	2001
Most Outstanding First-Year Engineering Student, Southern Methodist University	2000

COMPUTATIONAL SKILLS

Languages and Software	Python, CASA, LaTeX
Operating Systems	Unix, Windows, OS-X

WORK EXPERIENCE

Graduate Research Assistant 2020-current
Astronomy Department, Yale University

Research Assistant 2017-2019
Astronomy Department, UT-Austin

- Project title: The Physical Drivers of the Luminosity-Weighted Dust Temperatures in High-Redshift Galaxies.
 - Testing the hypothesis that dust temperature maps directly to other observable characteristics, such as galaxy size, star-formation surface density, and sSFR.
 - Re-reduced and re-imaged ALMA data using CASA.
 - Wrote python scripts to determine total flux density, dust-mass surface density, size, sSFR, and star-formation surface density of seven galaxies from ALMA data.
 - Paper accepted for publication in ApJ can be found at www.anneburnham.com.

Undergraduate Teaching Assistant 2016-2017
Statistics and Data Sciences Department, UT-Austin

- Assisted and answered student questions during both lab and lecture each week for Data Analysis class.
- Graded homework and lab assignments.

Data Analyst and Systems Engineer 2008-2011
Space and Geophysics Laboratory, Applied Research Laboratories, UT-Austin

- Supported a global satellite tracking network - the National Geospatial-Intelligence Agency (NGA) Global Positioning System (GPS) Monitor Station Network.
- Determined appropriate analysis methods and created tools to examine data anomalies and system performance.

Editor, Project Manager 2007-2008
BookPros

- Edited full-length books, including fiction and nonfiction, as Editor.
- Directed the work of edit and design teams, as Project Manager.

Research Assistant

2004-2005

Aerospace Engineering Department, UT-Austin

- Designed and built motor controller circuitry for fluid dynamics research experiment.

Flight Controller (Cooperative Education Program - full-time student employment)

2002

Cargo Integration and Operations, Mission Control, NASA Johnson Space Center, Houston, TX

- Supported International Space Station mission as Inventory Stowage Officer in back-room mission control.
- Supported Space Shuttle missions as assistant / on-the-job-trainee to Assembly & Checkout Transfer Officer in back-room mission control.
- Consulted hardware and systems experts to determine packing/transfer constraints of International Space Station equipment and cargo.

Pyrotechnic Engineer (Cooperative Education Program - full-time student employment)

2001

Energy Systems Division, NASA Johnson Space Center, Houston, TX

- Developed weld schedule for Space Shuttle Drag Parachute Pyrotechnic Cartridge.
- Designed remote activation system for testbed of pyrotechnic nut.

PUBLICATIONS

- **Burnham, A.D.**, Casey, C.M., Zavala, J.A., Manning, S., Spilker, J.S., Chen, C.-C., Cooray, A., Sanders, D.B., Scoville, N.Z. “The Physical Drivers of the Luminosity-Weighted Dust Temperatures in High-Redshift Galaxies” Accepted for publication in ApJ
- Drew, P., Casey, C.M., **Burnham, A.D.**, et al. “Evidence of a Flat Outer Rotation Curve in a Starbursting Disk Galaxy at $z = 1.6$ ” 2018 ApJ 869, 58
- Jimenez-Andrade, E.F., Zavala, J.A., Magnelli, B., Casey, C. M., Liu, D., Romano-Daz, E., Schinnerer, E., Harrington, K., Aretxaga, I., Karim, A., Staguhn, J., **Burnham, A.D.**, et al. “The Redshift and Star Formation Mode of AzTEC2: A Pair of Massive Galaxies at $z = 4.63$ ” 2020 ApJ 890, 171

VOLUNTEER EXPERIENCE

Orange Santa

2008-2017, 2019

UT-Austin

- Assisted every year in the Orange Santa Holiday Store, which provides toys to families in need in the university community.

Ronald McDonald Family Room

2016

St. David's Hospital, Austin, TX

- Assisted in the family room for six months by helping new families check into the room, providing orientation with the services available in the room, and keeping the room stocked and clean.

GirlStart

2005

Austin, TX

- Helped lead STEM educational activities at a summer camp for 4th and 5th grade girls to foster interest in STEM careers.

Texas School for the Blind and Visually Impaired

2003

Austin, TX

- Tutored a visually impaired high school student for a semester in math and English Literature.

Environteering

2002

Austin, TX

- Lead activities in local elementary school classrooms for a semester to educate children about environmental issues.