

# Elaad Applebaum

[elaadapplebaum.com](http://elaadapplebaum.com)

(312) 404 · 6727 ◦ [elaad.applebaum@gmail.com](mailto:elaad.applebaum@gmail.com)

## Education

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**Rutgers, The State University of New Jersey**

*Piscataway, NJ*

Ph.D. in Physics and Astronomy

Aug 2015 - Oct 2021 (Anticipated)

**University of Illinois at Urbana-Champaign**

*Urbana, IL*

B.S. in Physics, Minors in Math, Italian; magna cum laude

Aug 2011 - May 2015

## Professional Experience

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**Rutgers, The State University of New Jersey**

*Piscataway, NJ*

*Ph.D. Candidate, advised by Alyson Brooks*

May 2016 - Present

- Using cosmological simulations to investigate galaxy evolution
- Studying star formation in dwarf galaxies
- Implemented more realistic star formation recipes

*Teaching*

Aug 2016 - Present

- Course Assistant for 124H: Analytical Physics IB Honors (Classical Mechanics)
- Recitation TA for 123H: Analytical Physics IA Honors, (Classical Mechanics)
- Lab TA for 343: Observational Radio Astronomy
- Recitation TA for 227: Analytical Physics IIA (Electricity and Magnetism)

**National Institute of Nuclear Physics (INFN)**

*Bologna, Italy*

*Undergraduate Researcher, advised by Paolo Giacomelli*

June 2014 - Aug 2014

- Studied decay channel performances with future upgrades to CMS detector

**Weizmann Institute of Science**

*Rehovot, Israel*

*Undergraduate Researcher, advised by Yosef Nir*

June 2013 - Aug 2013

- Analyzed measurements of time-reversal violation in the CPLEAR and BaBar experiments

## Honors and Awards

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[Blue Waters Graduate Fellowship](#), NCSA

2018 - 2019

SAS Excellence Fellowship, Rutgers

2015 - 2016

Henry C. Torrey Fellowship, Rutgers

2015 - 2016

LAS James Scholar, UIUC

2011 - 2015

Robert W. Rogers Merit Scholarship, UIUC

2011 - 2013

## Mentoring, Service, and Outreach Experience

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Graduate Student Life Committee	Sept 2017 - Present
Near-Peer Mentor, Sean MacBride, Wheaton College (Rutgers REU)	May 2018 - Aug 2018
Near-Peer Mentor, Umran Haji, UC Berkeley (Rutgers REU) <a href="#">[ADS]</a>	May 2017 - Aug 2017
Treasurer, Physics and Astronomy Graduate Student Association	Aug 2016 - Aug 2017

## Publications

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[4] “Roll of the Dice: A Stochastically Sampled IMF Alters the Stellar Content of Simulated Dwarf Galaxies,”

**Applebaum, E.**, Brooks, A.M., Quinn, T.R., Christensen, C.R., 2018, *MNRAS*, submitted, arXiv:1811.00022 [\[ADS\]](#)

[3] “Dancing in the Dark: Satellites of dwarf galaxies as probes of the first star formation,”

Munshi, F., Brooks, A.M., Christensen, C., **Applebaum, E.**, Holley-Bockelmann, K., Quinn, T.R., Wadsley, J., 2018, *ApJ*, submitted, arXiv:1810.12417 [\[ADS\]](#)

[2] “Going, going, gone dark: Quantifying the scatter in the faintest dwarf galaxies,”

Munshi, F., Brooks, A.M., **Applebaum, E.**, Weisz, D.R., Governato, F., Quinn, T.R., 2017, arXiv:1705.06286 [\[ADS\]](#)

[1] “Subtleties in the BaBar measurement of time-reversal violation,”

**Applebaum, E.**, Efrati, A., Grossman, Y., Nir, Y., Soreq, Y., 2014, *Phys. Rev. D*, 89, 76011 [\[ADS\]](#)

## Selected Presentations

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### Ultra-Faint Dwarf Galaxies: The New Frontier in Cosmological Simulations

AAS Winter Meeting Jan 2019

### Roll of the Dice: Stochastically Sampling the IMF in Cosmological Simulations

Santa Cruz Galaxy Workshop Aug 2018

### Galaxies Less Travelled: Star Formation in Low Mass and Low Surface Brightness Galaxies

CCA NY Area Computational Hydro Workshop Sept 2017

### Studies of $H \rightarrow ZZ \rightarrow 4\ell$ Performance for Phase II CMS Upgrades

Undergraduate Research Symposium, UIUC Jan 2015

## Skills

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**Programming:** Fluency in Python, C/C++, LaTeX; familiarity with Matlab

**Software:** pynbody, NumPy, SciPy, pandas, Matplotlib

**Languages:** Native English; Fluency in Spanish, Italian, Hebrew