

# Eileen Gonzales

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## Education

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- 08/15-present PhD Physics, CUNY Graduate Center, New York, NY  
Research: Atmospheric properties of low mass stars, brown dwarfs, and giant exoplanets
- 08/11-12/14 M.S. Physics concentration in Astronomy, San Francisco State University, San Francisco, CA  
Thesis research: Commissioning the refurbished 30-inch Leuschner telescope and its capabilities to detect transiting exoplanets
- 08/06-05/10 B.S. Astrophysics (Dual Major in German), Michigan State University, East Lansing, MI  
Research: RR Lyrae variable stars and the Blazhko effect

## Related Work Experience

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- 2/18–11/18 **High School After school Programs**, American Museum of Natural History New York, NY  
Instructor  
Co-taught two sessions of a research based after school astronomy course for ~30 high school students.
- 8/17–present **Science Research Mentoring Program (SRMP)**, American Museum of Natural History New York, NY  
Research Mentor  
Working with 3 high school students on a year-long astronomy research project.
- 1/18–present **Dean of Science**, College of Staten Island, Staten Island, NY  
Non-Teaching Adjunct  
Worked on thesis research with my advisor.
- 8/17–12/17 **Department of Physics and Astronomy**, Hunter College New York, NY  
Adjunct Lecturer  
Taught one section of introductory astronomy lab for non-science majors, with 20 students.
- 4/16–6/16 **Self Employed**, New York, NY  
Physics Tutor  
I tutored one student in undergrad quantum mechanics. Worked on Griffiths Quantum Mechanics problems and problems given by the student's professor.
- 1/15–6/15 **Department of Physics and Astronomy**, San Francisco State University San Francisco, CA  
Lecturer  
Taught one section of Introductory Astronomy Lab for non-science majors and once section of Introductory Physics Lab for science majors, with ~30 students per section. For astronomy lab: prepared short lectures and activities to be done in the SFSU planetarium. For both lab classes: created and graded quizzes, homeworks and exams.
- 8/14–8/15 **Play-Well TEKnologies**, San Francisco/ San Mateo Area, CA  
Lego Engineer Instructor  
Taught K-5<sup>th</sup> graders engineering through playing with Legos as part of an afterschool program or birthday parties. Created daily lesson plans to cover engineering concepts and building skills. Showed students how to build a variety of basic projects and then they built on them to complete a challenge.
- 08/11–12/14 **Department of Physics and Astronomy**, San Francisco State University San Francisco, CA  
Graduate Teaching Associate  
Taught two sections of Introductory Astronomy Lab ~30 students per section. Prepared short lectures and activities to be done in the SFSU planetarium. Created and graded pre-labs, quizzes, homeworks and exams. Helped revise curriculum. Held office hours and help sessions.
- 9/13-1/14 **Department of Physics and Astronomy**, San Francisco State University San Francisco, CA  
Leuschner Workshop Instructor  
Taught students at a weekly workshop how to remotely operate the Leuschner Telescope and image reduction techniques using IRAF.
- 6/14-8/14, 6/13-8/13, **Camp Galileo** Woodside, CA  
Lead Science Instructor

6/12-8/12	Taught 3 <sup>rd</sup> -5 <sup>th</sup> graders science projects related to weekly camp themes. Helped campers to develop inquiry based learning skills using Galileo Innovation Approach. Some of the project areas include: Circuits, Architecture, Sound, Biology, Renaissance, Medieval weaponry, Space-Mars exploration and Rockets, and Human Body
12/10-7/11	<b>Impression 5 Science Center</b> Lansing, MI Guest Experience Team Member Taught science workshops for general public, school groups and birthday parties. Workshop topics include: Static Electricity, Light, Force & Motion, Biospheres, Circuits, Magnets, Slime, Skin, Fossils, Water, Liquid Nitrogen, Scale model of Solar System. Engaged with visitors on the floor by answering questions about exhibits and running small activities. Set up rooms for lessons or birthday parties
09/08-05/10	<b>Woodcreek Elementary</b> Lansing, MI America Reads Tutor Worked with children in Kindergarten, 1 <sup>st</sup> , 3 <sup>rd</sup> and 4 <sup>th</sup> grade to improve their reading and math skills. Read aloud in small groups and worked on math worksheets. Also helped teachers with various class projects and activities.
06/08-08/08	<b>Institute for Experimental and Applied Physics</b> , University of Kiel Kiel, Germany Intern Created and ran simulations for the TNS (thermal neutron sensor) detector using Geant4 and Python. Determined the optimal thickness for the TNS detector.

