

Dr. Fei Dai

Assistant Astronomer/Professor
Institute for Astronomy
University of Hawai'i
2680 Woodlawn Drive
Honolulu, HI 96822

Website: <https://people.ifa.hawaii.edu/faculty/bio/fei-dai/>
Phone: +1-(781)-290-9672
Email: fdai@hawaii.edu

Education

Massachusetts Institute of Technology	[2014-2019]
Ph.D. in Physics; Advisor: Prof. Joshua N. Winn	
University of Cambridge, UK	[2010-2014]
B.A. of Natural Sciences; M.Sci of Physics, First Class Honors	

Professional Appointment & Research Experience

Assistant Astronomer/Professor	[2024-Present]
Institute for Astronomy, University of Hawai'i at Mānoa	
NASA Sagan Postdoctoral Fellow	[2022-2024]
Division of Physics, Math, and Astronomy, Caltech	
GPS Chair's Postdoctoral Fellow	[2019-2022]
Division of Geological and Planetary Sciences, Caltech	
Visiting Graduate Student	[2017-2019]
Department of Astrophysical Sciences, Princeton University	

Publications

Total Refereed: 182; 1st-author: 16; Citations: 6155; h-index: 50; i10-index: 133

First-Author Publications

- [1] **F Dai**, K Masuda, JN Winn, L Zeng 2019, The Astrophysical Journal, 883, 1, [ADS](#)
Homogeneous Analysis of Hot Earths: Masses, Sizes, and Compositions
- [2] **F Dai**, JN Winn, 2017, The Astronomical Journal 153, 205, [ADS](#)
The Oblique Orbit of WASP-107b from K2 Photometry
- [3] **F Dai**, JN Winn, D Gandolfi, et al., 2017, The Astronomical Journal 154, 226, [ADS](#)
The Discovery and Mass Measurement of a New Ultra-short-period Planet: K2-131b
- [4] **F Dai**, K Masuda, JN Winn, 2018, The Astrophysical Journal Letter, 864, 2, L38, [ADS](#)
Larger Mutual Inclinations for the Shortest-period Planets
- [5] **F Dai**, A Masuda, C Beard, et al., 2023, The Astronomical Journal, 165, 33, [ADS](#)
TOI-1136 is a Young, Coplanar, Aligned Planetary System in a Pristine Resonant Chain
- [6] **F Dai**, S Facchini, CJ Clarke, TJ Haworth, 2015, MNRAS 449, 2, [ADS](#)
A Tidal Encounter Caught in the Act: Modelling a Star-disc Fly-by in the Young RW Aurigae System
- [7] **F Dai**, JN Winn, S Albrecht, P Arriagada, et al., 2016, The Astrophysical Journal 825, 53, [ADS](#)
Doppler Monitoring of five K2 Transiting Planetary Systems
- [8] **F Dai**, A Howard, N Batalha, et al., 2021, The Astronomical Journal, 162, 62, [ADS](#)
The TESS-Keck Survey. X: TOI-1444b and a Comparative Analysis of the Ultra-short-period Planets with Hot Neptunes
- [9] **F Dai**, JN Winn, P Arriagada, RP Butler, et al., 2015, The Astrophysical Journal Letters 813, L9, [ADS](#)
Doppler Monitoring of the WASP-47 Multiplanet System
- [10] **F Dai**, JN Winn, P Arriagada, RP Butler, et al., 2015, The Astrophysical Journal Letters 813, L9, [ADS](#)
Doppler Monitoring of the WASP-47 Multiplanet System
- [11] **F Dai**, R Roy, BJ Fulton, et al. 2020, The Astronomical Journal, 160, 193, [ADS](#)
The TESS-Keck Survey. III. A Stellar Obliquity Measurement of TOI-1726 c
- [12] **F Dai**, JN Winn, K Schlaufman, et al., 2020, The Astronomical Journal, 159, 247, [ADS](#)
California-Kepler Survey. IX. Revisiting the Minimum-mass Extrasolar Nebula with Precise Stellar Parameters
- [13] **F. Dai**, M. Goldberg, K. Batygin, et al., 2024, The Astronomical Journal, 166, 239, [ADS](#)
The Prevalence of Resonance Among Young, Close-in Planets
- [14] **F Dai**, JN Winn, Z Berta-Thompson, R Sanchis-Ojeda, 2018, The Astronomical Journal 155, 177, [ADS](#)
Stellar Obliquity and Magnetic Activity of Planet-hosting Stars and Eclipsing Binaries Based on Transit Chord Correlation
- [15] **F. Dai**, A. Howard, S. Halverson, et al., 2024, The Astronomical Journal, 168, 101, [ADS](#)

- [16] **F. Dai**, K. C. Schlaufman, H. Reggiani, et al., 2023, *The Astronomical Journal*, 166, 49, [ADS](#)
A Mini-Neptune Orbiting the Metal-poor K Dwarf BD+ 29 2654

