



Luke David Keller

Astronomer, science communicator

Ithaca College
Department of Physics and Astronomy
Center for Natural Sciences 264
Ithaca, NY 14850 USA



Voice: (607) 342-0764 (mobile)
e-mail: lkeller@ithaca.edu

Experience

2014-present **Professor, Ithaca College, Department of Physics & Astronomy**

Teaching: Across the physics and astronomy curriculum, including: Stars, Galaxies, and the Universe, Solar System Astronomy, Electricity & Magnetism, Heat & Optics (calculus-based), Modern Physics, Mathematical Methods for Physics, Quantum Mechanics, Acoustics, Advanced Optics, Astrophysics, Atomic Physics, Spectroscopy, and General Relativity

Science

Comm: **Consultant/reviewer**, Institute for Global Environmental Strategies
Astronomy Special Consultant, American Heritage Dictionary
Co-organizer, *Science & Suds*, monthly public science talks at breweries
Co-author and performer, *The Effects of Gravity*, astrophysics-themed stage performance

Research: **Observational Astronomy.** Chemistry, formation, and evolution of stars and planetary systems, imaging and spectroscopy. **Optics.** Instrumentation for astronomical imaging and spectroscopy, NASA Stratospheric Observatory for Infrared Astronomy (SOFIA). **Physics and General Education Science Pedagogy**

2012-2015 **Chair, Ithaca College, Department of Physics & Astronomy**

2009-2014 **Associate Professor, Ithaca College**

2003-2009 **Assistant Professor, Ithaca College**

2003 **Lecturer, Cornell University, Department of Astronomy**

1999-2003 **Project Scientist, Research Associate, Cornell University.** Faint Object Infrared Camera for the Sofia Telescope (FORCAST), facility class mid-IR camera for SOFIA

Visiting Appointments and Consulting

2006-present **Consultant, Institute for Global Environmental Strategies.** Science review of educational materials from NASA education and public outreach programs

2014 **Consultant, Expert Witness** in legal case involving consumer telescope insurance claim

2009-2010 **Astronomy Special Consultant, American Heritage Dictionary.** Composition and review of astronomy and astrophysics word definitions

2009-2015 **Visiting Scholar, Cornell University.** SOFIA test and verification, FORCAST data processing and analysis software and documentation

Honors and Awards

2018 **London Faculty Sabbatical Program**, Ithaca College London Centre

2016-2021 **Charles A. Dana Professorship in the Natural Sciences, Ithaca College**

2011 **NASA Group Achievement Award**

2010 **Faculty Excellence Award**, Ithaca College

Grants

2016	NASA and Universities Space Research Association, "Data Analysis for Guaranteed Time Observations in SOFIA Cycle 3," Principle Investigator, \$11,200
2013-2015	NASA and Universities Space Research Association, "SOFIA/FORCAST Grism Spectroscopy," (Principle Investigator, renewed) \$250,000
2011-2012	NASA and Universities Space Research Association, "SOFIA/FORCAST Grism Spectroscopy," (Principle Investigator) \$631,000
2009-2010	NASA and Universities Space Research Association, "SOFIA/FORCAST Grism Spectroscopy," \$220,631 (Principle Investigator)
2005-2008	NASA Astrobiology Instrument Definition Program, "Astrobiology on SOFIA: Mid-Infrared Spectroscopy Package," (co-Investigator) \$92,922 awarded to L. D. Keller
2008-2011	NASA Jet Propulsion Laboratory, " <i>PAH emission from disks around intermediate-mass stars: the peculiar aroma of hydrocarbons orbiting Herbig Ae/Be stars</i> ," (Principle Investigator) \$25,000
2005-2007	The Research Corporation for the Advancement of Science, " <i>Spectroscopic characterization of proto-planetary disks orbiting intermediate-mass stars</i> " (Principle Investigator) \$34,400

Outreach and National, Regional, and Community Service

2011-present	Lime Hollow Center for Environment and Culture: Board of Directors
2016-present	Science & Suds, Co-organizer of monthly public science presentations at local breweries
2017-present	Physics and astronomy program reviewer (State University of New York)
2021	IC Representative, American Institute of Physics National Task Force to Elevate African American representation in Undergraduate Physics & Astronomy
2019	NASA SOFIA: Cycle 8 Time Allocation Committee
2017	National Science Foundation review panel: Improving Undergraduate STEM Education
2013-2014	EmaginationEd Think Tank, advisory committee for new K-12 educational initiatives in New York City Schools.
2011-2016	NASA SOFIA Users Group, advisory committee for Stratospheric Observatory for Infrared Astronomy
2011	Lincoln Center Institute for the Arts in Education: Imagination Award advisory panel
2010	Lincoln Center Institute for the Arts in Education: Imagination Award advisory panel
2009-2010	NASA Infrared Telescope Facility: Time Allocation Committee
2008	NASA Spitzer Space Telescope: Cycle 5 review panel
2008	Local Organizing Committee, Division for Planetary Sciences of the American Astronomical Society, annual meeting, Ithaca, NY: helped organize two-day workshop on teaching introductory college-level astronomy
2007	NASA: Astronomy and Physics Research and Analysis ground-based instrumentation review panel

