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Education

University of California, Berkeley	Ph.D. Physics, 2000 (advisor: James R. Graham)
University of California, Berkeley	M.A. Physics, 1993
Cornell University	B.A. Physics, <i>summa cum laude</i> , 1992

Research Interests

Extrasolar planets and brown dwarfs
Star and planet formation
Adaptive optics
Infrared astronomy and instrumentation
All-sky surveys

Employment History

Astronomer/Professor (tenured), Institute for Astronomy, University of Hawai'i, 2011–present
Associate Astronomer/Professor (tenured), Institute for Astronomy, University of Hawai'i, 2007–2011
Assistant Astronomer/Professor (tenure-track), Institute for Astronomy, University of Hawai'i, 2003–2007
Hubble Postdoctoral Fellow, Institute for Astronomy, University of Hawai'i, 2003
Beatrice Watson Parrent Fellow, Institute for Astronomy, University of Hawai'i, 2000–2003
Research Assistant, Department of Astronomy, UC Berkeley, 1993–2000

Honors and Awards

Director's Faculty Excellence Award, Institute for Astronomy, University of Hawaii, 2016
Regents' Medal for Excellence in Research, University of Hawaii, 2007
Alfred P. Sloan Research Fellow, 2005–2007
Invited plenary lecture, American Astronomical Society, 2004
("Formation and Early Evolution of Substellar Objects")
Hubble Postdoctoral Fellowship, 2003
Beatrice Watson Parrent Fellow, Institute for Astronomy, Univ. of Hawai'i, 2000–2003
Uhl Prize for Excellence in Dissertation Research, Dept of Astronomy, UC Berkeley, 1999
National Science Foundation Graduate Fellowship, 1992–1995
Kieval Prize (top graduating physics undergraduate), Cornell University, 1992
Dr. Robert H. Goddard Scholarship, National Space Club, 1992
Merrill Presidential Scholar, Cornell University Class of 1992

International Science Campaign Leadership

Canada-France-Hawaii Telescope IR Parallax Large Program (300 hrs), PI, 2016–2019

Gemini-South NICI Planet-Finding Campaign (500 hrs), PI, 2006–2013

Pan-STARRS 1 Key Project on the Solar Neighborhood, science co-lead, 2006–2016

Major Research Grants (as PI, or co-I with major funding)

- 2020–2018–2015–2013–2018 2011–2015 2011–2015 2011–2014 2009–2014 2008–2014 2007–2011 2007–2012 2007–2011 2007–2008 2005–2010 2005–2008 2004–2009
- ”Advancing Exoplanets Research through Keck All-Sky Precision AO.”, GBMF (PI), \$730K
 ”Astrophysics Enabled by Keck All-Sky Precision AO”, NSF MSIP (co-PI), \$7049K
 ”Physical Properties of the Coolest Brown Dwarfs”, NSF (PI), \$470K
 ”An Astrometric Census of the Solar Neighborhood with Pan-STARRS1”, NSF (co-I), \$512K
 ”Studying Gas-Giant Planets Directly”, NASA Origins (PI), \$380K
 ”Bridging the Brown Dwarf/Jupiter Gap with a Cold Brown Dwarf”, HST Cycle 19 (PI), \$100K
 ”PSF Determination for [Keck] Adaptive Optics”, NSF ATI (co-I), \$100K
 ”Ultracool Astrophysics with Brown Dwarf Binaries”, NSF (PI), \$540K
 ”Dynamical Masses for the Coldest Brown Dwarfs,” HST Cycle 17+18+19 (PI), \$110K
 ”The Pan-STARRS Brown Dwarf Factory,” NSF (co-I), \$440K
 ”The Gemini NICI Planet-Finding Campaign,” NSF (PI), \$500K
 ”Resolving Ultracool Astrophysics with Brown Dwarf Binaries,” HST Cycle 16 (PI), \$130K
 ”SGER: Starting the NICI Planet-Finding Campaign,” NSF (PI), \$120K
 ”Formation and Physical Properties of Substellar Objects,” NSF (PI), \$371K
 ”A Search for Debris Disks in the β Pictoris Moving Group,” HST Cycle 14 (co-I), \$118K
 ”New Windows Into the Substellar Mass Function,” NSF (PI), \$265K

