Abigail Lee

CONTACT INFORMATION

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UChicago Astronomy & Astrophysics
ERC 534

EDUCATION

University of Chicago, Chicago, Illinois

Ph.D. Student in Astronomy & Astrophysics **2019 – Present**

- Advisor: Wendy Freedman

University of Pennsylvania, Philadelphia, PA

B.A. in Physics, *summa cum laude*, with distinction **Class of 2019**

- Minors: Mathematics, Classical Studies
- Thesis Title: *Reconstructing Log-normal Density Fields using Hamiltonian Monte Carlo Techniques*; Advisor: Gary Bernstein

RESEARCH INTERESTS

Observational cosmology, Hubble constant, dark energy, lensing and galaxy surveys

AWARDS

[1] McCormick Fellowship, University of Chicago (2019-2021)

[2] Elaine K. Bernstein Women in Science Award, University of Chicago (2019)

[3] University Scholar Research Grant, University of Pennsylvania (2016 - 2018)

[4] NASA Pennsylvania Space Grant Undergraduate Scholarship (2018)

EMPLOYMENT

Graduate Research Assistant, University of Chicago, Chicago, IL	October 2019 – Present
Research Assistant, University of Pennsylvania, Philadelphia, PA	May 2016 – July 2019
Research Assistant, Stanford University, Stanford, CA	June 2018 – August 2018
Research Assistant, Max Planck Institute for Gravitational Physics, Potsdam, Germany	July 2017 – August 2017
Summer Intern, NASA Jet Propulsion Laboratory, Pasadena, CA	May 2017 – July 2017

TEACHING EXPERIENCE

University of Chicago, Chicago, IL

Teaching Assistant, Fall 2019 – Present

- ASTR 12700 (24 students), Fall 2019

University of Pennsylvania, Philadelphia, PA

Teaching Assistant, Fall 2017 – May 2019

- PHYS 150 (60 students), Spring 2019
- ASTR Observing Labs (150 students), Fall 2018, Spring 2019
- PHYS 102 E&M, Optics, and Modern Physics (50 students), Spring 2018
- PHYS 101 Mechanics Lab (15 students), Fall 2017

Physics Tutor, Fall 2016 – Spring 2017

JOURNAL PUBLICATIONS

[1] R. Vishnubhotla, J. Ping, Z. Gao, **A. Lee**, O. Saouaf, A. Vrudhula, A. T. Johnson. Scalable Graphene Aptasensors for Drug Quantification. *AIP Advances 7, 115111 (2017).*

Oral & Poster Presentations

[1] **A. Lee.** Dark Matter Subhalo Disruption. *Stanford Summer Research Program Undergraduate Talks*, Stanford, CA. August 2018.

[2] M. Lavalle, G. Shiroma, **A. Lee**, P. Rosen. Characterizing the temporal variability of L-band backscatter using dense UAVSAR time-series in preparation for the NISAR mission. *2017 AGU Fall Meeting*, New Orleans, LA, December 2017 (could not attend).

[3] **A. Lee**. Characterizing Backscatter Variability using UAVSAR. *2017 Gulf Coast Undergraduate Research Symposium*, Rice University, Houston, Texas. November 2017.

[4] **A. Lee**. Characterizing Backscatter Variability using UAVSAR. *NASA Jet Propulsion Lab Final Presentation*, NASA JPL, Pasadena, CA. July 2017.

[5] **A. Lee**. Improved Performance in Graphene and MoS2 Field-Effect Transistors using a Boron Nitride Isolation Layer. *2017 Emerging Researchers National Conference in STEM*, Washinton D.C. February 2017.

Professional Service & Outreach

Mentor, Society of Women in Physics Peer Mentorship Program, UChicago (2019 – Present)

Faculty Meeting Representative, UChicago (2019 – Present)

Member, Inclusion, Diversity and Equity in Astronomy, UChicago (2019 – Present)

Astronomy Observing Nights Organizer (Organized 3 public telescope observing nights), Penn (2018-2019)

Astronomy Tutor, Veterans Upward Bound Training, Penn (2018-2019)

Skills

Programming Languages:

- Python, Mathematica, SQL, LaTeX
- UNIX shell (Bash) scripting

Languages

English (fluent), Spanish (conversational)