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APPOINTMENTS & EXPERIENCE

University of California, Santa Cruz *Sagan Fellow/Researcher* **08/2016 - present**

- Continuing the discovery of new planets using K2 (and soon, TESS) and characterizing their atmospheres with ground- and space-based telescopes.

U. Arizona, Lunar and Planetary Lab *NASA Sagan Fellow* **07/2014 - 08/2016**

- Work to understand hazy atmospheres of extrasolar objects: cloud properties and molecular abundances in known ‘super-Earth’ planets; discovering new transiting planets with the K2 mission.

Max Planck Institut für Astronomie *Postdoctoral Fellow* **07/2012 - 06/2014**

- Extrasolar planet atmosphere characterization via transits and secondary eclipses from ground- and space-based observatories. High-resolution spectroscopy of nearby brown dwarfs.

University of California, Los Angeles *Graduate Studies* **09/2007 - 06/2012**

- Characterization of exoplanet atmospheres via phase curves, secondary eclipses, and transits. Refined parameters of known transiting planets via optical transit photometry.

NASA/Jet Propulsion Laboratory *Systems Engineer* **07/2004 - 06/2007**

- High-contrast instrument performance simulations for the Gemini Planet Imager and TMT Planet Formation Instrument. Optical testbed work for the Space Interferometry Mission. Exoplanet science.

EDUCATION

University of California, Los Angeles, Los Angeles, California USA

- Ph.D., Astrophysics (*Dissertation Year Fellow*), 06/2012 Advisor: [Prof. Bradley Hansen](#)
- Dissertation: “Infrared Observations of Exoplanet Atmospheres”
- M.S., Astrophysics, 06/2009 Advisor: [Prof. Bradley Hansen](#)
- Thesis: “Thermal Emission of Non-Transiting Extrasolar Planets”

University of California, Irvine, Irvine, California USA

- B.S., Physics (*magna cum laude*), 06/2004 Advisor: [Prof. Tammy Smecker-Hane](#)
- Honors Thesis: “Confirmation of Variability in the SU Uma-type Dwarf Nova V1504 Cyg”

GRANTS AND FUNDING AWARDS

Date	Source	Amount	Project
2017–2019	NSF AAG	\$300,000	PI of K2+TESS planet discovery and characterization program.
2017–2018	<i>Hubble</i> /STScI	\$200,000	PI of 44-orbit program to measure exoplanet albedos.
2017–2018	<i>K2</i> GO	\$55,000	PI of M dwarf Guest Observer proposal (GO-4).
2016–2018	<i>K2</i> GO	\$100,000	PI of M dwarf Guest Observer proposal (GO-3).
2016–2018	NASA/ADAP	\$163,880	Co-I of K2 archival analysis proposal.
2016–2018	<i>K2</i> GO	\$100,000	PI of M dwarf Guest Observer proposal (GO-2).
2015–2016	NASA Keck	\$11,500	for Keck/NIRC2 validation of K2 planet candidates.
2015–2016	Nat'l Geographic Society	\$13,920	Finding Rocky and Habitable Planets With K2.
2015–2017	<i>Spitzer</i>	\$22,500	Co-I of K2 transit follow-up program.
2015–2017	<i>Spitzer</i>	\$10,000	PI of hot Jupiter phase curve Large Program.
2014–2016	<i>Hubble</i> /STScI	\$148,975	Co-PI of super-Earth transmission spectroscopy Large Program.
2014–2017	Sagan Fellowship	\$322,787	postdoctoral prize fellowship for exoplanet study.
2014–2015	NASA Keck	\$14,500	for Keck/NIRSPEC observations of HAT-P-11b.
2011–2012	UCLA	\$30,000	PhD dissertation-year fellowship.

HONORS AND AWARDS

- 2015: Kavli Frontiers of Science Fellow
- 2014: NASA Sagan Fellowship
- 2013: AAS Doxsey Prize
- 2011-2012: UCLA Dissertation Year Fellow
- 2010: AAS Chambliss Student Achievement Award
- 2009: AAS Chambliss Student Achievement Award
- 2009: Honorable Mention, NSF Graduate Student Research Fellowship
- 2008: Honorable Mention, NSF Graduate Student Research Fellowship
- 2007-2009: UCLA Institute of Geophysics and Planetary Physics Graduate Fellowship
- 2008: UCLA Department of Astronomy First Year Graduate Student Summer Fellowship
- 2007: Jet Propulsion Laboratory: SIM: PlanetQuest Outstanding Performance Award (×2)
- 2004: Outstanding Senior in Physics, UC Irvine Physics Department
- 2003: Herbet H. Chen Award (Outstanding Junior), UC Irvine Physics Department
- 2003: Elected to Phi Beta Kappa and Sigma Pi Sigma

ACCEPTED OBSERVING PROPOSALS (PI OR LEAD AUTHOR)

