Ian J. M. Crossfield

Massachusetts Institute of Technology, Physics Department
MIT Kavli Institute
77 Massachusetts Avenue, Cambridge, MA 02139

http://www.mit.edu/~iancross/
iancross@mit.edu
+1 949 923-0578 (USA)

Appointments & Experience

MIT Department of Physics *Assistant Professor* **07/2017- present**

- Discovery of new planets using TESS, studying planets' atmospheres using HST and ground-based telescopes, new isotopic measurements of cool dwarfs.

University of California, Santa Cruz *Adjunct Professor* **12/2017- present**
Associate Researcher **06/2017- 07/2017**
Sagan Fellow **08/2016- 05/2016**

- Continued the discovery of new planets using K2 and characterizing their atmospheres with ground- and space-based telescopes.

U. Arizona, Lunar and Planetary Lab *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
2018	*Spitzer*	**$100,000**	PI of 550-hour program to observe new TESS planets.
2018B	NASA Keck	$13,575	PI of NASA/Keck Radial Velocity observations of TESS planets.
2017–2019	*Hubble*/STScI	**$431,000**	PI of 127-orbit program to study hot Neptunes.
2018–2020	NASA Keck	**$100,000**	PI of 10-night NASA Keck Key Program for K2 RVs.
2017–2019	NSF AAG	**$300,000**	PI of K2+TESS planet discovery and characterization program.
2017–2018	*Hubble*/STScI	**$200,000**	PI of 44-orbit program to meeasure exoplanet albedos.
2017–2018	*K2* GO	$55,000	PI of M dwarf Guest Observer proposal (GO-4).
2016–2018	*K2* 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	*K2* 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	*Spitzer*	*$22,500*	Co-I of K2 transit follow-up program.
2015–2017	*Spitzer*	*$10,000*	PI of hot Jupiter phase curve Large Program.
2014–2016	*Hubble*/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 ($\times$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
2019A	Keck/HIRES	*1 night*	for RVs of TESS planet candidates.
2019A	IRTF/iSHELL	*36 hours*	to measure isotopic abundances of dwarf stars.
2018	*Spitzer*	*550 hours*	for transit follow-up of TESS planets.
2018B	Gemini	*135 hours*	Long Program to validate TESS planet candidates.
2018B	VLT	*10 hours*	AO-imaging to validate TESS planet candidates.
2018B	Keck/HIRES	0.5 nights	for initial RVs of TESS planet candidates.
2018A	Keck/HIRES	*10 nights*	for four-semester NASA Keck Key Project & K2 RVs.
2018A	Magellan/PFS	1 night	for RV followup of K2 planet candidates.
2017B	Lick 3m	*4 nights*	for AO imaging and validation of K2 planet candidates.
2017	**Hubble**	*127 orbits*	PI for warm Neptune transmission spectroscopy (PI, GO-15333). Obs. pending.

Date	Facility	Time	Goals and Status
2017B	IRTF/iSHELL	*0.5 nights*	for transit spectroscopy of WASP-107b. Observations pending.
2017B	Keck/NIRSPEC	*0.5 nights*	for transit spectroscopy of WASP-107b. Observations pending.
2017B	Keck/NIRC2	*0.5 nights*	to validate K2 transiting planet candidates. Observations pending.
2017	*Spitzer*	*8 hours*	DDT program to confirm a bright transiting planet. Signal not confirmed.
2017	IRTF	*2.5 nights*	for brown dwarf abundance analyses.
2017	APF	*5.5 nights*	for K2 radial velocity followup. Analysis underway.
2016	**Hubble**	*44 orbits*	for hot Jupiter albedo spectroscopy (PI, GO-14797). Paper published.
2016	APF	*3 nights*	for K2 radial velocity followup. Paper published.
2016	MMT/ARIES	*6 nights*	for high-res Hot Jupiter spectroscopy. Paper in preparation.
2015B	Gemini	*80 hours*	Long Program to validate transiting planets. Paper published.
2015B	Keck/HIRES	*2 nights*	to measure the mass of the transiting planets K2-3bc. Paper in prep.
2015	Keck/NIRC2	*1.25 nights*	to validate K2 M dwarf transiting candidates. Paper published.
2015	**Spitzer**	*132 hours*	for hot Jupiter phase curves (GO 11044). Analysis underway.
2015A	MMT/SWIRC	*2 nights*	for NIR photometry of Y dwarfs. Analysis underway.
2015	LBT/LMIRCam	*2 nights*	to validate K2 M dwarf transiting candidates. Weathered out.
2014	**Hubble**	*124 orbits*	for super-Earth transit spectroscopy (Co-PI, GO-13665).
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. Data quality insufficient.
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. Paper published.
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. Data quality too low..
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: *Infrared Spectroscopy of Cool Planets and Stars*, University of Chicago Colloquium, 01/2019.