Major-Contribution Publications

- [17] Y. Xu & **F. Dai**, 2025, *The Astrophysical Journal* 981, 142 [ADS](#)
Amplifying Resonant Repulsion with Inflated Young Planets, Overlooked Inner Planets, and Nonzero Initial Δ
- [18] R. Lee, **F. Dai**, et al., 2025, *The Astrophysical Journal Letters* 983 L36, [ADS](#)
TOI-6324 b: An Earth-mass Ultra-short-period Planet Transiting a Nearby M Dwarf
- [19] F. Keller, **F. Dai** & W. Xu, 2025, *The Astrophysical Journal*, in press, [ADS](#)
Higher-Order Mean-Motion Resonances Can Form in Type-I Disk Migration
- [20] E. Zhang, H. Teng, **F. Dai**, et al. 2025, *The Astrophysical Journal*, in press, [ADS](#)
TOI-880 is an Aligned, Coplanar, Multi-planet System
- [21] H. Teng, **F. Dai**, 2025, *The Astrophysical Journal*, 170, 51 [ADS](#)
Stellar Obliquity of the Ultra-short-period Planet System HD 93963
- [22] Z. Hu, **F. Dai**, 2024, *The Astrophysical Journal Letters* 977, L28 [ADS](#)
An Eccentric Binary with a Misaligned Circumbinary Disk
- [23] H. Teng, **F. Dai**, et al., 2024, *The Astronomical Journal* 168, 194, [ADS](#)
The ~ 50 Myr Old TOI-942c is Likely on an Aligned, Coplanar Orbit and Losing Mass
- [24] S. Giacalone, **F. Dai**, et al., 2024, *The Astronomical Journal* 168, 188, [ADS](#)
The OATMEAL Survey. I. Low Stellar Obliquity in the Transiting Brown Dwarf System GPX-1
- [25] R. Rubenzahl, **F. Dai**, et al., 2024, *The Astronomical Journal* 168, 189, [ADS](#)
KPF Confirms a Polar Orbit for KELT-18 b
- [26] R. Rubenzahl, **F. Dai**, et al., 2024, *The Astrophysical Journal Letters* 971, L40, [ADS](#)
Obliquity Constraints for the Extremely Eccentric Sub-Saturn Kepler-1656 b
- [27] H. Yu & **F. Dai**, 2024, *The Astrophysical Journal*, in press, [ADS](#)
Are WASP-107-like Systems Consistent with High-eccentricity Migration?
- [28] T. Gan, S. Wang, **F. Dai**, et al., 2024, *The Astrophysical Journal Letters*, 969, 1, L24, [ADS](#)
The Aligned Orbit of a Hot Jupiter around the M Dwarf TOI-4201
- [29] R. Rubenzahl, **F. Dai**, et al., 2024, *The Astronomical Journal*, 167, 4, 16, [ADS](#)
The TESS-Keck Survey. XII. A Dense 1.8 R Ultra-short-period Planet Possibly Clinging to a High-mean-molecular-weight Atmosphere after the First Gigayear
- [30] C. Beard, P. Robertson, **F. Dai**, et al., 2024, *The Astronomical Journal*, 167, 2, 70, [ADS](#)
The TESS-Keck Survey. XVII. Precise Mass Measurements in a Young, High-multiplicity Transiting Planet System Using Radial Velocities and Transit Timing Variations
- [31] A. Behmard, **F. Dai**, et al., 2023, *Monthly Notices of the Royal Astronomical Society*, 521, 2, [ADS](#)
Planet engulfment detections are rare according to observations and stellar modelling
- [32] C. Brinkman, L. Weiss, **F. Dai**, et al., 2023, *The Astronomical Journal*, 165, 3, 88, [ADS](#)
TOI-561 b: A Low-density Ultra-short-period “Rocky” Planet around a Metal-poor Star
- [33] A. Goyal, **F. Dai**, S. Wang, 2023, *The Astrophysical Journal*, 955, 2, 118, [ADS](#)
Enhanced Size Uniformity for Near-resonant Planets
- [34] T. Hirano, **F. Dai**, et al., 2023, *The Astronomical Journal*, 165, 3, 131, 14, [ADS](#)
An Earth-sized Planet around an M5 Dwarf Star at 22 pc
- [35] M. Zhang, **F. Dai**, et al., 2023, *The Astrophysical Journal Letters*, 953, 2, L25, [ADS](#)
Outflowing helium from a mature mini-Neptune
- [36] A. Behmard, **F. Dai**, A. Howard, 2022, *The Astronomical Journal*, 163, 4 [ADS](#)
Stellar Companions to TESS Objects of Interest: A Test of Planet-Companion Alignment
- [37] W. Zhu, K. Bernhard, **F. Dai**, et al., 2022, *The Astrophysical Journal Letters* 933 (1), L21, [ADS](#)
Two Candidate KH 15D-like Systems from the Zwicky Transient Facility
- [38] L. Weiss, **F. Dai**, et al., 2021, *The Astronomical Journal*, 161, 2, [ADS](#)
The TESS-Keck Survey. II. An Ultra-short-period Rocky Planet and Its Siblings Transiting the Thick-disk Star TOI-561
- [39] R. Rubenzahl, **F. Dai**, et al., 2021, *The Astronomical Journal*, 161, 3, [ADS](#)
TESS-Keck Survey. IV. A Retrograde, Polar Orbit for the Ultra-low-density, Hot Super-Neptune WASP-107b
- [40] L. Wang & **F. Dai**, 2021, *The Astrophysical Journal*, 914, 2, 98, [ADS](#)
Metastable Helium Absorptions with 3D Hydrodynamics and Self-consistent Photochemistry. II. WASP-107b, Stellar Wind, Radiation Pressure, and Shear Instability
- [41] L. Wang & **F. Dai**, 2021, *The Astrophysical Journal*, 914, 2, 98, [ADS](#)
Metastable Helium Absorptions with 3D Hydrodynamics and Self-consistent Photochemistry. I. WASP-69b, Dimensionality,

X-Ray and UV Flux Level, Spectral Types, and Flares

- [42] G Li, **F Dai** & J Becker, 2020, The Astrophysical Journal Letters, 890, 2 [ADS](#)
Mutual Inclination Excitation by Stellar Oblateness
- [43] J Livingston, **F Dai**, et al., 2019, MNRAS, 484, 1, [ADS](#)
K2-264: a Transiting Multiplanet System in the Praesepe Open Cluster
- [44] L Wang & **F Dai**, 2018, The Astrophysical Journal Letters 873, 1, L1, [ADS](#)
Dusty Outflows in Planetary Atmospheres: Understanding "Super-puffs" and Transmission Spectra of Sub-Neptunes
- [45] JH Livingston, M Endl, **F Dai**, et al., 2018, The Astronomical Journal 156 , 78 [ADS](#)
44 Validated Planets from K2 Campaign 10
- [46] MC Johnson, **F Dai**, et al., 2018, MNRAS, 481, 1, [ADS](#)
The K2-260 b: a Hot Jupiter Transiting an F Star, and K2-261 b: a Warm Saturn Around a Bright G Star
- [47] L Wang & **F Dai**, 2018, The Astrophysical Journal 860, 175, [ADS](#)
Evaporation of Low-mass Planet Atmospheres: Multidimensional Hydrodynamics with Consistent Thermochemistry
- [48] W Zhu, **F Dai**, K Masuda, 2018, Research Notes of the American Astronomical Society, 2, 3, [ADS](#)
Kepler-730b is Probably a Hot Jupiter with a Small Companion
- [49] V Van Eylen, **F Dai**, et al., 2018, MNRAS, 478, 4, [ADS](#)
HD 89345: a Bright Oscillating Star Hosting a Transiting Warm Saturn-sized Planet Observed by K2
- [50] O Barragan, D Gandolfi, **F Dai**, et al., 2018, Astronomy & Astrophysics 612, A95, [ADS](#)
K2-141 b-A 5- M_{\oplus} Super-Earth Transiting a K7 V Star Every 6.7 h
- [51] T Hirano, **F Dai**, et al., 2018, The Astronomical Journal 155 , 127, [ADS](#)
Exoplanets around Low-mass Stars Unveiled by K2
- [52] T Hirano, **F Dai**, et al., 2018, The Astronomical Journal 155 , 124, [ADS](#)
K2-155: A Bright Metal-poor M Dwarf with Three Transiting Super-Earths
- [53] JH Livingston, **F Dai**, et al., 2018, The Astronomical Journal 155 , 115, [ADS](#)
Three Small Planets Transiting a Hyades Star
- [54] P Niraula, S Redfield, **F Dai**, et al., 2017, The Astronomical Journal 154 , 266, [ADS](#)
Three Super-Earths Transiting the Nearby Star GJ 9827
- [55] EW Guenther, O Barragan, **F Dai**, et al., 2017, Astronomy & Astrophysics 608, A93, [ADS](#)
K2-106, a System Containing a Metal-rich Planet and a Planet of Lower Density
- [56] R Sanchis-Ojeda, JN Winn, **F Dai**, et al., 2015, The Astrophysical Journal Letters 812 , L11, [ADS](#)
A Low Stellar Obliquity for WASP-47, a Compact Multiplanet System with a Hot Jupiter and an Ultra-short Period Planet