Date	Facility	Time	Goals and Status
2017	IRTF	<i>2.5 nights</i>	for brown dwarf abundance analyses.
2017	APF	<i>5.5 nights</i>	for K2 radial velocity followup. Observations pending.
2016	Hubble	<i>44 orbits</i>	for hot Jupiter albedo spectroscopy (PI, GO-14797). Observations pending.
2016	APF	<i>3 nights</i>	for K2 radial velocity followup. Paper in preparation.
2016	MMT/ARIES	<i>6 nights</i>	for high-res Hot Jupiter spectroscopy. Paper in preparation.
2015B	Gemini	<i>80 hours</i>	Long Program to validate transiting planets. Paper published .
2015B	Keck/HIRES	<i>2 nights</i>	to measure the mass of the transiting planets K2-3bc. Paper in prep.
2015	Keck/NIRC2	<i>1.25 nights</i>	to validate K2 M dwarf transiting candidates. Paper published .
2015	Spitzer	<i>132 hours</i>	for hot Jupiter phase curves (GO 11044). Observations underway.
2015A	MMT/SWIRC	<i>2 nights</i>	for NIR photometry of Y dwarfs. Analysis underway.
2015	LBT/LMIRCam	<i>2 nights</i>	to validate K2 M dwarf transiting candidates. Weathered out.
2014	Hubble	<i>124 orbits</i>	for super-Earth transit spectroscopy (Co-PI, GO-13665).

Date	Facility	Time	Goals and Status
2014B	Kepler2	841 targets	for M dwarf planet surveys (GO-3107). Several papers published.
2014B	Keck/NIRSPEC	0.5 nights	for transit spectroscopy of HAT-P-11b. Analysis underway.
2014B	LBT/LMIRCam	1 night	to validate K2 M dwarf transiting candidates. Weathered out.
2014B	ESO/NTT	70 nights	Large Program to study K2 M dwarfs. Papers published and in prep.
2014B	Kepler2	683 targets	for M dwarf planet surveys (GO-2107).
2014B	Kepler2	3603 targets	for M dwarf planet surveys (GO-1036). Paper published .
2014A	VLT/CRIRES	10 hours	for multi-epoch weather mapping of Luhman 16B. Data quality poor.
2014	Spitzer	25 hours	for hot Jupiter phase curves (GO 10078). Analysis underway.
2013B	VLT/CRIRES	16 hours	of hot Neptune GJ 436b to measure CO. Data quality insufficient.
2013B	IRTF/SpeX	one night	for flux-calibrated spectra of exoplanet host stars. Analysis underway.
2013B	Subaru/MOIRCS	one night	to observe secondary eclipses of WASP-12b. Weathered out.
2013A	VLT/CRIRES	6 hours	DDT run to observe Luhman 16AB. Paper published in Nature .
2013A	IRTF/SpeX	1 hour	DDT run to observe Luhman 16AB. Weathered out.
2013A	VLT/FORS2	0.5 nights	of optical spectroscopy of GJ 436b. Analysis underway.
2013A	LBT/LUCI	0.5 nights	of NIR transit spectroscopy of GJ 1214b. Instrument malfunctioned.
2013A	Keck/MOSFIRE	one night	of NIR spectroscopy of GJ 3470b. Paper published in A&A .
2013A	Gemini/GMOS	one night	of optical transit spectroscopy of GJ 3470b. Paper published in A&A .
2013A	IRTF/SpeX	one night	to characterize exoplanet host star companions. Analysis underway.
2013A	IRTF/SpeX	0.8 nights	for flux-calibrated spectra of exoplanet host stars. Analysis underway.
2012B	Keck/MOSFIRE	0.5 nights	for transit spectroscopy of WASP-12b. Data quality too low.
2012B	Subaru/MOIRCS	one night	for eclipse spectroscopy of WASP-12b. Data quality too low.
2012A	IRTF/SpeX	4 nights	for transit spectroscopy. Supplementary observations published in A&A .
2012A	Subaru/MOIRCS	3 nights	of transit spectroscopy. Data quality too low for publication.
2011B	LBT/LUCI	0.5 nights	of NIR spectroscopy of WASP-12b in eclipse. Instrument malfunctioned.
2011B	Subaru/MOIRCS	one night	of eclipse observations of WASP-12b. Paper published in ApJ .
2011A	IRTF/SpeX	4 half-nights	to perform transit spectroscopy of GJ 1214b. Data quality too low.
2010B	IRTF/SpeX	2 half-nights	for eclipse spectroscopy of WASP-12b. Paper published in ApJ .
2009B	Lick 3 m	5 nights	to detect secondary eclipses of WASP-12b. Data quality too low.
2009B	CTIO 0.9 m	3 nights	DDT observations of new planet WASP-18b; clouded out.
2009-2013	Lick 1 m	many nights	in collaboration with the Transit Light Curve project to refine parameters of transiting planets, resulting in co-authorship on multiple papers: (1 , 2 , 3 , 4 , 5)

