ADINA D. FEINSTEIN

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LINKS

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NASA/ADS Library

STATS

Publications

First author	12
Total	72
Under review	1
Total citations	3191
h-index	30

PI Telescope Time (hours)

JWST	250.62
Hubble	36
Ground-based	934

Students advised

Undergraduate	6
Graduate	2

Software (GitHub stars)

eleanor	★ 98
stella	★ 26

Invited Presentations

Colloquia/ Seminars	20
Conferences	10

Outreach

Presentations	23
Pen-pals	4

RESEARCH INTERESTS

Stellar activity of young stars, Detection and characterization of young planets and planetary atmospheres, Machine learning methods for automated light curve searches and young star identification, Open-source software development.

EDUCATION

2019 - 2023: University of Chicago, Chicago, IL
Doctor of Philosophy in Astronomy & Astrophysics, advised by Jacob Bean
Title: "A Multi-wavelength Investigation of Young Stellar and Planetary Systems

October 2018 - June 2019: University of Chicago, Chicago, IL
Master of Science in the Physical Sciences Division

2014 - 2018: Tufts University, Medford, MA
Bachelor of Science in Astrophysics; Minor in English
High Thesis Honors: "Exploring the Low and High Mass Extremes in the Distant Universe" advised by Danilo Marchesini

APPOINTMENTS

2025- : *Assistant Professor*, Michigan State University

2023-2025: *NHFP Sagan Fellow*, University of Colorado Boulder (Year 1), Michigan State University (Year 2)

2022-2023: *Visiting Graduate Student*, Cornell University

2019-2023: *NSF Graduate Research Fellow*, University of Chicago

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

Summer 2017: *Undergrad Research Assistant*, NASA GSFC with Josh Schlieder

Summer 2013: *H.S. Research Assistant*, University of Virginia with Phil Arras

Summer 2012: *H.S. Research Assistant*, Cornell University with Jonathan Lunine

LEADERSHIP OPPORTUNITIES

2024 - present: Scientific Advisory Committee for the JWST DDT Rocky Worlds Program

2023 - present: Inaugural TESS Users Committee Member

2023 - present: ESCAPE Small Explorer Mission Science Advisory Member

2023 - present: AXIS Stars & Exoplanets Science Working Group Member

2023 - 2025: EVE Small Explorer Mission Flare Advisory Member

2022 - 2025: JWST Exoplanet Early Release Science Program Science Council Elected Member

HONORS & AWARDS

IAU Thesis Division F Planetary Systems and Astrobiology Honorable Mention (May, 2024)

Postdoc Fellowships (2023 application cycle)

NASA Sagan Fellowship, *accepted*, ~$300,000

MIT Pappalardo Fellowship, *declined*, ~$300,000

Simon's Society of Fellows + Flatiron Research Fellowship, *declined*, ~$530,000

Carnegie Earth & Planets Lab Fellowship, *declined*, ~$230,000

Space Telescope Science Institute Lasker Machine Learning Fellowship, *declined*, ~$270,000

AAS Rodger Doxsey Travel Prize Honorable Mention ($330; December, 2022)

University of Chicago William Rainey Harper Dissertation Fellowship ($4,300; June, 2022)

UChicago Science as Art: Audience Favorite ($150; March, 2022)

Poster Honorable Mention (TESS Science Conference 2; August, 2021)

Letters to a Pre-Scientist "Compassionate Connections" Award (June, 2021)

McCormick Fellowship ($4,500 over two years; 2019-2021)

NSF Graduate Research Fellowship ($36,000 for four years; May, 2019)

University of Chicago Three Minute Thesis competition, Winner of Master's Thesis ($500; May, 2019)

Chambliss Medal for Outstanding Poster Presentation (233rd AAS meeting; January, 2019)

Massachusetts Space Grant (Summer, 2016)

ADVISEES

Matthew Murphy (currently a postdoctoral researcher at Michigan State University; August 2025 - Present)
Meir Schochet (currently a graduate student at Michigan State University; July 2025 - Present)
Sydney Petz (currently a graduate student at Michigan State University; August 2025 - Present)
Adalyn Gibson (currently a senior undergraduate at University of Colorado Boulder; Spring 2024 - Present)
Ryan Groneck (currently a sophomore undergraduate at Michigan State University; Spring 2025 - Present)
Tatianna Jefferson (currently a junior undergraduate at Michigan State University; Spring 2025 - Summer 2025)

ASTR 3520 (Observations & Instrumentation II) group mentor to three undergraduate students (University of Colorado Boulder; Spring 2024)
Courtney Taddeo (University of Colorado Boulder undergraduate; Fall 2023)
Gunjan Tomar (Astronomy Mentorship Program for Upcoming Postdocs (AMP-UP); Fall 2023)
Rowen Glusman (University of Chicago undergraduate; Summer 2022 — Spring 2023)

Ph.D. Thesis Committee Member for - Madyson Barber (UNC, 2024-); Sona Chitchyan (MSU, 2025-)

PI'D PROPOSALS & GRANTS (TOTAL FUNDING: $1,416,639)

All co-I'd accepted proposals + grants are listed at the end of the CV.