Other Refereed Publications

- [57] J. Šubjak, **including F Dai**, et al., 2025, Astronomy & Astrophysics 693, A235 [ADS](#)
TOI-2458 b: A mini-Neptune consistent with in situ hot Jupiter formation
- [58] Q. Liu, **including F Dai**, et al., 2025, The Astronomical Journal 169, 79 [ADS](#)
Detecting Planetary Oblateness in the Era of JWST: A Case Study of Kepler-167e
- [59] X. Hua, **including F Dai**, et al., 2025, The Astrophysical Journal Letters 980, L46 [ADS](#)
Short-period Small Planets with High Mutual Inclinations are More Common around Metal-rich Stars
- [60] M. Zhang, **including F Dai**, et al., 2025, The Astronomical Journal 169, 204 [ADS](#)
Constraining atmospheric composition from the outflow: helium observations reveal the fundamental properties of two planets straddling the radius gap
- [61] L. Handley, **including F Dai**, et al., 2025, The Astronomical Journal 169, 212 [ADS](#)
An Obliquity Measurement of the Hot Neptune TOI-1694b
- [62] Z. van Zandt, **including F Dai**, et al., 2025, The Astronomical Journal 169, 235 [ADS](#)
The TESS-Keck Survey. XXIV. Outer Giants May Be More Prevalent in the Presence of Inner Small Planets
- [63] Y. Li, **including F Dai**, et al., 2025, The Astrophysical Journal 984, 125 [ADS](#)
K Dwarf Radius Inflation and a 10 Gyr Spin-down Clock Unveiled through Asteroseismology of HD 219134 from the Keck Planet Finder
- [64] R. Li, **including F Dai**, et al., 2025, The Astronomical Journal 169, 323 [ADS](#)
The Resonant Remains of Broken Chains from Major and Minor Mergers
- [65] Y. Chen, **including F Dai**, et al., 2025, MNRAS, 540, 1998-2007 [ADS](#)
Capture and escape of planetary mean-motion resonances in turbulent discs
- [66] A. Howard, **including F Dai**, et al., 2025, ApJS, 278, 52 [ADS](#)
Planet Masses, Radii, and Orbits from NASA's K2 Mission
- [67] S. Giacalone, **including F Dai**, et al., 2025, PASP, 137,10 [ADS](#)
A Hot Jupiter with a Retrograde Orbit around a Sun-like Star and a Toy Model of Hot Jupiters in Wide Binary Star Systems

- [68] V. Hugo, including F Dai, et al., 2025, A&A, in press [ADS](#)
TOI-1259Ab: A Warm Jupiter Orbiting a K-dwarf White-Dwarf Binary is on a Well-aligned Orbit
- [69] C. Brinkman, including F Dai, et al., 2025, The Astronomical Journal 170, 109, [ADS](#)
The Compositions of Rocky Planets in Close-in Orbits Tend to be Earth-Like
- [70] J. Zhang, including F Dai, et al., 2025, The Astronomical Journal 168, 295, [ADS](#)
A Testbed for Tidal Migration: The 3D Architecture of an Eccentric Hot Jupiter HD 118203 b Accompanied by a Possibly Aligned Outer Giant Planet
- [71] J. Livingston, including F Dai, et al., 2025, Scientific Reports 14, 27219, [ADS](#)
An ultra-short-period super-Earth with an extremely high density and an outer companion
- [72] M. Hon, including F Dai, et al., 2025, The Astrophysical Journal 975, 147, [ADS](#)
*Asteroseismology of the Nearby K Dwarf *Draconis* Using the Keck Planet Finder and TESS*
- [73] X. Wang, including F Dai, et al., 2025, The Astrophysical Journal Letters 973, L21, [ADS](#)
Single-star Warm-Jupiter Systems Tend to Be Aligned, Even around Hot Stellar Hosts: No T eff- Dependency
- [74] N. Saunders, including F Dai, et al., 2024, The Astronomical Journal 168, 2, 81, [ADS](#)
TESS Giants Transiting Giants. VI. Newly Discovered Hot Jupiters Provide Evidence for Efficient Obliquity Damping after the Main Sequence
- [75] H. Isaacson, including F Dai, et al., 2024, submitted to ApJS, [ADS](#)
The California Legacy Survey V. Chromospheric Activity Cycles in Main Sequence Stars
- [76] Q. Liu, including F Dai, et al., 2024, submitted to AJ, [ADS](#)
Detecting Planetary Oblateness in the Era of JWST: A Case Study of Kepler-167e
- [77] S. Lange, including F Dai, et al., 2024, The Astronomical Journal, 167, 6, 21, [ADS](#)
The TESS-Keck Survey. VII. A Superdense Sub-Neptune Orbiting TOI-1824
- [78] A. Polanski, including F Dai, et al., 2024, The Astrophysical Journal Supplement Series 272, 2, 32, [ADS](#)
The TESS-Keck Survey. XX. 15 New TESS Planets and a Uniform RV Analysis of All Survey Targets
- [79] D. Pidhorodetska, including F Dai, et al., 2024, submitted to AJ, [ADS](#)
The TESS-Keck Survey. XXII. A sub-Neptune Orbiting TOI-1437
- [80] M. Limbach, including F Dai, et al., 2024, The Astronomical Journal, 168, 2, 54, 11, [ADS](#)
Occurrence Rates of Exosatellites Orbiting 3–30 M Jup Hosts from 44 Spitzer Light Curves
- [81] B. Hord, including F Dai, et al., 2024, The Astronomical Journal, 168, 2, 54, 11, [ADS](#)
Identification of the top TESS objects of interest for atmospheric characterization of transiting exoplanets with JWST
- [82] A. Desai, including F Dai, et al., 2024, The Astronomical Journal, 167, 5, 194, [ADS](#)
The TESS-Keck Survey. XVIII. A sub-Neptune and spurious long-period signal in the TOI-1751 system
- [83] F. Liu, including F Dai, et al., 2024, Nature 627 (8004), 501-504, [ADS](#)
At least one in a dozen stars shows evidence of planetary ingestion
- [84] C. Thomas, including F Dai, et al., 2024, The Astronomical Journal 167, 4, 160, [ADS](#)
A Tale of Two Peas in a Pod: The Kepler-323 and Kepler-104 Systems
- [85] M. Hill, including F Dai, et al., 2024, The Astronomical Journal 167, 4, 151, [ADS](#)
The TESS-Keck Survey. XIX. A Warm Transiting Sub-Saturn-mass Planet and a Nontransiting Saturn-mass Planet Orbiting a Solar Analog
- [86] J. Xuan, including F Dai, et al., 2024, The Astrophysical Journal, 962, 1, 21, [ADS](#)
Validation of elemental and isotopic abundances in late-M spectral types with the benchmark HIP 55507 AB system
- [87] A. Householder, including F Dai, et al., 2024, The Astronomical Journal 167, 2, 84, [ADS](#)
Investigating the Atmospheric Mass Loss of the Kepler-105 Planets Straddling the Radius Gap
- [88] M. Zhang, including F Dai, et al., 2024, The Astrophysical Journal Letters 961, L44, [ADS](#)
GJ 367b is a dark, hot, airless sub-Earth
- [89] J. Lubin, including F Dai, et al., 2024, The Astronomical Journal 168, 196, [ADS](#)
The HD 191939 Exoplanet System is Well Aligned and Flat
- [90] J. Orell-Miquel, including F Dai, et al., 2024, Astronomy & Astrophysics 689, A179, [ADS](#)
The MOPYS project: A survey of 70 planets in search of extended He I and H atmospheres-No evidence of enhanced evaporation in young planets
- [91] S. Gibson, including F Dai, et al., 2024, Ground-based and Airborne Instrumentation for Astronomy 13096, 42-70, [ADS](#)
System design of the Keck Planet Finder
- [92] P. Dalba, including F Dai, et al., 2024, The Astrophysical Journal Supplement, 271, 1, 16, [ADS](#)
Giant Outer Transiting Exoplanet Mass (GOT’EM) Survey. IV. Long-term Doppler Spectroscopy for 11 Stars Thought to Host Cool Giant Exoplanets
- [93] H. Deeg, including F Dai, et al., 2023, Astronomy & Astrophysics, 677, A12, [ADS](#)
TOI-1416: A system with a super-Earth planet with a 1.07 d period
- [94] R. Frazier, including F Dai, et al., 2023, The Astrophysical Journal Letters 944, 2, L41, [ADS](#)

