Christopher A. Theissen

University of California San Diego, Department of Astronomy & Astrophysics
9500 Gilman Drive, La Jolla, California 92093, USA
ctheissen at ucsd.edu https://ctheissen.github.io/

PROFESSIONAL APPOINTMENTS

Assistant Professor UC San Diego, Department of Astronomy & Astrophysics	Jul 2023–Present
UCSD Chancellor's Postdoctoral Fellow	Sep 2021–Jun 2023
NASA Sagan Postdoctoral Fellow	Sep 2019–Sep 2022
Visting Scholar UC San Diego, Center for Astrophysics and Space Sciences	Jan 2019–Sep 2019
Postdoctoral Scholar – Konopacky Group UC San Diego, Center for Astrophysics and Space Sciences PI: Quinn Konopacky	Jan 2018–Jan 2019
Adjunct Professor – San Diego Mesa College Department of Physical Sciences	Jun 2017–Jan 2019

EDUCATION

Boston University, Boston, Massachusetts, USA

Doctor of Philosophy (Ph.D.) in Astronomy Thesis: *Low-mass Stars with Extreme Mid-Infrared Excesses: Potential Signatures of Planetary Collisions*	Jan 2018
Master of Arts (M.A.) in Astronomy	May 2014

University of California San Diego, La Jolla, California, USA

Bachelor of Science (B.S.) in Physics Specialization in Astrophysics	Jun 2010
Bachelor of Arts (B.A.) in Mathematics Applied Science	Jun 2010

San Diego Mesa College, San Diego, California, USA

Associate of Arts (A.A.) in Transfer Studies	Jun 2007

ACADEMIC AWARDS & HONORS

Scialog Fellow, Early Science with the LSST	2024–2025
UC San Diego Chancellor's Postdoctoral Fellowship	2021–2023
UC San Diego Chancellor's Outstanding Postdoctoral Scholar Award	2020–2021
NASA Hubble Fellowship Program Sagan Postdoctoral Fellowship	2019–2022
Ford Foundation Dissertation Fellowship (Honorable Mention/Alternate)	2016
National Science Foundation Graduate K–12 Fellowship	2014–2015
Excellent Teaching Fellow Award, Boston University	2012
Ford Foundation Predoctoral Fellowship	2012–2016
California Alliance for Minority Participation Graduate School Application Award	2011
Minority Undergraduate Research Fellowship, California Institute of Technology	2009
Opportunity Grant, University of California San Diego	2009–2010

RESEARCH EXPERIENCE

Konopacky Group, UC San Diego — 2018–2019
Postdoctoral Scholar
PI: Quinn Konopacky

Cool Star Lab, UC San Diego — 2015–2017
Visiting Graduate Student Researcher
Mentor: Adam Burgasser

West Group, Boston University — 2011–2017
Graduate Student Researcher
Advisor: Andrew West

TEACHING EXPERIENCE

Astronomy 150: Observational Optical Laboratory, UC San Diego, La Jolla, CA — Winter 2025
Astronomy 20A: Introduction to Astrophysics I, UC San Diego, La Jolla, CA — Fall 2024
Physics 164: Observational Astrophysics Lab, UC San Diego, La Jolla, CA — Winter 2024
Physics 253: Astrophysical Statistics, UC San Diego, La Jolla, CA — Fall 2023
Astronomy 101: Descriptive Astronomy, Mesa College, San Diego, CA — Summer 2017
Adjunct Faculty

8th Grade Science, Atlantic Middle School, Quincy, Massachusetts — 2014–2015
Resident Scientist (NSF GK-12 Fellow)

Astronomy 203: Principles of Astronomy II, Boston University — Spring 2012
Teaching Fellow

Astronomy 101: The Solar System, Boston University — Fall 2011
Teaching Fellow

FIRST & SECOND AUTHOR REFEREED PUBLICATIONS

∗Directly mentored student co-authors are underlined.

A10 Gan, T., **Theissen, C. A.** et al., "Metallicity Dependence of Giant Planets around M Dwarfs," *Astrophysical Journal Supplement*, in press, Dec 2024

A9 Hoch, K. K. W., **Theissen, C. A.** et al., "JWST-TST High Contrast: Spectroscopic Characterization of the Benchmark Brown Dwarf HD 19467 B with the NIRSpec Integral Field Spectrograph," *Astronomical Journal*, 168, 187, Oct 2024

A8 Wei, L., **Theissen, C. A.** et al., "The 3D Kinematics of the Orion Nebula Cluster. II. Mass-dependent Kinematics of the Inner Cluster," *Astrophysical Journal*, 962, 174, Feb 2024

A7 **Theissen, C. A.** et al. (incl. Hsu, C., Wei, L.), "The 3-D Kinematics of the Orion Nebula Cluster: NIRSPAO Radial Velocities of the Core Population," *Astrophysical Journal*, 926, 141, Oct 2021

A6 **Theissen, C. A.**, "Parallaxes of Cool Objects with *WISE*: Filling in for *Gaia*," *Astrophysical Journal*, 862, 173, Aug 2018

A5 **Theissen, C. A.** et al., "2MASS J11151597+1937266: A Young, Dusty, Isolated, Planetary-Mass Object with a Potential Wide Stellar Companion," *Astrophysical Journal*, 853, 75, Jan 2018

A4 **Theissen, C. A.** & West, A. A., "Collisions of Terrestrial Worlds: The Occurrence of Extreme Mid-Infrared Excesses around Low-mass Field Stars," *Astronomical Journal*, 153, 165, Apr 2017

A3 **Theissen, C. A.** et al. (incl. Shippee, G.), "The Late-Type Extension to MoVeRS (LaTE-MoVeRS): Proper Motion Verified Low-mass Stars and Brown Dwarfs from SDSS, 2MASS, and *WISE*," *Astronomical Journal*, 153, 92, Feb 2017

A2 **Theissen, C. A.**, West, A. A., & Dhital, S., "Motion Verified Red Stars (MoVeRS): A Catalog of Proper Motion Selected Low-mass Stars from *WISE*, SDSS, and 2MASS," *Astronomical Journal*, 151, 41, Feb 2016

A1 **Theissen, C. A.** & West, A. A., "Warm Dust around Cool Stars: *WISE* 12 and 22 μm Excesses around SDSS M Dwarfs," *Astrophysical Journal*, 794, 146, Oct 2014

