Irene Moskowitz

PhD Candidate · Physics and Astronomy

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Education

Rutgers University — *Piscataway, NJ*

PhD Physics and Astronomy — *September 2020 - present*

- Advisor: Dr. Eric Gawiser
- Committee: Saurabh Jha, Alyson Brooks, Ron Gilman

University of Minnesota — *Minneapolis, MN*

BS Physics *cum laude* — *September 2014 - May 2018*

- Honors thesis advisor: Dr. Shaul Hanany
- Honors thesis title: Bolometer Response to Elevation Angle in Cosmic Microwave Background Experiment EBEX

Professional Experience

2022-Present	**Graduate Research Assistant**, Rutgers University
2021-2022	**Lovelace Graduate Fellow**, Physics and Astronomy, Rutgers University
2020-2021	**Graduate Teaching Assistant**, Physics and Astronomy, Rutgers University
2019-2020	**Teaching Specialist**, Minnesota Institute for Astrophysics, University of Minnesota
2019-2020	**Administrator**, Physics Force, University of Minnesota
2017-2018	**Undergraduate Teaching Assistant**, Physics and Astronomy, University of Minnesota
2015-2018	**Undergraduate Research Assistant**, Physics and Astronomy, University of Minnesota

Publications

Published

Moskowitz, I, Eric Gawiser, Abby Bault, Adam Broussard, Jeffrey A. Newman, Joe Zuntz, and the LSST Dark Energy Science Collaboration. 2023. Improved tomographic binning of 3x2pt lens samples: Neural network classifiers and optimal bin assignments. ApJ, 950, 49

Awards, Fellowships, & Grants

2021 **Lovelace Graduate Fellowship**, Rutgers Physics and Astronomy Department

LSSTC Grant #2021-42, LSST Corporation

Presentations

** presenting author; + mentored undergraduate*

Invited Talks

Spring 2023. *Improved Tomographic Binning of 3x2pt Lens Samples: Neural Network Classifiers and Optimal Bin Assignments*. Invited talk: Princeton Galread, Princeton, NJ.

Contributed Presentations

Moskowitz, I.. 2023. Using Neural Network Classifiers and Optimal Bin Assignments to Improve Tomographic Redshift Binning of 3x2pt Galaxy Samples. Oral presentation: 241st Meeting of the American Astronomical Society, Seattle, WA.

Moskowitz, I., Eric Gawiser. Improved Tomographic Binning of 3x2pt Galaxy Samples: Neural Network Classifiers, Optimal Bin Assignments, and Cosmological Parameter Biases . Poster: 241st Meeting of the American Astronomical Society, Seattle, WA.

Moskowitz, I., Liliya Williams. Line of Sight Structure and the Deviations from the Fundamental Surface of Quads in Multi-Lens Plane Systems. Poster: 235th Meeting of the American Astronomical Society, Honolulu, HI.

Teaching Experience

Spring 2018	**Course**, Teaching Assistant
Spring 2017	**Course**, Teaching Assistant
Fall 2016	**Course**, Teaching Assistant
Fall 2015	**Course**, Teaching Assistant
Spring 2015	**Teaching Fellow Position**, University Department
Fall 2014	**Course**, Teaching Assistant

Mentoring

2023-present	**Joseph Santos**, Undergraduate Research Assistant, Rutgers University	*Near-Peer Mentor Program*

Outreach & Professional Development

Service and Outreach

2023-present	**Graduate Student Organization**, Mock Qualifier co-organizer
2022-present	**New Brunswick Health Science and Technology High School**, Part of a group of Rutgers Physics and Astronomy faculty and graduate students making monthly visits to physics classes. We complement the classroom curriculum with hands-on demonstrations of physics concepts.
2022-2023	**Astronomy Journal Club**, Co-organizer
2021-2022	**Nature thru Nurture**, Monthly visits to New Brunswick High School to reinforce physics learning through hands-on and small group demonstrations. Done in collaboration with the Nature thru Nurture after school program.

Development

Michigan Cosmology Summer School 2023

La Serena School of Data Science 2021

Professional Memberships

American Astronomical Society