Other Research Grants

- 2019–2017–2016–2014–2013–2018 2012–2016 2012–2016 2011–2013 2011–2014 2010–2013 2010–2013 2010–2011 2009–2010 2009–2010 2009–2010 2008–2011 2007–2008 2007–2010 1997–2003
- ”Sub-Jupiters around Young Brown Dwarfs,” HST Cycle 26 (co-I)
 ”The Coolest Sample of Brown Dwarf Dynamical Masses,” HST Cycles 25–27 (co-I)
 ”Characterizing Weather on a Young Free-Floating Planet,” HST Cycle 23 (co-I)
 ”Dynamical Masses for Free-Floating Planetary-Mass Binaries,” HST Cycles 22–24 (co-I)
 ”Wide-Field Ground-Layer Adaptive Optics Demonstrator,” NSF ATI (co-I)
 ”PSF Determination: Unlocking the Full Scientific Value of Adaptive Optics”, NSF ATI (co-I)
 ”Very Low-Mass Pleiades Binaries,” HST Cycle 19 (co-I)
 ”A Disk Census for New Low-Mass Members of TWA,” Herschel Cycle 1 (co-I)
 ”Probing Ultracool Atmospheres & Interiors with Dynamical Masses,” HST Cycle 19 (co-I)
 ”Development of a Next Generation Laser System for Keck II LGS,” NSF MRI-R2 (co-I)
 ”Development of an Improved Keck II Laser Launch Facility”, NSF MRI (co-I)
 ”Binary Brown Dwarfs and the L/T Transition,” HST Cycle 17 (co-I)
 ”Deep IRAC/MIPS Photometry of Young Planetary-Mass Objects,” Spitzer Cycle 5 (co-I)
 ”Chilly Pairs: A Search for the Latest T Dwarfs,” HST Cycle 17(co-I)
 ”Precision Tests of Ultracool Dwarf Atmospheric Models,” Spitzer Cycle 5 (co-I)
 ”Debris Disks around Young M Dwarfs,” Spitzer Cycle 5 (PI)
 ”Identifying the Missing Young Low-Mass Stars,” Galex Cycle 3 (co-I)
 ”Wide-Field, Low-Mass Census of the Nearest Star-Forming Region,” Spitzer Cycle 4 (PI)
 and 8 other grants as co-I while postdoc and graduate student (NSF, STScI, Chandra)

Professional Service

Advisory

AURA, University of Hawaii Member Representative, 2020–present
Keck Observatory, Science Steering Committee, 2006–present
Keck Observatory, Time Domain Astronomy working group, 2017–2018
Keck Observatory, Strategic Retreat, adaptive optics co-lead, 2014
National Optical Astronomy Observatory, System Roadmap Committee, 2011–2012
University of Hawaii, Institute for Astronomy Director Search Advisory Committee, 2010
Gemini Observatory, US Science Advisory Committee, 2006–2011
Gemini Observatory, Gemini Science Committee, 2006
ASIAA, optical/IR review panel, Taiwan, 2006

Peer-Review

NSF Division of Astronomical Sciences, review panel 2020
NSF Division of Astronomical Sciences, review panel 2019
Hubble Space Telescope, Cycle 20 review panel, 2012
Keck Observatory, Next Generation Adaptive Optics system, Build-to-Cost review, 2009
Keck Observatory, Keck I Laser Guide Star review panel, 2008
Hubble Space Telescope, Cycle 16 review panel, 2007
NASA Keck Time Allocation Committee, 2006–2007
Spitzer Space Telescope Cycle 1 science review panel, 2004
NASA Origins panel, 2003
External reviewer for NSF, NASA, PPARC, and European Research Council

Instrumental

Keck Observatory, Adaptive Optics Future Study Group, 2019–present
U.S. Extremely Large Telescope Program, Key Science Program development, 2018–2019
Thirty-Meter Telescope, Planet-Finder Instrument, 2nd gen instrument study group, 2015–present
Keck Observatory, Keck All-Sky Precision Adaptive Optics (KAPA), science team, 2015–present
Thirty-Meter Telescope, Exoplanet International Science Development Team, 2014–present
LSST Science Collaboration on Stars, the Milky Way and the Local Volume, 2012–present
Thirty-Meter Telescope, IRIS (InfraRed Imaging Spectrograph), science team, 2010–present
Keck Observatory, Next-Generation AO Build-to-Cost review, 2009
AURA Giant Segmented Mirror Telescope, Science Working Group, 2005–2007
Keck Observatory, Adaptive Optics Working Group, 2002–2005; Co-Chair 2005–2009
Keck Observatory, Next-Generation AO science case, Co-Chair, 2006
Gemini Observatory Precision Radial Velocity Spectrograph, IfA/UK ATC Science Team, 2005–2008
Gemini High-Resolution Near-IR Spectrograph, IfA/UK ATC Science Design Team, 2004–2005
Gemini Extreme Adaptive Optics Coronagraph, Arizona/NOAO/Oxford/IfA Science Design Team, 2004
Keck OSIRIS (OH-Suppressing Infra-Red Imaging Spectrograph) pre-ship review panel, 2004
Gemini-South Near-IR Coronagraphic Imager (NICI) Science Definition Team, 2002 — 2008

University

Participant of nearly all (and chair of most) IfA/Hawaii faculty committees (list here),
as well as key member of several ad hoc committees on strategic planning, time allocation, and policy