COLLOQUIA AND INVITED TALKS

- Invited: *From K2 to TESS*, MIT, Boston, 12/2016.
- Invited: *Latest Exoplanet News from Kepler and K2*, SETI Institute, California, 11/2016.
- Invited: *Planet Densities from ELTs*, [GMT E3LT Conference](#), Monterey, California, 09/2016.
- Invited: *New Planets, New Atmospheres*, U. Toronto, Canada, 03/2016.
- Invited: *New Planets, New Atmospheres*, UC Davis, California, 02/2016.
- Invited: *New Planets, New Atmospheres*, U. Colorado at Boulder, Colorado, 02/2016.
- Invited: *Exoplanet Science with K2 and Beyond*, K2 Special Session, AAS, Florida, 01/2016.
- Invited: *Exoplanets Around M Dwarfs*, [K2SciCon](#), Santa Barbara, CA, 12/2015.
- Invited: *Exoplanet Atmospheres with Giant Telescopes*, [Bashfest 2015](#), UT Austin, 10/2015.
- Invited: *Transiting Targets for JWST Exoplanet Spectroscopy*, [Exploring the Universe with JWST](#), ESTEC, Netherlands, 10/2015.
- Invited: *Giant Telescopes: Doorways to Other Worlds*, [Kavli Frontiers of Science](#); [Second Korean-American Symposium](#), Korea, 06/2015
- Invited: *Exoplanet Atmospheres: Models, Issues, and Opportunities*, TMT/PSI workshop, UCLA, 06/2015
- Colloquium: *Small Stars, Small Planets: New Studies with HST & K2*, U. Washington, Seattle, 02/2015
- Colloquium: *Small Stars, Small Planets: New Studies with HST & K2*, UCSB, California, 02/2015

- Colloquium: *Small Stars, Small Planets: New Studies with HST & K2*, UC Berkeley, California, 02/2015
- Colloquium: *Small Stars, Small Planets: New Studies with HST & K2*, Cornell, Ithaca, NY, 02/2015
- Colloquium: *Small Stars, Small Planets: New Studies with HST & K2*, UH IfA, Hawaii, 02/2015
- Invited: *The K2 M Dwarf Program*, ESO HQ, Santiago, Chile, 01/2015.
- Invited Keynote: *Small Stars, Small Planets: New Studies with HST & K2*, [Bay Area Exoplanet Science Meeting](#), 12/2014.
- Invited: *ALMA, NRAO, and Exoplanets*, [NRAO Community Day](#), DPS, Tucson, 11/2014.
- Invited Review: *Transit Spectroscopy*, [JWST/MIRI Exoplanet Meeting](#), MPIA, 09/2014.
- Colloquium: *A Clearer View of Cloudy Exoplanets and Brown Dwarfs*, [JPL Astrophysics](#), 03/2014.
- Colloquium: *Variability and Weather in Substellar Atmospheres*, UA/Lunar & Planetary Lab, 11/2013.
- Invited: *Atmospheric Studies of RV-Discovered Low-mass Exoplanets*, [Geneva Observatory](#), 10/2013.
- Colloquium: *Atmospheric Studies of RV-Discovered Low-mass Exoplanets*, [IPAG/Grenoble](#), 10/2013.
- Invited: *First Atmospheric Studies of Small, Cool, Low-Mass Exoplanets*, Königstuhl Colloquium, 06/2013.
- Invited: *Ground-based Studies of Exoplanet Atmospheres*, Freiburg Universität, 05/2013.
- Colloquium: *Unraveling the Mysteries of Hot Jupiter Atmospheres*, ETH-Zurich, 12/2012.
- Invited: *Revealing the Nature of Hot Jupiter Atmospheres*, U. Hawaii/IfA, 10/2012.
- Invited: *Thermal Emission and Atmospheric Circulation in Extrasolar Planets*, UCLA Earth & Space Science Planetology Seminar, 02/2011.
- Invited: *The Planet Formation Instrument: Extreme Adaptive Optics on the Thirty Meter Telescope*, UC Berkeley Star Formation Seminar Series, 01/2007.