JWST

KRONOS: Keys to Revealing the Origin and Nature Of sub-Neptune Systems (154.2 hours; GO 5959; $972,403)

Continuing the Legacy of AU Mic: Simultaneous FUV and NIR Observations of AU Mic b (50.52 hours + 24 orbits with HST; GO 5311; $405,049)

Measuring the Bulk Properties of a 3.3 Myr Transiting Exoplanet and its Original Protoplanetary Disk (45.9 hours + 25 hours with ALMA; GO 8597; funding pending)

Hubble

Continuing the Legacy of AU Mic: Simultaneous FUV and NIR Observations of AU Mic b (24 orbits; GO 17613; $39,187)

XMM-Newton

76 ks, AO24 (PID 096244; funding pending)

NOIRLab

NASA's Infrared Telescope Facility
54 hours on SpeX (2025B)

Southern Astrophysical Research (SOAR) Telescope, *awarded through Michigan State University*
4.5 nights on Goodman; 15 hours AEON queue (SOAR2025A-018)
6 nights + 10 hours on queue (SOAR2025B-020)

Apache Point Observatory, awarded through University of Colorado Boulder
0.5 nights on ARCTIC (Q4 2023)
1.5 nights on ARCTIC (Q2 2024)
2 nights on ARCTIC/ARCES (Q3 2024)

LCO

137 hours on 2.0 MuSCAT/ 1.0m Sinistro + NRES (LCO2025B-006)
97 hours on 2.0m MuSCAT + FLOYDS/ 1.0m Sinistro (LCO2025B-001)
149 hours on 2.0m MuSCAT/ 1.0m Sinistro + NRES (LCO2025A-002)
80 hours on 2.0m MuSCAT/ 1.0m Sinistro + NRES (LCO2025A-004)
153 hours on 1.0m Sinistro (LCO2024B-010)
61 hours on 1.0m Sinistro (LCO2024B-007)

Gemini

8.75 hours awarded with MAROON-X, U.S. PI on behalf of Lorenzo Pino (GN-2025B-FT-###)
33.2 hours awarded with IGIRNS-2, 2025 (GN-2025B-Q-314)
7.6 hours awarded with IGRINS-2, 2025 (GN-2025A-Q-226)
6 hours awarded with IGRINS, 2022 (GS-2022A-FT-105)
6 hours awarded with GRACES, 2020 (GN-2019B-FT-215)

Magellan — *awarded through University of Chicago*
1 night on LDSS-3C, 2021
1 night on MIKE, 2021
2 nights on MIKE, 2019

FIRST-AUTHOR PUBLICATIONS (12) (+1 SUBMITTED)

1. *Precovery Observations of 3I/ATLAS from TESS Suggests Possible Distant Activity*
   Feinstein A. D., Noonan J. W., & Seligman D. Z. Accepted at AAS Journals. (Citations: 2)

2. *On Linking Planet Formation Models, Protoplanetary Disks, and Mature Gas Giant Exoplanet Atmospheres*
   Feinstein A. D., Booth R. A., Bergner J. B., et al. Submitted to AAS Journals. arXiv:2506.00669 (Citations: 1)

3. *Evolution of Flare Activity in GKM Stars Younger than 300 Myr over Five Years of TESS Observations*
   Feinstein A. D., Seligman D. Z., France K., et al. Accepted at AAS Journals. arXiv:2405.00850 (Citations: 13)

4. *HST Far-ultraviolet Transit Observations of Two Neptune Progenitors Younger than 30 Myr*
   Feinstein, A. D., France, K., Cauley, P. W., & Livingston, J. H. 2024, Research Notes of the American Astronomical Society, 8, 86. doi:10.3847/2515-5172/ad35b7 (Citations: 3)

5. *Early Release Science of the exoplanet WASP-39b with JWST NIRISS*
   Feinstein A. D., Radica M., Welbanks L., et al. 2023, Nature, 614, 670. arXiv:2211.10493 (Citations: 160)

6. *AU Microscopii in the FUV: Observations in Quiescence, During Flares, and Implications for AU Mic b and c*
   Feinstein A. D., France K., Youngblood A., et al. 2022, AJ, 164, 110. arXiv:2205.09606 (Citations: 34)

