Abigail Lee

CONTACT INFORMATION

E-mail: abbyl@uchicago.edu
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EDUCATION

University of Chicago, Chicago, Illinois

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

University of Pennsylvania, Philadelphia, PA

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

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

RESEARCH INTERESTS

Dark matter, dark energy, large-scale structure formation, machine learning techniques, statistical methods, gravitational lensing, lensing and galaxy surveys, cosmological simulations

AWARDS

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

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

[3] Graduated with Distinction in Major, Physics, University of Pennsylvania (2019)

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

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

EMPLOYMENT

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 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

[6] 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 14, 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 11, 2017 (could not attend).

[3] **A. Lee**. Characterizing Backscatter Variability using UAVSAR. *2017 Gulf Coast Undergraduate Research Symposium*, Rice University, Houston, Texas. November 4, 2017.

[4] **A. Lee**. Characterizing Backscatter Variability using UAVSAR. *NASA Jet Propulsion Lab Final Presentation*, NASA JPL, Pasadena, CA. July 26, 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 3, 2017.

SKILLS

Programming Languages:

- PYTHON, MATHEMATICA, SQL, LaTeX
- UNIX shell (Bash) scripting

LANGUAGES

English (fluent), Spanish (conversational)