Steven Giacalone Curriculum Vitae

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Cahill Center for Astronomy and Astrophysics
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Research Interests

Demographics and architectures of exoplanet systems; statistical validation and vetting of transiting exoplanets; planets orbiting A-type stars; orbital migration of giant planets; dust transport in protoplanetary disks

Research Positions and Employment

NSF Astronomy and Astrophysics Postdoctoral Fellow, California Institute of Technology — 2023 - present
Postdoctoral Researcher, University of California, Berkeley — Summer 2023
Ph.D. Candidate, University of California, Berkeley — 2021 - 2023
NASA FINESST Future Investigator, University of California, Berkeley — 2020 - 2023
Graduate Student Researcher, University of California, Berkeley — 2017 - 2020
Undergraduate Research Assistant, The University of Chicago — 2014 - 2017
On-Call Technician, Fermi National Accelerator Laboratory — Summer 2014

Education

Ph.D. Astrophysics, University of California, Berkeley — May 2023
Advisor: Courtney Dressing
Thesis: Discovery and Demographics of Hot Planets orbiting Hot Stars
Graduate Certificate in Applied Data Science, University of California, Berkeley — May 2021
M.A. Astrophysics, University of California, Berkeley — December 2018
B.A. Physics with Honors, The University of Chicago — June 2017
Specialization: Astrophysics
Advisor: Arieh Königl
Thesis: Dust Transport in Protoplanetary Disk Winds

Selected Awards & Honors

NSF Astronomy and Astrophysics Postdoctoral Fellowship — 2023
STScI Lasker Postdoctoral Fellowship (offer declined) — 2023
NASA FINESST Award — 2020
Sigma Xi — 2019
NSF GRFP Honorable Mention — 2019
Nathan Sugarman Undergraduate Research Award — 2017
The University of Chicago College Research Fellowship — 2016
Phi Beta Kappa — 2016

PI Telescope Programs

Keck I Telescope
2. S. Giacalone, C. Dressing, A. Howard, F. Dai, N. Vowell, T. Carmichael (2.0 nights, KPF) — 2024B
1. S. Giacalone, C. Dressing, A. Howard, F. Dai, S. Halverson (0.5 night, KPF) — 2023B

Gemini North Telescope
1. S. Giacalone, A. Howard, F. Dai, N. Vowell, T. Carmichael (6.0 hours, MAROON-X) — 2024B

Palomar Hale Telescope
2. S. Giacalone, A. Howard (2 nights, PARVI) — 2024B
1. S. Giacalone, A. Howard, B. Cale (2 nights, PARVI) — 2024A

WIYN Telescope
1. S. Giacalone, A. Howard, F. Dai, N. Vowell, T. Carmichael (8.0 hours, NEID) — 2024B

NASA Infrared Telescope Facility
1. S. Giacalone, C. Dressing, E. Abrahams, E. Turtelboom, A. Mayo (19.2 hours, SpeX) — 2020B

Automated Planet Finder Telescope at Lick Observatory
4. S. Giacalone, C. Dressing, F. Dai (2.75 nights, Levy) — 2024B
3. S. Giacalone, C. Dressing, F. Dai (2.75 nights, Levy) — 2023B
2. S. Giacalone, C. Dressing (7.25 nights, Levy) — 2023B

1. S. Giacalone, C. Dressing (2 nights, Levy) 2023A

SMARTS 1.5-meter Telescope

1. S. Giacalone, A. Howard, F. Dai, N. Vowell, T. Carmichael (3.7 hours, CHIRON) 2024B

Las Cumbres Observatory 1-meter Telescopes

6. S. Giacalone, C. Dressing (7.5 hours, NRES) 2023B
5. S. Giacalone, C. Dressing (73.0 hours, NRES) 2023A
4. S. Giacalone, C. Dressing (53.0 hours, Sinistro) 2023A
3. S. Giacalone, C. Dressing (20.0 hours, Sinistro) 2022B
2. S. Giacalone, C. Dressing (50.0 hours, Sinistro) 2022A
1. S. Giacalone, C. Dressing (22.0 hours, Sinistro) 2021A