7. *V1298 Tau with TESS: Updated Ephemerides, Radii, and Period Constraints from a Second Transit of V1298 Tau e*
   Feinstein A. D., David T. J., Montet B. T. et al. 2022, ApJL, 925, L2. arXiv:2111.08660 (Citations: 22)

8. *Testing Self-Organized Criticality Across the Main Sequence using Stellar Flares from TESS*
   Feinstein A. D., Seligman D. Z., Günther M. N., & Adams F. C. 2022, ApJL, 925, L9. arXiv:2109.07011 (Citations: 25)

9. *Hα and Ca II Infrared Triplet Variations During a Transit of the 23 Myr Planet V1298 Tau c*
   Feinstein A. D., Montet B. T., Marshall J. C., et al. 2021, AJ, 162, 213. arXiv:2107.01213 (Citations: 34)

10. *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, AJ, 160, 5. arXiv:2005.07710 (Citations: 114)

11. *`stella`: Convolutional Neural Networks for Flare Identification in TESS*
    Feinstein A. D., Montet B. T., & Ansdell M. 2020, The Journal of Open Source Software, 5, 2347. (Citations: 33)

12. *`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. arXiv:1903.09152 (Citations: 225)

13. *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. arXiv:1902.02789 (Citations: 16)

STUDENT-ADVISED PUBLICATIONS (0) (+1 SUBMITTED)

14. *Probing Non-Thermal Processes in Stellar Flares on AU Mic*
    Gibson A., Kowalski A., and **Feinstein A. D.** Under review at AAS Journals.

SIGNIFICANT CONTRIBUTIONS (23)

15. *A dark, bare rock for TOI-1685 b from a JWST NIRSpec G395H phase curve*
    Luque R., Park Coy B., Xue Q., **Feinstein A. D.**, et al. 2025, AJ, 170, 49.

16. *Preparing for the Early eVolution Explorer: Characterizing the photochemical inputs and transit detection efficiencies of young planets using multi wavelength flare observations by TESS and Swift*
    Howard W. S., MacGregor M. A., **Feinstein A. D.**, et al. 2025, AJ, 169, 1, 27.

17. *The Featherweight Giant: Unraveling the Atmosphere of a 17 Myr Planet with JWST*
    Thao P., Mann A. W., **Feinstein A. D.**, et al. 2024, AJ, 168, 6, 297.

18. *Exoplanet Aeronomy: A Case Study of WASP-69 b's Variable Thermosphere*
    Levine W. G., Vissapragada S., **Feinstein A. D.**, et al. 2024, AJ, 168, 65..

19. *Detection of SO2 in the Mid-Infrared Transmission Spectrum of WASP-39b*
    Powell D., **Feinstein A. D.**, Lee E. K. H., et al. 2024, Nature, 626, 979.

20. *Potential Melting of Extrasolar Planets by Tidal Dissipation*
    Seligman D. Z., **Feinstein A. D.**, Lai D., et al. 2024, ApJ, 961, 22.

21. *Avalanches and the Distribution of Reconnection Events in Magnetized Circumstellar Disks*
    Fatuzzo M., Adams F. C., **Feinstein A. D.**, & Seligman D. Z. 2023, ApJ, 954, 1.

23. *A broadband thermal emission spectrum of the ultra-hotJupiter WASP-18b*
    Coulombe L-P., et al. inc. **Feinstein A. D.**, et al. 2023, Nature, 620, 7973.

24. *Awesome SOSS: Transmission Spectroscopy of WASP-96b with NIRISS/SOSS*
    Radica M., Welbanks L., Espinoza N., Taylor J., Coulombe L-P., **Feinstein A. D.**, et al. 2023, MNRAS, 524, 1.

25. *TESS Asteroseismic Analysis of HD 76920: The Giant Star Hosting An Extremely Eccentric Exoplanet*
    Jiang C., Wu T., **Feinstein A. D.**, et al. 2023, ApJ, 945, 20.

26. *Eureka!: An End-to-End Pipeline for JWST Time-Series Observations*
    Bell T. J., Ahrer E., Brande J., Carter A. L., **Feinstein A. D.**, et al. 2022, The Journal of Open Source Software, 7, 4503.

27. *The NASA GSFC TESS Full Frame Image Light Curve Data Set*
    Powell B. P., Kruse E., Montet B. T., **Feinstein A. D.**, et al., 2022, Res. Notes AAS, 6, 111.

28. *Inferring Late Stage Enrichment of Exoplanet Atmospheres from Observed Interstellar Comets*
    Seligman D. Z., Adams F. C., Becker J., **Feinstein A. D.**, & Rogers, L. A. 2022, ApJL, 933, L7.

