

# ADINA D. FEINSTEIN

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## RESEARCH INTERESTS

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Stellar activity of young stars, Detection and characterization of young planets, Machine learning methods for automated light curve searches

## EDUCATION

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2018-Present: University of Chicago, Chicago, IL

Doctor of Philosophy in Astronomy & Astrophysics, expected 2023

Advisors: Jacob Bean & Benjamin Montet

Master of Physical Sciences, received June 2019

Thesis: “eleanor: An open-source tool for extracting light curves from the TESS Full-Frame Images”

2014-2018: Tufts University, Medford, MA

Bachelor of Science in Astrophysics

Minor in English

Graduated with High Thesis Honors

Thesis: “Exploring the Low and High Mass Extremes in the Distant Universe”

Advisor: Danilo Marchesini

## APPOINTMENTS

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2019-Present: *NSF Graduate Research Fellow*, University of Chicago, IL

2015-2018: *Undergraduate Research Assistant*, Tufts University, Medford, MA

Summer, 2017: *Summer Undergraduate Research Assistant*, NASA GSFC, Greenbelt, MD

Advisor: Joshua Schlieder

Summer, 2013: *High School Research Assistant*, University of Virginia, Charlottesville, VA

Advisor: Phil Arras

Summer, 2012: *High School Research Assistant*, Cornell University, Ithaca, NY

Advisor: Jonathan Lunine

## HONORS AND AWARDS

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McCormick Fellowship (2019-2020)

NSF Graduate Research Fellowship (May, 2019)

University of Chicago Three Minute Thesis Competition, Winner of Master’s Thesis Category (May, 2019)

Chambliss Medal for Outstanding Poster Presentation, 233<sup>rd</sup> AAS meeting (January, 2019)

## FIRST-AUTHOR PUBLICATIONS

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NASA ADS h-index of 7

3. *Flare Statistics for Young Stars from a Convolutional Neural Network Analysis of TESS Data*  
Feinstein, A. D., Montet, B. T., Ansdell, M., et al. 2020, arXiv e-prints, arXiv:2005.07710, <https://arxiv.org/abs/2005.07710>
2. *eleanor: An open-source tool for extracting light curves from the TESS Full-Frame Images*  
**Feinstein, A. D.**, Montet, B. T., Foreman-Mackey, D. et al. 2019 PASP, 131, 1003

1. *K2-288Bb: A small temperate planet in a low-mass binary system discovered by citizen scientists*  
**Feinstein, A. D.**, Schlieder, J. E., Livingston, J. H., et al. 2019 AJ, 157, 2

## OTHER REFEREED PUBLICATIONS

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13. *TOI-1338: TESS' First Transiting Circumbinary Planet*  
Kostov, V. B., Orosz, J. A., **Feinstein, A. D.**, et al. 2020, AJ, 159, 253
12. *TESS-Point: High precision TESS pointing tool*  
Burke, C. J., Levine, A., Fausnaugh, M. et al. 2020, Astrophysics Source Code Library, [2020ascl.soft03001B](#)
11. *Differences in signal contrast and camouflage among different colour variations of a stomatopod crustacean*  
Franklin, A. M., Marshall, J., **Feinstein, A. D.** et al. 2020, Sci Rep 10, 1236.
10. *The Young Planet DS Tuc Ab has a Low Obliquity*  
Montet, B. T., **Feinstein, A. D.**, Luger, R., et al. 2020, AJ, 159, 112
9. *Planet Hunters TESS I: TOI 813, a subgiant hosting a transiting Saturn-sized planet on an 84-day orbit*  
Eisner, N. L., Barragán, O., Aigrain, S., et al. 2020, MNRAS, 148
8. *K2-136: A binary system in the Hyades open cluster hosting a Neptune-sized planet*  
Ciardi, D. R., Crossfield, I. J. M., **Feinstein, A. D.**, et al. 2018, AJ, 155, 10
7. *THOR 42: A touchstone  $\sim 24$  Myr-old eclipsing binary spanning the fully-convective boundary*  
Murphy, S. J., Lawson, W. A., Onken, C. A., et al. 2019, MNRAS, 2794
6. *A super-Earth and two sub-Neptunes transiting the bright nearby, and quite M-dwarf TOI-270*  
Günther, M. N., Pozuelos, F. J., Dittmann, J. A., et al. 2019, Nature Astronomy, 3, 1099
5. *The L 98-59 System: Three transiting terrestrial-size planets orbiting a nearby M dwarf*  
Kostov, V. B., Schlieder, J. E., Barclay, T. et al. 2019, AJ, 158, 32
4. *Characterizing K2 candidate planetary systems orbiting low-mass stars IV: Updated properties for 86 cool dwarfs observed during campaigns 1-17*  
Dressing, C. D., Hardegree-Ullman, K., Schlieder, J. E., et al. 2019, AJ, 158, 87
3. *A TESS Dress Rehearsal: Planetary Candidates and Variables from K2 Campaign 17*  
Crossfield, I. J. M., Guerrero, N., David, T., et al. 2018 AJ, 239, 1
2. *HFF-Deepspace photometric catalogs of the twelve Hubble Frontier Fields , clusters, and parallels: Photometry, photometric redshifts, and stellar masses*  
Shipley, H., Lange-Vagle, D., Marchesini, D., et al. 2018 ApJS, 235, 14
1. *Planetary Candidates from K2 Campaign 16*  
Yu, L., Crossfield, I. J. M., Schlieder, J. E., et al. 2018 AJ, 156, 22