CO-AUTHOR REFEREED PUBLICATIONS

B48 Baburaj, A., et al. (incl. **Theissen, C. A.**), "A High-resolution Spectroscopic Survey of Directly Imaged Companion Hosts. I. Determination of Diagnostic Stellar Abundances for Planet Formation and Composition," *Astronomical Journal*, 169, 55, Feb 2025

B47 Burgasser, A. J., et al. (incl. Karpoor, P. R., **Theissen, C. A.**), "New Cold Subdwarf Discoveries from Backyard Worlds and a Metallicity Classification System for T Subdwarfs," *Astrophysical Journal Supplement*, in press, Nov 2024

B46 Hsu, C. C., et al. (incl. **Theissen, C. A.**), "The Brown Dwarf Kinematics Project (BDKP). VI. Ultracool Dwarf Radial and Rotational Velocities from SDSS/APOGEE High-resolution Spectroscopy," *Astrophysical Journal Supplement*, 274, 40, Oct 2024

B45 Franson, K., et al. (incl. **Theissen, C. A.**), "JWST/NIRCam 4-5 μm Imaging of the Giant Planet AF Lep b," *Astrophysical Journal Letters*, 974, 11, Oct 2024

B44 Burgasser, A. J., et al. (incl. **Theissen, C. A.**, Karpoor, P. R.), "Discovery of a Hypervelocity L Subdwarf at the Star/Brown Dwarf Mass Limit," *Astrophysical Journal Letters*, 971, 25, Aug 2024

B43 Ruffio, J. B., et al. (incl. **Theissen, C. A.**), "JWST-TST High Contrast: Achieving direct spectroscopy of faint substellar companions next to bright stars with the NIRSpec IFU," *Astronomical Journal*, 168, 73, Aug 2024

B42 Gillon, M., et al. (incl. **Theissen, C. A.**), "Detection of an Earth-sized exoplanet orbiting the nearby ultracool dwarf star SPECULOOS-3," *Nature Astronomy*, 8, 865, Jul 2024

B41 Barkaoui, K., et al. (incl. Karpoor, P. R.,, Softich, E., **Theissen, C. A.**), "Three short-period Earth-sized planets around M dwarfs discovered by TESS: TOI-5720b, TOI-6008b and TOI-6086b," *Astronomy & Astrophysics*, 687, 264, Jul 2024

B40 Do Ó, C. R., et al. (incl. **Theissen, C. A.**), "Orbital and Atmospheric Characterization of the 1RXS J034231.8+121622 System using High-resolution Spectroscopy Confirms that the Companion is a Low-mass Star," *Astronomical Journal*, 167, 287, Jun 2024

B39 Rothermich, A., et al. (incl. Softich, E., Karpoor, P. R.,, **Theissen, C. A.**), "89 New Ultracool Dwarf Comoving Companions Identified with the Backyard Worlds: Planet 9 Citizen Science Project," *Astronomical Journal*, 167, 253, Jun 2024

B38 Petrus, S., et al. (incl. **Theissen, C. A.**), "The JWST Early Release Science Program for Direct Observations of Exoplanetary Systems. V. Do Self-consistent Atmospheric Models Represent JWST Spectra? A Showcase with VHS 1256–1257 b," *Astrophysical Journal Letters*, 966, 11, May 2024

B37 Kirkpatrick, J. D., et al. (incl. **Theissen, C. A.**), "The Initial Mass Function Based on the Full-sky 20 pc Census of ∼3600 Stars and Brown Dwarfs," *Astrophysical Journal Supplement*, 271, 55, Apr 2024

B36 McCarthy, A. M., et al. (incl. **Theissen, C. A.**), "Multiple Patchy Cloud Layers in the Planetary-mass Object SIMP 0136+0933," *Astrophysical Journal*, 965, 83, Apr 2024

B35 Sallum, S., et al. (incl. **Theissen, C. A.**), "The JWST Early Release Science Program for Direct Observations of Exoplanetary Systems. IV. NIRISS Aperture Masking Interferometry Performance and Lessons Learned," *Astrophysical Journal Letters*, 963, 2, Mar 2024

B34 Ray, S., et al. (incl. **Theissen, C. A.**), "The JWST Early Release Science Program for Direct Observations of Exoplanetary Systems III: Aperture Masking Interferometric Observations of the star HIP 65426 at 3.8 μm," *Astrophysical Journal Letters*, in press, Oct 2023

B33 Vasylyev, S. S., et al. (incl. Karpoor, P. R., Softich, E. R., **Theissen, C. A.**), "Early Time Spectropolarimetry of the Aspherical Type II Supernova SN 2023ixf," *Astrophysical Journal Letters*, 955, 37, Sep 2023

B32 Jacobson-Galán, W. V., et al. (incl. Karpoor, P. R., Softich, E. R., **Theissen, C. A.**), "SN 2023ixf in Messier 101: Photo-ionization of Dense, Close-in Circumstellar Material in a Nearby Type II Supernova," *Astrophysical Journal Letters*, 954, 42, Sep 2023

B31 Hoch, K. K. W., et al. (incl. **Theissen, C. A.**), "Assessing the C/O Ratio Formation Diagnostic: A Potential Trend with Companion Mass," *Astronomical Journal*, 166, 85, Sep 2023

B30 Ghachoui, M., et al. (incl. Aganze, C., Gerasimov, R., Hsu, C., **Theissen, C. A.**), "TESS discovery of a super-Earth orbiting the M-dwarf star TOI-1680," *Astronomy & Astrophysics*, 677, A31, Sep 2023

B29 Franson, K., et al. (incl. **Theissen, C. A.**), "Astrometric Accelerations as Dynamical Beacons: A Giant Planet Imaged Inside the Debris Disk of the Young Star AF Lep," *Astrophysical Journal Letters*, 950, 19, Jun 2023

B28 Pozuelos, F. J., et al. (incl. Aganze, C., Gerasimov, R., **Theissen, C. A.**), "A super-Earth and a mini-Neptune near the 2:1 MMR straddling the radius valley around the nearby mid-M dwarf TOI-2096," *Astronomy & Astrophysics*, 672, A70, Apr 2023

B27 Hsu, C., Burgasser, A. J., & **Theissen, C. A.**, "Discovery of the Exceptionally Short Period Ultracool Dwarf Binary LP 413-53AB," *Astrophysical Journal Letters*, 945, 6, Mar 2023