29. *Theoretical and Observational Evidence for Coriolis Effects in Coronal Magnetic Fields of Main Sequence Stars Via Direct Current Driven Flaring Events*
Seligman D. Z., Rogers, L. A., **Feinstein A. D.**, et al. 2022, ApJ, 929, 54.

30. *Evidence for Centrifugal Breakout around a 45 Million Year Old M Dwarf*
Palumbo E. K., Montet B. T., **Feinstein A. D.**, et al. 2022, ApJ, 925, 75.

31. *The TESS View of LOFAR Radio-Emitting Stars*
Pope B. J. S., Callingham J. R., **Feinstein A. D.**, et al. 2021, ApJL, 919, L10.

32. *H-Alpha Variability of V1298 Tau c*
Schlawin E., Ilyin I., **Feinstein A. D.**, et al. 2021, RNAAS, 5, 195. doi:10.3847/2515-5172/ac1f2f.

33. *Low-frequency monitoring of flare star CR Draconis: Detection of long-term electron-cyclotron maser emission*
Callingham J. R., Pope B. J. S., **Feinstein A. D.**, et al. 2021, MNRAS, 648, A13.

34. *TOI 122b and TOI 237b, two small warm planets orbiting inactive M dwarfs, found by TESS*
Waalkes W. C., Berta-Thompson Z. K., Collins K. A., **Feinstein A. D.**, et al. 2020, AJ, 161, 13.

35. *TOI-1338: TESS' First Transiting Circumbinary Planet*
Kostov V. B., Orosz J. A., **Feinstein A. D.**, et al. 2020, AJ, 159, 253.

36. *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.

37. *The Young Planet DS Tuc Ab has a Low Obliquity*
Montet B. T., **Feinstein A. D.**, Luger R. et al. 2020, AJ, 159, 112.

38. *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.**, Luger R. et al. 2020, AJ, 159, 112.

TALK & POSTERS

Selected presentation slides are available on SpeakerDeck - @afeinstein20; Links for specific talks are to YouTube recordings. (* denotes invited; ^ denotes department colloquium; + denotes plenary speaker)

Upcoming

MIT Stars & Planets Workshop (August 26 - 28, 2025)

*** ^** University of Toledo (October 23, 2025)

*** ^** University of Michigan (November 13, 2025)

***** Plenary Speaker at International Conference on Exoplanet and Planet Formation, Shanghai, China (December 8-12, 2025)

***** Plenary Speaker at Cool Stars 23, Tokyo, Japan (June 15-19, 2026)

Seminars & Colloquia

***** University of Notre Dame (April 13, 2025)

*** ^** University of Texas at Rio Grande Valley (March 14, 2025)

LASP Seminar (May 16, 2024)

*** ^** University of Maryland Department of Astronomy (February 28, 2024)

*** ^** Michigan State University Department of Physics & Astronomy (February 19, 2024)

***** Penn State University Department of Astronomy & Astrophysics (February 16, 2024)

***** National Solar Observatory "Solar/Stellar Connections Day" (February 2, 2024)

*** ^** University of Texas at Austin Department of Astronomy (January 30, 2024)

*** ^** Institute for Astronomy, University of Hawai`i at Mānoa (January 25, 2024)

*** ^** Tufts University Department of Physics & Astronomy (December 1, 2023)

Cornell Exoplanet Conference (April 11, 2023)

***** Arizona State University Exoplanet Seminar (March 17, 2023; virtual)

***** Stony Brook University, Astronomy Seminar (March 7, 2023; virtual)

***** University of Wisconsin-Milwaukee (February 10, 2023; virtual)

Origins of Life Seminar Series, University of Chicago (October 20, 2022)

***** University of Colorado at Boulder (September 30, 2022)

***** Princeton University (September 26, 2022)

***** Massachusetts Institute of Technology Brown Bag Lunch (September 19, 2022)

***** University of Illinois at Urbana-Champaign Center for AstroPhysical Surveys (May, 2022)

***** Carnegie Earth & Planets Laboratory Astronomy Seminar (May, 2022; virtual)

University of Chicago Chalk Talk (November, 2021)

***** Yale Exoplanets/Stars Seminar Series (November, 2021; virtual)

***** Kansas University Learning Machine Learning club seminar (October, 2021; virtual)

***** Harvard-Smithsonian CfA Exoplanet Seminar Series (October, 2021; virtual)

Kansas University Astronomy & Space Physics Seminar (September, 2021; virtual)

***** California Institute of Technology, Knutson Group Meeting (July, 2021; virtual)

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

Conference Talks

NASA Hubble Fellowship Program Symposium, Pasadena, CA USA (September 20, 2024)