OTHER TALKS

- *Exoplanet Atmospheres with Giant Telescopes*, [20 Years of Giant Exoplanets](#), [OHP](#), France, 10/2015.
- *New Planets from K2*, Steward Observatory Internal Symposium, Tucson, 08/2015.
- *New Planets from K2*, [LPL Internal Symposium](#), Tucson, 08/2015.
- *The K2 M Dwarf Program*, [Sagan Symposium](#), NExSci, Pasadena, 05/2015.
- *Small Stars, Small Planets*, Astro Seminar, [UCI](#), California, 5/2015.
- *The K2 M Dwarf Program*, NOAO FLASH seminar, Tucson, 03/2015.
- *Small Stars, Small Planets*, Guest Seminar, Cerro Calan, Santiago, 1/2015.
- *K2 M Dwarf Program: Latest Results*, AAS 2015, 01/2015
- *Global maps and weather movies of exoplanets & brown dwarfs*, CIPS Seminar, UC Berkeley, 12/2014.
- *Small Stars, Small Planets*, Planet Lunch Seminar, UC Santa Cruz, 12/2014.
- *K2 M Dwarf Program: First Results*, [46th DPS](#), 11/2014.
- *Small Stars, Small Planets*, University of Arizona Origins Seminar, 10/2014.
- *Studying Exoplanet Atmospheres with TMT*, [TMT Science Forum](#), 07/2014.
- *Lessons for JWST From Spitzer/IRS and MIPS*, [JWST Transiting Exoplanet Meeting](#), 03/2014.
- *Mapping Clouds on the Nearest Brown Dwarf*, Exoclines III, Davos, 02/2014.
- *2D Mapping of Exoplanets and Brown Dwarfs*, [Exoplanet Observations with the E-ELT](#), 02/2013.
- *Mapping Clouds on Brown Dwarfs*, AAS 2014, 01/2014.
- *Cloudy Skies on the Nearest Brown Dwarfs*, NRAO SOC, Socorro, 12/2013.
- *First Atmospheric Studies of Small, Cool, Low-mass Exoplanets*, Caltech, 06/2013.
- *Keck/MOSFIRE Studies of Small, Cool, Low-mass Exoplanets*, UCLA, 06/2013.
- *Ground-based Studies of Exoplanet Atmospheres: Past, Present, and Future*, AAS 2013, 01/2013.
- *Re-evaluating the Extremely Hot Jupiter WASP-12b*, [Hot Planets, Cool Stars Conference](#), 11/2012.
- *Re-evaluating the Extremely Hot Jupiter WASP-12b*, [MPIA Exoplanet Conference](#), 07/2012.
- *Infrared Observations of Exoplanet Atmospheres*, [UCLA Astronomy Division](#), 05/2012.
- *Infrared Observations of Exoplanet Atmospheres*, [Max-Planck Institut für Astronomie](#), 02/2012.

- *NIR Spectroscopy and Narrowband Photometry of WASP-12b*, ExoClimes 2012, 01/2012.
- *NIR Spectroscopy and Narrowband Photometry of WASP-12b*, AAS 2012, 01/2012.
- *Infrared Observations of Exoplanet Atmospheres*, U. Hawaii/IfA, 12/2011.
- *Infrared Observations of Exoplanet Atmospheres*, California Institute of Technology, 12/2011.
- *Infrared Observations of Exoplanet Atmospheres*, UC Santa Cruz Planet Lunch, 11/2011.
- *Unraveling the Mystery of GJ1214b with NIRSPEC*, [Keck Science Meeting](#), 09/2011.
- *The unusual phase curve offset of upsilon Andromedae b*, AAS 2011, 01/2011.
- *An updated 24 micron Phase Curve for upsilon Andromedae b*, DPS 2010, 09/2010.
- *A New, High-cadence Phase Curve for upsilon Andromeda b*, KITP Program, 05/2010.
- *High Contrast on Segmented Telescopes* [Center for Adaptive Optics Fall Retreat](#), 11/2006.
- *Periodic Variability in Dwarf Nova V1504 Cyg*, UC Irvine Undergraduate Research Symposium, 05/2004.

REFEREED PUBLICATIONS

First Author (or by supervised student):