Nickel Telescope at Lick Observatory

4. S. Giacalone, C. Dressing, C. Harada (5 nights, Direct Imaging Camera) 2022B
3. S. Giacalone, C. Dressing, C. Harada (18 nights, Direct Imaging Camera) 2022A
2. S. Giacalone, C. Dressing, C. Harada (20 nights, Direct Imaging Camera) 2021B
1. S. Giacalone, C. Dressing (17 nights, Direct Imaging Camera) 2021A

MINERVA-Australis Telescope

1. S. Giacalone, C. Dressing (5.5 hours, Echelle Spectrograph) 2023B

Co-I Telescope Programs

James Webb Space Telescope: PI A. Mayo. Cycle 1 GO 2062 (23.0 hours, NIRISS and NIRSpec)
Hubble Space Telescope: PI C. Dressing. Cycle 28 GO 16267 (18.0 orbits, WFC3); PI P. Loyd. Cycle 29 GO 16731 (12.0 orbits, STIS); PI P. Loyd. Cycle 32 GO 17801 (29.0 orbits, STIS and COS)
Keck I Telescope: PI C. Dressing. 2022B_U089 (0.75 nights, HIRES); PI S. Kane. 2024A_U288 (3 nights, KPF); PI T. Carmichael. 2024A_H373 (3 nights, KPF); PI C. Dressing. 2024B_U277 (2 nights, KPF); PI T. Carmichael. 2024B_H331 (1.5 nights, KPF)
Gemini North Telescope: PI E. Turtelboom. 2024B-Q-123 (19.8 hours, MAROON-X)
WIYN Telescope: PI E. Turtelboom. 2024B-662476 (17.5 hours, NEID)
NASA Infrared Telescope Facility: PI: E. Turtelboom. 2023B048 (38.4 hours, SpeX)
SMARTS 1.5-meter Telescope: PI N. Vowell. 2024B-447397 (17.5 hours, CHIRON)
Shane Telescope at Lick Observatory: PI C. Dressing. 2018B_S008, 2019A_S018, 2019B_S018, 2020A_S015, 2020B_S009, 2021A_S020, 2021B_S009, 2022A_S014 (70 nights, ShaneAO/ShARCS NGS and LGS)

Service & Leadership

NASA Proposal Review Participant 2021 - present
Journal Referee: PASP, A&A, AAS Journals 2022 - present
UC Berkeley Astronomy Department Graduate Student Representative 2021 - 2023
Respect is Part of Research Workshop Astronomy Department Representative 2020 - 2022
Peer-led harassment and discrimination prevention workshop for new graduate students.
Respect is Part of Research Workshop Discussion Facilitator 2018 - 2020

Teaching & Mentoring

Mentor, Caltech WAVE Fellows Program Summer 2024
Architect and Instructor, PCC Python for Physics/Astro Workshop Spring 2024
Guest Lecturer, UC Berkeley Astro 7A: Intro to Astrophysics September 2022
Guest Lecturer, UC Berkeley Astro 9: Intro to Scientific Computing with Python July 2022
Head Graduate Student Instructor, UC Berkeley Astro C162/C249: Planetary Astrophysics Fall 2019
Mentor, UC Berkeley Compass Undergraduate Mentorship Program Spring 2019
Head Graduate Student Instructor, UC Berkeley Astro 7B: Intro to Astrophysics Spring 2019
Graduate Student Instructor, UC Berkeley Astro C12: The Planets Spring 2018
Graduate Student Instructor, UC Berkeley Astro C10: Intro to General Astronomy Fall 2017
Student, UC Berkeley Astro 375: Instruction Techniques in General Astronomy Fall 2017

Outreach

Guest Speaker, UC Berkeley Astronomy Night August 2023
Guest Speaker, Science at Cal Midday Science Cafe September 2022
Guest Speaker, Chabot Space & Science Center Galaxy Explorers Program February 2020
Head Organizer and Host, UC Berkeley Astronomy Night 2019 - 2022
Monthly event consisting of a public lecture and a stargazing party on the top floor balcony of

the UC Berkeley Astronomy Department with a 17-inch Cassegrain telescope. Events are regularly attended by 100+ members of the Berkeley community.
Lectures can be viewed at: youtube.com/channel/UCI2z7hDra2RuAC8iPIQCS8w.

Volunteer, UC Berkeley Astronomy Night 2017 - 2019

Volunteer Instructor, Splash at Berkeley 2017 - 2022
Annual event at which I gave a lecture titled "The Search for Habitable Exoplanets" for local high school students. More info at: berkeley.learningu.org.