Advising Experience

Postdoc advisor, IfA/Hawaii

Janis Hagelberg (Swiss SNF Fellow; 2014–2016; now postdoc at LAOG, University of Grenoble)
Jessica Lu (NSF Fellow; 2011–2013; now asst professor at UC Berkeley)
Eric Nielsen (2011–2014; now asst professor at New Mexico State University)
Adam Kraus (Hubble Fellow, 2009–2012; now asst professor at University of Texas, Austin)
Niall Deacon (2009–2011; now postdoc at Max Planck Institute for Astronomy)
Lucas Cieza (Spitzer Fellow, 2007–2010; now asst professor at Universidad Diego Portales)
John Johnson (NSF Fellow, 2007–2009; now professor at Harvard)
Beth Biller (Hubble Fellow, 2007–2010; now Chancellor's Fellow at University of Edinburgh)
Evgenya Shkolnik (NRC Fellow, 2006–2008; now assoc professor at Arizona State University)
Zahed Wahhaj (2006–2012; now tenured astronomer at European Southern Observatory)
Katelyn Allers (2006–2009; now prof at Bucknell University)

PhD thesis advisor, IfA/Hawaii

Maissa Salama (2016–present)
Zhoujian Zhang (2015–present)
William Best (2011–present)
postdoc at UT Austin with Adam Kraus
Kimberly Aller (2010–2016)
Insight Data Science Fellow; now data scientist at Tala
Brendan Bowler (2008–2013)
ASP Trumpler Prize, Exoplanet Prize Fellow at Caltech; now asst prof at UT Austin
Trent Dupuy (2005–2010)
Hubble Fellow at Harvard/CfA; now asst professor at University of Edinburgh

Master's thesis advisor, IfA/Hawaii

(Hawaii students do two projects with different advisors to advance to candidacy.)
Michael Kotson (2012–2013)
Geoff Mathews (2007–2008)
Mark Pitts (2004–2005)
Mark Willman (2003–2004)

Supervised post-graduate research, IfA/Hawaii

Eugenio Rivera (Fisk/Vanderbilt, 2011–2012)
William Best (Haverford College/Punahou School, 2010)
Brandon Swift (UC Berkeley, 2005–2006)
Jonathan Leong (Caltech, 2001–2002)

Undergraduate mentor for NSF REU program, IfA/Hawai'i

Stuart Gegenheimer (UC Berkeley, 2012)
James Wray (Princeton; 2005)
Meghan McGarry (UC Berkeley; 2001)

Supervised undergraduate research at UC Berkeley

Genevieve Graves (Harvard, 2000)
Kevin Bundy (UC Berkeley, 1999)
Melissa Enoch (UC Berkeley, 1999)

A. Refereed Publications

177 total (23 first author, 58 second author), H index = 61

- A177. “Direct Radio Discovery of a Cold Brown Dwarf.” Vedantham, H., Callingham, J., Shimwell, T., Dupuy, T., Best, W., Liu, M. et al. (12 total authors), *ApJL*, in press (accepted 10/17/20)
- A176. “A Novel Survey for Young Substellar Objects with the *W*-band Filter. I. Filter Design and New Discoveries in Ophiuchus and Perseus.” Allers, K. & Liu, M., *PASP*, in press (accepted 07/21/20)
- A175. “Spitzer Variability Properties of Young Giant Planet Analogs.” Vos, J., Biller, B., Allers, K., Faherty, J., Liu, M. et al. (19 total authors), *ApJ*, in press (accepted 05/21/20)
- A174. “ACRONYM IV: Three New, Young, Low-mass Spectroscopic Binaries.” Flagg, L., Shkolnik, E., Weinberger, A., Bowler, B., Skiff, B., Kraus, A. and Liu M. 2020, *AJ*, in press (accepted 05/06/20)
- A173. “Keck/NIRC2 L'-Band Imaging of Jovian-Mass Accreting Protoplanets around PDS 70.” Wang, J., Ginzberg, S., Ren, B., Wallack, N., Gao, P. et al. (35 total authors) 2020, *ApJ*, in press (accepted 04/17/20)
- A172. “2MASS J0443+3723 B: A Young Companion at the Substellar Boundary with Potential Membership in the β Pictoris Moving Group.” Phillips, C., Bowler, B., Mace, G., Liu, M., & Sokol, K. 2020, *ApJ*, in press (accepted 04/08/20)
- A171 “The Hawaii Infrared Parallax Program. IV. A Comprehensive Parallax Survey of L0–T8 dwarfs with UKIRT.” Best, W., Liu, M., Magnier, E., & Dupuy, T. 2020, *ApJ*, in press (accepted 03/02/20)
- A170 “COol Companions ON Ultrawide orbiTS (COCONUTS). I. A High-Gravity T4 Benchmark around an Old White Dwarf and A Re-Examination of the Surface-Gravity Dependence of the L/T Transition.” Zhang, Z., Liu, M., Hermes, J. Magnier, E., Marley, M. et al. 2020, *ApJ*, in press (accepted 02/10/20)
- A169. “A Novel Survey for Young Substellar Objects with the *W*-band Filter. II. The Coolest and Lowest Mass Members of the Serpens-South Star-forming Region.” Jose, J., Biller, B., Albert, L., Dubber, S., Allers, K., Herczeg, G., Liu, M. et al. 2020 (15 total authors), *ApJ*, in press (accepted Feb 2020)
- A168. “WISE J072003.20–084651.2B Is A Massive T Dwarf.” Dupuy, T., Liu, M., Best, W., Mann, A. et al. (24 total authors), *ApJ*, in press
- A167. “3.8 μm Imaging of 400–600 K Brown Dwarfs and Orbital Constraints for WISEP J0458+64AB.” Leggett, S., Dupuy, T., Morley, C., Marley, M., Best, W., Liu, M. et al. (14 total authors), *ApJ*, 882, 117
- A166. “ACRONYM. III. Radial Velocities for 336 Candidate Young Low-Mass Stars in the Solar Neighborhood, Including 78 Newly Confirmed Young Moving Group Members.” Schneider, A., Shkolnik, E., Allers, K., Kraus, A., Liu, M., Weinberger, A. & Flagg, L, *AJ*, 157, 234