- Invited: *Detection and Characterization of Nearby Exoplanetary Systems*, ExoPAG 19, Seattle, 01/2019.
- Invited: *Transiting Exoplanets for Fun and Profit*, Brandeis Astrophysics Colloquium, 10/2018.
- Invited: *Infrared Spectroscopy of Cool Stars and Planets*, NRAO Colloquium, Socorro, 09/2018.
- Colloquium: *Infrared Spectroscopy of Cool Planets and Stars*, Indiana University, 08/2018.
- Invited: *The Golden Age of Exoplanets*, Amherst Astronomy Colloquium, 03/2018.
- Invited: *Atmospheric properties of Warm Exo-Neptunes*, at "Challenge to Super-Earths and Their Atmospheres" workshop, NAOJ, Tokyo, Japan, 03/2018.
- Invited: *The Golden Age of Exoplanets*, UMass Lowell Physics Colloquium, 01/2018.
- Invited: *Discovery and Characterization of Extrasolar Ice Giants*, Harvard/CfA lunch talk series, 10/2017.
- Invited: *Observational characterization of the low mass planet population*, The atmospheres of disks and planets 2017, Ringberg Castle, Germany, 04/2017.
- Invited: *Kepler's Rebirth: Science with K2*, Santa Clara University, Physics Colloquium, 04/2017.
- Invited: *Latest Exoplanet News from Kepler and K2*, SETI Institute, California, 03/2017.
- Invited: *From K2 to TESS*, UC Irvine, 02/2017.
- Invited: *From K2 to TESS*, MIT, Boston, 12/2016.
- 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 Expoplanet 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

- *Isotopic Abundances in Cool Dwarfs*, 233rd AAS, Seattle, 01/2019.
- *Isotopic Abundances in Cool Dwarfs*, Final Sagan Fellows Symposium, Pasadena (remote), 11/2018.
- *Isotopic Abundances in Cool Dwarfs*, HoRSE Workshop, Nice, France, 10/2018.
- *Trends in Atmospheric Properties of Neptune-Size Exoplanets*, MIT Astrophysics Journal Club, 02/2018.
- *Trends in Atmospheric Properties of Neptune-Size Exoplanets*, 231st AAS, Washington, D.C., 01/2018.
- *TESS Discovery of JWST Atmospheric Targets*, TESS Science Meeting No. 12, MIT, 05/2017.
- *From K2 to TESS*, UC Santa Cruz, FLASH seminar, 01/2017.
- *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.
- *Sudying 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*, Exoclimes 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.**; Lothringer, J.D.; Flores, B.; Mills, E.A.C.; Freedman, R.; Valverde, J.; Miles, B.; Guo, X.; Skemer, A., *Unusual Isotopic Abundances in a Fully-Convective Stellar Binary*, 2019, ApJL 871, L3.

2. Berardo, D.; **Crossfield, I.J.M.**; Werner, M.; Petigura, E.; Christiansen, J.; Ciardi, D.R.; Dressing, C.; Fulton, B.J.; Gorjian, V.; Greene, T.P.; Hardegree-Ullman, K.; Kane, S.; Livingston, J.; Morales, F.; Schlieder, J.E.; Revisiting the HIP41378 system with K2 and Spitzer, AJ in press.

   Livingston, J.H.; **Crossfield, I.J.M.**; Werner, M.W.; Gorjian, V.; Petigura, E.A.; Ciardi, D.R.; Dressing, C.D.; Fulton, B.J.; Hirano, T.; Schlieder, J.E.; Sinukoff, E.; Kosiarek, M.; Akeson, R.; Beichman, C.A.; Benneke, B.; Christiansen, J.L.; Hansen, B.M. S.; Howard, A.W.; Isaacson, H.; Knutson, H.A.; Krick, J.; Martinez, A.O.; Sato, B.; Tamura, M.; Spitzer transit follow-up of planet candidates from the K2 mission, 2019, AJ in press.

3. Kosiarek, M.R.; **Crossfield, I.J.M.**; Hardegree-Ullman, K.K.; Livingston, J.H.; Blunt, S.; Henry, G.W.; Howard, A.W.; Fulton, B.J.; Petigura, E.A.; Sinukoff, E.; Berardo, D.; Howard, W.S.; Corbett, H.T.; Fors, O.; Law, N.M.; Ratzloff, J.K.; Ser, D.d.; Benneke, B.; Bonfils, X.; Knutson, H.A.; Hirsch, L.A.; Isaacson, H.; Dressing, C.D.; Schlieder, J.E.; Morales, F.Y.; Astudillo-Defru, N.; Almenara, J.; Delfosse, X.; Forveille, T.; Lovis, C.; Mayor, M.; Murgas, F.; Pepe, F.; Santos, N.C.; Udry, S.; Werner, M.; Gorjian, V.; Krick, J.; it Bright Opportunities for Atmospheric Characterization of Small Planets: Masses and Radii of K2-3 b, c, d and GJ3470 b From Radial Velocity Measurements and Spitzer Transits, AJ in press.