- NEID Reveals That the Young Warm Neptune TOI-2076 b Has a Low Obliquity*
- [95] E. Goffo, **including F Dai**, et al., 2023, The Astrophysical Journal Letters, 955, 1, L3, [ADS](#)
Company for the ultra-high density, ultra-short period sub-Earth GJ 367 b: discovery of two additional low-mass planets at 11.5 and 34 days
- [96] C. Harada, **including F Dai**, et al., 2023, The Astronomical Journal 166, 5, 208, [ADS](#)
Stability and detectability of exomoons orbiting HIP 41378 f, a temperate Jovian planet with an anomalously low apparent density
- [97] A. Householder, **including F Dai**, et al., 2023, The Astronomical Journal, 167, 2, 84, [ADS](#)
Investigating the Atmospheric Mass Loss of the Kepler-105 Planets Straddling the Radius Gap
- [98] J. Korth, **including F Dai**, et al., 2023, Astronomy & Astrophysics 675, A115, [ADS](#)
TOI-1130: A photodynamical analysis of a hot Jupiter in resonance with an inner low-mass planet
- [99] E. Knudstrup, **including F Dai**, et al., 2023, Astronomy & Astrophysics 671, A164, [ADS](#)
A puffy polar planet-The low density, hot Jupiter TOI-640 b is on a polar orbit
- [100] E. Knudstrup, **including F Dai**, et al., 2023, Monthly Notices of the Royal Astronomical Society 519, 4, 5637, [ADS](#)
Radial velocity confirmation of a hot super-Neptune discovered by TESS with a warm Saturn-mass companion
- [101] R. Luque, **including F Dai**, et al., 2023, Nature 623, 932–937, [ADS](#)
A resonant sextuplet of sub-Neptunes transiting the bright star HD 110067
- [102] M. Mallorquín, **including F Dai**, et al., 2023, Astronomy & Astrophysics 680, A76, [ADS](#)
TOI-1801 b: A temperate mini-Neptune around a young M0.5 dwarf
- [103] J. Murphy, **including F Dai**, et al., 2023, The Astronomical Journal 166, 4, 153, [ADS](#)
The TESS-Keck Survey. XVI. Mass Measurements for 12 Planets in Eight Systems
- [104] M. Rice, **including F Dai**, et al., 2023, The Astronomical Journal 165, 2, 65, [ADS](#)
The Orbital Architecture of Qatar-6: A Fully Aligned Three-body System?
- [105] S. Vissapragada, **including F Dai**, et al., 2022, The Astrophysical Journal Letters 941, 2, L31, [ADS](#)
The Possible Tidal Demise of Kepler’s First Planetary System
- [106] J. Xuan, **including F Dai**, et al., 2023, in press, [ADS](#)
Validation of elemental and isotopic abundances in late-M spectral types with the benchmark HIP 55507 AB system
- [107] D. Yong, **including F Dai**, et al., 2023, Monthly Notices of the Royal Astronomical Society, 526, 2, 2181, [ADS](#)
C3PO: towards a complete census of co-moving pairs of stars–I. High precision stellar parameters for 250 stars
- [108] S. Yoshida, **including F Dai**, et al., 2023, The Astronomical Journal 166, 5, 181, [ADS](#)
TESS Spots a Super-puff: The Remarkably Low Density of TOI-1420b
- [109] M Zhang, R Hu, J Inglis, **F Dai**, et al. 2023, The Astrophysical Journal Letters, 961, 2, L44, [ADS](#)
GJ 367b is a dark, hot, airless sub-Earth
- [110] M Rice, S Wang, **including F Dai**, et al., 2022, The Astronomical Journal, 164, 104, [ADS](#)
A Tendency Toward Alignment in Single-star Warm-Jupiter Systems
- [111] L Rosenthal, H Knutson, **including F Dai**, et al., 2022, The Astrophysical Journal Supplement Series, 262, 1, [ADS](#)
The California Legacy Survey III. On The Shoulders of (Some) Giants: The Relationship between Inner Small Planets and Outer Massive Planets
- [112] M MacDougall, E Petigura, **including F Dai**, et al., 2022, The Astronomical Journal, 164, 3, [ADS](#)
The TESS-Keck Survey. XIII. An Eccentric Hot Neptune with a Similar-Mass Outer Companion around TOI-1272
TOI-2196 b: Rare planet in the hot Neptune desert transiting a G-type star
- [113] S Yee, J Winn, **including F Dai**, et al., 2022, The Astronomical Journal, 164, 2, [ADS](#)
The TESS Grand Unified Hot Jupiter Survey. I. Ten TESS Planets
- [114] E Turtelboom, L Weiss, **including F Dai**, et al., 2022, The Astrophysical Journal Letters, 933, 1, [ADS](#)
The TESS-Keck Survey. XI. Mass Measurements for Four Transiting Sub-Neptunes Orbiting K Dwarf TOI-1246
- [115] J Christiansen, S Bhure, **including F Dai**, et al., 2022, The Astronomical Journal, 163, 6, [ADS](#)
Scaling K2. V. Statistical Validation of 60 New Exoplanets From K2 Campaigns 2-18
- [116] M Johnson, T David, **including F Dai**, et al., 2022, The Astronomical Journal, 163, 6, [ADS](#)
An Aligned Orbit for the Young Planet V1298 Tau b
- [117] L Serrano, D Gandolfi, **including F Dai**, et al., 2022, Nature Astronomy, 6, 736-750, [ADS](#)
A low-eccentricity migration pathway for a 13-h-period Earth analogue in a four-planet system
The Upper Edge of the Neptune Desert Is Stable Against Photoevaporation
- [118] O Barragan, D Armstrong, **including F Dai**, et al., 2022, MNRAS, 514, 2, [ADS](#)
The young HD 73583 (TOI-560) planetary system: two 10- M_{\oplus} mini-Neptunes transiting a 500-Myr-old, bright, and active K dwarf
- [119] S Grunblatt, N Saunders, **including F Dai**, et al., 2022, The Astronomical Journal, 163, 3, [ADS](#)
TESS Giants Transiting Giants. II. The Hottest Jupiters Orbiting Evolved Stars
- [120] S Vissapragada, H Knutson, **including F Dai**, et al., 2022, The Astrophysical Journal, 927, 1, [ADS](#)