- A165. “The Elusive Majority of Young Moving Groups. I. One Hundred New Low-Mass Candidates of Nearby Kinematic Associations.” Bowler, B., Hinkley, S., Ziegler, C., Baranec, C. et al. (10 total authors), *ApJ*, in press (accepted 03/19)
- A164. “A Search for Variability in Exoplanet Analogues and Low-Gravity Brown Dwarfs.” Vos, J., Biller, B. Bonavita, M., Eriksson, S., Liu, M. et al. (21 total authors) 2019, *MNRAS*, 483, 480
- A163. “The Hawaii Infrared Parallax Program. III. 2MASS J0249–0557 c: A Wide Planetary-Mass Companion to a Low-Mass Binary in the β Pic Moving Group.” Dupuy, T., Liu, M., Allers, K., Biller, B. Kratter, K. et al. (9 total authors) 2018, *ApJ*, 156, 57
- A162. “The Pan-STARRS1 Proper-Motion Survey for Young Brown Dwarfs in Nearby Star-Forming Regions. I. Taurus Discoveries and A Reddening-Free Classification Method for Ultracool Dwarfs.” Zhang, Z., Liu, M., Best, W., Magnier, E., Aller, K. et al. (14 total authors) 2018, *ApJ*, 858, 41
- A161. “Simultaneous, Multi-Wavelength Variability Characterization of the Free-Floating Planetary-Mass Object PSO J318.5–22.” Biller, B., Vos, J. et al. (18 total authors) 2018, *AJ*, 155, 95
- A160. “Investigating the Variability of the Lowest-Mass Objects in the AB Doradus Moving Group.” Vos, J., Allers, K., Biller, B., Liu, M., Dupuy, T., Gallimore, J. & Adenuga, D. 2018, *MNRAS*, 474, 1041
- A159. “Cloudless Atmospheres for Young Low-Gravity Substellar Objects.” Tremblin, P., Chabrier, G., Baraffe, I., Liu, M. et al. (10 total authors) 2017, *ApJ*, 850, 46
- A158. “Photometry and Proper Motions of M, L, and T Dwarfs from the Pan-STARRS1 3π Survey.” Best, W. M. J., Magnier, E., Liu, M., Aller, K. A., et al. (15 total authors) 2018, *ApJS*, 234, 1
- A157. “The UKIRT Hemisphere Survey: Definition and Full *J*-Band Data Release.” Dye, S., Lawrence, A. et al. (25 total authors) 2018, *MNRAS*, 473, 5113
- A156. “The Young Substellar Companion ROXs 12 B: Near-Infrared Spectrum, System Architecture, and Spin-Orbit Misalignment.” Bowler, B., Kraus, A., Bryan, M., Knutson, H. et al. (10 total authors) 2017, *AJ*, 154, 165
- A155. “The Multiplicity of M Dwarfs in Young Moving Groups.” Shan, Y., Yee, J., Bowler, B. et al. (14 total authors) 2017, *ApJ*, 846, 93
- A154. “The Young L Dwarf 2MASS J11193254–1137466 is a Planetary-Mass Binary.” Best, W., Liu, M., Dupuy, T. & Magnier, E. 2017, *ApJL*, 843, 4
- A153. “Uniform Atmospheric Retrieval Analysis of Ultracool Dwarfs II: Properties of 11 T-dwarfs.” Line, M., Marley, M., Liu, M., Morley, C. et al. (8 total authors) 2017, *ApJ*, 848, 83