4. **Crossfield, I.J.M.**; Guerrero, N.; David, T.; Quinn, S.N.; Feinstein, A.D.; Huang, C.; Yu, L.; Collins, K.A.; Fulton, B.J.; Benneke, B.; Peterson, M.; Bieryla, A.; Schlieder, J.E.; Kosiarek, M.R.; Bristow, M.; Newton, E.; Bedell, M.; Latham, D.W.; Christiansen, J.L.; Esquerdo, G.A.; Berlind, P.; Calkins, M.L.; Shporer, A.; Burt, J.; Ballard, S.; Rodriguez, J.E.; Mehrle, N.; Seager, S.; Dittmann, J.; Berardo, D.; Sha, L.; Essack, Z.; Zhan, Z.; Owens, M.; Kain, I.; Livingston, J.H.; Petigura, E.A.; Dressing, C.D.; Gonzales, E.J.; Isaacson, H.; Howard, A.W.; A TESS Dress Rehearsal: Planetary Candidates and Variables from K2 Campaign 17, 2018, ApJS 239, 5.

5. Livingston, J.H.; **Crossfield, I.J.M.**; Petigura, E.A.; Gonzales, E.J.; Ciardi, D.R.; Beichman, C.A.; Christiansen, J.L.; Dressing, C.D.; Henning, Th.; Howard, A.W.; Isaacson, H.; Fulton, B.J.; Kosiarek, M.; Schlieder, J.E.; Sinukoff, E.; Tamura, M.; 60 Validated Planets from K2 Campaigns 5-8, 2018, AJ 156, 277.

   Yu, L.; Rodriguez, J.E.; Eastman, J.D.; **Crossfield, I.J.M.**; Shporer, A.; Gaudi, B.S.; Burt, J.; Fulton, B.J.; Sinukoff, E.; Howard, A.W.; Isaacson, H.; Kosiarek, M.R.; Ciardi, D.R.; Schlieder, J.E.; Penev, K.; Vanderburg, A.; Stassun, K.G.; Bieryla, A.; Butler, R.P.; Berlind, P.; Calkins, M.L.; Esquerdo, G.A.; Latham, D.W.; Murawski, G.; Stevens, D.J.; Petigura, E.A.; Kreidberg, L.; Bristow, M.; Two warm, low-density sub-Jovian planets orbiting bright stars in K2 campaigns 13 and 14, 2018, AJ 156, 127.

6. Yu, L.; **Crossfield, I.J.M.**; Schlieder, J.E.; Kosiarek, M.R.; Feinstein, A.D.; Livingston, J.H.; Howard, A.W.; Benneke, B.; Petigura, E.A.; Beichman, C.A.; Berardo, D.A.; Bristow, M.; Christiansen, J.L.; Ciardi, D.R.; Crepp, J.R.; Dressing, C.D.; Fulton, B.J.; Gonzales, E.J.; Hardegree-Ullman, K.K.; Henning, Th.; Isaacson, H.; Knutson, H.A.; Lepine, S.; Martinez, A.O.; Morales, F.Y.; Patel, R.I.; Sinukoff, E.; *Planetary Candidates from K2 Campaign 16*, 2018, AJ 156, 22.

   Lothringer, J.D.; Benneke, B.; **Crossfield, I.J.M.**; Morley, C.; Dragomir, D.; Barman, T.; Henry, G.W.; Knutson, H.; Kempton, E.; Fortney, J.; McCullough, P.; Howard, A.W.; *An HST/STIS Optical Transmission Spectrum of Warm Neptune GJ 436b*, 2018, AJ 155, 57.

7. **Crossfield, I.J.M.**; Kreidberg, L. *Trends in Atmospheric Properties of Neptune-Size Exoplanets*, 2017, AJ 154, 261.

8. **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*, 2017, AJ 153, 255.

9. 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*, 2017, ApJ, 837, 72.
10. **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.
11. **Crossfield, I.J.M.** *Observations of Exoplanet Atmospheres* (invited review), 2015, *PASP*, 127, 941.
12. **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.
13. **Crossfield, I.J.M.** *Doppler Imaging of Exoplanets and Brown Dwarfs*, 2014, A&A 566, 130.
14. 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.
15. **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.
16. 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.
17. **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.
18. **Crossfield, I.J.M.**; *On High-Contrast Characterization of Nearby, Short-period Exoplanets with Giant Segmented Mirror Telescopes*, 2013, A&A, 551, 99.
19. **Crossfield, I.J.M.**; Barman, T.; Hansen, B.M.S.; Tanaka, I.; Kodama, T.; *Re-evaluating WASP-12 b: Strong Emission at 2.315 μm, Deeper Occultations, and an Isothermal Atmosphere*, 2012, ApJ, 760, 140.
20. **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.
21. **Crossfield, I.J.M.**; Knutson, H.; Fortney, J.; Showman, A.; Cowan, N.B.; Deming, D.; *Spitzer/MIPS 24 μm Observations of HD 209458b: 3 eclipses, 2.5 transits, and a Phase Curve Corrupted by Instrumental Sensitivity Variations*, 2012, ApJ, 752, 81.
22. **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.
23. **Crossfield, I.J.M.**; Barman, T.; Hansen, B.M.S.; *High Resolution, Differential, Near-infrared Transmission Spectroscopy of GJ 1214b*, 2011, ApJ, 736, 132.

24. **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.

25. **Crossfield, I.J.** and Troy, M.; *Segment Aberration Effects on Contrast*, 2007, Applied Optics, 46.