B26 Schneider, A. C., et al. (incl. Aganze, C., **Theissen, C. A.**), "Redder than Red: Discovery of an Exceptionally Red L/T Transition Dwarf," *Astrophysical Journal Letters*, 943, 16, Feb 2023

B25 Franson, K., et al. (incl. **Theissen, C. A.**), "Astrometric Accelerations as Dynamical Beacons: Discovery and Characterization of HIP 21152 B, the First T-Dwarf Companion in the Hyades," *Astronomical Journal*, 165, 39, Feb 2023

B24 Tamburo, P., et al. (incl. **Theissen, C. A.**), "The Perkins INfrared Exosatellite Survey (PINES) II. Transit Candidates and Implications for Planet Occurrence around L and T Dwarfs," *Astronomical Journal*, 164, 252, Dec 2022

B23 Delrez, L., et al. (incl. Aganze, C., **Theissen, C. A.**), "Two Temperate Super-Earths Transiting a Nearby Late-type M Dwarf," *Astronomy & Astrophysics*, 667, 59, Nov 2022

B22 Hoch, K. W. et al. (incl. **Theissen, C. A.**), "Moderate-Resolution *K*-Band Spectroscopy of the Substellar Companion VHS 1256 b," *Astronomical Journal*, 164, 155, Oct 2022

B21 Gan, T., et al. (incl. **Theissen, C. A.**, Aganze, C. A), "TESS discovery of a sub-Neptune orbiting a mid-M dwarf TOI-2136," *Monthly Notices of the Royal Astronomical Society*, 514, 4120, Aug 2022

B20 Aganze, C. et al. (incl. **Theissen, C. A.**, Tejada Arevalo, R. A., Hsu, C.), "Beyond the Local Volume II: Population Scaleheights and Ages of Ultracool Dwarfs in Deep HST/WFC3 Parallel Fields," *Astrophysical Journal*, 934, 73, Jul 2022

B19 Tamburo, P., et al. (incl. **Theissen, C. A.**), "The Perkins INfrared Exosatellite Survey (PINES) I. Survey Overview, Reduction Pipeline, and Early Results," *Astronomical Journal*, 163, 253, Jun 2022

B18 Abdurro'uf et al. (incl. **Theissen, C. A.,**), "The Seventeenth Data Release of the Sloan Digital Sky Surveys: Complete Release of MaNGA, MaStar and APOGEE-2 Data," *Astrophysical Journal Supplement Series*, 259, 35, Apr 2022

B17 Aganze, C. et al. (incl. **Theissen, C. A.**, Tejada Arevalo, R. A., Hsu, C.), "Beyond the Local Volume: Surface Densities of Ultracool Dwarfs in Deep HST/WFC3 Parallel Fields," *Astrophysical Journal*, 924, 114 Jan 2022

B16 Hsu, C. et al. (incl. **Theissen, C. A.**, Birky, J, Aganze, C.), "The Brown Dwarf Kinematics Project (BDKP). V. Radial and Rotational Velocities of T Dwarfs from Keck/NIRSPEC High-Resolution Spectroscopy," *Astrophysical Journal*, 257, 45, Dec 2021

B15 Faherty, J. K., et al. (incl. Aganze, C., Hsu, C., Gerasimov, R., **Theissen, C. A.**), "A Wide Planetary Mass Companion Discovered Through the Citizen Science Project Backyard Worlds: Planet 9," *Astrophysical Journal*, 923, 48, Dec 2021

B14 Schneider, A. C., et al. (incl. Aganze, C., Gerasimov, R., Hsu, C., **Theissen, C. A.**), "Ross 19B: An Extremely Cold Companion Discovered via the Backyard Worlds: Planet 9 Citizen Science Project," *Astrophysical Journal*, 920, 140, Nov 2021

B13 Wells, R. D., et al. (incl. **Theissen, C. A.**), "A large sub-Neptune transiting the thick-disk M4V TOI-2406," *Astronomy & Astrophysics*, 653, A97 Sep 2021

B12 Meisner, A. M., et al. (incl. **Theissen, C. A.**, Gerasimov, R., Aganze, C., Hsu, C.), "New Candidate Extreme T Subdwarfs from the Backyard Worlds: Planet 9 Citizen Science Project," *Astrophysical Journal*, 915, 120, May 2021

B11 Kirkpatrick, J. D., et al. (incl. Aganze, C., Gerasimov, R., Hsu, C., **Theissen, C. A.**), "The Field Substellar Mass Function Based on the Full-sky 20-pc Census of 525 L, T, and Y Dwarfs," *Astrophysical Journal Supplement Series*, 253, 7, May 2021

B10 Wilcomb, K. K. et al. (incl. **Theissen, C. A.**), "Moderate-Resolution K-Band Spectroscopy of Substellar Companion κ Andromedae b," *Astronomical Journal*, 160, 270, Nov 2020

B9 Meisner, A. M., et al. (incl. Hsu, C., Aganze, C., Gerasimov, R., **Theissen, C. A.**), "*Spitzer* Follow-up of the Coldest Brown Dwarfs Discovered by the Backyard Worlds: Planet 9 Citizen Science Project," *Astrophysical Journal*, 889, 123, Aug 2020

B8 Muirhead, P. S., et al. (incl. **Theissen, C. A.**), "Magnetic Inflation and Stellar Mass. V. Intensification and saturation of M dwarf absorption lines with Rossby number," *Astronomical Journal*, 159, 52, Feb 2020

B7 Bardalez Gagliuffi, D. C., et al. (incl. **Theissen, C. A.**), "The Ultracool SpeXtroscopic Survey. I. Volume-limited Spectroscopic Sample and Luminosity Function of M7–L5 Ultracool Dwarfs," *Astrophysical Journal*, 883, 205, Oct 2019

B6 Kim, D., et al. (incl. **Theissen, C. A.**), "Stellar Proper Motions in the Orion Nebular Cluster," *Astronomical Journal*, 157, 118, Feb 2019

B5 Gagné, J., et al. (incl. **Theissen, C. A.**), "2MASS J13243553+6358281 is an Early T-Type Planetary-mass Object in the AB Doradus Moving Group," *Astrophysical Journal Letters*, 854, 27, Feb 2018