- [121] A Munazza, J Kirk, **including F Dai**, et al., 2022, The Astrophysical Journal Letters, 927, 1, [ADS](#)
The First Near-infrared Transmission Spectrum of HIP 41378 f, A Low-mass Temperate Jovian World in a Multiplanet System
- [122] A Munazza, J Kirk, **including F Dai**, et al., 2022, The Astrophysical Journal Letters, 927, 1, [ADS](#)
The First Near-infrared Transmission Spectrum of HIP 41378 f, A Low-mass Temperate Jovian World in a Multiplanet System
- [123] K Lam, S Csizmadia, **including F Dai**, et al., 2022, Science, 374, 6572, [ADS](#)
GJ 367b: A dense, ultrashort-period sub-Earth planet transiting a nearby red dwarf star
- [124] M MacDougall, E Petigura, **including F Dai**, et al., 2021, The Astronomical Journal, 162, 6, [ADS](#)
The TESS-Keck Survey. VI. Two Eccentric Sub-Neptunes Orbiting HIP-97166
- [125] V Zandt, E Petigura, **including F Dai**, et al., 2022, The Astronomical Journal, 161, 1, [ADS](#)
TESS-Keck Survey XIV: 2 giant exoplanets from the Distant Giants Survey
Non-detection of He I in the atmosphere of GJ1214b with Keck/NIRSPEC, at a time of minimal telluric contamination
- [126] M Zhang, H Knutson, L Wang, **F Dai**, et al., 2021, The Astronomical Journal, 161, 4, [ADS](#)
No Escaping Helium from 55 Cnc e
- [127] M Zhang, H Knutson, L Wang, **F Dai**, et al., 2021, The Astronomical Journal, 163, 2, [ADS](#)
Detection of Ongoing Mass Loss from HD 63433c, a Young Mini Neptune
- [128] N Scarsdale, J Murphy, **including F Dai**, et al., 2021, The Astronomical Journal, 162, 5, [ADS](#)
TESS-Keck Survey. V. Twin Sub-Neptunes Transiting the Nearby G Star HD 63935
- [129] M Rice, S Wang, **including F Dai**, et al., 2021, The Astronomical Journal, 162, 5, [ADS](#)
SOLES I: The Spin-Orbit Alignment of K2-140 b
- [130] X Wang, M Rice, **including F Dai**, et al., 2021, The Astrophysical Journal Letters, 926, 2, [ADS](#)
The Aligned Orbit of WASP-148b, the Only Known Hot Jupiter with a nearby Warm Jupiter Companion, from NEID and HIRES
- [131] N Heidari ; I Boisse, **including F Dai**, et al., 2021, Astronomy & Astrophysics, Volume 658, 176, [ADS](#)
HD 207897 b: A dense sub-Neptune transiting a nearby and bright K-type star
- [132] M Kosiarek, D Berardo, **including F Dai**, et al., 2021, The Astronomical Journal, 161, 1, [ADS](#)
Physical Parameters of the Multiplanet Systems HD 106315 and GJ 9827
- [133] R Luque; L Serrano, **including F Dai**, et al., 2021, Astronomy & Astrophysics, 645, [ADS](#)
A Planetary System with two Transiting Mini-Neptunes Near the Radius Valley around the Bright M dwarf TOI-776
- [134] P Kimberly; S Vissapragada, **including F Dai**, et al., 2021, The Astrophysical Journal Letters, 909, 1, L10, [ADS](#)
Metastable Helium Reveals an Extended Atmosphere for the Gas Giant HAT-P-18b
- [135] S Wang, JN Winn, **including F Dai**, et al., 2021, The Astronomical Journal, 162, 2, [ADS](#)
The Aligned Orbit of the Eccentric Warm Jupiter K2-232b
- [136] J Lubin, J Van Zandt, **including F Dai**, et al., 2021, The Astronomical Journal, 163, 2, [ADS](#)
TESS-Keck Survey IX: Masses of Three Sub-Neptunes Orbiting HD 191939 and the Discovery of a Warm Jovian
- [137] S Vissapragada, G Stefansson, **including F Dai**, et al., 2021, The Astronomical Journal, 162, 5, [ADS](#)
A Search for Planetary Metastable Helium Absorption in the V1298 Tau System
- [138] V Van Eylen, N Astudillo-Defru, **including F Dai**, et al., 2021, MNRAS, 507, 2, [ADS](#)
Masses and Compositions of three Small Planets Orbiting the Nearby M dwarf L231-32 and the M dwarf Radius Valley
- [139] A Osborn, D Armstrong, **including F Dai**, et al., 2021, MNRAS, 507, 2, [ADS](#)
TOI-431/HIP 26013: a super-Earth and a sub-Neptune transiting a bright, early K dwarf, with a third RV planet
- [140] A Chontos, J Murphy, **including F Dai**, et al., 2021, The Astronomical Journal, 163, 6, [ADS](#)
The TESS-Keck Survey: Science Goals and Target Selection
- [141] J G Winters, R Cloutier, **including F Dai**, et al., 2021, The Astronomical Journal, 163, 4, [ADS](#)
A Second Planet Transiting LTT 1445A and a Determination of the Masses of Both Worlds
- [142] J de Leon, J Livingston, **including F Dai**, et al., 2021, MNRAS, 508, 1, [ADS](#)
37 New Validated Planets in Overlapping K2 Campaigns
- [143] M A Limbach, J Vos, **including F Dai**, et al., 2021, The Astrophysical Journal Letters, 918, 2, [ADS](#)
On the Detection of Exomoons Transiting Isolated Planetary-Mass Objects
- [144] T Hirano, E Gaidos, **including F Dai**, et al., 2020, The Astrophysical Journal Letters, 890, 2, [ADS](#)
Evidence for Spin-Orbit Alignment in the TRAPPIST-1 System
- [145] L Nielsen, D Gandolfi, **including F Dai**, et al., 2020, MNRAS, 492, 4, [ADS](#)
Mass Determinations of the three Mini-Neptunes Transiting TOI-125
- [146] K Lam, Kristine, J Korth, **including F Dai**, et al., 2020, The Astronomical Journal, 159, 3, [ADS](#)
It Takes Two Planets in Resonance to Tango around K2-146
- [147] J Subjak, R Sharma, **including F Dai**, et al., 2020, The Astronomical Journal, 159, 4, [ADS](#)