Contributing Author:

26. Nielsen, L. D.; Bouchy, F.; Turner, O.; Giles, H.; Suarez Mascareno, A.; Lovis, C.; Marmier, M.; Pepe, F.; Segransan, D.; Udry, S.; Otegi, J. F.; Ottoni, G.; Stalport, M.; Ricker, G.; Vanderspek, R.; Latham, D.; Seager, S.; Winn, J. N.; Jenkins, J. M.; Wittenmyer, R.; Kane, S. R.; Cartwright, S. M.; Collins, K. A.; Francis, J.; Guerrero, N.; Huang, C. X.; Matthews, E. C.; Pepper, J.; Rose, M.; Villasenor, J.; Wohler, B.; Stassun, K.; **Crossfield, I.J.M.**; Howell, S.; Ciardi, D.; Gonzales, E.; Matson, R.; Beichman, C.; Schlieder, J.; A Jovian planet in an eccentric 11.5 day orbit around HD1397 discovered by TESS, A&A submitted.

27. Peterson, M.S.; Benneke, B.; David, T.J.; Dressing, C.D.; Ciardi, D.; **Crossfield, I.J.M.**; Schlieder, J.E.; Petigura, E.A.; Mamajek, E.E.; Christiansen, J.L.; Quinn, S.N.; Fulton, B.J.; Howard, A.W.; Sinukoff, E.; Beichman, C.; Latham, D.W.; Yu, L.; Arango, N.; Shporer, A.; Henning, Th.; Huang, C.X.; Kosiarek, M.R.; Dittmann, J.; Isaacson, H.; A 2 $R_{\oplus}$ Planet Orbiting the Bright Nearby K Dwarf Wolf 503, 2018, AJ 156, 188.

28. Dressing, C. D.; Sinukoff, E.; Fulton, B.J.; Lopez, E.D.; Beichman, C.A.; Howard, A.W.; Knutson, H.A.; Werner, M.; Benneke, B.; **Crossfield, I.J.M.**; Isaacson, H.; Krick, J.; Gorjian, V.; Livingston, J.; Petigura, E.A.; Schlieder, J.E.; Akeson, R.L.; Batygin, K.; Christiansen, J.L.; Ciardi, D.R.; Crepp, J.R.; Gonzales, E.J.; Hardegree-Ullman, K.; Hirsch, L.A.; Kosiarek, M.; Weiss, L.M.; Characterizing K2 Candidate Planetary Systems Orbiting Low-mass Stars. III. A High Mass and Low Envelope Fraction for the Warm Neptune K2-55b, 2018, AJ 156, 70.

29. David, T.J.; **Crossfield, I.J.M.**; Benneke, B.; Petigura, E.A.; Gonzales, E.J.; Schlieder, J.E.; Yu, L.; Isaacson, H.T.; Howard, A.W.; Ciardi, D.R.; Mamajek, E.E.; Hillenbrand, L.A.; Cody, A.M.; Riedel, A.; Schwengeler, H.M.; Tanner, C.; Ende, M.; Three small planets transiting the bright young field star K2-233, 2018, AJ 155, 222.

30. Mayo, A.W.; Vanderburg, A.; Latham, D.W.; B, A.; Morton, T.D.; Buchhave, L.A.; Dressing, C.D.; Beichman, C.; Berlind, P.; Calkins, M.L.; Ciardi, D.R.; **Crossfield, I.J.M.**; Esquerdo, G.A.; Everett, M.E.; Gonzales, E.J.; Hirsch, L.A.; Horch, E.P.; Howard, A.W.; Howell, S.B.; Livingston, J.; Patel, R.; Petigura, E.A.; Schlieder, J.E.; Scott, N.J.; Schumer, C.F.; Sinukoff, E.; Teske, J.; Winters, J.G.; 275 Candidates and 149 Validated Planets Orbiting Bright Stars in K2 Campaigns 0-10, 2018, AJ 155, 136.

31. Rodriguez, J.E.; Vanderburg, A.; Eastman, J.D.; Mann, A.W.; **Crossfield, I.J.M.**; Ciardi, D.R.; Latham, D.W.; Quinn, S.N.; A System of Three Super Earths Transiting the Late K-Dwarf GJ 9827 at 30 pc, 2018, AJ 155, 72.

32. Christiansen, J.L.; **Crossfield, I.J.M.**; Barentsen, G.; Lintott, C.J.; Barclay, T.; Simmons, B.D.; Petigura, E.; Schlieder, J.E.; Dressing, C.; Allen, C.; McMaster, A.; Miller, G.; Veldthuis, M.; Allen, S.; Wolfenbarger, Z.; Grey, A.; *The K2-138 System: A Near-resonant Chain of Five Sub-Neptune Planets Discovered by Citizen Scientists*, 2018, AJ 155, 57.

33. Saylor, D.; Lepine, S.; **Crossfield, I.J.M.**; Petigura, E.; *Light-curve Modulation of Low-mass Stars in K2. I. Identification of 481 Fast Rotators in the Solar Neighborhood*, 2018, AJ 155, 23.