B4 Favia, A., West, A. A., & **Theissen, C. A.**, "Runaway M Dwarf Candidates from the Sloan Digital Sky Survey," *Astrophysical Journal*, 813, 26, Nov 2015

B3 Arcavi, I., et al. (incl. **Theissen, C. A.**), "A Continuum of H- to He-rich Tidal Disruption Candidates With a Preference for E+A Galaxies," *Astrophysical Journal*, 793, 38, Sep 2014

B2 Sfiligoi, I., et al. (incl. **Theissen, C. A.**), "Scalability of network facing services used in the Open Science Grid," *Journal of Physics: Conference Series*, 331, 062023, Dec 2011

B1 Quimby, R. M., et al. (incl. **Theissen, C. A.**), "Hydrogen-poor superluminous stellar explosions," *Nature*, 474, 487, Jun 2011

PREPRINTS & OTHERS

C15 Alvarado, E., et al. (incl. **Theissen, C. A.**), "The Spectral ANalog of Dwarfs (SAND): New Model Atmospheres with Varying Chemistry for Galactic Archaeology with Ultracool Dwarfs," *Research Notes of the American Astronomical Society*, 8, 134, May 2024.

C14 Zhou, T., et al. (incl. **Theissen, C. A.**), "Spectral Typing with Artificial Intelligence: Classifying Low-resolution Near-infrared Spectra of Standard M/L/T Dwarfs," *Research Notes of the American Astronomical Society*, 8, 102, Apr 2024.

C13 Mainieri, V., et al. (incl. **Theissen, C. A.**), "The Wide-field Spectroscopic Telescope (WST) Science White Paper," *White Paper*, Mar 2024.

C12 Humphreys, A., et al. (incl. **Theissen, C. A.**), "Spectroscopic Confirmation of the Nearby, Wide-separation L Dwarf Pair CWISE J061741.79+194512.8AB," *Research Notes of the American Astronomical Society*, 7, 184, Jul 2023.

C11 Dage, K. C., et al. (incl. **Theissen, C. A.**), "Extragalactic Star Cluster Science with the Nancy Grace Roman Space Telescope's High Latitude Wide Area Survey and the Vera C. Rubin Observatory," *White Paper for the Roman Core Community Survey, submitted to BAAS*, Jun 2023.

C10 Han, J. J., et al. (incl. **Theissen, C. A.**), "NANCY: Next-generation All-sky Near-infrared Community surveY," *White Paper for the Roman Core Community Survey, submitted to BAAS*, Jun 2023.

C9 Zhou, T., et al. (incl. **Theissen, C. A.**), "Resolved Binaries with Late-M and L Dwarf Companions Identified in Gaia eDR3," *Research Notes of the American Astronomical Society*, 7, 50, Mar 2023.

C8 Desai, M., et al. (incl. Draxl Giannoni, J. D., Aganze, C., **Theissen, C. A.**), "Identifying Ultracool Binary Systems using Machine Learning Methods," *Research Notes of the American Astronomical Society*, 6, 151, Jan 2023.

C7 **Theissen, C. A.**, et al. (incl. Hsu, C.), "Keck NIRES Spectral Standards for L, T, & Y Dwarfs," *Research Notes of the American Astronomical Society*, 6, 151, Jul 2022.

C6 Low, R., et al. (incl. Gerasimov, R., Hsu, C., **Theissen, C. A.**), "Spectroscopic Confirmation of an M6 Dwarf Companion to the Nearby Star BD-08 2582," *Research Notes of the American Astronomical Society*, 5, 26, Feb 2021.

C5 **Theissen, C. A.**, et al., "WISE J135501.90-825838.9 is a Nearby, Young, Extremely Low-mass Substellar Binary," *Research Notes of the American Astronomical Society*, 4, 67, May 2020.

C4 Muirhead, P. S., et al. (incl. **Theissen, C. A.**), "Searching for Exosatellites Orbiting L and T Dwarfs: Connecting Planet Formation to Moon Formation and Finding New Temperate Worlds," *Bulletin of the American Astronomical Society*, Astro2020 White Paper, 2019.

C3 Dupuy, T. J., et al. (incl. **Theissen, C. A.**), "Establishing an Empirical Substellar Sequence to Planetary Masses," *Bulletin of the American Astronomical Society*, Astro2020 White Paper, 2019.

C2 Kirkpatrick, J. D., et al. (incl. **Theissen, C. A.**), "The Need for Infrared Astrometry of Brown Dwarfs in the Post-Gaia Era," *Bulletin of the American Astronomical Society*, Astro2020 White Paper, 2019.

C1 Burgasser, A. J., **Theissen, C. A.**, et al., "Identification of WISE J000100.45+065259.6 as an M8.5+T5 Spectral Binary Candidate," *Research Notes of the American Astronomical Society*, 1, 47, Dec 2017.

CONFERENCE PROCEEDINGS

D8 Hoch, K., et al. (incl. **Theissen, C. A.**), "Direct Imaging Spectroscopy of Substellar Companions with JWST," *Extreme Solar Systems V*, *Bulletin of the American Astronomical Society*, 2024.

D7 McCarthy, A., et al. (incl. **Theissen, C. A.**), "Multiple Patchy Cloud Layers in the Planetary Mass Object SIMP0136+0933," *Extreme Solar Systems V*, *Bulletin of the American Astronomical Society*, 2024.

D6 Baburaj, A., et al. (incl. **Theissen, C. A.**), "Constraining Formation of Directly Imaged Planets through High-Resolution Spectroscopy of Host Stars," *Extreme Solar Systems V*, *Bulletin of the American Astronomical Society*, 2024.

D5 Franson, K., et al. (incl. **Theissen, C. A.**), "Astrometric Accelerations as Dynamical Beacons: Efficiently Imaging Planets Around Young Accelerating Stars," *Extreme Solar Systems V*, *Bulletin of the American Astronomical Society*, 2024.

D4 Wilcomb, K. K., et al. (incl. **Theissen, C. A.**), "Moderate Resolution Spectroscopy of Directly Imaged Planets," *Extreme Solar Systems IV*, *Bulletin of the American Astronomical Society*, 2019.

D3 Burgasser, A. J. & **SPLAT Development Team**, "The SpeX Prism Library Analysis Toolkit (SPLAT): A Data Curation Model," *3rd International Workshop on Spectral Stellar Libraries*, 14, 7-22, Oct 2017.