Select Public Talks

- 2024 *Public Works*, Ithaca, New York, "Are you an umbraphile? Understanding and Observing the 2024 Total Solar Eclipse"
- 2024 *State University of New York, Environmental Science and Forestry, Interpretive Center*, "A Day without a Night and a Night without a Day: Understanding and Observing the 2024 Total Solar Eclipse"
- 2023 *Public Works*, Ithaca, New York, "Primordial planets: When did they form and what were they like?"

- 2023 Invited public talk, *Science & Suds*, Hopshire Farm & Brewery, Dryden, New York, and Lime Hollow Center for Environment and Culture, Cortland, New York, "Beyond the Awesome Images: What we've learned so far from the James Webb Space Telescope"
- 2023 Invited public talk, *Waltonwood at Ashburn*, "Black Holes!"
- 2022 TEDx Speaker, Ithaca College, Ithaca, New York, "[*Empowered by Science: Rethinking Science Literacy*](#)"
- 2022 Invited keynote presentation at Koppernik Observatory, New York, "Astronomy From the Stratosphere: What SOFIA Taught Us"
- 2022 Invited public talk, *Waltonwood at Ashburn*, "Spectacular Views of the Universe: What We're Learning from the James Webb Space Telescope"
- 2022 Invited keynote presentation at Koppernik Observatory, New York, "The Black Hole at the Center of Our Galaxy"
- 2019 Invited public talk, *Science & Suds*, Cortland Beer Co., Cortland, New York, and Lime Hollow Center for Environment and Culture, Cortland, New York, "Shedding Light on Dark Matter and Dark Energy"
- 2017 Invited keynote presentation at Ithaca College presidential inauguration, "Imagination and Creativity: Requirements for Scientific Discovery"
- 2017 Keynote presentation at Koppernik Observatory, New York, "The Universe is Mostly Invisible: Shedding Light on Dark Energy and Dark Matter"
- 2016 Invited public talk, *Science & Suds*, Cortland Beer Co., Cortland, New York, "Black Holes Don't Suck! (they pull)"
- 2016 Keynote presentation with student, Madison Mangano, Ithaca College, James J. Whalen Academic Symposium, "Listening to the atoms and molecules of distant solar systems"
- 2011 Keynote presentation, Tompkins County Area Development, New York, "Imagination Inspires Innovation"
- 2008 Invited public talk, Lost Dog Lounge, Ithaca, New York, "Science Cabaret: *ET Probably Does Exist*"
- 2008 Invited panelist, Lincoln Center Institute, New York: "*Imagination and Innovation*"

Select Invited Scholarly Talks

- 2024 Science Colloquium, Wells College, Aurora, NY, "How we know what we know about the formation of solar systems"
- 2016 Disks and Planets Seminar, Universidad de Chile, Santiago, Chile: "Proto-planetary disks in Metal-Poor Environments"
- 2016 Astronomy Colloquium, Cerro Tololo Interamerican Observatory, La Serena, Chile: "Proto-planetary disks in Metal-Poor Environments"
- 2015 Science Colloquium, Wells College, Aurora, NY: "When did the first solar systems form and what were they like?"
- 2013 Planetary Lunch (lunchtime seminar), Cornell University, Ithaca, NY: "When did the first planets form and what were they like?"

- 2013 Astronomy Colloquium, Cornell University, Ithaca, NY: “Your Astronomy Course May Be the Last Chance! Making concepts stick with interactive instructional methods”
- 2011 Keynote presentation, Society of Physics Students Zone 2 Conference, Ithaca, New York: “Frequent Flyer: the Stratospheric Observatory for Infrared Astronomy”
- 2010 Chemistry Colloquium, State University of New York, Cortland, NY: “Astrochemistry and the formation of planetary systems”
- 2008 Invited Talk at “Cosmic Dust Near & Far,” Astronomical Society of the Pacific conference, Heidelberg, Germany
- 2008 Physics Colloquium, University of Missouri, Columbia, MO: “*The Stratospheric Observatory for Infrared Astronomy: Facility Overview and Plans for First Light in 2008*”
- 2008 Astrophysics Seminar, University of Missouri, Columbia, MO: “*Spitzer IRS Spectra of PAH Emission from Herbig Ae/Be Stars*”
- 2006 Science Colloquium, Wells College, Aurora, NY: “*The Formation of Planetary Systems Orbiting Other Stars*”
- 2005 Invited talk at the *2005 Winter Conference on Astrophysics*, Aspen Center for Physics, Aspen, CO: “*Mid Infrared Spectra of PAH Emission in Herbig Ae/Be stars*”
- 2002 Astronomy Colloquium, University of Florida, Gainesville, FL: “*Astrochemical Approaches to Understanding Planet Formation*”