34. Petigura, E.P.; **Crossfield, I.J.M.**; Isaacson, H.; Beichman, C.A.; Christiansen, J.L.; Dressing, C.D.; Fulton, B.J.; Howard, A.W.; Kosiarek, M.R. Lepine, S.; Schlieder, J.E.; Sinukoff, E.; Yee, S.W.; *Planet Candidates From K2 Campaigns 58 And Follow-Up Optical Spectroscopy*, 2018, AJ 155, 21.

35. Ciardi, D.R.; **Crossfield, I.J.M.**; Feinstein, A.D.; Schlieder, J.E.; Petigura, E.A.; David, T.J.; Bristow, M.; Patel, R.I.; Arnold, L.; Benneke, B.; Christiansen, J.L.; Dressing, C.D.; Fulton, B.J.; Howard, A.W.; Isaacson, H.; Sinukoff, E.; Thackeray, B. *K2-136: A Binary System in the Hyades Cluster Hosting a Neptune-sized Planet*, 2018, AJ 155, 10.

36. Dressing, C.D.; Vanderburg, A.; Schlieder, J.E.; **Crossfield, I.J.M.**; Knutson, H.A.; Newton, E.R.; Ciardi, D.R.; Fulton, B.J.; Gonzales, E.J.; Howard, A.W.; Isaacson, H.; Livingston, J.; Petigura, E.A.; Sinukoff, E.; Everett, M.; Horch, E.; Howell, S.B., *Characterizing K2 Candidate Planetary Systems Orbiting Low-mass Stars. II. Planetary Systems Observed During Campaigns 1-7*, 2017, AJ 154, 207.

37. Shporer, A.; Zhou, G.; Fulton, B.J.; Vanderburg, A.; Espinoza, N.; Collins, K.; Ciardi, D.; Bayliss, D.; Armstrong, J.D.; Bento, J.; Bouchy, F.; Cochran, W.D.; Collier Cameron, A.; Colon, K.; **Crossfield, I.J.M.**; Dragomir, D.; Howard, A.W.; Howell, S.B.; Isaacson, H.; Kielkopf, J.F.; Murgas, F.; Sefako, R.; Sinukoff, E.; Siverd, R.; Udry, S., *K2-114b and K2-115b: Two Transiting Warm Jupiters*, 2017, AJ 154, 188.

38. Bell, T.J.; Nikolov, N.; Cowan, N.B.; Barstow, J.K.; Barman, T.S.; **Crossfield, I.J.M.**; Gibson, N.P.; Evans, T.M.; Sing, D.K.; Knutson, H.A.; Kataria, T.; Lothringer, J.D.; Benneke, B.; Schwartz, J.C., *The Very Low Albedo of WASP-12b from Spectral Eclipse Observations with Hubble*, 2017, ApJ 847, 2.

39. Garcia, E.V.; Ammons, S.M.; Salama, M.; **Crossfield, I.J.M.**; Bendek, E.; Chilcote, J.; Garrel, V.; Graham, J.R.; Kalas, P.; Konopacky, Q.; Lu, J.R.; Macintosh, B.; Marin, E.; Marois, C.; Nielsen, E.; Neichel, B.; Pham, D.; De Rosa, R.J.; Ryan, D.M.; Service, M.; Sivo, G.; *Individual, Model-Independent Masses of the Closest Known Brown Dwarf Binary to the Sun*, 2017, ApJ 846, 97.

40. Christiansen, J.L.; Vanderburg, A.; Burt, J.; Fulton, B.J.; Batygin, K.; Benneke, B.; Brewer, J.M.; Charbonneau, D.; Ciardi, D.R.; Collier Cameron, A.; Coughlin, J.L.; **Crossfield, I.J.M.**; Dressing, C.; Greene, T.P.; Howard, A.W.; Latham, D.W.; Molinari, E.; Mortier, A.; Mullally, F.; Pepe, F.; Rice, K.; Sinukoff, E.; Sozzetti, A.; Thompson, S.E.; Udry, S.; Vogt, S.S.; Barman, T.S.; Batalha, N.E.; Bouchy, F.; Buchhave, L.A.; Butler, R.P.; Cosentino, R.; Dupuy, T.J.; Ehrenreich, D.; Fiorenzano, A.; Hansen, B.M.S.; Henning, T.; Hirsch, L.; Holden, B.P.; Isaacson, H.T.; Johnson, J.A.; Knutson, H.A.; Kosiarek, M.; Lopez-Morales, M.; Lovis, C.; Malavolta, L.; Mayor, M.; Micela, G.; Motalebi, F.; Petigura, E.; Phillips, D.F.; Piotto, G.; Rogers, L.A.; Sasselov, D.; Schlieder, J.E.; Segransan, D.; Watson, C.A.; Weiss, L.M., *Threes Company: An Additional Non-transiting Super-Earth in the Bright HD 3167 System, and Masses for All Three Planets*, 2017, AJ 154, 122.

41. Fulton, B.J.; Petigura, E.A.; Howard, A.W.; Isaacson, H.; Marcy, G.W.; Cargile, P.A.; Hebb, L.; Weiss, L.M.; Johnson, J.A.; Morton, T.D.; Sinukoff, E.; **Crossfield, I.J.M.**; Hirsch, L.A., *The California-Kepler Survey. III. A Gap in the Radius Distribution of Small Planets*, 2017, AJ 154, 109.