D2 Chakrabarti, S., et al. (incl. **Theissen, C. A.**), "Laboratory and Field tests of a High Throughput and Multi-slit Imaging Spectrograph (HiT&MIS)," *39th COSPAR Scientific Assembly*, 293, Feb 2016.

D1 Sfiligoi, I., Würthwein, F., & **Theissen, C. A.**, "Using Condor Glideins for Distributed Testing of Network Facing Services," *Third International Joint Conference on Computational Science and Optimization*, 327-331, May 2010.

PRESENTATIONS & POSTERS

"Using the Smallest Stars to Explore Large-scale Habitability within the Milky Way Galaxy,"
Notre Dame Astrophysics Seminar [**Invited Talk**], Nov 2022.
Carnegie EPL Seminar [**Invited Talk**], Feb 2022.
UCSD Scripps IGPP Seminar [**Invited Talk**], Feb 2022.
UCSD Physics Colloquium [**Invited Talk**], Jan 2021.

"The Three Dimensional Kinematics of the Low-mass Population within the ONC Core,"
NASA Hubble Fellowship Program Symposium [Talk], Nov 2021.

"Investigating Spectral Peculiarities in the Lowest-mass Planet Hosts,"
AAS 237 (Winter Meeting) [Talk], Jan 2021.

"Spectral Peculiarities in Ultracool Dwarf Planet Hosts,"
NASA SOFIA Colloquium [**Invited Talk**], Nov 2020.

"The Dos and Don'ts of Writing a Successful (Fellowship) Application,"
UCSD IDEA Center Postdoc Talk [**Invited Talk**], Oct 2020.

"The Connection Between Ultracool Dwarf Planet Hosts and Surface Gravity,"
NASA Hubble Fellowship Program Symposium [Talk], Sep 2020.

"3-D Kinematics in the ONC Core,"
Keck Science Meeting [Poster], Sep 2020.

"Supporting BIPOC Scientists through NHFP-organized Mentorship and Outreach,"
NASA Hubble Fellowship Program Symposium [Talk], Sep 2020.

"Multiplicity at the Bottom of the Main Sequence,"
San Diego State University Astronomy & Physics Colloquium [**Invited Talk**], Nov 2019.

"Planetary Collisions around Low-mass Stars: Constraining the Timescale for Collisions and Testing the Origin of the *Kepler* Dichotomy,"
NASA Hubble Fellowship Program Symposium [Talk], Oct 2019.

"Cooler than *Gaia*: Parallaxes of Ultracool Objects with *WISE*,"
UC San Diego Astrophysics Seminar [**Invited Talk**], May 2018.

"Low-mass Stars with Extreme Mid-Infrared Excesses: Potential Signatures of Planetary Collisions,"
AAS 231 (Winter Meeting) [Talk], Jan 2018.

"Exoplanets and the Search for Life around Low-mass Stars,"
Mesa College STEM Lecture Series [**Invited Talk**], Nov 2017.

"Cool Stars with Extreme Mid-Infrared Excesses: Potential Tracers of Planetary Collisions,"
AAS 228 (Summer Meeting) + Cool Stars 19 [Poster], 2016.

"The Motion Verified Red Stars (MoVeRS) Catalog and Low-Mass Field Stars with Warm Dust,"
AAS 227 (Winter Meeting) [Poster], 2016.

"The Occurrence of Warm Dust around Cool Stars,"
UC San Diego CASS Journal Club [Talk], 2015.

"*WISE* Infrared Excess Detections for SDSS M Dwarfs: Cool Field Stars with Evidence of Warm Circumstellar Material,"
AAS 224 (Summer Meeting) + Cool Stars 18 [Poster], 2014.

"SDSS M dwarfs with *WISE* Signatures of Infrared Excess: Evidence of Warm Circumstellar Material in Low-Mass Field Populations,"
AAS 223 (Winter Meeting) [Poster], 2014.

"GlideTester - A framework for distributed testing of network-facing services using Condor glideins on Grid resources,"
TeraGrid Conference [Poster], 2010.

"PyTracker: Automated Spectroscopic Target Acquisition using Cross-Correlation with Existing Astrometric Positions,"
University of California San Diego Undergraduate Research Conference [Talk], 2010.

"Automated Cross-Correlative Spectroscopic Analysis of the Optical Transient Sky via Images Acquired using the Palomar Transient Factory,"
California Institute of Technology Summer Seminar [Poster], 2009.

PRESS COVERAGE

Ultrashort Period Ultracool Binary

- "Ultracool Dwarf Binary Stars Break Records"
  Keck Observatory, Feb 2023.
- "Record breakers! Super-close dwarf stars orbit each other in less than a day"
  Space.com, Feb 2023.
- "Astronomers spot a tiny binary"
  Sky & Telescope, Jan 2023.
- "Astronomers Discover Two Invisible Stars Spinning Around Each Other at Breakneck Speed"
  Gizmodo, Jan 2023.
- "Binary Dwarf Stars Found Orbiting Each Other Every 20 Hrs. They Were Once Almost Touching"
  Universe Today, Jan 2023.

Extremely Low-mass Binary

- "WISE J135501.90-825838.9 is a young, extremely low-mass substellar binary, study finds"
  Phys.org, Mar 2020.

Planetary Collisions

- "Some planets ripe for life may be doomed by billions of years of violent collisions"
  Astronomy Magazine, Jul 2016.

