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Education

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

Professional Appointment & Research Experience

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

Publications

Total Refereed: 133; 1st-authored: 14; Citations: 3948; h-index: 38; i10-index: 101

First-Author Publications

- [1] **F. Dai**, K. C. Schlaufman, H. Reggiani, et al., 2023, *The Astronomical Journal*, 166, 2, 49, [ADS](#)
A Mini-Neptune Orbiting the Metal-poor K Dwarf BD+ 29 2654
- [2] **F Dai**, A Masuda, C Beard, et al., 2023, *The Astronomical Journal*, 165, 2, 33, [ADS](#)
TOI-1136 is a Young, Coplanar, Aligned Planetary System in a Pristine Resonant Chain
- [3] **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
- [4] **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
- [5] **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
- [6] **F Dai**, K Masuda, JN Winn, L Zeng 2019, *The Astrophysical Journal*, 883, 1, [ADS](#)
Homogeneous Analysis of Hot Earths: Masses, Sizes, and Compositions
- [7] **F Dai**, K Masuda, JN Winn, 2018, *The Astrophysical Journal Letter*, 864, 2, L38, [ADS](#)
Larger Mutual Inclinations for the Shortest-period Planets
- [8] **F Dai**, JN Winn, Z Berta-Thompson, R Sanchis-Ojeda, S Albrecht, 2018, *The Astronomical Journal* 155, 177, [ADS](#)
Stellar Obliquity and Magnetic Activity of Planet-hosting Stars and Eclipsing Binaries Based on Transit Chord Correlation
- [9] **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
- [10] **F Dai**, JN Winn, 2017, *The Astronomical Journal* 153, 205, [ADS](#)
The Oblique Orbit of WASP-107b from K2 Photometry
- [11] **F Dai**, JN Winn, L Yu, S Albrecht, 2017, *The Astronomical Journal* 153, 40, [ADS](#)
The Stellar Obliquity, Planet Mass, and Very Low Albedo of Qatar-2 from K2 Photometry
- [12] **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
- [13] **F Dai**, JN Winn, P Arriagada, RP Butler, JD Crane, et al., 2015, *The Astrophysical Journal Letters* 813, L9, [ADS](#)
Doppler Monitoring of the WASP-47 Multiplanet System
- [14] **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

Major-Contribution Publications

- [15] 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
- [16] 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
- [17] 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
- [18] A. Goyal, **F Dai**, S. Wang, 2023, *The Astrophysical Journal*, 955, 2, 118, [ADS](#)
Enhanced Size Uniformity for Near-resonant Planets
- [19] 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
- [20] M Zhang, **F Dai**, et al., 2023, *The Astrophysical Journal Letters*, 953, 2, L25, [ADS](#)
Outflowing helium from a mature mini-Neptune
- [21] A Behmard, **F Dai**, A Howard, 2022, *The Astronomical Journal*, 163, 4
Stellar Companions to TESS Objects of Interest: A Test of Planet-Companion Alignment
- [22] 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
- [23] 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
- [24] 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
- [25] 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
- [26] 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
- [27] M Zhang, H Knutson, L Wang, **F Dai**, et al., 2021, *The Astronomical Journal*, 161, 4, [ADS](#)
No Escaping Helium from 55 Cnc e
- [28] 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
- [29] G Li, **F Dai** & J Becker, 2020, *The Astrophysical Journal Letters*, 890, 2 [ADS](#)
Mutual Inclination Excitation by Stellar Oblateness
- [30] J Livingston, **F Dai**, et al., 2019, *MNRAS*, 484, 1, [ADS](#)
K2-264: a Transiting Multiplanet System in the Praesepe Open Cluster
- [31] 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
- [32] JH Livingston, M Endl, **F Dai**, et al., 2018, *The Astronomical Journal* 156 , 78 [ADS](#)
44 Validated Planets from K2 Campaign 10
- [33] 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
- [34] L Wang & **F Dai**, 2018, *The Astrophysical Journal* 860, 175, [ADS](#)
Evaporation of Low-mass Planet Atmospheres: Multidimensional Hydrodynamics with Consistent Thermochemistry
- [35] 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
- [36] 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
- [37] O Barragan, D Gandolfi, **F Dai**, et al., 2018, *Astronomy & Astrophysics* 612, A95, [ADS](#)
K2-141 b-A 5-M_⊕ Super-Earth Transiting a K7 V Star Every 6.7 h
- [38] T Hirano, **F Dai**, et al., 2018, *The Astronomical Journal* 155 , 127, [ADS](#)
Exoplanets around Low-mass Stars Unveiled by K2
- [39] 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
- [40] JH Livingston, **F Dai**, et al., 2018, *The Astronomical Journal* 155 , 115, [ADS](#)
Three Small Planets Transiting a Hyades Star
- [41] P Niraula, S Redfield, **F Dai**, et al., 2017, *The Astronomical Journal* 154 , 266, [ADS](#)
Three Super-Earths Transiting the Nearby Star GJ 9827

- [42] 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
- [43] 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

- [44] P. Dalba, **including F Dai**, et al 2023, in press, [ADS](#)
Giant Outer Transiting Exoplanet Mass (GOT'EM) Survey. IV. Long-term Doppler Spectroscopy for 11 Stars Thought to Host Cool Giant Exoplanets
- [45] 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
- [46] 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
- [47] 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
- [48] 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
- [49] 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
- [50] 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
- [51] 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
- [52] 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
- [53] 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
- [54] 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
- [55] 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
- [56] 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?
- [57] 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
- [58] 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
- [59] 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
- [60] 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
- [61] 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
- [62] 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
- [63] 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
- [64] 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
- [65] 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
- [66] 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
- [67] 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