42. Petigura, E.A.; Howard, A.W.; Marcy, G.W.; Johnson, J.A.; Isaacson, H.; Cargile, P.A.; Hebb, L.; Fulton, B.J.; Weiss, L.M.; Morton, T.D.; Winn, J.N.; Rogers, L.A.; Sinukoff, E.; Hirsch, L.A.; **Crossfield, I.J.M.**, *The California-Kepler Survey. I. High-resolution Spectroscopy of 1305 Stars Hosting Kepler Transiting Planets*, 2017, AJ 154, 107.

43. Sinukoff, E.; Howard, A.W.; Petigura, E.A.; Fulton, B.J.; **Crossfield, I.J.M.**; Isaacson, H.; Gonzales, E.; Crepp, J.R.; Brewer, J.M.; Hirsch, L.; Weiss, L.M.; Ciardi, D.R.; Schlieder, J.E.; Benneke, B.; Christiansen, J.L.; Dressing, C.D.; Hansen, B.M.S.; Knutson, H.A.; Kosiarek, M.; Livingston, J.H.; Greene, T.P.; Rogers, L.A.; Lepine, S., *K2-66b and K2-106b: Two Extremely Hot Sub-Neptune-size Planets with High Densities*, 2017, AJ 153, 271.

44. Weiss, L.M.; Deck, K.M.; Sinukoff, E.; Petigura, E.A.; Agol, E.; Lee, E.J.; Becker, J.C.; Howard, A.W.; Isaacson, H.; **Crossfield, I.J.M.**; Fulton, B.J.; Hirsch, L.; Benneke, B., *New Insights on Planet Formation in WASP-47 from a Simultaneous Analysis of Radial Velocities and Transit Timing Variations*, 2017, AJ 153, 265.

45. Petigura, E.A.; Sinukoff, E.; Lopez, E.D.; **Crossfield, I.J.M.**; Howard, A.W.; Brewer, J.M.; Fulton, B.J.; Isaacson, H.T.; Ciardi, D.R.; Howell, S.B.; Everett, M.E.; Horch, E.P.; Hirsch, L.A.; Weiss, L.M.; Schlieder, J.E., *Four Sub-Saturns with Dissimilar Densities: Windows into Planetary Cores and Envelopes*, 2017, AJ 153, 143.

46. 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.; Ciard, 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*, 2017, AJ 153, 70.

47. Benneke, B.; Werner, M.; Petigura, E.; Knutson, H.; Dressing, C.; **Crossfield, I.J.M.**; Schlieder, J.E.; Livingston, J.; Beichman, C.; Christiansen, J.; Krick, J.; Gorjian, V.; Howard, A.W.; Sinukoff, E.; Ciardi, D.R.; Akeson, R.L., *Spitzer Observations Confirm and Rescue the Habitable-zone Super-Earth K2-18b for Future Characterization*, 2017, ApJ 834, 187.

48. 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.

49. 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.

50. 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.

51. 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.

52. 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.

53. 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.; Bonnefoy, 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.

54. 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.

55. 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.

56. Quanz, S.P.; **Crossfield, I.J.M.**; Meyer, M.R.; Schmalzl, E.; Held, J.; Hinz, P. *Direct Detection and Characterization of Exoplanets in the 3–10μm Range With E-ELT/METIS*, 2015, J. Astrobio. 14, 279.

57. Beichman, C., et al; *Observations of Transiting Exoplanets with the James Webb Space Telescope (JWST)*, 2014, PASP, 126, 1134.

58. Mancini, L.; Southworth, J.; Ciceri, S.; Tregloan-Reed, J.; **Crossfield, I.J.M.**; Nikoov, N.; Bruni, I.; Zambelli, R.; Henning, Th. *Physical properties, starspot activity, orbital obliquity, and transmission spectrum of the Qatar-2 planetary system from multi-colour photometry*, 2014, MNRAS 443, 2391.

59. Biller, B.A.; **Crossfield, I.J.M.**; Mancini, L.; Ciceri, S.; Southworth, J.; Kopytova, T.; Bonnefoy, M.; Deacon, N.; Schlieder, J.; Buenzli, E.; Brandner, W.; Allard, F.; Homeier, D.; Freytag, B.; Greiner, J.; Henning, Th.; Goldman, B. *Weather on the Nearest Brown Dwarfs: Resolved Simultaneous Multi-Wavelength Variability Monitoring of WISE J104915.57-531906.1AB*, ApJL 778, 10

60. Glauser, A.M.; van Boekel; R., Krause, O.; Henning, Th.; Benneke, B.; Bouwman, J.; Cubillos, P.E.; **Crossfield, I.J.M.**; , Detre, Ö.H.; Ebert, M.; Grözinger, U.; Güdel, M.; Harrington, J.; Justtanont, K.; Klaas, U.; Lenzen, R.; Madhusudhan, N.; Meyer, M.R.; Mordasini, C.; Müller, F.; Ottensamer, R.; Plesseria, J.-Y.; Quanz, S.P.; Reiners, A.; Renotte, E.; Rohloff, R.-R.; Scheithauer, S.; Schmid, H.M.; Schrader, J.-R.; Seemann, U.; Stam, D.; Vandenbussche, B.; Wehmeier, U. *Characterizing Exoplanets in the Visible and Infrared: A Spectrometer Concept for the EChO Space Mission*, 2013, Journal of Astronomical Instrumentation, 2, 1350004