RESEARCH COLLABS

Institutional Representative for UCSD on the LSST-Discovery Alliance Board
Member of the LSST Stars, Milky Way & Local Volume Science Collaboration
Member of the TESS Follow-up Observing Program (TFOP) Working Group (WG)
Member of the Wide-Field Spectroscopic Telescope Science Team
Member of the Perkins INfrared Exosatellite Survey (PINES)

SERVICE & OUTREACH

LSST-Discovery Alliance Catalyst Steering Committee - Member, LSST-DA — Nov 2024–Present

Cal-Bridge - Mentor, Sep 2023–Present
UC San Diego

Research Affairs Advisory Committee - Member, Oct 2022–Present
UC San Diego

Cool Stars 22 Meeting - SOC Chair and LOC Chair, Jun 2022–Jun 2024
UC San Diego

NASA Hubble Fellowship Program Anti-Racism Initiative - Co-organizer, 2020–2022
Lead for the Mentoring and Outreach Subgroup

NHFP DEI Session - Presenter, Nov 2021
NASA Hubble Fellowship Program Symposium

2021 Chancellor's Award Review Committee - Reviewer, Aug 2021
UC San Diego

Coalition NSF Advocacy Day - Advocate, Jun 2021
Remote Meetings

UCSD Spring STEM Transfer Seminar 2021 - Panelist, May 2021
"Traversing Postdocs and Industry Positions",
UC San Diego

UCSD Career Center - Panelist, Mar 2021
"PhD Career Summit: Applying to Postdoc Positions",
UC San Diego

UCSD IDEA Center - Postdoctoral Scholarly Talks, Oct 2020
"Developing a Successful Ford Fellowship Application",
UC San Diego

Summer Training Academy for Research Success (STARS)/ California-Arizona Minority Partnership for Astronomy Research and Education (CAMPARE), UC San Diego 2018, 2019, 2020

High Tech High Internship, UC San Diego Jan 2020

Career Paths Session - Chair/Panelist, Oct 2019
NASA Hubble Fellowship Program Symposium

Institute for Scientist & Engineer Educators (ISEE) Professional Development Program (PDP), 2018
UC Santa Cruz/UC San Diego

InterTribal Youth/Young Native Scholars Summer Program, Jul 2016
UC San Diego

Cal-Bridge Workshop on Graduate School, UC San Diego May 2016

STEM Fest, Vista High School Mar 2016

High School Science Olympiad Coach, University High School Oct 2015–Feb 2016

Chambliss Award Judge, American Astronomical Society Meeting 227 Jan 2016

Program on Student Success in Engineering (POSSE), Sep 2015–Jun 2016
University of California San Diego/Gompers Preparatory Academy

Upward Bound, Boston University 2013–2015

Research in Science and Engineering (RISE), Boston University 2013–2015

U-Design, Boston University, Department of Engineering Jul 2014

Academy of the Pacific Rim Astronomy Day, Boston University — Nov 2012

Graduate Women in Science and Engineering (GWISE) - "How to Find a Fellowship" Panelist, Boston University — Sep 2012

Other:

- OPTICON-Radionet Pilot TAC — 2023
- Subject-matter expert reviewer in a NASA peer review — 2020, 2021, 2022
- Panelist for a NASA review — 2023
- Panelist for a NASA review — 2021

Referee: The Astrophysical Journal (ApJ) — 2018–Present
The Astrophysical Journal Supplement Series (ApJS)
Monthly Notices of the Royal Astronomical Society (MNRAS)

MENTORSHIP

GRADUATE STUDENTS

Sarah Jiang, UCSD	2024–Present
Aman Parikh, UCSD (Masters in Data Science)	2023–2024
Preethi Karpoor, UCSD (Masters in Astronomy)	2022–2024
Aneesh Baburaj, UCSD	2021–2025
Lingfeng Wei, UCSD	2020–2025
Christian Aganze, UCSD (→ Science Fellow @ Stanford)	2018–2023
Kielan Wilcomb, UCSD (→ Giacconi Fellow @ STScI)	2018–2022
Chih-Chun Hsu, UCSD (→ Postdoc @ Northwestern)	2018–2022

UNDERGRAD

Nishtha Panging, UCSD	2025–Present
Julia Zhang, UCSD	2025–Present
Tianxing "Sky" Zhou, UCSD (→ BYU grad)	2022–2025
Hanan Sayes, UCSD	2024–Present
Jackie Scullin, UCSD	2023–2025
Ashleann Chen, UCSD	2024
Jacob Craighead, UCSD	2024
Weston Chester, UCSD	2024
So Hirota, UCSD (→ Stanford grad)	2023–2024
Lexu "Gavin" Zhao, UCSD (→ UFL grad)	2022–2024
Malina Desai, UCSD (→ Carnegie post-bac, MIT grad)	2022–2023
Chelsea Adelman, Cal Poly Pomona (Cal-Bridge Scholar → UCI grad)	2020
Roberto Tejada Arevalo, CSULA (Cal-Bridge Scholar → Princeton grad)	2018–2020
Dennis H. Calderon, CSUEB (Cal-Bridge Scholar → OSU grad)	2018–2019
Russell Van Linge, UCSD (→ Scripps Health)	2018
Jessica Birky, UCSD (→ NSF & U. of Washington grad)	2016–2019
Guillaume Shippee, UCB (→ Qualcomm)	2016

HIGH SCHOOL

Sven Andersen, Intern	2022
Angeli Solis, Intern (→ UCSD undergrad)	2020
Victor Zhang, BU RISE (Princeton → U. Chicago grad)	2015
Katie Melbourne, BU RISE (Yale → Ball Aerospace)	2014
Isabella Trierweiler, BU RISE (Yale → UCLA grad)	2013

GRANTS, FUNDING, & COMPUTE

Developing Simulations and Real-Time Alert Systems for Rare Transiting Events: Exoplanets around Brown Dwarfs as a Case Study — 2024–2025
PI, LSST-DA Science Catalyst Small Grant, $6k

A Magnitude Limited Sample of M dwarfs to Study the Super-Earth Rate across the Fully Convective Boundary 2024–2025
PI, TESS Cycle 7 Guest Investigator, $70k

Cool Stars Meeting 22: Support for Hybrid and Early Career Researchers 2024–2025
PI, NASA TWSC, $50k

Cool Stars Meeting 22: Support for the Longest Running Independently Organized Conference in Astronomy 2024–2025
PI, NSF AST Conference Grant, $50k

Cool Stars Meeting 22: Support for Early Career Researchers 2024–2025
PI, NAASC Support for Conferences and Workshops program, $14k

Machine Learning Classification for Ultracool Dwarfs 2025–2026
PI, NSF ACCESS Explore allocation PHY240253, 200,000.0 ACCESS Credits

Characterizing the Lowest-mass Planet Hosts and Investigating the Potential Link between Stellar Surface Gravity and Planet Occurrence 2024–2026
PI, NASA XRP, $618k

A Magnitude Limited Sample of M dwarfs to Study the Super-Earth Rate across the Fully Convective Boundary 2022–2023
PI, TESS Cycle 5 Guest Investigator, $70k