1. **Crossfield, I.J.M.**; Ciardi, D.R.; Isaacson, H.; Howard, A.W.; Petigura, E.A.; Weiss, L.M.; Fulton, B.J.; Sinukoff, E.; Schlieder, J.E.; Mawet, D.; Ruane, G.; de Pater, I.; de Kleer, K.; Davies, A.G.; Christiansen, J.L.; Dressing, C.D.; Hirsch, L.; Benneke, B.; Crepp, J.R.; Kosiarek, M.; Livingston, J.; Gonzales, E.; Beichman, C.A.; Knutson, H.A.; *Two Small Transiting Planets and a Third Body Orbiting HD 106315*, ApJ submitted.
2. Martinez, A.; **Crossfield, I.J.M.**; Schlieder, J.; Dressing, C.; Obermeier, C.; Livingston, J.; Ciceri, S.; Peacock, S.; Beichman, C.; Lepine, S.; Aller, K.; Petigura, E.; Howard, A.; Chance, Q.; Werner, M.; *Stellar Parameters of K2 Transiting Planet Hosts*, ApJ in press.
3. **Crossfield, I.J.M.**; Ciardi, D.R.; Petigura, E.A.; Sinukoff, E.; Schlieder, J.E.; Howard, A.W.; Beichman, C.A.; Isaacson, H.; Dressing, C.D.; Christiansen, J.L.; Fulton, B.J.; Lepine, S.; Weiss, L.; Hirsch, L.; Livingston, J.; Baranec, C.; Law, N. M.; Riddle, R.; Ziegler, C.; Howell, S.B.; Horch, E.; Everett, M.; Teske, J.; Martinez, A.O.; Obermeier, C.; Benneke, B.; Scott, N.; Deacon, N.; Aller, K.M.; Hansen, B.M.S.; Mancini, L.; Ciceri, S.; Brahm, R.; Jordan, A.; Knutson, H.A.; Henning, Th.; Bonnefoy, M.; Liu, M.C.; Crepp, J.R.; Lothringer, J.; Hinz, P.; Bailey, V.; Skemer, A.; Defrere, D.; *197 Candidates and 104 Validated Planets from K2's First Year*, 2016, ApJS, 226, 7.
4. **Crossfield, I.J.M.** *Observations of Exoplanet Atmospheres* (invited review), 2015, *PASP*, 127, 941.
5. **Crossfield, I.J.M.**; Petigura, E.; Schlieder, J.; Howard, A.W.; Fulton, B.J.; Aller, K.M.; Ciardi, D.R.; Lépine, S.; Barclay, T.; de Pater, I.; de Kleer, K.; Quintana, E.V.; Christiansen, J.L.; Schlafly, E.; Kaltenegger, L.; Crepp, J.R.; Henning, Th.; Obermeier, C.; Deacon, N.; Hansen, B.M.S.; Liu, M.C.; Greene, T.; Howell, S.B.; Barman, T.; Mordasini, C. *A nearby M star with three transiting super-Earths discovered by K2*, 2015, *ApJ* 804, 10.
6. **Crossfield, I.J.M.** *Doppler Imaging of Exoplanets and Brown Dwarfs*, 2014, *A&A* 566, 130.
7. Kopytova, T.; **Crossfield, I.J.M.**; Deacon, N.R.; Brandner, W.; Buenzli, E.; Bayo, A.; Schlieder, J.E.; Manjavacas, E.; Biller, B.A.; Kopon, D.; *Deep z-band observations of the coolest Y dwarf*, 2014, *ApJ*, 797, 3.
8. **Crossfield, I.J.M.**; Biller, B.; Schlieder, J.; Deacon, N.R.; Bonnefoy, M.; Homeier, D.; Allard, F.; Buenzli, E.; Henning, Th.; Brandner, W.; Goldman, B.; Kopytova, T. *A global cloud map of the nearest known brown dwarf*, 2014, *Nature*, 505, 654.
9. Biddle, L.I.; Pearson, K.A.; **Crossfield, I.J.M.**; Barman, T.; Fulton, B.J.; Ciceri, S.; Eastman, J.; Howard, A.; Mann, A.; Henry, G.W.; Williamson, M.W.; Sinukoff, E.; Dragomir, D.; Vican, L.; Greenberg, A.; Turner, J.; Thompson, R.; Mancini, L.; Taylor, B.W.; Levine, S.; Webber, M.W. *Warm Ice Giant GJ 3470b. II. Revised Planetary and Stellar Parameters from Optical to Near-infrared Transit Photometry*, 2014, *MNRAS* 443, 1810.

10. **Crossfield, I.J.M.**; Barman, T.; Hansen, B.M.S.; Howard, A. *Warm Ice Giant GJ 3470b. I. A Flat Transmission Spectrum Indicates a Hazy, Low-methane, and/or Metal-rich Atmosphere*, 2013, A&A, 559, 33.
11. **Crossfield, I.J.M.**; *On High-Contrast Characterization of Nearby, Short-period Exoplanets with Giant Segmented Mirror Telescopes*, 2013, A&A, 551, 99.
12. **Crossfield, I.J.M.**; Barman, T.; Hansen, B.M.S.; Tanaka, I.; Kodama, T.; *Re-evaluating WASP-12 b: Strong Emission at 2.315 μ m, Deeper Occultations, and an Isothermal Atmosphere*, 2012, ApJ, 760, 140.
13. **Crossfield, I.J.M.** *ACME Stellar Spectra. I. Absolutely Calibrated, Mostly Empirical Flux Densities of 55 Cancri and its Transiting Planet 55 Cancri e*, 2012, A&A, 545, A97.
14. **Crossfield, I.J.M.**; Knutson, H.; Fortney, J.; Showman, A.; Cowan, N.B.; Deming, D.; *Spitzer/MIPS 24 μ m Observations of HD 209458b: 3 eclipses, 2.5 transits, and a Phase Curve Corrupted by Instrumental Sensitivity Variations*, 2012, ApJ, 752, 81.
15. **Crossfield, I.J.M.**; Hansen, B.M.S.; Barman, T.; *Ground-based, Near-infrared Exospectroscopy. II. A Tentative Detection of Emission From the Extremely Hot Jupiter WASP-12b*, 2012, ApJ, 746, 46.
16. **Crossfield, I.J.M.**; Barman, T.; Hansen, B.M.S.; *High Resolution, Differential, Near-infrared Transmission Spectroscopy of GJ 1214b*, 2011, ApJ, 736, 132.
17. **Crossfield, I.J.M.**; Hansen, B.M.S.; Harrington, J.; Cho, J.Y-K.; Deming, D.; Menou, K.; Seager, S.; *A New 24 micron Phase Curve for upsilon Andromedae b*, 2010, ApJ, 723, 1436.
18. **Crossfield, I.J.** and Troy, M.; *Segment Aberration Effects on Contrast*, 2007, Applied Optics, 46.