## Volunteer Experience

8/17-present	<b>AMNH Seminar Committee</b> New York, NY Help organize weekly department seminars and host speakers.
3/14-8/15	<b>Volunteer Coordinator for Cat's Corner</b> San Francisco, CA Organize volunteers for door, setup, and closing shifts. Maintain records of trades for classes and contact information of volunteers.
9/12-12/12	<b>Observatory Docent at San Francisco State University</b> San Francisco, CA
10/10-11/10	<b>Volunteer at Impression 5 Science Center</b> Lansing, MI

## Observing Experience

9/16, 12/17, 6/18	<b>Las Campanas Observatory:</b> 9 nights on Magellan Walter Baade telescope using FIRE near-infrared spectrograph and FOURSTAR near-infrared camera. Half a night remote observing with CAPScam on the DuPont telescope
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## Research Interests

- Atmospheric properties of low mass stars, brown dwarfs, and giant exoplanets
- Exoplanet transits
- RR Lyrae variable stars

## Computer Skills

**Working knowledge:** Python, Git, Github, SQL, Interactive Data Language (IDL), DS9, Mathematica, Linux, Latex, Microsoft Office

**Developing knowledge:** IRAF, R

## Conferences Attended

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| <ul style="list-style-type: none"> <li>• 231<sup>st</sup> AAS Meeting- Washington D.C</li> <li>• 233<sup>rd</sup>, 225<sup>th</sup> AAS Meetings- Seattle, WA</li> <li>• NSBP 2015- Baltimore, MD</li> <li>• NSBP Fall Workshop 2016- Fermi Lab</li> <li>• NSBP 2017- Atlanta, GA</li> <li>• NSBP 2018- Columbus, OH</li> </ul> | <ul style="list-style-type: none"> <li>• Women in Astronomy IV- Austin, TX</li> <li>• ERES III- Yale University</li> <li>• SACNAS 2017- Salt Lake City, UT</li> <li>• BDEXOCON II- University of Delaware</li> <li>• Cool Stars 20- Cambridge, MA</li> </ul> |
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## Invited Talks and Events

- Beth Brown Memorial Prize talk at AAS 233: **A Reanalysis of the Age of TRAPPIST-1** 1/8/2019
- Queensborough Community College Physics department seminar 12/5/2018
- Women and Gender Minorities Panel Session at NSBP 2018 Conference
- Astronomical Society of New York (ASNY) 50th Meeting Graduate Student Prize Talk: **Understanding Atmospheres of Subdwarfs via SDSS J1256-0224**
- Harvard CfA Planets and Stars Seminar 2/23/2017

- SACNAS 2017- Salt Lake City, UT **Understanding Atmospheres of Low-mass Stars, Brown Dwarfs, and Giant Exoplanets**
- Career Panel with AMNH MEEP (college) and Saltz (high school) interns

## Publications

- **Gonzales, E.C.**, Faherty, J. K., Gagné, J., Teske, J., McWilliam, A. *A Reanalysis of the Fundamental Parameters and Age of TRAPPIST-1*. Submitted to ApJ.
- **Gonzales, E.C.**, Faherty, J. K., Gagné, J., Artigau, É., & Bardalez Gagliuffi, D. *Understanding Fundamental Properties and Atmospheric features of subdwarfs via a case study of SDSS J125637.13-022452.4*. ApJ, 2018, 864, 100. [arXiv:1807.04794](https://arxiv.org/abs/1807.04794)
- Jonathan Gagne, **Eileen Gonzales**, and Jacqueline Faherty. *A Gaia DR2 Confirmation that 2MASS J12074836-3900043 is a Member of the TW HYA Association*. RN AAS, 2018, 2, 2. [arXiv:1804.09625](https://arxiv.org/abs/1804.09625)
- Jacqueline Faherty, Jonathan Gagne, Adam Burgasser, Eric Mamajek, **Eileen Gonzales**, Daniella Bardalez Gagliuffi, and Federico Marocco. *A Late-type L Dwarf at 11 pc Hiding in the Galactic Plane Characterized Using Gaia DR2*. ApJ, 2018, 868, 44. [arXiv:1805.01573](https://arxiv.org/abs/1805.01573)