Recalibrating Fundamental Parameters for Low-Mass Stars for Current and Future Planet Hunting Surveys 2022–2023
PI, XSEDE Research allocation PHY220048, 8,314,035 SUs (∼$100k)

Recalibrating the Ultracool Dwarfs in the Transiting Exoplanet Survey Satellite Input Catalog 2022–2023
PI, XSEDE Startup allocation PHY200052, 100,000 SUs (∼$1k)

Infrared Gold: A Student-Centered Program to Extract, Analyze, and Disseminate 20 Years of IRTF/SpeX Point-Source Spectroscopy 2022–2025
Co-I, NASA ADAP (PI: Adam Burgasser), $666,511

Simulating Ultracool Dwarf Populations in LSST DP0 and in the Main LSST Survey 2022
Co-I, LSST Kickstarter Grant (PI: Adam Burgasser), $19k

A Search for Distant Ultracool Dwarfs in Hubble Space Telescope Spectral Surveys 2020–2021
PI, XSEDE Startup allocation PHY200052, 50,000 SUs (∼$1k)

Planetary Collisions around Low-Mass Stars: Constraining the Timescale for Collisions and Testing the Origin of the Kepler Dichotomy 2019–2022
PI, NASA Sagan Postdoctoral Fellowship, $349k

Spectroscopic Analysis of Ultracool Dwarfs 2016–2017
Co-I, SDSS FAST (PI: Adam Burgasser), $60K

Low-mass Field Stars with Infrared Excesses: Possible Signatures of Planetary Collisions 2016–2017
Co-I, NASA ADAP (PI: Andrew West; Admin PI: Phil Muirhead), $125K

TELESCOPE TIME AWARDED (ORDERED BY APERTURE)

Keck I & II 10-meters

PI: "Abundances and Kinematics of Ultracool Dwarf Planet Host Twin Stars" 2022–2025
- 7 nights (NIRSPEC)

Co-I: "Newly Discovered Planetary Mass Objects in the Solar Neighborhood " 2023–2025
- 4 nights (NIRES)

Co-I: "Unresolved Binaries in the Core of the Orion Nebula Cluster" 2023–2025
- 3 night (NIRSPAO)

Co-I: "Very High Velocity Stars and Brown Dwarfs Uncovered by Backyard Worlds " 2024–2025
- 2 nights (NIRES)

PI: "Precise Abundances of Ultracool Dwarfs using FGK Wide Binaries" 2024
- 2 nights (NIRSPEC)

Co-I: "Keck/NIRSPEC Cadence Program: NIRSPEC Observations of Ultrashort Period Ultracool Binaries" 2024
- 0.8 nights (NIRSPEC)

Co-I: "Resolving Elemental Abundances of a Remarkable Hierarchical Exoplanet-host System Observed by a JWST ERS Program" 2024
- 0.5 nights (NIRSPAO)

Co-I: "Detailed Chemical Composition and Binarity of the Hyper Metal Poor Dwarf " Star SDSS J0815+4729" 2023
- 0.5 nights (HIRES)

Co-I: "The Old and the Quick: A Search for Halo Brown Dwarfs with Backyard Worlds" 2022–2023
- 2 nights (NIRES)

Co-I "Galactic Archaeology with Ultracool Dwarfs: Kinematic Structure Among L Dwarfs" 2021–2022
- 3.5 nights (NIRSPEC)

PI: "Resolving Tertiary Components of Wide, Very Low-mass Binaries with AO" 2020–2021
- 3 nights (NIRC2)

Co-I: "Searching for Our Coldest Young Neighbors with Backyard Worlds" 2018–2021
- 10 nights (NIRES)

Co-I "Testing Pre-Main Sequence Evolutionary Models in the First 10 Myr" 2020–2021
- 2.5 nights (OSIRIS)

Co-I "Completing the Kinematic Census of Local L and T Dwarfs" 2019–2020
- 5.5 nights (NIRSPEC)

Co-I: "Secondary Radial Velocities in Short-Period Star/Brown Dwarf Spectral Binaries" 2019–2020
- 0.5 nights (NIRSPEC)

Co-I: "Dynamics of the Orion Nebula Cluster: Mass-Dependent Kinematics" 2019–2020
- 6 nights (NIRSPAO)

PI: "Characterizing Low-mass Binaries and Searching for Hierarchical Triples: NIR Spectra of Low-mass, Wide, Common Proper Motion Pairs" 2019
- 1 night (NIRES)

CHARA Array

PI: "Investigating Radius Inflation in the Lowest Mass Planet Hosts: CHARA Observations of Teegarden's Star" 2020
- 4 nights (CLASSIC)

Gemini North & South 8-meters

PI: "Abundances and Kinematics of Ultracool Dwarf Planet Host Twin Stars" 2022–2025
- 13.5 hours (IGRINS/IGRINS2)

PI: "High-resolution Near-infrared Observations of a Planetary-mass Binary" 2023–2024
- 6.8 hours (IGRINS)

Co-I: "The BASS-Ultracool Search for Isolated Giant Exoplanet Analogs" 2018–2019
- 22 hours (GNIRS Spectrograph)

Co-I: "Confirming a new L/T transition planetary-mass object in AB Doradus" 2018
- Fast turnaround single object observation (GNIRS Spectrograph)

***James Webb Space Telescope* 6.5-meter**

Co-I: Cycle 3: "How big can you make a planet? Spectroscopic characterization of HD 206893B" — 2024
- 9.9 hours (NIRSpec)

Co-I: Cycle 3: "Arcana of the Ancients: A Spectral Metallicity Survey of the Lowest-Mass Stars and Brown Dwarfs" — 2024
- 83.2 hours (NIRSpec and MIRI)

Co-I: Cycle 2: "Establishing the Formation of AF Lep b with NIRCam: The Lowest-Mass Imaged Exoplanet with a Dynamical Mass" — 2023
- 6.5 hours (NIRCam)

Co-I: Cycle 1: "Direct Imaging Spectroscopy of Two Jovian Exoplanets: Characterization of the TYC 8998-760-1 Multi-Planetary System" — 2021
- 5.2 hours (NIRSpec and MIRI)

LDT 4.3-meter

PI: "Pre-main Sequence or Field Stars?: Searching for Traces of Youth in Low-mass Stars with Extreme Mid-infrared Excesses" — 2016
- 2 nights (DeVeny Optical Spectrograph)