TOI-503: The First Known Brown-dwarf Am-star Binary from the TESS Mission

- [148] D Hidalgo, E Palle, **including F Dai**, et al., 2020, *Astronomy & Astrophysics*, 636, 13, [ADS](#)
Three Planets Transiting the Evolved Star EPIC 249893012: a Hot Super-Earth and Two Warm Sub-Neptunes
- [149] Y Chachan, D Jontof-Hutter, **including F Dai**, et al., 2020, *The Astronomical Journal*, 160, 5, [ADS](#)
A Featureless Infrared Transmission Spectrum for the Super-puff Planet Kepler-79d
- [150] I Carleo, D Gandolfi, **including F Dai**, et al., 2020, *The Astronomical Journal*, 160, 3, [ADS](#)
The Multiplanet System TOI-421
- [151] M Fridlund, J Livingston, **including F Dai**, et al., 2020, *MNRAS*, 498, 3, [ADS](#)
The TOI-763 system: Sub-Neptunes Orbiting a Sun-like star
- [152] B-O Demory, F Pozuelos, **including F Dai**, et al., 2020, *Astronomy & Astrophysics*, 642, 21, [ADS](#)
A Super-Earth and a Sub-Neptune Orbiting the Bright, Quiet M3 Dwarf TOI-1266
- [153] G Nowak, E Palle, **including F Dai**, et al., 2020, *MNRAS*, 497, 4, [ADS](#)
K2-280 b - a Low Density Warm Sub-Saturn Around a Mildly Evolved Star
- [154] M Esposito, D Armstrong, ..., **F Dai**, et al., 2019, *Astronomy & Astrophysics*, 623, 11 [ADS](#)
HD 219666 b: a Hot-Neptune from TESS Sector 1
- [155] J Korth, Sz Csizmadia, ..., **F Dai**, et al., 2019, *MNRAS*, 482, 2, [ADS](#)
K2-140b and K2-180b Characterization of a Hot Jupiter and a Mini Neptune from the K2 Mission
- [156] E Palle, G Nowak, ..., **F Dai**, et al., 2019, *Astronomy & Astrophysics*, 623, 10, [ADS](#)
Detection and Doppler monitoring of K2-285 (EPIC 246471491), a System of four Transiting Planets Smaller than Neptune
- [157] A Smith, Sz Csizmadia, ..., **F Dai**, et al., 2019, *Acta Astronomica*, 69, 2, [ADS](#)
K2-295 b and K2-237 b: Two Transiting Hot Jupiters
- [158] R Luque, G Nowak, ..., **F Dai**, et al., 2019, *Astronomy & Astrophysics*, 623, 9, [ADS](#)
Detection and Characterization of an Ultra-dense sub-Neptunian Planet Orbiting the Sun-like Star K2-292
- [159] S Kamiaka, O Benomar, **including F Dai**, et al., 2019, *The Astronomical Journal*, 157, 4, [ADS](#)
The Misaligned Orbit of the Earth-sized Planet Kepler-408b
- [160] M Hjorth, A Justesen, **including F Dai**, et al., 2019, *MNRAS*, 484, 3, [ADS](#)
K2-290: a Warm Jupiter and a Mini-Neptune in a Triple-star System
- [161] D Gandolfi, L Fossati, **including F Dai**, et al., 2019, *The Astrophysical Journal Letters*, 876, 2, [ADS](#)
The Transiting Multi-planet System HD15337: Two Nearly Equal-mass Planets Straddling the Radius Gap
- [162] L Bouma, JN Winn, **including F Dai**, et al., 2019, *The Astronomical Journal*, 157, 6, [ADS](#)
WASP-4b Arrived Early for the TESS Mission
- [163] Z Zhan, M Gunther, **including F Dai**, et al., 2019, *The Astrophysical Journal*, 876, 2, [ADS](#)
Complex Rotational Modulation of Rapidly Rotating M Stars Observed with TESS
- [164] C Persson, Sz Csizmadia, **including F Dai**, et al., 2019, *Astronomy & Astrophysics*, 628, 14, [ADS](#)
Greening of the Brown Dwarf Desert. EPIC 212036875 b – a 51 M_J object in a 5 day orbit around an F7 V star
- [165] S Rappaport, A Vanderburg, **including F Dai**, et al., 2019, *MNRAS*, 488, 2, [ADS](#)
The Random Transiter EPIC 249706694/HD 139139
- [166] A Santerne, L Malavolta, **including F Dai**, et al., 2019, Submitted to *Nature Astronomy*, [ADS](#)
An Extremely Low-density and Temperate Giant Exoplanet
- [167] E Palle, G Nowak, R Luque, D Hidalgo, O Barragan, J Prieto-Arranz, **including F Dai**, et al., 2018, *Astronomy & Astrophysics*, 623, 41, [ADS](#)
Detection and Doppler Monitoring of EPIC 246471491, a System of four Transiting Planets Smaller than Neptune
- [168] CM Persson, M Fridlund, O Barragan, **F Dai**, et al., 2018, *Astronomy & Astrophysics*, 618, 16, [ADS](#)
An Super-Earth in a 2.2 day orbit around the K5V star K2-216
- [169] JK Teske, S Wang, A Wolfgang, **F Dai**, et al., 2018, *The Astronomical Journal* 155 , 148, [ADS](#)
Magellan/PFS Radial Velocities of GJ 9827, a Late K dwarf at 30 pc with Three Transiting Super-Earths
- [170] J Prieto-Arranz, E Palle, ... **F Dai**, et al., 2018, *Astronomy & Astrophysics*, 618, 116, [ADS](#)
Mass Determination of the 1: 3: 5 Near-resonant Planets Transiting GJ 9827 (K2-135)
- [171] JN Winn, EA Petigura, **including F Dai**, et al., 2017, *The Astronomical Journal* 154 , 270, [ADS](#)
Constraints on the Obliquities of Kepler Planet-hosting Stars
- [172] D Gandolfi, O Barragán, **including F Dai**, et al., 2017, *The Astronomical Journal* 154 , 123, [ADS](#)
The Transiting Multi-planet System HD 3167: A Super-Earth and a Mini-Neptune
- [173] A Smith, J Cabrera, **including F Dai**, et al., 2017, *MNRAS*, 474, 5523, [ADS](#)
K2-137 b: an Earth-sized Planet in a 4.3-h Orbit Around an M-dwarf
- [174] KC Patra, JN Winn, **including F Dai**, 2017, *The Astronomical Journal* 154 , 4, [ADS](#)
The Apparently Decaying Orbit of WASP-12b
- [175] G Nowak, E Palle, **including F Dai**, et al., 2017, *The Astronomical Journal* 153 , 131, [ADS](#)
EPIC 219388192b An Inhabitant of the Brown Dwarf Desert in the Ruprecht 147 Open Cluster

- [176] N Narita, T Hirano, **including F Dai**, et al., 2017, Publications of the Astronomical Society of Japan 69 , 29, [ADS](#)
The K2-ESPRINT project. VI. K2-105 b, a Hot Neptune around a Metal-rich G-dwarf
- [177] V Van Eylen, S Albrecht, **including F Dai**, et al., 2016, The Astronomical Journal 152, 143, [ADS](#)
The K2-Esprint Project. V. A Short-period Giant Planet Orbiting a Subgiant Star
- [178] T Hirano, G Nowak, **including F Dai**, et al., 2016, The Astrophysical Journal 825 , 53, [ADS](#)
The K2-ESPRINT Project IV. A Hot Jupiter in a Prograde Orbit with a Possible Stellar Companion
- [179] V Van Eylen, G Nowak, **including F Dai**, et al., 2016, The Astrophysical Journal 820, 56, [ADS](#)
The K2-ESPRINT Project. II. Spectroscopic Follow-up of Three Exoplanet Systems from Campaign 1 of K2
- [180] T Hirano, A Fukui, **including F Dai**, et al., 2016, The Astrophysical Journal 820 , 41, [ADS](#)
The K2-ESPRINT Project III: A Close-in Super-Earth around a Metal-rich Mid-M Dwarf
- [181] R Sanchis-Ojeda, S Rappaport, **including F Dai**, et al., 2015, The Astrophysical Journal 812 , 112, [ADS](#)
The K2-ESPRINT Project. I. Discovery of the Disintegrating Rocky Planet K2-22b with a Cometary Head and Leading Tail
- [182] L Yu, JN Winn, **including F Dai**, et al., 2015, The Astrophysical Journal 812 , 48, [ADS](#)
Tests of the Planetary Hypothesis for PTFO 8-8695b

Student Advised and Publications

Graduate Students:

- [Rena Lee](#), Graduate Student, NSF GRFP Fellow, University of Hawaii [2024-Present]
 R. Lee, **F. Dai**, et al., 2025, The Astrophysical Journal Letters 983 L36, [ADS](#)
TOI-6324 b: An Earth-mass Ultra-short-period Planet Transiting a Nearby M Dwarf
- [Elina Zhang](#), Graduate Student, University of Hawaii [2024-Present]
 E. Zhang, H. Teng, **F. Dai**, et al. 2025, The Astrophysical Journal, in press, [ADS](#)
TOI-880 is an Aligned, Coplanar, Multi-planet System
- [Chase Urasaki](#), Graduate Student, University of Hawaii [2025-Present]
- [Mu-Tian Wang](#), Visiting Graduate Student, Nanjing University [2024-Present]
 M. Wang, **F. Dai**, et al., submitted
An Adolescent, Near-Resonant Planetary System Near the End of Photoevaporation
 M. Wang, **F. Dai**, et al., submitted
TOI-4495: A Pair of Aligned, Near-Resonant Sub-Neptunes that Experienced Overstable Migration
- [Zhecheng Hu](#), Visiting Graduate Student, Tsinghua University [2024-Present]
 Z. Hu, **F. Dai**, et al., submitted
Unexpected Near-Resonant and Metastable States of Young Multi-Planet Systems
- [Aaron Householder](#), Graduate Student, NSF GRFP Fellow, Massachusetts Institute of Technology [2024-Present]
 A. Householder, **F. Dai**, et al., in prep
The KPF SURFS-UP Survey I: Transmission Spectroscopy of WASP-76 b

Undergraduate Students:

- [Finnegan Keller](#), Visiting Undergraduate Student, Brown University; Finnegan's thesis (same title as the paper) won Brown's Smiley Prize for Excellent Contribution to the Astronomy Program. He was also the student speaker at Brown's 2025 Commencement. [2024 Summer]
 F. Keller, **F. Dai** & W. Xu, The Astronomical Journal, in press [ADS](#)
Higher-Order Mean-Motion Resonances Can Form in Type-I Disk Migration
- [Diya Kumar](#), Visiting Undergraduate Student, Caltech [2025 Summer]
 D. Kumar, **F. Dai**, et al., in prep
Dynamical Disruption of Resonant Chains
- [Quentin Charles](#), REU Undergraduate Student, University of Hawaii [2025 Summer]
 D. Kumar, **F. Dai**, et al., in prep
Formation of Hot Jupiters During Type-I Migration
- [Barron Nguyen](#), Visiting Undergraduate Student, Stanford University [2024 Summer]
 B. Nguyen, L. Schaefer, **F. Dai**, et al., in prep
A Tidally-Enhanced Outgassed Secondary Atmosphere on 55 Cancri e
- [Yuan Cheng Xu](#), Visiting Undergraduate Student, Oxford University [2024 Summer]
 Y. Xu & **F. Dai**, 2025, The Astrophysical Journal 981, 142 [ADS](#)
Amplifying Resonant Repulsion with Inflated Young Planets, Overlooked Inner Planets, and Nonzero Initial Δ

Former Students:

- [Aida Behmard](#), Caltech Graduate Student co-advised with Andrew Howard, now Kalbfleisch Fellow at American Museum of Natural History [2019-2023]

A Behmard, **F Dai**, et al., 2023, Monthly Notices of the Royal Astronomical Society, 521, 2, [ADS](#)
Planet engulfment detections are rare according to observations and stellar modelling

A Behmard, **F Dai**, A Howard, 2022, The Astronomical Journal, 163, 4 [ADS](#)
Stellar Companions to TESS Objects of Interest: A Test of Planet-Companion Alignment

[Ryan Rubenzahl](#), Caltech Graduate Student co-advised with Andrew Howard, now Flatiron Fellow [2019-2024]
 R. Rubenzahl, **F Dai**, et al., 2024, The Astronomical Journal, 167, 4, 16, [ADS](#)
The TESS-Keck Survey. XII. A Dense 1.8 R Ultra-short-period Planet Possibly Clinging to a High-mean-molecular-weight Atmosphere after the First Gigayear

R Rubenzahl, **F Dai**, et al., 2021, The Astronomical Journal, 161, 3, [ADS](#)
TESS-Keck Survey. IV. A Retrograde, Polar Orbit for the Ultra-low-density, Hot Super-Neptune WASP-107b

R. Rubenzahl, **F Dai**, et al., 2024, The Astronomical Journal 168, 189, [ADS](#)
KPF Confirms a Polar Orbit for KELT-18 b

R. Rubenzahl, **F Dai**, et al., 2024, The Astrophysical Journal Letters 971, L40, [ADS](#)
Obliquity Constraints for the Extremely Eccentric Sub-Saturn Kepler-1656 b

[Michael Zhang](#), Caltech Graduate Student co-advised with Heather Knutson, now 51 Peg b Fellow at the [2019-2022]
 University of Chicago

M. Zhang, **F Dai**, et al., 2023, The Astronomical Journal 165, 62, [ADS](#)
Detection of atmospheric escape from four young mini-Neptunes

M. Zhang, **F Dai**, et al., 2023, The Astrophysical Journal Letters 953, L25 [ADS](#)
Outflowing helium from a mature mini-Neptune

Awards & Honors

NSF Faculty Early Career Development Program (CAREER), \$691,228	[2025-2029]
NASA Sagan Fellowship, ~\$375,000	[2022-2024]
51 Peg b Fellowship, Heising-Simons Foundation, Awarded but declined, ~\$375,000	[2022]
GPS Chair's Fellowship, Caltech, ~\$300,000	[2019-2022]
Carnegie Origins Fellowship, Carnegie Observatory, Awarded but declined, ~\$350,000	[2019]
David Thompson Award, Homerton College, University of Cambridge, UK	[2010-2014]
DAAD (Deutscher Akademischer Austauschdienst, German Academic Exchange) RISE Fellowship, Germany	[2013]
SM1 Scholarship, Ministry of Education, Singapore	[2006-2009]

Grants & Telescope Time

PI, "The Formation and Disruption of Resonant Chains", NSF Faculty Early Career Development Program (CAREER), \$691,228	[2025-2029]
PI, "Unveiling the Composition of Earth-sized Planets with the Keck Planet Finder", NSF/AAG Program, \$461,453	[2025-2027]
Co-I, "Homogeneous High-Resolution Spectroscopy of Ariel Exoplanet Host Stars", NASA Contributions to Ariel Preparatory Science, \$267,603	[2025-2027]
PI, "Composition, Origin, and Fate of the Four Newborn Planets in the V1298 Tau System", NASA James Webb Space Telescope, Awarded 18.7 hours, \$187,000	[2023-2024]
PI, "Pinning Down Masses of JWST Ultra-short-period Planets with Keck Planet Finder", NASA Keck Key Strategic Mission Support, Awarded 10 nights, \$75,000	[2023-2024]
Co-I, "Keck Planet Finder Stellar Obliquity Survey", NASA/XRP, \$663,394	[2024-2027]
PI, "Catching a Proto-Hot Jupiters in High-eccentricity Migration", ESO/EPRESSO, 1 night	[2023]
PI, "Detecting Mass Loss from Two Ultra-Short-Period Planets", Keck, 2 nights	[2022]
PI, "Stellar obliquities of Warm Jupiters and Hot Neptunes", Keck, 8 nights	[2020-2022]
Co-I, "The First and Only Multi-wavelength Map of an Ultra-short-period sub-Earth" (PI: Michael Zhang), James Webb Space Telescope, 15.7 hours	[2021]
Co-I, "Mass Loss from Small Planets in metastable Helium" (PI: Heather Knutson), Keck/NIRSPEC, 8 nights	[2020-2022]
Co-I, "Lyman alpha absorption from the only mini Neptune with measured helium outflow?" (PI: Michael Zhang), Hubble Space Telescope Cycle 29, 15 orbits	[2021]
Collaborator, "The TESS-Keck Survey: Completing the Sample" (PI: Courtney Dressing), Keck, 22 nights	[2021]

