ADINA D. FEINSTEIN

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EDUCATION

University of Chicago *September 2018 - Present*
Master of Physical Sciences in Astrophysics Overall GPA: 4.0/4.0
Master's Thesis: `eleanor`*: An open-source tool for extracting light curves from the TESS Full-Frame Images*

Tufts University *September 2014 - May 2018*
Bachelor of Science in Astrophysics / Minor in English Major GPA: 3.71/4.0
Senior Honors Thesis: *Exploring the Low and High Mass Extremes in the Distant Universe*

RESEARCH EXPERIENCE

Graduate Research Assistant July 2018 - Present
Advisors: Professor Jacob Bean & Dr. Benjamin Montet *University of Chicago*

- Creating an open-source data analysis pipeline to produce light curves for roughly 25 million stars in the Transiting Exoplanet Survey Satellite (TESS) Full-Frame Images (FFIs)
- Only publicly available light curves that are tailored towards finding exoplanet transits; will be hosted on MAST servers at the Space Telescope Science Institute
- Updates on the open-source pipeline can be found here: github.com/afeinstein20/eleanor

Undergraduate Research Assistant May 2015 - May 2018
Advisor: Professor Danilo Marchesini *Tufts University*

- Constructed catalogs of gravitational lensing magnifications using publicly available lensing models for Hubble Frontier Fields cluster pointings; Completed a statistical analysis of systematic and random errors with publicly available magnification catalogs found here: cosmos.phy.tufts.edu/~danilo/HFF/Home.html
- Conducted a brief study on the evolution of high mass ($M/M_{Sun} \geq 10^{11}$) high redshift ($2 \leq z \leq 6$) galaxies using the Ultra Deep Survey with the VISTA telescope (UltraVISTA) Survey

Summer Research Assistant June 2017 - August 2017
Advisor: Dr. Joshua E. Schlieder *NASA Goddard Space Flight Center*

- Determined spectral types and ages of red dwarfs in the solar neighborhood using SpeX, a medium resolution 0.7-5.3 μm spectrograph mounted on the NASA Infrared Telescope Facility
- Calculated basic planet parameters from stellar spectra and *Kepler/K2* light curve observations
- Post-summer Collaboration: Conducted planet confirmation follow-up analysis for a temperate $1.9R_{\oplus}$ planet identified by citizen scientists using the Exoplanet Explorers tool on the Zooniverse platform

High School Research Assistant Summers of 2013 & 2012
Advisor: Professor Phil Arras *University of Virginia*

- Calculated the effect of planet mass, radius, and semi-major axis on planet rotation periods within the habitable zone of low-mass stars using FORTRAN

Advisor: Professor Jonathan Lunine *Cornell University*

- Studied the effects of a low-mass host star on a carbon dioxide rich (Venus-like) atmosphere

OBSERVING EXPERIENCE

Magellan Telescopes, Las Campanas Observatory December 21, 2018
Instrument: FIRE

· Obtained low-resolution spectra for *TESS* exoplanet candidate follow-up

NASA Infrared Telescope Facility, Mauna Kea, Hawaii July, 2017
Instrument: SpeX

· Completed 4 half nights (7/16, 7/17, 7/24, & 7/31) of remote observing using SpeX, a mid-resolution spectrograph, to characterize stars identified by the *Kepler/K2* missions and conduct follow-up confirmation of identified planet transits

PUBLICATIONS

1. *`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 submitted
2. *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
3. *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
4. *Planetary Candidates from K2 Campaign 16*
Yu, L., Crossfield, I. J. M., Schlieder, J. E., et al. 2018 AJ, 156, 22
5. *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
6. *A TESS Dress Rehearsal: Planetary Canddiates and Variables from K2 Campaign 17*
Crossfield, I. J. M., Guerrero, N., David, T., et al. 2018 AJ, 239, 1

TALKS & POSTERS

- Invited Talks
  1. 5$^{\text{th}}$ TESS Asteroseismic Science Consortium (TASC) Workshop, MIT (July, 2019)
  2. TESS Data Workshop, Space Telescope Science Institute (February, 2019)
- Conferences
  1. 233$^{\text{rd}}$ AAS Meeting – *A Complete Survey of the Sourthern Sky with TESS Full-Frame Images*
  - Selected speaker for the TESS Special Session
  - Poster presentation (140.14)[1]
  2. 233$^{\text{rd}}$ AAS Meeting – *K2-288Bb: A Small Temperate Planet in a Low-Mass Binary System Discovered by Citizen Scientists*
  - Poster Presentation (467.04)
  3. 231$^{\text{st}}$ AAS Meeting – *K2-136: A binary system in the Hyades open cluster hosting a Neptune-sized planet*
  - Session 104. Detection of Extrasolar Planets I
  4. 2017 NASA Goddard Space Flight Center summer intern poster session (July, 2017)
  5. The 4$^{\text{th}}$ AstroCon DC Meeting, George Washington University (August, 2017)

[1] Chambliss Medal for outstanding poster presentation

PRESS

1. *Discovery of K2-288Bb*
   Press release at 233rd AAS meeting; interview on WGN radio and with Corey Powell of NBC News

OUTREACH

1. Invited talk about how to find and characterize exoplanets at the Chicago Astronomical Society Monthly meeting (March 12, 2019)
2. *Letters to a Pre-Scientist*
   Scientist pen-pal
3. *Classroom assistant*
   Volunteer at the Hyde Park Neighborhood Club after-care program called the Maker Lab, which combines science education and art
4. *Skype a Scientist*
   Volunteer to Skype with classrooms around the world to discuss what it's like to be a scientist
5. *@astrotweeps Twitter Guest Host*
   May 21st-28th, 2018
6. *Heard Mentality (WMFO)*
   Invited guest on the Tufts University radio show