CFHT 3.6-meter

Co-I: "Precision NIR RVs for WISE J1624-3212: A Nearby, Potentially Unresolved Low-mass Binary" — 2021
- 2.4 hours (SPIRou NIR Spectrograph)

IRTF 3.2-meter

PI: "Characterizing the Ultracool *TESS* Targets: Investigating the Role of Gravity in Planet Hosts" — 2020–2025
- 366 hours (SpeX NIR Spectrograph)

Co-I: "Characterizing Cool Hosts of Candidate Transiting Exoplanets with IRTF/SpeX" — 2024–2025
- 6 nights (SpeX NIR Spectrograph)

Co-I: "Characterizing the Ultracool Dwarf Benchmark Wide Binaries — 2024–2025
- 1 night (SpeX NIR Spectrograph)

Co-I: "Homogeneous stellar characterization for M dwarfs with confirmed giant planets" — 2023
- 1 night (SpeX NIR Spectrograph)

Co-I: "Radial Velocity Monitoring of an Exceptionally Short-Period Very Low Mass Binary" — 2022–2023
- 6 nights (iSHELL Spectrograph)

Co-I: "Searching for Hierarchical Triples in Wide, Common Proper Motion, Very Low-Mass Binaries" — 2018–2020
- 4.5 nights (SpeX NIR Spectrograph)

Co-I: "Training the Cannon: Calibrating APOGEE Observations of Ultracool Dwarfs" — 2018–2020
- 6 nights (iSHELL Spectrograph)

Co-I: "LaTE-MoVeRS: New Nearby Very Low-Mass Stars and Brown Dwarfs Verified by Proper Motion from SDSS+2MASS+ *WISE*" — 2017–2019
- 4.5 nights (SpeX NIR Spectrograph + MORIS)

Shane 3-meter

PI: "Optimizing Target Selection of Direct Imaging Planet Campaigns using Accelerating Stars" — 2022–2024
- 9 nights (ShARCS AO NIR Imager)

Co-I: "Optical Spectroscopy of New and Benchmark M & L Dwarfs from Gaia and Backyard Worlds, and Potential Exoplanet Hosts from TESS and SPECULOOS" 2022–2024
- 31 nights (Kast Optical Spectrograph)

PI: "AO Observations of Overluminous members of Wide, Low-mass Binaries: Searching for Hierarchical Triples" 2019–2021
- 17 nights (ShARCS AO NIR Imager)

Co-I: "Optical Spectroscopy of LaTE-MoVeRS M and L Dwarfs" 2017–2022
- 63 nights (Kast Optical Spectrograph)

SDSS 2.5-meter

Co-I: "APOGEE-2 Survey of the Lowest-mass Stars and Brown Dwarfs: Composition, Chemistry and Companions" 2017–2018
- ∼500 APOGEE fibers awarded for ancillary science call

***Hubble Space Telescope* 2.4-meter**

PI: Cycle 32 (& 33) - "It Takes Two Planets to Tango: Constraining the Orbit of a Planetary-Mass Binary" 2024– 2025
- 6 (+4) orbits (WFC3)

Co-I: Cycle 30 - "Completing the stellar census of Westerlund 1" 2022
- 7 orbits (WFC3)

APF 2.4-meter

Co-I: "Abundances of Directly Imaged Planet Host Stars" 2021–2024
- 3 nights (Levy Optical Spectrograph)

Co-I: "Calibrations of Chemical Abundances of Ultracool Dwarfs in Wide Binary Systems with Optical High-Resolution Spectroscopy of G-Type Primaries" 2022
- 1 nights (Levy Optical Spectrograph)

Co-I: "Benchmarking Chemical Abundances of Ultracool Dwarfs in Binary Systems with Optical Spectroscopy of Bright AFGK Primaries" 2022
- 2.5 nights (Levy Optical Spectrograph)

Co-I: "Radial Velocity Monitoring of WISE J1624-3212: A Potential Low-mass Binary Hiding at 18 pc" 2021
- 1 nights (Levy Optical Spectrograph)

Nickel 1-meter

PI: "UCSD Observational Astrophysics Course: Proper Motions of Asteroids" 2024–2025
- 14 nights (Direct Imaging Camera)

***Transiting Exoplanet Survey Satellite* 4×0.1-meter**

PI: "A Magnitude Limited Sample of M dwarfs to Study the Super-Earth Rate across the Fully Convective Boundary" 2022–2025
- GO Cycle 5: 658 short cadence targets
- GO Cycle 7: 621 short cadence targets

ADDITIONAL OBSERVING EXPERIENCE

Keck I 10-meter

3 nights on the optical spectrometer (LRIS). 2009–2010

Keck II 10-meter

4 half-nights on the high-res NIR spectrometer (NIRSPEC) with AO (NIRSPAO). 2018

Palomar Hale 200-inch

1 night on the optical spectrograph (DBSP). 2009

CTIO SMARTS 0.9-meter

27 nights on the optical imager. 2014–2016

PROFESSIONAL AFFILIATIONS

Society of Senior Ford Fellows	2024–Present
Society for the Advancement of Chicanos and Native Americans in Science	2016–Present
National Society of Black Physicists	2011–Present
American Astronomical Society	2009–Present
American Physical Society	2008–Present
National Society of Hispanic Physicists	2008–Present

OTHER WORK EXPERIENCE

Booz Allen Hamilton (BAH), San Diego, California, USA — 2019
Strategic Innovation Group - Lead Data Scientist
Co-organizer of the 2019 Kaggle Data Science Bowl

Aeronautical Radio, Incorporated (ARINC), San Diego, California, USA — 2007–2011
Analyst/Network Engineer

REFERENCES

Dr. Quinn Konopacky
Associate Professor of Astronomy & Astrophysics
University of California San Diego
9500 Gilman Drive #0424, La Jolla, California 92093-0424, USA
qkonopacky at ucsd.edu +1 (858) 246-0241

Dr. Adam Burgasser
Professor of Astronomy & Astrophysics
University of California San Diego
9500 Gilman Drive #0424, La Jolla, California 92093-0424, USA
aburgasser at ucsd.edu +1 (858) 822-6958

Dr. Philip Muirhead
Associate Professor of Astronomy
Boston University
725 Commonwealth Ave, Boston, Massachusetts 02215, USA
philipm at bu.edu +1 (617) 353-6553

[*CV compiled on 2025-04-10*]