Contributing Author:

19. Sinukoff, E.; Howard, A.; Petigura, E.; Fulton, B.; Isaacson, H.; Weiss, L.; Brewer, J.; Hansen, B.; Hirsch, L.; Christiansen, J.; Crepp, J.; **Crossfield, I.J.M.**; Schlieder, J.; Ciardi, D.; Beichman, C.; Knutson, H.; Benneke, B.; Dressing, C.; Livingston, J.; Deck, K.; Lepine, S.; Rogers, L.; *Mass Constraints of the WASP-47 Planetary System from Radial Velocities*, ApJ in press.
20. Obermeier, C.; Henning, Th.; Schlieder, J.; **Crossfield, I.J.M.**; Petigura, E.; Howard, A.; Sinukoff, E.; Isaacson, H.; Ciardi, D.; David, T.; Hillenbrand, L.; Beichman, C.; Howell, S.; Horch, E.; Everett, M.; Hirsch, L.; Teske, J.; Christiansen, J.; Lepine, S.; Aller, K.; Liu, M.; Livingston, J.; Kluge, M.; *K2 Discovers a Busy Bee: An Unusual Transiting Neptune Found in the Beehive Cluster*, ApJ in press.
21. Sinukoff, E.; Howard, A.; Fulton, B.J.; **Crossfield, I.J.M.**; Ciardi, D.; Beichman, C.; Isaacson, h.; Schlieder, J.; Petigura, E.; Baranec, C.; Riddle, R.; Law, N.; *Ten Multi-planet Systems from K2 Campaigns 1 & 2, Including Mass constraints of Two Hot Super-Earths*, 2016, ApJ, 827, 78.
22. David, T.J.; Hillenbrand, L.A.; Petigura, E.A.; Carpenter, J.M.; Crossfield, I.J.M.; Hinkley, S.; Ciardi, D.R.; Howard, A.W.; Isaacson, H.T.; Cody, A.M.; Schlieder, J.E.; Beichman, C.A.; Barenfeld, S.A.; *A short period Neptune-sized planet at 5-10 Myr*, Nature in press.
23. Beichman, C.; Livingstone, J.; Werner, M.; Gorjian, V.; Krick, J.; Christiansen, J.; Ciardi, D.; Knutson, H.; Wong, I.; Petigura, E.; **Crossfield, I.J.M.**; Greene, T.; Schlieder, J.E.; Line, M.; Howard, A.; Sinukoff, E.; *Spitzer Observations of Exoplanets Discovered with The Kepler K2 Mission*, ApJ in press.
24. Petigura, E.; Howard, A.; Lopez, E.; Deck, K.; Fulton, B.J.; **Crossfield, I.J.M.**; Ciardi, D.; Chiang, E.; Lee, E.; Isaacson, H.; Beichman, C.; Hansen, B.; Schlieder, J.; Sinukoff, E.; *Two Transiting Low Density Sub-Saturns from K2*, 2016, ApJ, 818, 36.
25. Schlieder, J.E.; **Crossfield, I.J.M.**; Petigura, E.A.; Howard, A.W.; Aller, K.M.; Sinukoff, E.; Isaacson, H.T.; Fulton, B.J.; Ciardi, D.R.; Bonney, M.; Ziegler, C.; Lepine, S.; Obermeier, C.; Bailey, V.P.; Barenec, C.; Beichman, C.; Defrere, D.; Henning, Th.; Hinz, P.; Law, N.; Riddle, R.; Skemer, A.; *Two Small Temperate Planets Transiting Nearby M Dwarfs in K2 Campaigns 0 and 1*, 2016, ApJ, 818, 87.
26. Dragomir, D.; Benneke, B.; Pearson, K.A.; **Crossfield, I.J.M.**; Eastman, J.; Barman, T.; Biddle, L.I.; *Rayleigh Scattering in the Atmosphere of the Warm Exo-Neptune GJ 3470b*, 2015, ApJ, 814, 102.

