

Emily Calamari

Curriculum Vitae

Department of Physics
The Graduate Center, CUNY
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Education

- 2022–Present **PhD Candidate, Physics**, *The Graduate Center, CUNY*, New York, NY.
Advisors: Dr. Jacqueline Faherty & Prof. Kelle Cruz
Focus: Using theoretical and statistical methods to understand the thermochemical nature of clouds in brown dwarf atmospheres
- 2019–2022 **M. Phil. Physics**, *The Graduate Center, CUNY*, New York, NY.
Masters Thesis: *Probing Formation Pathways of Substellar Objects Through Molecular Abundances*
- 2015–2019 **B.A. Physics**, *Barnard College*, New York, NY.
Advisors: Prof. Szabolcs Marka & Dr. Azadeh Keivani
Senior Thesis: *Gamma Ray Burst and Gravitational Wave Correlations*

Related Work Experience

- 2023–Present **Research Mentor**, *American Museum of Natural History, New York, NY.*
Science Research Mentoring Program (SRMP) mentor to 3 high school students
- 2020–Present **Non-Teaching Adjunct**, *Hunter College, New York, NY.*
- Summer 2022 **Research Mentor**, *American Museum of Natural History, New York, NY.*
Lang Science Scholars mentor to 3 high school students
- 2018–2019 **Undergraduate Research Assistant**, *Columbia University, New York, NY.*
Advisors: Prof. Szabolcs Marka & Dr. Azadeh Keivani
- Fall 2018 **Teaching Assistant**, *Columbia University, New York, NY.*
- Fall 2018 **Volunteer Lead Teacher**, *STEM Kids NYC, New York, NY.*
- 2017–2019 **Physics Tutor**, *Barnard College, New York, NY.*

Fellowships & Awards

- 2019 –present **CUNY Science Scholarship** The Graduate Center, CUNY
AY 2019-2020: \$30,000 stipend and full tuition
AY 2020-2021, AY 2021-2022, AY 2022-2023, AY 2023-2024: Full tuition
- Summer 2018 **Summer Research Institute Fellowship** Barnard College
\$6,000 stipend for 10-week research program

Refereed Publications

- 2023 J. M. Vos, B. Burningham, J. K. Faherty, S. Alejandro, E. Gonzales, **E. Calamari**, D. Bardalez Gagliuffi, C. Visscher, X. Tan, C. V. Morley, M. Marley, M. E. Gemma, N. Whiteford, J. Gaarn, and G. Park. *Patchy Forsterite Clouds in the Atmospheres of Two Highly Variable Exoplanet Analogs*. *ApJ*, volume 944, page 138, February 2023.

- 2023 J. Gaarn, B. Burningham, J. K. Faherty, C. Visscher, M. S. Marley, E. C. Gonzales, **E. Calamari**, D. Bardalez Gagliuffi, R. Lupu, and R. Freedman. *The puzzle of the formation of T8 dwarf Ross 458c*. *MNRAS*, volume 521, pages 5761–5775, June 2023.
- 2022 **E. Calamari**, J. K. Faherty, B. Burningham, E. Gonzales, D. Bardalez-Gagliuffi, J. M. Vos, M. Gemma, N. Whiteford, and J. Gaarn. *An Atmospheric Retrieval of the Brown Dwarf Gliese 229B*. *ApJ*, volume 940, page 164, December 2022.
- 2022 A. C. Schneider, F. J. Vrba, J. A. Munn, S. E. Dahm, J. Bruursema, S. J. Williams, B. N. Dorland, J. K. Faherty, A. Rothermich, **E. Calamari**, M. C. Cushing, D. Caselden, M. Kabatnik, W. Pendrill, A. Sainio, N. S. Andersen, and C. Tanner. *Substellar Hyades Candidates from the UKIRT Hemisphere Survey*. *AJ*, volume 163, page 242, May 2022.
- 2022 F. Kiyw, J. K. Faherty, A. Meisner, A. C. Schneider, J. D. Kirkpatrick, M. J. Kuchner, A. J. Burgasser, S. Casewell, R. Kiman, **E. Calamari**, C. Aganze, C. Hsu, A. Sainio, V. Thakur, and Backyard Worlds: Planet 9 Collaboration. *Discovery of 34 Low-mass Comoving Systems Using NOIRLab Source Catalog DR2*. *AJ*, volume 164, page 3, July 2022.
- 2020 F. Krauß, **E. Calamari**, A. Keivani, A. Coleiro, P. A. Evans, D. B. Fox, J. A. Kennea, P. Mészáros, K. Murase, T. D. Russell, M. Santander, and A. Tohuvavohu. *Multimessenger observations of counterparts to IceCube-190331A*. *MNRAS*, volume 497, pages 2553–2561, September 2020.

Invited Talks

- Jan 2023 *The Buddy System: How Companion Systems Can Inform Retrieval Modeling*, Cloud Zwei Con, Ringberg Castle, Tegernsee, Germany.

Contributed Talks and Posters

- June 2023 Poster: *The Buddy System: How Companion Systems Inform Brown Dwarf Modeling*, Gordon Research Conference: Origins of Solar Systems, Amherst, MA.
- Aug 2022 Talk: *The Buddy System: How Companion Systems Can Inform Retrieval Modeling*, Flatiron Exoplanet Symposium, New York, NY.
- May 2022 Poster: *The Story of Gliese 229B As Told Through Atmospheric Retrievals*, AASTCS 9: Exoplanets IV, Las Vegas, NV.
- Jan 2021 Poster: *The Atmospheric Retrieval of the Brown Dwarf Gliese 229B*, AAS 237, Virtual.
- Sept 2018 Poster: *Gamma Ray Burst and Gravitational Wave Correlations*, Astrofest, Columbia University, New York, NY.

Grants and Telescope Proposals

- 2023 **JWST Cycle 2**, *Sinking silicates: tracing rainout across the LT transition*, ID #3670. \$TBD, 19 hours. **Co-I**, PI Ben Burningham.
- 2023 **JWST Cycle 2**, *Exometeorology: Weather on an Isolated World Beyond Our Own*, ID #3548. \$TBD, 8.89 hours. **Co-I**, PI Johanna M. Vos.
- 2023 **Doctoral Student Research Grant (Round 18)**, \$900 to visit collaborator at Dordt University, Sioux Center, IA.
- 2023 **NASA IRTF 2023A**, *Characterizing Widely separated Benchmark Brown Dwarfs*, ID #2023A054. 50.5 hours. **Co-I**, PI Austin Rothermich.
- 2022 **OWL Mini Grant**, \$2,400 to attend Cloud Zwei Conference, Tegernsee, Germany.

Observing Experience

- 2020-Present **SpeX**, *NASA Infrared Telescope Facility (IRTF)*, Mauna Kea Observatory, Hawaii.
Remote Observing: 12 nights

Professional Development

July 2022 **Sagan Summer Workshop**, Caltech, Pasadena, CA.

Exoplanet Science in the Era of Gaia

June 2021 **Summer School in Statistics for Astronomers XVI**, Penn State, University Park, PA.

Outreach

Oct 2022 Volunteer Social Media Coordinator, *Black in Physics Week 2022*.

July 2022 Guest Science Speaker, *Astronomy on Tap, NYC*.

Fall 2018 Volunteer Science Teacher, *STEM Kids NYC*.