***** "The Great Link" MPIA Workshop (Heidelberg, Germany; July 10, 2024)

***** 2024 European Astronomical Society Meeting - "Young and Mischievous: close-in exoplanets around young stars" special session (Padova, Italy; July 5, 2024)

NASA Hubble Fellowship Program Symposium, Boston, MA USA (September 19, 2023)

***** AAS 241 JWST Exoplanet Special Session, Seattle, WA USA (January 9, 2023)

AAS 241 Ph.D. Dissertation Talk in “Young Transiting Systems & Architectures”, Seattle, WA, USA (January 11, 2023)

AAS 240, Transiting Exoplanets III, Pasadena, CA USA (Thursday, June 16, 2022)

CHAMPs Exoplanet ECR Highlight Seminar (January 13-14, 2022; virtual)

* NASA ExoPAG 25 (January 10 & 12, 2022; virtual)

Great Lakes Exoplanet Area Meeting (November 11-12, 2021)

TESS Science Conference II (August, 2021; virtual)

* Data Analysis panelist
* Machine Learning Splinter Session panelist
* FFI Splinter Session speaker

Emerging Researchers in Exoplanet Science (May, 2021; virtual)

* AAS 237, TESS Machine Learning Special Session (January, 2021; virtual)

* Earth 2.0 Workshop I, Tsung-Dao Lee Institute, Shanghai (December 7-11, 2020; virtual)

TESS Science Team Meeting #22 (September, 2020; virtual)

online.tess.science Working Meeting (September, 2020; virtual)

Extreme Solar Systems IV, Reykjavik, Iceland (August, 2019)

* 5th TESS Asteroseismic Science Consortium (TASC) Workshop, Cambridge, MA USA (July, 2019)

TESS Science Conference I, Splinter Session, Cambridge, MA USA (July, 2019)

* TESS Data Workshop, Space Telescope Science Institute, Baltimore, MD USA (February, 2019)

AAS 233, TESS Special Session, Seattle, WA USA (January, 2019)

Lake Michigan Area Exoplanet Meeting (November, 2019)

AAS 231, Session 104. Detection of Extrasolar Planets I, National Harbor, MD USA (January, 2018)

Conference Posters

Cool Stars 21, Toulouse, France (July, 2022) | TESS Science Conference II (August, 2021; virtual) | Sagan Exoplanet Summer Virtual Workshop (July, 2021; virtual) | Cool Stars 20.5 (February, 2021; virtual) | Exoplanets III (July, 2020; virtual) | TESS Science Conference I, Boston, MA USA (July, 2019) | AAS 233, Poster 140.14, Seattle, WA USA (January, 2019) | AAS 233, Poster 467.04, Seattle, WA USA (January, 2019) | 2017 NASA Goddard Space Flight Center summer intern poster session (July, 2017) | The 4th AstroCon DC Meeting, George Washington University (August, 2017)

ACADEMIC SERVICE

Conference Organizing Committees

Signal in the Noise: The Ringberg Workshop on JWST Exoplanet Observations (November 17-21, 2025)

Exoclimes VII (July 7 - 11, 2025)

Connecting Exoplanet Formation with Observations & Atmospheres, MPIA, Heidelberg, Germany (Created and maintained the conference website; July 8 - 12, 2024)

TESS Science Conference III, Boston, MA (July 29 - August 2, 2024)

Referee & Panelist Service

Nature Astronomy (3)

Nature (1)

NeurIPS 2021 Workshop on Machine Learning and the Physical Sciences (1)

Journal of Open Source Software (1)

Monthly Notices of the Royal Astronomical Society (1)

AAS Journals (7)

PNAS (1)

Hubble Space Telescope Time Allocation Committee Reviewer

JWST Time Allocation External Panelist

NASA Exoplanets Research Program Reviewer x 2

Available Data and Data Products

NASA GSFC-eleanor-lite light curves

`stella` convolutional neural network models

`eleanor` light curves

HFFDeepSpace: Hubble Frontier Fields Catalogs

Department Service

2025 - 2026: MSU Physics and Astronomy Colloquium Committee

2021 - 2022: Co-organizer for UChicago Exoplanet Journal Club

2020, 2021: Lead organizer for the UChicago Virtual Graduate School Information Session *****

September, 2021: NSF Graduate Research Fellowship Panelist for UChicagoGRAD

2020 - 2022: Lead organizer of the UChicago Graduate Admissions Reform Working Group *****

2020 - Present: Member and Website Creator, Inclusion, Diversity and Equity in Astronomy (IDEA) *****