- [68] 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
- [69] 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
- [70] 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
- [71] 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
- [72] S Vissapragada, H Knutson, **including F Dai**, et al., 2022, The Astrophysical Journal, 927, 1, [ADS](#)
The Maximum Mass-loss Efficiency for a Photoionization-driven Isothermal Parker Wind
- [73] 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
- [74] 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
- [75] 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
- [76] 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
- [77] 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
- [78] 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
- [79] 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
- [80] 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
- [81] 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
- [82] 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
- [83] 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
- [84] 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
- [85] 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
- [86] 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
- [87] 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
- [88] 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
- [89] 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
- [90] 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
- [91] 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
- [92] J de Leon, J Livingston, **including F Dai**, et al., 2021, MNRAS, 508, 1, [ADS](#)
37 New Validated Planets in Overlapping K2 Campaigns
- [93] 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

- [94] 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
- [95] L Nielsen, D Gandolfi, **including F Dai**, et al., 2020, MNRAS, 492, 4, [ADS](#)
Mass Determinations of the three Mini-Neptunes Transiting TOI-125
- [96] 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
- [97] 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
- [98] 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
- [99] 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
- [100] I Carleo, D Gandolfi, **including F Dai**, et al., 2020, The Astronomical Journal, 160, 3, [ADS](#)
The Multiplanet System TOI-421
- [101] 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
- [102] 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
- [103] 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
- [104] M Esposito, D Armstrong, ..., **F Dai**, et al., 2019, Astronomy & Astrophysics, 623, 11 [ADS](#)
HD 219666 b: a Hot-Neptune from TESS Sector 1
- [105] 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
- [106] 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
- [107] 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
- [108] 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
- [109] 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
- [110] 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
- [111] 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
- [112] L Bouma, JN Winn, **including F Dai**, et al., 2019, The Astronomical Journal, 157, 6, [ADS](#)
WASP-4b Arrived Early for the TESS Mission
- [113] 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
- [114] 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
- [115] S Rappaport, A Vanderburg, **including F Dai**, et al., 2019, MNRAS, 488, 2, [ADS](#)
The Random Transiter EPIC 249706694/HD 139139
- [116] A Santerne, L Malavolta, **including F Dai**, et al., 2019, Submitted to Nature Astronomy, [ADS](#)
An Extremely Low-density and Temperate Giant Exoplanet
- [118] 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
- [119] 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
- [120] 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
- [121] J Prieto-Arranz, E Palle, ... **F Dai**, et al., 2018, Astronomy & Astrophysics, 618, 116, [ADS](#)
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- [122] JN Winn, EA Petigura, **including F Dai**, et al., 2017, The Astronomical Journal 154 , 270, [ADS](#)
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The K2-Esprint Project. V. A Short-period Giant Planet Orbiting a Subgiant Star
- [129] 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
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The K2-ESPRINT Project. II. Spectroscopic Follow-up of Three Exoplanet Systems from Campaign 1 of K2
- [131] 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
- [132] R Sanchis-Ojeda, S Rappaport, **including F Dai**, et al., 2015, *The Astrophysical Journal* 812 , 112, [ADS](#)
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- [133] L Yu, JN Winn, **including F Dai**, et al., 2015, *The Astrophysical Journal* 812 , 48, [ADS](#)
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Talks

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]

Mentoring Experience

Sarah Lange, Undergraduate Student, co-advised with Andrew Howard, Caltech WAVE Fellow	[2021 Summer]
Aida Behmard , Graduate Student, co-advised with Andrew Howard, Caltech	[2019-2023]
Ryan Rubenzahl , Graduate Student, co-advised with Andrew Howard, Caltech	[2019-2024]
Michael Zhang , Graduate Student, now 51 Peg b Fellow at the University of Chicago, co-advised with Heather Knutson, Caltech	[2019-2022]

Grant & Telescope Time

PI, "Catching a Proto-Hot Jupiters in High-eccentricity Migration", ESO/HARPS, 1 night	[2022]
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 (Science Lead), "Keck Planet Finder Stellar Obliquity Survey", NASA/XRP, Awarded 10 nights, \$600,000	[2024-2027]
PI, "Catching a Proto-Hot Jupiters in High-eccentricity Migration", ESO/HARPS, 1 night	[2022]
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), [2018]
 Nordic Optical Telescope, 6 nights
 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

Guest Lecturer, Astronomical Measurements and Instrumentation (ay122, Graduate Level), Caltech [2021-2023]
 Mentor for [Caltech WAVE Undergraduate Summer Program](#) [2021]
 Organizer/Mentor for [Intro2Astro Workshop](#), 100+ participants [2021-2022]
 Public Webinar “[Exoplanet Detection Methods](#)” [2021]
[Introduction to Astronomy Research Youtube Channel](#) [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]

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]
 Invited as Reviewer for National Science Foundation Astronomy & Astrophysics Program [2020]
 Reviewer for NASA FINESST Program [2020]

Honors

NASA Sagan Fellowship, ~\$375,000 [2022-2024]
 51 Peg b Fellowship, Heising-Simons Foundation, Declined, ~\$375,000 [2022]
 GPS Chair’s Fellowship, Caltech, ~\$300,000 [2019-2022]
 Carnegie Origins Fellowship, Carnegie Observatory, 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]

Press Coverage

“Rare Six-Planet Star System Discovered in Milky Way”, [Wall Street Journal](#) [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

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