61. Johnson, J.A.; Gazak, J.Z.; Apps, K.; Muirhead, P.S.; Crepp, J.R.; **Crossfield, I.J.M.**; Boyagin, T.; von Braun, K.; Rojas-Ayala, B.; Howard, A.W.; Lloyd, J.P.; Covey, K.R.; Schlawin, E.; Hamren, K.; Marcy, G.; Morton, T.D.; *Characterizing the Cool KOIs. II. The M Dwarf KOI-254 and Its Hot Jupiter*, 2012, AJ, 143, 111.
62. Johnson, J.A.; Apps, K.; Gazak, J.Z.; Crepp, J.R.; **Crossfield, I.J.**; Holman, A.W.; Marcy, G.; Morton, T.D.; Chubak, C.; Isaacson, H.; *LHS6343C: A Transiting Field Brown Dwarf Discovered by the Kepler Mission*, 2011, ApJ, 730, 79.
63. Swain, M. R.; Deroo, P.; Griffith, C. A.; Tinetti, G.; Thatte, A.; Vasisht, G.; Chen, P.; Bouwman, J.; **Crossfield, I.J.**; Angerhausen, D.; *A ground-based near-infrared emission spectrum of the exoplanet HD189733b*, 2010, Nature, 463, 637
64. Winn, J.N.; Johnson, J.A.; Albrecht, S.; Howard, A.W.; Marcy, G.W.; **Crossfield, I.J.**; Holman, M.J.; *HAT-P-7: A Retrograde or Polar Orbit, and a Third Body*, 2009, ApJ, 703, 99
65. Winn, J.N.; Johnson, J.A.; Fabrycky, D.; Howard, A.W.; Marcy, G.W.; Narita, N.; **Crossfield, I.J.**; Suto, Y.; Turner, E.L.; Esquerdo, G.; Holman, M.J. *On the Spin-Orbit Misalignment of the XO-3 Exoplanetary System*, 2009, ApJ, 700, 302

Proceedings and other Work

1. Bean, J.; et al.; The Transiting Exoplanet Community Early Release Science Program for JWST, 2018, PASP 130, 4402.
2. Kempton, E.; et al.; A Framework for Prioritizing the TESS Planetary Candidates Most Amenable to Atmospheric Characterization, 2018, PASP 130, 4401.
3. Honda, M.; et al.; *TMT/MICHI current concept*, 2018, Proceedings of the AKARI 2017 meeting.
4. 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.
5. **Crossfield, I.J.M.** *Exoplanet Atmospheres and Giant Ground-Based Telescopes*, OHP 2015 and Bash-Fest conference proceedings.
6. Skidmore, W.; et al.; *Thirty Meter Telescope Detailed Science Case: 2015*, May 2015.
7. **Crossfield, I.J.M.** *Back Scatter: A brown dwarf weather map*, Physics Today, March 2014, 76.
8. Macintosh, B.; et al.; Thirty Meter Telescope Exoplanet Science Case, 2014–2016.
9. Mobasher, B.; et al.; Thirty Meter Telescope Infra-Red Multi-object Spectrograph (IRMS) Operational Concept Definition Document, 2013–2016.
10. Quirrenbach, A.; et al.; *Exploring Habitable Worlds beyond our Solar System*, 2013, ESA L2/L3 mission white paper.
11. **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.
12. 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.
13. Levine, M.; Soummer, R.; et al; *Overview of Technologies for Direct Optical Imaging of Exoplanets*, 2010, Astro2010 Decadal Survey white paper
14. Morzinski, K.M.; Crockett, C.J.; **Crossfield, I.J.**; *Digital image exploration at Maui Community College*, 2010, ASPC, 436, 274
15. Do, T.; Fitzgerald, M.; Ammons, S. M.; **Crossfield, I.J.**; Yelda, S.; Armstrong, J. D.; Severson, S.; *A Fourier Optics and Wavefront Sensing Laboratory Activity*, 2010, ASPC, 436, 160
16. 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

17. Troy, M.; **Crossfield, I.J.**; Chanan, G.; Dumont, P.; Green, J.J.; Macintosh, B.; *Effects of Diffraction and Static Wavefront Errors on High-Contrast Imaging from the Thirty Meter Telescope*, 2006, Proceedings of the SPIE, 62722C
18. 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
19. Macintosh, B.; et al.; *Extreme adaptive optics for the Thirty Meter Telescope*, 2006, Proceedings of the SPIE, 6272
20. 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
21. 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