27. Petigura, E.; Schlieder, J.E.; **Crossfield, I.J.M.**; Howard, A.W.; Deck, K.M.; Ciardi, D.R.; Sinukoff, E.; Allers, K.N.; Best, W.M.J.; Liu, M.C.; Beichman, C.A.; Isaacson, H.; Hansen, B.M.S.; Lepine, S.; *Two Transiting Earth-size Planets Near Resonance Orbiting a Nearby Cool Star*, 2015, ApJ, 811, 102.
28. Quanz, S.P.; **Crossfield, I.J.M.**; Meyer, M.R.; Schmalzl, E.; Held, J.; Hinz, P. *Direct Detection and Characterization of Exoplanets in the 3–10 μ m Range With E-ELT/METIS*, 2015, J. Astrobio. 14, 279.
29. Beichman, C., et al; *Observations of Transiting Exoplanets with the James Webb Space Telescope (JWST)*, 2014, PASP, 126, 1134.
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PROCEEDINGS AND OTHER WORK

1. Mawet, D.; et al.; *MODIUS: a new Multi-Object Diffraction-limited Infrared Ultra-high resolution Spectrograph for Keck*, June 2016, white paper submitted to Keck Science Steering Committee.
2. **Crossfield, I.J.M.** *Exoplanet Atmospheres and Giant Ground-Based Telescopes*, OHP 2015 and Bash-Fest conference proceedings, submitted.
3. Skidmore, W.; et al.; *Thirty Meter Telescope Detailed Science Case: 2015*, May 2015.
4. **Crossfield, I.J.M.** *Back Scatter: A brown dwarf weather map*, Physics Today, March 2014, 76.
5. Macintosh, B.; et al.; *Thirty Meter Telescope Exoplanet Science Case*, 2014–present.
6. Mobasher, B.; et al.; *Thirty Meter Telescope Infra-Red Multi-object Spectrograph (IRMS) Operational Concept Definition Document*, 2013–present.

7. Quirrenbach, A.; et al.; *Exploring Habitable Worlds beyond our Solar System*, 2013, ESA L2/L3 mission white paper.
8. **Crossfield, I.J.M.**; Barman, T.; Hansen, B.M.S.; Tanaka, I.; Kodama, T.; *Re-evaluating WASP-12 b: An Update*, 2013, Proceedings of the “Hot Planets, Cool Stars” Conference.
9. Henning, Th., et al; *Science Instrument Provision for the M3 Mission Candidate EChO: Scientific Objectives*, Nov 2012, in response to [ESA M3 Announcement of Opportunity](#).
10. Levine, M.; Soummer, R.; et al; *Overview of Technologies for Direct Optical Imaging of Exoplanets*, 2010, Astro2010 Decadal Survey white paper
11. Morzinski, K.M.; Crockett, C.J.; **Crossfield, I.J.**; *Digital image exploration at Maui Community College*, 2010, ASPC, 436, 274
12. Do, T.; Fitzgerald, M.; Ammons, S. M.; **Crossfield, I.J.**; Yelda, S.; Armstrong, J. D.; Sevenson, S.; *A Fourier Optics and Wavefront Sensing Laboratory Activity*, 2010, ASPC, 436, 160
13. Nissly, C.R.; Seo, B.-J.; Troy, M.; Angeli, G.Z.; **Crossfield, I.J.**; Ellerbroek, B.L.; Gilles, L.; Sigrist, N.; *High-resolution Optical Modeling of the Thirty Meter Telescope for Systematic Performance Trades*, 2008, Proceedings of the SPIE, 7017-30
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15. Vasisht, G.; **Crossfield, I.J.**; Dumont, P.; Levine, B.M.; Troy, M.; Shao, M.; Shelton, J.C.; Wallace, J.K.; *Post-Coronagraph Wavefront Sensing for the TMT Planet Formation Imager*, 2006, Proceedings of the SPIE, 627253
16. Macintosh, B.; et al.; *Extreme adaptive optics for the Thirty Meter Telescope*, 2006, Proceedings of the SPIE, 6272
17. Chanan, G.; Troy, M.; **Crossfield, I.J.**; Nelson, J.; Mast, T.; *The Alignment and Phasing System for the Thirty Meter Telescope*, 2006, Proceedings of the SPIE, 62672V
18. Hemmati, H.; Chen, Y.; **Crossfield, I.J.**; *Telescope Wavefront Aberration Compensation with a Deformable Mirror in an Adaptive Optics System*, 2006, Proceedings of the SPIE, 61050O

SCIENTIFIC COMPUTING

- Author of a large public repository of Python software for astronomical computing tasks, including [transit light curves](#), [limb darkening tools](#), [spectroscopic analysis](#), and [numerical analysis routines](#). See the full set [on this web page](#).
- My codes are used by [BioTransistor](#), [Astro-coffee](#), the [California Planet Survey](#) team, and others.