## PROPOSALS AND GRANTS

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Co-Investigator on *TESS* Guest Investigator Proposals

Uniform Light Curves Across the Entire Sky from *TESS* FFIs with *eleanor*  
Awarded \$150,000, 2019 (PI Benjamin Montet)

Measuring Long Rotation Periods from *TESS*'s Short Light Curves  
Awarded \$200,000, 2018 (PI Ruth Angus)

Searching for Planets in the Continuous viewing Zone with *TESS* Full Frame Image Data  
Awarded \$50,000, 2018 (PI Elisa Quintana)  
Awarded \$50,000, 2019 (PI Veselin Kostov)

Competitive Telescope Time Awarded (as PI unless noted)  
Gemini-North, GRACES  
1 night awarded through Gemini Fast-Turnaround Program, 2020  
Magellan Telescopes, awarded through University of Chicago  
2 nights on MIKE, 2019  
1 night on PFS, 2019 (PI Benjamin Montet)  
1 night on FIRE, 2018 (PI Jacob Bean)

## TALKS & POSTERS

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### Invited Seminars

University of Maryland, College Park, Exoplanet Journal Club (August, 2019)

### Conference Invited Talks<sup>1</sup>

[5<sup>th</sup> TESS Asteroseismic Science Consortium \(TASC\) Workshop](#), Cambridge, MA USA (July, 2019)  
[TESS Data Workshop](#), Space Telescope Science Institute, Baltimore, MD USA (February, 2019)

### Conference Contributed Talks

Lake Michigan Area Exoplanet Meeting (November, 2019)  
[Extreme Solar Systems IV](#), Reykjavik, Iceland (August, 2019)  
TESS Science Conference I, Splinter Session, Cambridge, MA USA (July, 2019)  
AAS 233, TESS Special Session, Seattle, WA USA (January, 2019)  
AAS 231, Session 104. Detection of Extrasolar Planets I, National Harbor, MD USA (January, 2018)

### Conference Contributed Posters

TESS Science Conference I, [Poster 97](#) – *Improvements to *eleanor*, an open-source pipeline for FFI light curve extraction* (July, 2019)  
AAS 233, Poster 140.14 – *A Complete Survey of the Southern Sky with TESS Full-Frame Images* (January, 2019)  
AAS 233, Poster 467.04 – *K2-288Bb: A Small Temperate Planet in a Low-Mass Binary System Discovered by Citizen Scientists* (January, 2019)  
2017 NASA Goddard Space Flight Center summer intern poster session (July, 2017)  
The 4<sup>th</sup> AstroCon DC Meeting, George Washington University (August, 2017)

## OUTREACH

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### 2018-Present:

*Letters to a Pre-Scientist* pen-pal  
*Skype a Scientist* volunteer; have talked to 6 classrooms to-date  
*University of Chicago Physics Mentorship Program* mentor to two undergraduate

### 2019:

Soapbox Science Chicago speaker  
*HerStory* volunteer  
HerStory is an outreach event for young females who are curious about science  
Naperville Astronomical Association meeting invited lecture  
Chicago Astronomical monthly meeting invited lecture

### 2018:

*Hyde Park Neighborhood Club* after-care program volunteer in the Maker Lab, which combines science education and art  
*@astrotweeps* guest host  
*WMFO Heard Mentality* guest speaker

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<sup>1</sup>URLs link to software demos or Speaker Deck slides

Media Appearances:

[The Young DS Tuc Ab is Aligned](#)

[Discovery of TOI 1338b](#)

[Discovery of TOI 270](#)

[Discovery of K2-288Bb](#)

Press release at 233<sup>rd</sup> AAS meeting

Interviews with NBC News and WGN radio

**ACADEMIC SERVICE**

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Referee for (2 articles total)

*Monthly Notices of the Royal Astronomical Society* (2020-)

*The Astronomical Journal* (2020-)