

Dr. Fei Dai

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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

NASA Sagan Fellow	[2022-Present]
Division of Physics, Math, and Astronomy, Caltech	
GPS Chair's Fellow	[2019-2022]
Division of Geological and Planetary Sciences, Caltech	
Visiting Graduate Student	[2017-2019]
Department of Astrophysical Sciences, Princeton University	

Publications

Total Refereed: 110; 1st-authored: 13; Citations: 2548; h-index: 31; i10-index: 68

First-Author Publications

- [1] **F Dai**, A Masuda, C Beard, et al., 2022, The Astronomical Journal, submitted, [ADS](#)
TOI-1136 is a Young, Coplanar, Aligned Planetary System in a Pristine Resonant Chain
- [2] **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
- [3] **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
- [4] **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
- [5] **F Dai**, K Masuda, JN Winn, L Zeng 2019, The Astrophysical Journal, 883, 1, [ADS](#)
Homogeneous Analysis of Hot Earths: Masses, Sizes, and Compositions
- [6] **F Dai**, K Masuda, JN Winn, 2018, The Astrophysical Journal Letter, 864, 2, L38, [ADS](#)
Larger Mutual Inclinations for the Shortest-period Planets
- [7] **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
- [8] **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
- [9] **F Dai**, JN Winn, 2017, The Astronomical Journal 153, 205, [ADS](#)
The Oblique Orbit of WASP-107b from K2 Photometry
- [10] **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
- [11] **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
- [12] **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
- [13] **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

- [14] M Zhang, H Knutson, **F Dai**, et al., 2022, The Astronomical Journal, in press, [ADS](#)
Detection of Atmospheric Escape from Four Young Mini Neptunes
- [15] A Behrmard, **F Dai**, A Howard, 2022, The Astronomical Journal, 163, 4
Stellar Companions to TESS Objects of Interest: A Test of Planet-Companion Alignment

- [16] 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
- [17] 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
- [18] 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
- [19] 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
- [20] M Zhang, H Knutson, L Wang, **F Dai**, et al., 2021, *The Astronomical Journal*, 161, 4, [ADS](#)
No Escaping Helium from 55 Cnc e
- [21] 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
- [22] G Li, **F Dai** & J Becker, 2020, *The Astrophysical Journal Letters*, 890, 2 [ADS](#)
Mutual Inclination Excitation by Stellar Oblateness
- [23] J Livingston, **F Dai**, et al., 2019, *MNRAS*, 484, 1, [ADS](#)
K2-264: a Transiting Multiplanet System in the Praesepe Open Cluster
- [24] 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
- [25] JH Livingston, M Endl, **F Dai**, et al., 2018, *The Astronomical Journal* 156 , 78 [ADS](#)
44 Validated Planets from K2 Campaign 10
- [26] 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
- [27] L Wang & **F Dai**, 2018, *The Astrophysical Journal* 860, 175, [ADS](#)
Evaporation of Low-mass Planet Atmospheres: Multidimensional Hydrodynamics with Consistent Thermochemistry
- [28] 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
- [29] 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
- [30] 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
- [31] T Hirano, **F Dai**, et al., 2018, *The Astronomical Journal* 155 , 127, [ADS](#)
Exoplanets around Low-mass Stars Unveiled by K2
- [32] 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
- [33] JH Livingston, **F Dai**, et al., 2018, *The Astronomical Journal* 155 , 115, [ADS](#)
Three Small Planets Transiting a Hyades Star
- [34] P Niraula, S Redfield, **F Dai**, et al., 2017, *The Astronomical Journal* 154 , 266, [ADS](#)
Three Super-Earths Transiting the Nearby Star GJ 9827
- [35] 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
- [36] 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

- [37] 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
- [38] J Spake, A OklopÄDiÄĀ, **including F Dai**, et al., 2022, *The Astrophysical Journal Letters*, in press, [ADS](#)
Non-detection of He I in the atmosphere of GJ1214b with Keck/NIRSPEC, at a time of minimal telluric contamination
- [39] 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
- [40] 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
- [41] 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
- [42] C Persson, G Iskra, **including F Dai**, et al., 2022, *Astronomy & Astrophysics*, in press, [ADS](#)