- Becky Flores: 2018 CAMPARE summer undergrad researcher. Research presented at multiple end-of-summer symposia and AAS 233.
- Jessica Valverde: 2018 CAMPARE summer undergrad researcher. Research presented at multiple end-of-summer symposia.
- Alana Sanchez: Undergraduate researcher, 2017–present. Research presented at end-of-summer symposium and at AAS 233.
- David Berardo: graduate student researcher (MIT incoming class of 2017). Transit photometry with K2, Spitzer, and TESS.
- Nicholas Mehrle: (MIT incoming class of 2017). High-resolution, infrared spectroscopy of exoplanet atmospheres.
- Liang Yu: (MIT incoming class of 2014). Planet discovery and characterization with K2 and TESS. Papers in prep.
- Xueying Sherry Guo: (MIT incoming class of 2014). Space-based atmospheric characterization of transiting exoplanets.
- Erica Gonzales: graduate student researcher (MS Notre Dame 2017, UCSC incoming 2017). Adaptive optics imaging of K2 planet hosts. Paper in prep. Still at UCSC.
- Molly Kosiarek: graduate student researcher (UCSC incoming class of 2016). Paper in prep. Still at UCSC.
- Joshua Lothringer: graduate student researcher (LPL incoming class of 2014). http://adsabs.harvard.edu/abs/2018arXiv1801(Still at UA.
- Arturo Martinez: 2015 CAMPARE summer student researcher. Now graduate student at Georgia State University. http://adsabs.harvard.edu/abs/2017ApJ...837...72M; research presented at K2SciCon and at AAS.

- Lauren Biddle: http://adsabs.harvard.edu/abs/2014arXiv1406.6437B (U. Arizona, B.S. '14). Conducted internships at Gemini Observatory and Lowell Observatory. Now graduate student at Northern Arizona University.
- Kyle Pearson: http://adsabs.harvard.edu/abs/2014arXiv1406.6437B (U. Arizona, B.S. '14). Now graduate student at UA/LPL.

Teaching

- 2018B: Classical Physics (MIT 8.01), prepared material, led lectures for this non-majors introductory physics course. Used interactive and peer-led instruction methods.
- 2018A: Classical E&M (MIT 8.02), prepared material, led lectures for this non-majors introductory physics course. Used interactive and peer-led instruction methods.
- 2017B: Classical Physics (MIT 8.01), prepared material, led lectures for this non-majors introductory physics course. Used interactive and peer-led instruction methods.
- Guest Lecture: 'Kepler's Rebirth: Planets from K2,' in *Exoplanets* course (SFSU, Prof. Stephen Kane)
- Guest Lecture: 'Fourier Optics,' Invited Lecture at San Jose State University (Spring 2016)
- Guest Lecture: 'Transiting Planets,' Invited Lecture to UW graduate students (UW, Profs. Hawley & Quinn)
- Guest 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)
- Guest 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

- Founder and SOC Chair of the quarterly Boston Area Exoplanet Science Meeting
- 2018–present: member, US ELT Program Advisory Committee
- SOC Chair, 2018 Sagan Summer Workshop, Pasadena, CA
- SOC member, 2018 meeting on High-resolution Spectroscopy of Exoplanets, Italy.
- Papers refereed (*Nature*, *Science*, ApJ, AJ, MNRAS, A&A, A&A Reviews)
- Reviewer for time allocation committees: (HST mid-cycle, *Spitzer* DDT, Opticon)
- Review committees: NASA research, technology, and fellowship programs; Irish Research Council
- 2016–present: member, K2 User's Panel
- 2014–present: member, TMT "Exoplanets" International Science Development Team
- 2013–2018: TMT/IRMS Science Team member
- 2015–2017: member, NASA/ExoPAG Science Analysis Group 15
- 2015–2017: Organizing Committee, 3rd Korean-American "Kavli Frontiers of Science" Symposium.
- 2017: Judge, Alamada County Science and Engineering Fair.

- 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

Exoplanet Explorers: Planet Discovery by Citizen Scientist **2017–2018**

Working with amateur enthusiasts to identify new transiting planets and interesting phenomena using the Zooniverse platform at `http://exoplanetexplorers.com/`.

- Boston Globe
- Astrobiology Magazine
- Space.com
- International Business Times

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 μm Phase Offset of υ 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

Prof. Brad Hansen
UCLA Division of Astronomy
430 Portola Plaza, Box 951547
Los Angeles, CA 90095-1547

Voice: +1 310-825-5924
Fax: +1 310-206-2096
E-mail: hansen@astro.ucla.edu

Prof. Travis Barman
UA Lunar and Planetary Laboratory
1629 University Blvd.
Tucson, AZ 85721

Voice: +1 520-621-2806
Fax: +1 520-621-4933
E-mail: barman@lpl.arizona.edu

Prof. Heather Knutson
Caltech Div. of Geological & Planetary Sciences
1200 E California Blvd MC 150-21
Pasadena, CA 91125 USA

Voice: 626-395-4268
Fax: 626-568-0935
E-mail: hknutson@caltech.edu

Prof. Andrew Howard
Caltech Astronomy Department
1200 E California Blvd MC 249-17
Pasadena, CA 91125 USA

Voice: 626-395-8747
E-mail: ahoward@caltech.edu

Prof. Jonathan Fortney
UC Santa Cruz Astronomy Department
1156 High St
Santa Cruz, CA 95064 USA

Voice: 831-459-1312
E-mail: jfortney@ucolick.org