## Research Posters

- **Is TRAPPIST-1 a Unique M-dwarf Host Star?**, Cool Stars 20, AAS 233
- **Examining Cloud, Metallicity, and Gravity signatures in Brown Dwarfs**, Women in Astronomy IV, ERES III, AAS 231
- **The BDNYC Database of low-mass stars, brown dwarfs, and planetary mass companions**, AAS 231
- **Examining gravity, clouds and metallicity signatures in young and old brown dwarfs**, NSBP Fall Workshop 2016
- **Testing the refurbished Leuschner 30-inch Telescope and its capabilities to detect transiting exoplanets**, 225<sup>th</sup> AAS Meeting and NSBP 2015
- **Testing the refurbished Leuschner 30-inch Telescope and its ability to detect planets around other stars**, College of Science and Engineering Project Showcase 2014 (SFSU) and Graduate Research and Creative Works Showcase 2014
- Co-authored: **Calibration and first images from the refurbished Leuschner 30-inch Telescope**, COSE Showcase 2014
- Co-author on poster and abstract for the TNS detector, Fall 2008 AGU meeting

## Students Mentored

- Danya Abdelhameid - Grad Spark Accelerator Mentoring Program. Program aimed at helping prepare undergraduates for applying for graduate school. Covered material such as: personal statements, CV, application process for Grad School, GREs, etc.
- Zephany D'Cruz, Nina Christenson, Tony Zhu, Summer Williams, Dillion Murugesan, Makenzi Fischbach- Science Research Mentoring Program (SRMP). An immersive year-long program for that offers high school students the opportunity to join ongoing research projects led by AMNH scientists.

## Memberships

- American Astronomical Society (AAS)- Junior Member
- National Society of Black Physicist (NSBP)- Graduate Student Member
- Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS)- Graduate Student Member
- Backyard Worlds collaborator
- Sigma Xi

## Fellowships, Grants, and Awards

- Beth Brown Memorial Award at the National Society of Black Physicist 2018 Conference for best oral presentation in astronomy: *Is TRAPPIST-1 a Unique M-dwarf Host Star*
- Cool Stars 20 Graduate Student Poster Competition, Third Place Prize
- Cool Stars Travel Grant- Covered registration for Cool stars 20 conference
- Astronomical Society of New York 2018 Graduate Student Prize
- Doctoral Student Research Grant Round 13- \$900 to attend Cool Stars 20 Conference
- Sigma Xi Grant-In-Aid of Research Spring 2018- \$3178 travel funds for observing run to Las Campanas Observatory
- Chambliss Honorable Mention for AAS 231<sup>st</sup> poster: *Examining Cloud, Metallicity, and Gravity signatures in Brown Dwarfs*
- AAS FAMOUS Travel Grant - \$500 toward the attendance of the 231<sup>st</sup> AAS Meeting
- PSC-CUNY Research Award 2017- Co-wrote grant (PI: Emily Rice), \$6,000
- NSF AGEP (Fall 2017-Present)- \$36,000/year salary support
- LSSTC Data Science Fellow 2017- Two year program of 6 week-long intensive data science workshops
- NIGMS RISE Fellowship (AY 2016-2017)- \$30,000/year salary support, \$1,500/year travel funds, \$1,500/year research supplies allowance, and full tuition
- CUNY Science Scholar (AY 2016-2017, AY 2017-2018) - full tuition
- CUNY Science Scholar (AY 2015-2016) - \$25,000 stipend and full tuition
- FAMOUS Travel Grant- \$1000 toward the attendance of the 225<sup>th</sup> AAS Meeting
- Honorable mention for *Calibration and first images from the refurbished Leuschner 30-inch Telescope*, COSE Showcase 2014 poster

## Languages

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- Fluent in German
- Learning Spanish