Conference & Seminar Talks

IPAC Lunch Seminar, Caltech/IPAC	October 2024
Keck Science Conference, Caltech	September 2024
TESS Science Conference III, MIT	July 2024
Astrobiology Seminar, UC Riverside	January 2024
American Astronomical Society Meeting # 243, New Orleans LA	January 2024
22nd NSF-AST Fellow Symposium, New Orleans LA	January 2024
Exoplanet Lunch Seminar, UC Los Angeles	October 2023
Emerging Researchers in Exoplanetary Science Conference VIII, New Haven CT	June 2023
American Astronomical Society Meeting # 241, Seattle WA	January 2023
Dix Planetary Science Seminar, Caltech	November 2022
Special Seminar, Harvard CfA	October 2022
TESS Science Talk, MIT	October 2022
TESS Science Team Meeting #29, Virtual/MIT	October 2022
Exoplanet Journal Club, The University of Chicago	September 2022
Lunch Talk Seminar, UC Berkeley	September 2022
Lunch Talk Seminar, UC Berkeley	April 2022
CHAMPs Early Career Researcher Highlight Seminar, Virtual	January 2022
Bay Area Exoplanet Meeting #39, NASA Ames	December 2021
Exoplanet Science Institute Journal Club, Virtual/NASA JPL	August 2021
Bay Area Exoplanet Meeting #31, NASA Ames	December 2019
Center for Integrative Planetary Science Seminar, UC Berkeley	September 2019
Bay Area Exoplanet Meeting #28, NASA Ames	March 2019
Graduate Student – Postdoc Seminar, UC Berkeley	November 2018
Center for Integrative Planetary Science Seminar, UC Berkeley	December 2017
Nathan Sugarman Award Seminar, The University of Chicago	May 2017

Conference Posters

Exoplanets V, Lieden NL	June 2024
Extreme Solar Systems V, Christchurch NZ	March 2024
ExSoCal, Caltech	December 2023
Exoplanets IV, Las Vegas NV	May 2022
Division of Planetary Science Meeting #53, Virtual	October 2021
TESS Science Conference II, Virtual	August 2021
Advanced School for Explanet Science III, Salerno IT	May 2019
Sagan Exoplanet Summer Workshop, Caltech	July 2018

Publications

More than 90 peer-reviewed publications. Full and up-to-date list available on NASA ADS.

Leading-Author Refereed Papers

7. Gore, R., **Giacalone, S.**, et al. 2024, "Metallicities and Refined Stellar Parameters for 52 Cool Dwarfs with Transiting Planets and Planet Candidates," ApJS, 271, 48
   DOI: 10.3847/1538-4365/ad2c0c
6. **Giacalone, S.**, et al. 2022, "HD 56414 b: A Warm Neptune Transiting an A-type Star," ApJL, 935, L10
   DOI: 10.3847/2041-8213/ac80f4
5. **Giacalone, S.**, et al. 2022, "Validation of 13 Hot and Potentially Terrestrial TESS Planets," AJ, 163, 99
   DOI: 10.3847/1538-3881/ac4334

4. **Giacalone, S.**, et al. 2021, "Vetting of 384 TESS Objects of Interest with TRICERATOPS and Statistical Validation of 12 Planet Candidates," AJ, 161, 24
DOI: 10.3847/1538-3881/abc6af
3. **Giacalone, S.**, et al. 2019, "Dust Transport and Processing in Centrifugally Driven Protoplanetary Disk Winds," ApJ, 882, 33
DOI: 10.3847/1538-4357/ab311a
2. **Giacalone, S.**, Matsakos, T., & Königl, A. 2017, "A Test of the High-Eccentricity Migration Scenario for Close-In Planets," AJ, 154, 192
DOI: 10.3847/1538-3881/aa8c04
1. Königl, A., **Giacalone, S.**, & Matsakos, T. 2017, "On the Origin of Dynamically Isolated Hot Earths," ApJL, 846, L13
DOI: 10.3847/2041-8213/aa861f

Software

1. **Giacalone, S.** & Dressing, C. D. 2020, "triceratops: Candidate exoplanet rating tool," ASCL, ascl:2002.004
GitHub: https://github.com/stevengiacalone/triceratops