- A152. “All-sky Co-moving Recovery Of Nearby Young Members (ACRONYM). II: The beta Pictoris Moving Group.” Shkolnik, E., Allers, K., Kraus, A. Liu, M., & Flagg, L. 2017, *ApJ*, 154, 69
- A151. “The Gold Standard: Accurate Stellar and Planetary Parameters for Eight *Kepler* M Dwarf Systems Enabled by Parallaxes.” Mann, A., Dupuy, T., Muirhead, P., Johnson, M., Liu, M. et al. (9 total authors) 2017, *ApJ*, 153, 267
- A150. “CFBDSIR 2149–0403: Young Isolated Planetary-Mass Object or High-Metallicity Low-Mass Brown Dwarf?” Delorme, P., Dupuy, T., Gagne, J., Reyle, C., Forveille, T., Liu, M. C., et al. (14 total authors) 2017, *A&A*, 602, A82
- A149. “Identification of Partially Resolved Binaries in Pan-STARRS1 Data.” Deacon, N. R., Magnier, E. A., Best, W. M. J., Liu, M. C. et al. (12 total authors) 2017, *MNRAS*, 468, 3499
- A148. “Individual Dynamical Masses of Ultracool Dwarfs.” Dupuy, T. & Liu, M. C., et al. 2017, *ApJ*, 231, 15
- A147. “A Search for L/T Transition Dwarfs With Pan-STARRS1 and WISE. III. Young L Dwarfs and Proper Motions in Taurus and Scorpius-Centaurus.” Best, W. M. J., Liu, M. C., Bowler, B. P., Aller, K. N., Zhang, Z. et al. (16 total authors) 2017, *ApJ*, 837, 95 (accepted 02/01/17)
- A146. “2MASS0213+3648 C: A wide T3 benchmark companion to an an active, old M dwarf binary.” Deacon, N., Magnier, E., Liu, M. C. et al. (18 total authors) 2017, *MNRAS*, 467, 1126,
- A145. “Planets Around Low-Mass Stars (PALMS). VI. Discovery of a Remarkably Red Planetary-Mass Companion to the AB Dor Moving Group Candidate 2MASS J22362452+4751425.” Bowler, B. P, Liu, M. C., Mawet, D., et al. (14 total authors) 2017, *AJ*, 153, 18
- A144. “The Hawaii Infrared Parallax Program. II. Young Ultracool Dwarfs.” Liu, M. C., Dupuy, T. J. & Allers, K. N. 2016, *ApJ*, 833, 96
- A143. “Two Small Temperate Planets Transiting Nearby M Dwarfs in K2 Campaigns 0 and 1.” Schlieder, J., Crossfield, I. et al. (24 total authors) 2016, *ApJ*, 818, 87
- A142. “K2 Discovers a Busy Bee: An Unusual Transiting Neptune Found in the Beehive Cluster.” Obermeier, C., Henning, T., Schlieder, J. E., Crossfield, I. J. M., Petigura, E. A., Howard, A. W. et al. (23 total authors) 2016, *AJ*, 152, 223
- A141. “197 Candidates and 104 Validated Planets in K2’s First Five Fields.” Crossfield, I. J. M. et al. (43 total authors) 2016, *ApJS*, 226, 7
- A140. “High-Precision Radio and Infrared Astrometry of LSPM J1314+1320AB – II: Testing Pre–Main–Sequence Models at the Lithium Depletion Boundary with Dynamical Masses.” Dupuy, T. J., Forbrich, J., Rizzuto, A. et al. (8 total authors) 2016, *ApJ*, 827, 23
- A139. “High-Precision Radio and Infrared Astrometry of LSPM J1314+1320AB – I: Parallax, Proper Motions, and Limits on Planets.” Forbrich, J., Dupuy, T. J. et al. (9 total authors) 2016, *ApJ*, 827, 22