TOI-2196 b: Rare planet in the hot Neptune desert transiting a G-type star

- [43] 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
- [44] W Zhu, K Bernhard, **F Dai**, et al., 2022, *The Astrophysical Journal Letters*, 933, 1, [ADS](#)
Two Candidate KH 15D-like Systems from the Zwicky Transient Facility
- [45] 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
- [46] 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
- [47] 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
- [48] 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
- [49] S Vissapragada, H Knutson, **including F Dai**, et al., 2022, *The Astronomical Journal*, in press, [ADS](#)
The Upper Edge of the Neptune Desert Is Stable Against Photoevaporation
- [50] 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
- [51] 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
- [52] 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
- [53] 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
- [54] 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
- [55] 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
- [56] 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
- [57] 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
- [58] 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
- [59] 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
- [60] 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
- [61] 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
- [62] 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
- [63] 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
- [64] 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
- [65] 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
- [66] 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
- [67] 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
- [68] 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
- [69] A Chontos, J Murphy, **including F Dai**, et al., 2021, *The Astronomical Journal*, 163, 6, [ADS](#)

- [70] 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
- [71] J de Leon, J Livingston, **including F Dai**, et al., 2021, *MNRAS*, 508, 1, [ADS](#)
37 New Validated Planets in Overlapping K2 Campaigns
- [72] 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
- [73] 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
- [74] L Nielsen, D Gandolfi, **including F Dai**, et al., 2020, *MNRAS*, 492, 4, [ADS](#)
Mass Determinations of the three Mini-Neptunes Transiting TOI-125
- [75] 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
- [76] 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
- [77] 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
- [78] 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
- [79] I Carleo, D Gandolfi, **including F Dai**, et al., 2020, *The Astronomical Journal*, 160, 3, [ADS](#)
The Multiplanet System TOI-421
- [80] 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
- [81] 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
- [82] 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
- [83] M Esposito, D Armstrong, ..., **F Dai**, et al., 2019, *Astronomy & Astrophysics*, 623, 11 [ADS](#)
HD 219666 b: a Hot-Neptune from TESS Sector 1
- [84] 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
- [85] 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
- [86] 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
- [87] 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
- [88] 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
- [89] 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
- [90] 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
- [91] L Bouma, JN Winn, **including F Dai**, et al., 2019, *The Astronomical Journal*, 157, 6, [ADS](#)
WASP-4b Arrived Early for the TESS Mission
- [92] 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
- [93] 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
- [94] S Rappaport, A Vanderburg, **including F Dai**, et al., 2019, *MNRAS*, 488, 2, [ADS](#)
The Random Transiter EPIC 249706694/HD 139139
- [95] A Santerne, L Malavolta, **including F Dai**, et al., 2019, Submitted to *Nature Astronomy*, [ADS](#)
An Extremely Low-density and Temperate Giant Exoplanet
- [96] 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
- [97] 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

- [98] 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
- [99] 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)
- [100] 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
- [101] D Gandolfi, O Barrag an, **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
- [102] 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
- [103] KC Patra, JN Winn, **including F Dai**, 2017, *The Astronomical Journal* 154 , 4, [ADS](#)
The Apparently Decaying Orbit of WASP-12b
- [104] 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
- [105] 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
- [106] 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
- [107] 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
- [108] 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
- [109] 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
- [110] 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
- [111] 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

Talks

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]

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-Present]
Ryan Rubenzahl, Graduate Student, co-advised with Andrew Howard, Caltech	[2019-Present]
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, "Pinning Down Masses of JWST Ultra-short-period Planets with Keck Planet Finder", NASA Keck Key Strategic Mission Support, Awarded 10 nights, ~\$150K	[2023-2024]
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), 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

Guest Lecturer, Astronomical Measurements and Instrumentation (ay122, Graduate Level), Caltech [2021-2022]
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]
Reviewer for Hubble Space Telescope [2021]
Reviewer for ESO Facilities [2021]
Invited as Reviewer for NSF Astronomy & Astrophysics Program [2020]
Reviewer for NASA FINESST Program [2020]

Honors

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

"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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Prof. Simon Albrecht, Aarhus University	albrecht@phys.au.dk	+4587155702
Prof. Davide Gandolfi, University of Torino	davide.gandolfi@unito.it	+390116707452