2020 - Present: Website Committee, University of Chicago, Student Representative

2019, 2020, 2021: Graduate Women in Astronomy event coordinator *****

2019-2020: ERC Space Committee, University of Chicago, Student Representative

Community Service

2023, 2024: NHFP application feedback program volunteer *****

2023: Astronomy Mentorship Program for Upcoming Postdocs (AMP-UP) Mentor

- Led discussion on personal website content and design for mentees (virtual; September 8, 2023)

March, 2023; Cornell Exoplanet Conference session chair

AAS 241: “Stars and X-rays/UV” session chair

January, 2022: CHAMPs Exoplanet ECR Highlight Seminar session chair

2021: Aided TESS Senior Review for Extended Mission 2 (stellar flares)

2019: LOC Member, ``Building early science with TESS" Meeting, Chicago

TEACHING

Assistant Professor, Michigan State University

Fall 2025: PHY 905: Exoplanets and Observational Astronomy (graduate level)

Graduate Teaching Assistant, University of Chicago

Spring 2022: Astronomy 48900: Undergraduate Research Seminar (guest lecture)

Spring 2021: Astronomy 12720: Exoplanets

Fall 2020: Astronomy 12700: Stars

Undergraduate Teaching Assistant, Tufts University

Spring 2018: Women Gender and Sexuality Studies 85: The Universe: Illuminated By Women

Spring 2017: Astronomy 9: Concepts of the Cosmos

Fall 2017: Astronomy 31: Stellar Structure & Evolution

OUTREACH

Skype a Scientist volunteer (2018-Present; 23 classrooms to-date)

Astronomy on Tap Lansing (November 19, 2024)

Letters to a Pre-Scientist pen-pal (2018-2023; 4 pen-pals to-date)

Lifelong Learning guest lecturer (October 8, 2021; virtual)

Real Scientists Curator (January 17-24, 2021)

University of Chicago Physics Mentorship Program mentor (2019, 2021)

Soapbox Science Chicago speaker (2019)

HerStory volunteer (2019)

Adler After Dark speaker (2019)

Naperville Astronomical Association lecture (invited; 2019)

Chicago Astronomical monthly lecture (invited; 2019)

Hyde Park Neighborhood Club after-care program volunteer in the Maker Lab (2018)

@astrotweeps guest host (2018)

WMFO Heard Mentality guest speaker (2018)

MEDIA APPEARANCES

Astronomers gather more clues about the interstellar comet 3I/ATLAS (August 8, 2025) - NewScientist

Astronomers race to study interstellar interloper (July 11, 2025) - Science

Telescopes team up to probe distant worlds (June 18, 2025) — PNAS

JWST KRONOS and Lawrence Livermore National Laboratory (LLNL) collaboration press release (February 27, 2025) — MSU release; ASU release; LLNL release

Created the artwork for the Dark Comets PNAS article press release (December 10, 2024)

Created the artwork for the cover of Nature No. 8018 (June 27, 2024)

JWST Transiting Exoplanet Community Early Release Science Program NIRISS Results — NASA Exoplanets; UChicago News; Sky and Telescope; inverse.com; SETI Live Interview (12/15)

The Flares of AU Mic — Press release at 240th AAS meeting

December 21 Christmas Star — ABC7 Chicago; Chicago Tribune

UChicago scientists teach a neural net to find baby star flares; SciTechDaily

The Young DS Tuc Ab is Aligned

Discovery of TOI 1338b

Discovery of TOI 270

Discovery of K2-288Bb — Press release at 233rd AAS meeting; JPL press release; NBC News; WGN radio

CO-PI'D GRANTS + PROPOSALS

JWST

Resolving Atmospheric Uncertainties and Building a Legacy Dataset for WASP-39b (PI Luis Welbanks)

Imaging a Hidden Super-Jupiter Accelerating its Metal-rich M-dwarf Host (PI Marvin Morgan)

Bridging the generation gap with TOI-1801 b, a 700 Myr-old temperate sub-Neptune (PI Rafael Luque)

Shining a Spot-light on the Atmosphere of a Giant Planet around a Cool Star (PI Catriona Murray)

TUNES: The Unintentional NIRISS Escape Survey (PI Shreyas Vissapragada)

Putting it all Together: Dynamics and Chemistry Probed Through Transmission Spectroscopy of a Cloud-Free Exoplanet (PI Michael Radica)

The First Atmospheric Study of a Bona Fide Water World (PI Rafael Luque)

Hubble

Probing Accretion and Inner Disk Gas in the Youngest Planet System with HST (PI Catherine Espaillat)

A Punctured Pufferfish: Atmospheric Escape from a Neptune-mass Planet Inflated to the Size of Jupiter (PI Girish Duvvuri)

For Whom the Metal Flows: An FUV Transit of the Young AU Mic c (PI Keighley Rockcliffe)