- A138. “Eleven Multi-planet Systems from *K2* Campaigns 1 & 2 and the Masses of Two Hot Super-Earths.” Sinukoff, E. et al. (16 total authors) 2016, *ApJ*, 827, 78
- A137. “Brown Dwarfs in Young Moving Groups from Pan-STARRS. I. AB Doradus.”
Aller, K. M., Liu, M. C., et al. 2016, *ApJ*, 821, 120
- A136. “Planet Hunters X. KIC 8462852 – Where’s the flux?”
Boyajian, T. et al. (30 total authors) 2016, *MNRAS*, 457, 3988
- A135. “The Radial and Rotational Velocities of PSO J318.5338–22.8603, a Newly Confirmed Planetary-Mass Member of the β Pictoris Moving Group.” Allers, K. N., Gallimore, J. F., Liu, M. C., & Dupuy, T. J. 2016, *ApJ*, 819, 133
- A134. “Two Small Temperate Planets Transiting Nearby M Dwarfs in *K2* Campaigns 0 and 1.”
Schlieder, J. E. et al. (24 total authors) 2016, *ApJ*, 818, 87
- A133. “Variability in a Young, L/T Transition Planetary-mass Object.”
Biller, B. et al. (18 total authors) 2015, *ApJ*, 813, 23
- A132. “Dynamical Masses of Young M Dwarfs: I. Masses and Orbital Parameters of GJ 3305 AB, the Wide Binary Companion to the Imaged Exoplanet Host 51 Eri.” Montet, B. et al. (10 total authors) 2015, *ApJ*, 813, L11
- A131. “A Search for L/T Transition Dwarfs with Pan-STARRS1 and *WISE*: L/T Transition Atmospheres and Young Discoveries.” Best, W. M. J., Liu, M. C., Magnier, E. A., Deacon, N. R., Aller, K. M., Redstone, J. et al. (16 total authors) 2015, *ApJ*, 814, 118
- A130. “Two Transiting Earth-size Planets Near Resonance Orbiting a Nearby Cool Star.”
Petigura, E. A. et al. (14 total authors) 2015, *ApJ*, 811, 102
- A129. “Improving signal-to-noise in the direct imaging of exoplanets and circumstellar disks with MLOCI.” Wahhaj, Z. et al. (13 total authors) 2015, *A&A*, 581, 24
- A128. “Early Results from VLT SPHERE: Long-slit Spectroscopy of 2MASS 0122–2439 B, a Young Companion Near the Deuterium Burning Limit.” Hinkely, S., Bowler, B., Vigan, A., Aller, K., Liu, M., et al. 2015 (11 total authors), *ApJL*, 805, L10
- A127. “Planets Around Low-mass Stars (PALMS). V. Age-dating Low-mass Companions to Members and Interlopers of Young Moving Groups.” Bowler, B., Shkolnik, E., Liu, M. C. et al. (25 total authors) 2015, *ApJ*, 806, 62
- A126. “The Gemini NICI Planet-Finding Campaign: Asymmetries in the HD 141569 Disc.”
Biller, B. A., Liu, M. C., Rice, W. K., Wahhaj, Z., Nielsen, E., Hayward, T., Kuchner, M., Close, L. M., Chun, M., Ftaclas, C., & Toomey, D. W. 2015, *MNRAS*, 450, 4446
- A125. “The Mass-Luminosity Relation in the L/T Transition: Individual Dynamical Masses for the New J-Band Flux Reversal Binary SDSSJ105213.51+442255.7AB.” Dupuy, T. J., Liu, M. C., Leggett, S. K., Ireland, M. J., Chiu, K., & Golimowski, D. A. 2015, *ApJ*, 805, 56

- A124. “On the Binary Frequency of Lowest Mass Members of the Pleiades with Hubble Space Telescope Wide Field Camera 3.” Garcia, E., Dupuy, T. J., Allers, K. N., Liu, M. C. & Deacon, N. 2015, *ApJ*, 804, 65
- A123. “Discovery of a Low-Luminosity, Tight Substellar Binary at the T/Y Transition.” Dupuy, T. J., Liu, M. C. & Leggett, S. K. 2015, *ApJ*, 803, 102
- A122. “A nearby M star with three transiting super-Earths discovered by K2.” Crossfield, I. J. M. et al. 2015, *ApJ*, 804, 10
- A121. “An ALMA Disk Mass for the Candidate Protoplanetary Companion FW Tau.” Kraus, A. L., Andrews, S. M., Bowler, B. P., Herczeg, G., Ireland, M. J., Liu, M. C., Metchev, S. & Cruz, K. L. 2015, *ApJ*, 798, 23
- A120. “WISEP J004701.06+680352.1: An Intermediate Surface Gravity, Dusty Brown Dwarf in the AB Dor Moving Group.” Gizis, J. E., Allers, K. N., Liu, M. C., Harris, H. C., Faherty, J. K., Burgasser, A. J. & Kirkpatrick, J. D. 2015, *ApJ*, 799, 203
- A119. “Searching for T dwarfs in the ρ Oph dark cloud L1688.” Chiang, P., Chen, W.-P., Albert, L., Liu, M. & Magnier, E. A. 2015, *MNRAS*, 448, 522
- A118. “Herschel/PACS View of Disks around Low-Mass Stars and Brown Dwarfs in the TW Hya Association.” Liu, Y., Herczeg, G. J., Gong, M., Allers, K. N., Brown, J. M., Kraus, A. L., Liu, M. C., Shkolnik, E. L., & van Dishoeck, E. F. 2015, *A&A*, 573, 63
- A117. “Astrometric Calibration of the Gemini NICI Planet-Finding Campaign.” Hayward, T. L., Biller, B. A., Liu, M. C., Nielsen, E. L., Wahhaj, Z., Chun, M., Ftacilas, C., Hartung, M. & Toomey, D. W. 2014, *PASP*, 126, 1112
- A116. “Planets Around Low-Mass Stars (PALMS). IV. The Outer Architectures of M Dwarf Planetary Systems.” Bowler, B., Liu, M. C., Shkolnik, E. & Tamura, M. 2014, *ApJS*, 216, 7
- A115. “The Gemini NICI Planet-Finding Campaign. The Orbit of the Young Exoplanet β Pictoris b.” Nielsen, E., Liu, M. et al. (16 total authors) 2014, *ApJ*, 794, 158
- A114. “Wide Cool and Ultracool Companions to Nearby Stars from Pan-STARRS 1.” Deacon, N., Liu, M. et al. 2014, *ApJ*, 792, 119
- A113. “New Evidence for a Substellar Luminosity Problem: Dynamical Mass for the Brown Dwarf Binary Gl 417BC.” Dupuy, T. J., Liu, M. C., & Ireland, M. J. 2014, *ApJ*, 790, 133
- A112. “The Gemini NICI Planet-Finding Campaign: The Offset Ring of HR 4796 A.” Wahhaj, Z., Liu, M. C. et al. 2014, *A&A*, 567, 34
- A111. “Prospecting in Ultracool Dwarfs: Measuring the Metallicities of Late-M Dwarfs.” Mann, A. W., Deacon, N. R., Gaidos, E., Ansdell, M., Brewer, J. M., Liu, M. C., Magnier, E. A., & Aller, K. M. 2014, *ApJ*, 147, 160
- A110. “A Stellar Census of the Tucana-Horologium Moving Group.” Kraus, A. L., Shkolnik, E. L., Allers, K. N., & Liu, M. C. 2014, *AJ*, 147, 146