Co-I, “The X-ray Spectra of Young, Active Stars Hosting Small Planets” (PI: Michael Zhang), XMM-Newton, 10 hours	[2021]
Co-I, “The Atmospheric and Dynamical Evolution of a Sub-Neptune Progenitor” (PI: Shreyas Vissapragada), WIYN/NEID, 1 night	[2021]
Co-I, “Lyman alpha absorption from the only mini Neptune with measured helium outflow?” (PI: Michael Zhang), Hubble Space Telescope Cycle 29, 15 orbits	[2021]
Co-I, “Refining the Ephemeris of Young, Active Stars Hosting Small Planets” (PI: Michael Zhang), Las Cumbres Observatory, 3 nights	[2021]
Co-I, “How Common is Planet Engulfment?” (PI: Andrew Howard), Keck, 2 nights	[2020]
Co-I, “A Survey of Atmospheric Escape with WIRC” (PI: Shreyas Vissapragada), Palomar Observatory, 6 nights	[2020]
Co-I, “Probing mass loss from two mini- Neptunes orbiting a young solar analogue” (PI: Heather Knutson), Hubble Space Telescope Cycle 28, 36 orbits	[2020]
Collaborator, “Probing the Atmosphere of a Temperate Transiting Jovian Planet with an Orbital Period of 1.5 Years” (PI: Courtney Dressing), Hubble Space Telescope Cycle 28, 18 orbits	[2020]
Co-I, “Using the Metallicity Effect for Small Planets to Explore Planet Formation” (PI: Kevin Schlaufman), TESS Guest Investigator Program, \$50,000	[2019]
Collaborator, “A Southern Hemisphere RV Follow-up Program for TESS” (PI: Stephen Shectman), NASA/XRP, \$416,000	[2018]
Co-I, “A Search for Earth-like Planets in the Habitable Zone around Bright Low-mass Stars” (PI: Teruyuki Hirano), Astrobiology Center Research Project, \$22,000	[2018]
Co-I, “Finding the Shortest Period Planets with TESS” (PI: Joshua N. Winn), Heising-Simons Foundation, \$380,000	[2018]
Co-I, “ The KESPRINT radial velocity follow-up of TESS transiting planets: unveiling the nature of small worlds” (PI: Davide Gandolfi), ESO/HARPS, 78 nights	[2018 - 2020]
Co-I, “Radial velocity follow-up observations of K2 transiting small planets” (PI: Davide Gandolfi), Nordic Optical Telescope, 8 nights	[2018]
Co-I, “Validation of Exoplanets from K2 Campaigns 14–16” (PI Joshua N. Winn), WIYN/NESSI, 4 nights	[2018]
Co-I, “Spectroscopic follow-up observations of small transiting planets from the K2 mission” (PI: Artie Hatzes), Nordic Optical Telescope, 6 nights	[2018]
Co-I, “Short-Cadence Observations of Identified K2 Planet Candidates” (PI: Joshua Winn), K2 Guest Observer	[2016]
Co-I, “Spectroscopic Follow-up of Planets from the K2 Survey” (PI: Joshua N. Winn) Magellan/Clay, 11 nights	[2015-2016]

Teaching and Outreach

Instructor, Astrophysical Techniques (AST 633, Graduate Level), University of Hawaii	[2024-2025]
Organizer/Mentor for Intro2Astro Workshop , 400+ participants	[2021-2025]
Introduction to Astronomy Research Youtube Channel	
Institute for Astronomy Open House	[2024-2025]
Guest Lecturer, Astronomical Measurements and Instrumentation (ay122, Graduate Level), Caltech	[2021-2023]
Mentor for Caltech WAVE Undergraduate Summer Program	[2021]
Public Webinar “ Exoplanet Detection Methods ”	[2021]
Speaker for AstroSprint Online Workshop , 100+ participants	[2021]
Public Talk “ Aperture Photometry and the Transiting Exoplanet Survey Satellite ”	[2021]
Public Webinar “ Discovering Exoplanets with TESS Light Curves in Python ”	[2021]
Astronomy on Tap, “The Least Habitable Planets”, Caltech	[2021]
KAZN AM1300 Radio Station, “Life Outside Earth”, Los Angeles	[2021]

Talks

Physics & Astronomy Colloquium, University of California Los Angeles	[2025]
Resonant State Workshop, University of Geneva	[2025]
Planets on the Edge Conference, University of Santa Barbara	[2025]
Solar System in Context, NOIRLab Science Conference	[2025]
PSAS Seminar, Georgia Tech	[2025]
Asia Oceania Geosciences Society Conference, Korea	[2024]

Astronomy Colloquium, University of Hawaii at Manoa	[2023]
PLUNCH talk, University of California Santa Cruz	[2023]
Planetary Science Seminar, University of California Los Angeles	[2023]
Physics Colloquium, University of Rochester	[2023]
Astronomy Colloquium, University of Toronto	[2023]
Astronomy Colloquium, University of Virginia	[2023]
Physics Colloquium, Tufts University	[2023]
Stars and Planets Lunch and Talks, University of Hawaii at Manoa	[2022]
TESS Science Meeting, MIT	[2022]
Astronomy Colloquium, Yale	[2022]
Exoplanet Journal Club, Jet Propulsion Lab	[2022]
Astro Seminar Series, Kansas University	[2022]
Physics Colloquium, Washington University in St Louis	[2022]
Keck Science Meeting, Caltech	[2022]
Hubble Symposium, Space Telescope Science Institute	[2022]
Exoplanet Meeting, Princeton University	[2022]
Exoplanet Group Meeting, University of Chicago	[2021]
KIAA Seminar, KIAA/Peking University	[2021]
Emerging Researchers in Exoplanet Science Symposium	[2021]
Planet Group Meeting, Ohio State University	[2021]
Exoplanet Demographics Conference, NExSci	[2020]
Exoplanet Meeting, Princeton University	[2020]
DIX Planetary Science Seminar, Caltech	[2020]
Boston Area Exoplanet Science Meeting, Harvard-Smithsonian Center for Astrophysics	[2019]
Exoplanet Group Meeting, University of Chicago	[2018]
IPAC Seminar, NExSci	[2018]
ExoCoffee, University of California, Berkeley	[2018]
Exoplanet Tea, Massachusetts Institute of Technology	[2018]
Stars & Planets Seminar, Harvard-Smithsonian Center for Astrophysics	[2018]
Exoplanet Pizza Lunch, Harvard-Smithsonian Center for Astrophysics	[2018]
Exoplanet Seminar, Yale University	[2018]
Center for Exoplanets and Habitable Worlds Seminar, Penn State University	[2018]
Emerging Researchers in Exoplanet Science Symposium IV	[2018]
Bahcall Lunch, Institute of Advanced Studies	[2018]
Kepler & K2 Science Conference IV, NASA Ames Research Center	[2017]

Community Service

Referee for AAS journals, Nature Astronomy, MNRAS, and Astronomy & Astrophysics	[2016-Present]
Panelist for National Science Foundation Astronomy & Astrophysics Program	[2024]
Reviewer for Hubble Space Telescope	[2021]
Reviewer for ESO Facilities	[2021]
Reviewer for National Science Foundation Astronomy & Astrophysics Program	[2020]
Reviewer for NASA FINESST Program	[2020]

Press Coverage

“Rare Six-Planet Star System Discovered in Milky Way”, Wall Street Journal	[2023]
“TOI-1136 is a Young, Coplanar, Aligned Planetary System in a Pristine Resonant Chain”, AAS Journal Channel on Youtube	[2023]
“Rogue Exomoons: On the Detection of Exomoons Transiting Isolated Planetary-Mass Objects”, Astrobite	[2021]
“Inflating a Super-Puff Planet”, AAS Nova	[2019]
“Binary stars with unexplainable dimming pattern”, Phys.org	[2019]
“The Curious Case of the Mysterious Over-Luminous Brown Dwarf”, Astrobite	[2018]

“Are you rocky or are you gassy?”, Carnegie Observatory	[2017]
“K2-106 Astronomers characterize two ‘super-Earths’ in a distant planetary system”, Phys.org	[2017]
“WASP-12b and Its Possible Fiery Demise”, AAS Nova	[2017]
“K2-131 Discovery alert! A sizzling super Earth”, NASA	[2017]
“Wreaking Havoc with a Stellar Fly-By”, Astrobite	[2015]

References

Prof. Joshua Winn, Princeton University	jnwinn@princeton.edu	+1609-258-3804
Prof. Andrew Howard, Caltech	ahoward@caltech.edu	+1626-395-8747
Prof. Heather Knutson, Caltech	hknutso2@caltech.edu	+1626-395-4268
Prof. Cristobal Petrovich, Indiana University	cpetrovi@iu.edu	+1812-855-6912
Prof. Konstantin Batygin, Caltech	kbatygin@gps.caltech.edu	+1626-395-2920
Prof. Daniel Fabrycky, University of Chicago	fabrycky@uchicago.edu	+1773-702-9562
Prof. Sarah Millholland, MIT	sarah.millholland@mit.edu	+1617-253-4800