A young burping planet: characterizing the variable atmospheric escape of the exciting AU Mic b (PI Keighley Rockcliffe)

The M dwarf FUV Continuum: A Missing Driver of Atmospheric Hazes in Exoplanet Atmospheres (PI Kevin France)

TESS

Planets And Stellar Activity Through Time: Understanding The Evolution, Diversity And Habitability Of Planetary Systems (PI Edward Gillen)

Chandra

One Thousand and One (+49) Flary Nights: a Comprehensive Mini-Survey of Flares and Exoplanets (PI Maximillian Günther)

1,050 Flaring Stars: A Comprehensive Survey Of Flares And Exoplanets (PI Maximilian Günther)

Uniform Light Curves Across the Entire Sky from TESS FFIs with `eleanor` ($150,000; PI Benjamin Montet)

Searching for Planets in the Continuous viewing Zone with TESS Full Frame Image Data ($50,000; PI Veselin Kostov)

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

Searching for Planets in the Continuous viewing Zone with TESS Full Frame Image Data ($50,000; PI Elisa Quintana)

XMM-Newton

24 ks, AO24 (PID 096453; PI George King)
118 ks, AO20 (PI Katija Poppenhaeger)

SWIFT

DDT (PI Garrett Levine)

60 ks (Cycle 26; PI Garrett Levine)

CHEOPS

78 orbits/129 hours (AO-4; PI Hinna Shivkumar)

NASA ADAP

Detecting Activity Cycles using Stellar Flares, 2022 ($544,087; PI James Davenport)

Ground-based

Palomar

12 nights total between 2023A - 2025A (PI Garrett Levine)

Keck II

1 night, 2025A (PI Garrett Levine)
1 night, 2024B (PI Garrett Levine)

Magellan

1 night on PFS, 2019 (PI Benjamin Montet)
1 night on FIRE, 2018 (PI Jacob Bean)

Very Large Array

5 hours DDT 2025A (PI Isaiah Tristan)

Australian National Telescope Facility

40 hours (PI Isaiah Tristan)

Competitive Computing Time Awarded

19th Grand Compute Challenge - 22,000,000 CPU (Lawrence Livermore National Laboratory; PI Peter McGill)

Student-Awarded Funding (per project)

Measuring Stellar Cycles of Young Stars with K2 and TESS

University of Chicago Quad Summer Undergraduate Research Scholars ($5,500; May, 2022)
Illinois Space Grant Consortium for Undergraduate Research Scholarship ($3,000; March, 2022)

OTHER REFEREED PUBLICATIONS (35)

39. ***Flares on TRAPPIST-1 reveal the spectrum of magnetic features on its surface*** - Vasilyev V. Et al. 2025, ApJL, 989, 12, L53.

40. ***Destruction of "Peas in a Pod?" A Candidate Multi-planet System Around the Nearby Bright Star HD 208487*** - Rubenstein et al. Accepted at A&A.

41. ***Discovery and Preliminary Characterization of a Third Interstellar Object: 3I/ATLAS*** - Seligman D. Z., Micheli M., Farnocchia D., et al. 2025, ApJL, 989, 2, L36.

42. ***A metal-poor atmosphere with a hot interior for a young sub-Neptune progenitor: JWST/NIRSpec transmission spectrum of V1298 Tau b*** - Barat A., Désert J.-M., Mukherjee S., et al. Accepted at AAS Journals.

43. ***OI and CII Escape Detected while HI Escapes Detection on the young sub-Neptune AU Mic c*** - Rockcliffe K., Newton E., Youngblood A., et al. 2025, AJ, 169, 321.

44. ***Two distinct populations of dark comets delineated by orbits and sizes*** - Seligman D. Z., Farnocchia D., Micheli M., et al. 2024, PNAS, 121, e2406424121.

45. ***A giant planet transiting a 3-Myr protostar with a misaligned disk*** - Barber M G., Mann A. W., Vanderburg A., et al. 2024, Nature, 635, 574.

46. ***Bulge+disc decomposition of HFF and CANDELS galaxies: UVJ diagrams and stellar mass-size relations of galaxy components at 0.2 ≤ z ≤ 1.5*** - Nedkova K. V., Häußler B., Marchesini D., et al. 2024, MNRAS, 532, 3747.

47. ***HD 222237 b: a long-period super-Jupiter around a nearby star revealed by radial-velocity and Hipparcos-Gaia astrometry*** - Xiao G.Y-., Feng F., Schectman S. A., et al. 2024, MNRAS, 534, 2858.