TEACHING EXPERIENCE

Student Advising

- Molly Kosiarek: graduate student researcher (UCSC incoming class of 2016). Paper in prep.
- [Joshua Lothringer](#): graduate student researcher (LPL incoming class of 2014). Paper in prep.; to be presented at AAS.
- Arturo Martinez: 2015 CAMPARE summer student researcher. Graduate student at San Diego State University. Paper submitted; research presented at [K2SciCon](#) and at AAS.
- [Lauren Biddle](#): paper published in MNRAS, Jun 2014. (U. Arizona, B.S. ‘14). Conducted internships at Gemini Observatory and Lowell Observatory. Now graduate student at Northern Arizona University.
- [Kyle Pearson](#): paper published in MNRAS, Jun 2014. (U. Arizona, B.S. ‘14). Now graduate student at UA/LPL.

Guest Lecturer

- Lecture: ‘Fourier Optics,’ Invited Lecture at San Jose State University (Spring 2016)
- Lecture: ‘Transiting Planets,’ Invited Lecture to UW graduate students (UW, Profs. Hawley & Quinn)
- Lecture: ‘Extrasolar Planets,’ in *Life in the Universe* nonmajors course (UCLA, Prof. M. Morris)
- Lecture: ‘Introduction to Cosmology,’ in *Astronomy for Majors* course (UCLA, Prof. B. Hansen)
- Lecture: ‘Transiting Planets,’ in *Exoplanets* graduate course (UA, Prof. T. Barman)

Lesson Design

Fourier Optics: Lab Redesign

Summer 2009

- Led a team that redesigned a hands-on Fourier Optics lab for graduate and professional-level students at the Center for Adaptive Optics Summer School. Materials [online here](#).

Digital Image Files: Inquiry Design

Fall 2008

- Part of a team designing an inquiry-based activity for engineering students at Maui Community College to teach about digital images and engineering process skills. Materials [online here](#).

Graduate Teaching Assistant

Winter and Spring 2008

- Led weekly discussion sections. Majors: Observing Lab and Introduction to Astrophysics. Nonmajors: Cosmology and Introduction to Astronomy. Discussed issues of current interest and topical relevance.

SERVICE IN THE SCIENTIFIC COMMUNITY

- Papers refereed (*Nature*, ApJ, AJ, MNRAS, A&A, A&A Reviews)
- Reviewer for time allocation committees: (*Spitzer* DDT, Opticon)
- Review committees: NASA research, technology, and fellowship programs
- 2016–present: member, K2 User’s Panel
- 2015–present: member, NASA/ExoPAG Science Analysis Group 15
- 2014–present: member, TMT “Exoplanets” International Science Development Team
- 2013–present: [TMT/IRMS](#) Science Team member
- 2015–2017: Organizing Committee, 3rd Korean-American “Kavli Frontiers of Science” Symposium.
- 2015B–2016B: member, Arizona/Steward Observatory Time Allocation Committee
- 2015 Panel member, AAS Career Panel, AAS 225, Seattle.
- 2015 Chambliss Student Award judge at Seattle AAS meeting
- 2014: Session chair, 46th Division of Planetary Science meeting
- 2014: Organized MPIA Planet & Star Formation Coffee Seminar
- 2013: Organized MPIA Ground-based Exospectroscopy workshop
- 2012: MPIA Planet and Star Formation Retreat: SOC; Session chair
- 2010–2011: Graduate representative at UCLA faculty meetings
- 2011 Chambliss Student Award judge at Seattle AAS meeting
- 2009–2010: UCLA Journal Club coordinator
- 2008–2011: Public Talks on *Extrasolar Planets* (and many other topics) at the [UCLA Planetarium](#).
- 2008–2009: UCLA Planetarium coordinator
- 2006–2007: Led NASA/JPL “New Professionals’ Network”

PUBLICITY AND PRESS

197 Candidates and 104 Validated Planets from K2

Jul 2016

First large data release from my team's efforts to find and validate planetary systems using K2 data.

- [LA Times](#)
- [CNN](#)
- [Arizona Daily Star](#)
- [Astronomy.com](#)
- [Smithsonian](#)
- [Space.com](#)

Nearby M star with three transiting super-Earths

Jan 2015

First three-planet system and brightest M dwarf found by the new K2 mission.

- [Nature News](#)
- [Science 2.0](#)
- [Arizona Daily Star](#)
- [International Business Times](#)
- [Astronomy Magazine](#)

First Global Weather Map of a Cloudy Brown Dwarf

Jan 2014

Discovery [published in Nature](#) during my time at MPIA. The result – and my popular “brown dwarf origami” – received coverage in ~100 online news outlets. Full coverage of this press event is summarized [online here](#).

Interested news agencies included:

- [Weather.com](#)
- [Discovery News](#)
- [Science News](#)
- [Sky and Telescope](#)
- [Der Spiegel \(in German\)](#)

Unexpectedly Large $24\ \mu\text{m}$ Phase Offset of v And b

Oct 2010

Result [published in ApJ](#) while I was at UCLA. We secured press releases by NASA and the Spitzer Science Center, and the work was featured in a number of online venues. These include:

- [Phys.org](#)
- [Astronomy.com](#)
- [Space Daily](#)
- [CA Science & Technology News](#)
- [io9](#)

REFERENCES

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