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- B17. "Design of the TMT Mid-Infrared Echelle: Science Drivers and Design Overview." Elias, J. et al. 2006, *Proc. of the SPIE volume 6269: Ground-Based and Airborne Instrumentation for Astronomy*, 122
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- B3. “The Nature of the Red Giant Branch Population of NGC 5128 with NICMOS on the Hubble Space Telescope.” Marleau, F. R., Graham, J. R., Charlot, S. & Liu, M. 1999, in *Galaxy Dynamics: From the Early Universe to the Present*, eds. F. Combes, G. A. Mamon, & V. Charmandaris (ASP Conf. Series, Vol. 197), 265
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- B1. “Weighing the Stellar Content of NGC 5907’s Dark Matter Halo.” Liu, M. C., Marleau, F. R., Graham, J. R., Charlot, S., Sackett, P., & Zepf, S. 1999, in *Proceedings of the 19th Texas Symposium on Relativistic Astrophysics*, eds. J. Paul, T. Montmerle, & E. Aubourg (Paris, Dec 1998)

C. Invited Scientific Talks and Colloquia (incomplete)

- C49. Bay Area exoplanet workshop (Mountain View, CA), June 2015
- C48. Stanford University colloquium, June 2015
- C47. Lyot Meeting (Montreal), June 2015
- C46. IAU Symposium: *Young Stars and Planets Near Earth* (Atlanta, GA), May 2015
- C45. University of Hawaii IfA colloquium, Aug 2013
- C44. Subaru colloquium, June 2013
- C43. UCLA colloquium, May 2013
- C42. Caltech colloquium, June 2011
- C41. Harvard-Smithsonian Center for Astrophysics colloquium, May 2011
- C40. Cool Stars 16, Ultracool Dwarf Sciences from Wide-field Multi-Epoch Surveys (Seattle, WA), Sept 2010
- C39. AAS Meeting, Science with Adaptive Optics, May 2009
- C38. Subaru Observatory Conference, *Exoplanets and Disks: Their Formation and Diversity* (Kona, HI), March 2009
- C37. SPIE Meeting, Advances in Adaptive Optics (Marseilles), June 2008
- C36. AAS Meeting, Cool Brown Dwarfs and Hot Exoplanets, May 2007
- C35. AAS Meeting, Science from Wide-Field Surveys, May 2007
- C34. Harvard-Smithsonian Center for Astrophysics, April 2007
- C33. Caltech colloquium, April 2007