48. ***A benchmark JWST near-infrared spectrum for the exoplanet WASP-39 b*** - Carter A. L., May E. M., et al. 2024, Nature Astronomy, https://doi.org/10.1038/s41550-024-02292-x

49. ***Nightside clouds and disequilibrium chemistry on the hot Jupiter WASP-43b*** - Bell T. J., Crouzet N., Cubillos P. E. Et al. 2024, Nature Astronomy, doi:10.1038/s41550-024-02230-x

50. ***Quenching-driven equatorial depletion and limb asymmetries in hot Jupiter atmospheres: WASP-96b example*** - Zamyatina M., Christie D. A., Hébrard E., et al. 2024, MNRAS, 529, 1776.

51. ***X-ray and optical observations of the young M dwarf dipper star TIC 234284556*** - Poppenhaeger K., Montet B., Alvarado-Gómez J., et al. 2023, Research Notes of the American Astronomical Society, 7, 200.

52. ***Awesome SOSS: Atmospheric Characterization of the Early Release Observations of WASP-96b*** - Taylor J., Radica M., Welbanks L., et al. 2023, MNRAS, 524, 1.

53. ***Updated Planetary Mass Constraints of the Young V1298 Tau System using MAROON-X*** - Sikora J., Rowe J., Barat S., et al. 2023, ApJ, 165, 250.

54. ***Direct Evidence of Photochemistry in an Exoplanet Atmosphere*** - Tsai S-M. Lee E. K. H., Powell D., et al. 2023, Nature, 617, 483.

55. *Early Release Science of the exoplanet WASP-39b with JWST NIRSpec G395H* - Alderson, L., Wakeford, H. R., Alam, M. K., et al. 2023, Nature, 614, 664.

56. *Early Release Science of the exoplanet WASP-39b with JWST NIRSpec PRISM* - Rustamkulov Z., Sing D., et al. 2023, Nature, 614, 659.

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58. *Identification of carbon dioxide in an exoplanet atmosphere* - JWST Transiting Exoplanet Community Early Release Science Team et al. Nature, 614, 649.

59. *The Volatile Carbon to Oxygen Ratio as a Tracer for the Formation Locations of Interstellar Comets* - Seligman D. Z., Rogers L. A., Cabot S. H. C., et al. 2022, PSJ, 3, 150.

60. *Complex Modulation of Rapidly Rotating Young M Dwarfs: Adding Pieces to the Puzzle* - Günther M. N., Berardo D. A., Ducrot E. et al. 2022, AJ, 163, 144.

61. *Extending the evolution of the stellar mass-size relation at $z \leq 2$ to low stellar mass galaxies from HFF and CANDELS* - Nedkova K. V., Häußler B., Marchesini D., et al., 2021, MNRAS, 506, 1.

62. *Enhanced and Persistent Flare Driven Bio-indicating Chemistry on Synchronously-Rotating Rocky Worlds* - Chen H., Zhan Z., Youngblood A. et al. Nature Astronomy, 2021, 5, 298.

63. *TOI-954b and K2-329b: Short-Period Saturn-Mass Planets that Test Whether Irradiation Leads to Inflation* - Sha L., Huang C. X., Shporer A., et al. 2021, AJ, 161, 82.

64. *Revisiting the HD 21749 Planetary System with Stellar Activity Modeling* - Gan T., Wang S. X., Teske J. K. et al. 2020, MNRAS, 501, 6042.

65. *TOI-824 b: A New Planet on the Lower Edge of the Hot Neptune Desert* - Burt J. A., Nielsen L. D., Quinn S. N., et al. 2020, AJ 160, 153.

66. *TESS-Point: High precision TESS pointing tool* - Burke C. J., Levine A., Fausnaugh M. et al. 2020, Astrophysics Source Code Library.

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68. *THOR 42: A touchstone ~24 Myr-old eclipsing binary spanning the fully-convective boundary* - Murphy S. J., Lawson W. A., Onken C. A., et al. 2019, MNRAS, 2794.

69. *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.

70. *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.

71. *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.

72. ***A TESS Dress Rehearsal: Planetary Candiates and Variables from K2 Campaign 17*** - Crossfield I. J. M., Guerrero N., David T., et al. 2018 AJ, 239, 1.

73. ***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.

74. ***Planetary Candidates from K2 Campaign 16*** - Yu, L. Crossfield I. J. M., Schlieder J. E., et al. 2018 AJ, 156, 22.

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75. ***Witnessing the Evolution of Sub-Neptunes*** - **Feinstein A. D.** + 15 co-authors. White Paper as part of a series requested by the STScI Strategic Exoplanet Initiatives with HST and JWST Working Group. Overleaf Link

76. ***The life cycle of stars and their planets from the high energy perspective*** - Corrales L., Stassun K., Cunningham T., et al. White Paper as part of a series commissioned for the AXIS Probe Concept Mission. arXiv:2311.07674

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