- C32. Cool Stars 14, Disks around Brown Dwarfs and Cool Stars, Nov 2006
- C31. American Museum of Natural History (New York, NY), July 2006
- C30. University of Florida, May 2006
- C29. National Central University (Taoyuan, Taiwan), August 2005
- C28. Academia Sinica Institute of Astronomy and Astrophysics (Taipei, Taiwan), August 2005
- C27. National Astronomical Observatory of Japan (Tokyo, Japan) August 2005
- C26. Institute of Space and Astronomical Science (Sagamihara, Japan), August 2005
- C25. University of Colorado, Boulder, February 2005
- C24. Space Telescope Science Institute (Baltimore, MD), October 2004
- C23. Carnegie Institution, Dept of Terrestrial Magnetism (Washington, DC), October 2004
- C22. University of California, Los Angeles, March 2004
- C21. American Astronomical Society Meeting (Atlanta, GA), January 2004
- C20. *Facing the Future: Formation and Evolution of Planets* (Austin, TX), October 2003
- C19. European Southern Observatory Headquarters (Garching, Germany), October 2003
- C18. *Stellar Populations 2003* (Garching, Germany), October 2003
- C17. University of California, Santa Cruz, May 2003
- C16. Cornell University (Ithaca, NY), April 2003
- C15. Lawrence Livermore National Lab (Livermore, CA), April 2003
- C14. University of California, Berkeley, April 2003
- C13. Hubble Fellows Symposium (Baltimore, MD), March 2003
- C12. Carnegie Institution, Dept of Terrestrial Magnetism (Washington, DC), March 2003
- C11. University of California, Santa Barbara, February 2003
- C10. Universidad de Chile (Santiago, Chile), January 2003
- C9. Infrared Processing and Analysis Center (IPAC; Pasadena, CA), November 2002
- C8. Cerro Tololo Interamerican Observatory (La Serena, Chile), July 2002
- C7. Academia Sinica Institute of Astronomy and Astrophysics (Taipei, Taiwan), March 2002
- C6. Joint Astronomy Centre (Hilo, HI), October 2001
- C5. Yale University (New Haven, CT) May 2001

- C4. Infrared Processing and Analysis Center (IPAC; Pasadena, CA), December 2000
- C3. European Southern Observatory (Garching, Germany), January 2000
- C2. Observatories of the Carnegie Institution of Washington (Pasadena, CA), January 2000
- C1. Academia Sinica Institute of Astronomy and Astrophysics (Taipei, Taiwan), March 1996

D. Public Talks and Presentations (incomplete)

- D21. “Rogue Planets”
BBC TV, Universe Live, January 2016
- D20. “Exoplanets and SETI”
Voice of America (Washington, DC), July 2013
- D19. “Exoplanet Cornucopia”
ARCS (Achievement Rewards for College Scientists) annual meeting (Honolulu), May 2013
- D18. “Brown Dwarfs”
Keck Observatory 20th anniversary (Hawaii), March 2013
- D17. “The Keck Telescope”
Island Issues, KKOA 107.7/LAVA 105.3 FM (Hawaii), March 2012
- D16. “Exoplanet Cornucopia”
Honolulu Rotary Club, Dec 2011
- D15. “Telescopes as Time Machines”
TEDx Honolulu, November 2011
- D14. “Exoplanet Cornucopia”
Friends of Hawai’i Astronomy, June 2011
- D13. “Seeing the Invisible”
Evenings with Astronomers, Keck Observatory fund-raising lecture series, Kona, HI, Jan 2010
- D12. “The Universe: Birth and Death of a Star”
The History Channel, August 2007
- D11. “Where Do Planets Come From?”
Keck Observatory Headquarters, July 2007
- D10. “Hitchhiker’s Guide to the End of the Universe”
University of Hawaii, Manoa, Oct 2005 (and Hilo and Maui)
- D9. “Worlds Around Other Stars” Keck Observatory Headquarters, Dec 2003

- D8. “Extrasolar Planets”
The Manoa Forum, University of Hawaii, Sept 2003
- D7. “Extrasolar Planets”
National Public Radio, Science Friday, Sept 2002
- D6. “Searching for Brown Dwarfs and Young Planets Using Adaptive Optics”
TOPS (Toward Other Planetary Systems) presentation, University of Hawai’i, June 2002
- D5. “Extrasolar Planets and Brown Dwarfs”
AstroDay 2K2, Hilo, Hawai’i, April 2002
- D4. “Worlds Around Other Stars: New Sharp Views from Mauna Kea”
Inaugural Frontiers of Astronomy community lecture, University of Hawai’i, Feb 2002
- D3. “A Brown Dwarf Companion Around a Sun-Like Star”
Friends of Hawai’i Astronomy, University of Hawaii, Feb 2002
- D2. “New Telescopes and Telescope Technology”
National Public Radio, Science Friday, Jan 2002
- D1. “With a Clear Sky, You Can See Forever: Adaptive Optics in Astronomy”
Morrison Planetarium, San Francisco Amateur Astronomers, July 1998

E. Books Reviewed

- E1. *Magnificent Universe*.
K. Croswell 1999, Simon & Schuster (New York).

F. Abstracts, Posters, and Circulars

Available upon request.