Publications in refereed journals and edited volumes

[Google Scholar](#)

- Holzer, Madeleine and **Keller, Luke D.** 2020, “Why Science is not a recipe,” in *Extraordinary Partnerships: How the Arts and Humanities are Transforming America*, Lever Press, Christine Henseler editor.
- Kraemer, Kathleen E.; Sloan, G.C.; **Keller, Luke D.**; McDonald, Iain ; Zijlstra, Albert A.; Groenewegen, Martin A.T. 2019, “*Stellar Pulsation and the Production of Dust and Molecules in Galactic Carbon Stars*,” *Astrophysical Journal*, 887 (1), 82
- Keller, Luke D.**; Sloan, G.C.; Oliveira, J.M.; Kraemer, K.E.; van Loon, J.Th.; Wood, P.R.; Zijlstra, A.A.; Simon, J.D.; Ferreira, R.; Garay-MacLean, M.; Hyatt, J.T.; Geidel, K.; Quinn, J.; Santoro, D.; and Knapp, T. 2019, “*Identification of Herbig Ae/Be Stars in the Small Magellanic Cloud*,” *Astrophysical Journal*, 878, 147
- Thompson, Maggie A.; Weinberger, Alycia J.; **Keller, Luke D.**; Arnold, Jessica A.; and Stark, Christopher C. 2019, “*Studying the Evolution of Warm Dust Encircling BD +20 307 Using SOFIA*,” *Astrophysical Journal*, 875, 45
- Arneson, R. A.; Gehrz, R. D.; Woodward, C. E.; Helton, L. A.; Shenoy, D.; Evans, A.; **Keller, L. D.**; Hinkle, K. H.; Jura, M.; Lebzelter, T.; Lisse, C. M.; Rushton, M. T.; Mizrachi, J. 2017, “*A SOFIA FORCAST Grism Study of the Mineralogy of Dust in the Winds of Proto-planetary Nebulae: RV Tauri Stars and SRd Variables*,” *Astrophysical Journal*, 843, 51
- Green, Joel D.; Jones, Olivia C.; **Keller, Luke D.**; Poteet, Charles A.; Yang, Yao-Lun; Fischer, William J.; Evans, Neal J., II; Sargent, Benjamin A.; Rebull, Luisa M. 2016, “*The Mid-infrared Evolution of the FU Orionis Disk*,” *Astrophysical Journal*, 832, 4
- Meaning, N. and **Keller, Luke D.** 2016, “*Narrating science and religion: storytelling strategies in Journey of the Universe*,” *Diegesis: Interdisciplinary E-Journal for Narrative Research* 5.2, 21-34

- Salgado, F.; Berné, O.; Adams, J. D.; Herter, T. L.; **Keller, L. D.**; Tielens, A. G. G. M. **2016**, “The Orion HII Region and the Orion Bar in the Mid-infrared,” *Astrophysical Journal*, 830, 118
- Gehrz, R. D.; Evans, A.; Helton, L. A.; Shenoy, D. P.; Banerjee, D. P. K.; Woodward, C. E.; Vacca, W. D.; Dykhoff, D. A.; Ashok, N. M.; Cass, A. C.; Carlon, R. L.; Corgan, D. T.; Eyres, S. P. S.; Joshi, V.; **Keller, Luke D.**; Krautter, J.; Liimets, T.; Rushton, M.; Starrfield, S. **2015**, “The Early Infrared Temporal Development of Nova Delphini 2013 (V339 DEL) Observed with the Stratospheric Observatory for Infrared Astronomy (SOFIA) and from the Ground,” *Astrophysical Journal*, 812, 132
- Rogers, Michael; **Keller, Luke**; Crouse, Andrew; and Price, Matthew **2015**, “Implementing Comprehensive Reform of Introductory Physics at a Primarily Undergraduate Institution: A Longitudinal Case Study,” *Journal of College Science Teaching*, Vol. 44, No. 3, pp. 82-90
- Werner, M. W.; Sahai, R.; Davis, J.; Livingston, J.; Lykou, F.; DE Buizer, J.; Morris, M. R.; **Keller, L.**; Adams, J.; Gull, G.; Henderson, C.; Herter, T.; Schoenwald, J. **2014**, “Mid-infrared Imaging of the Bipolar Planetary Nebula M2-9 from SOFIA,” *Astrophysical Journal*, 780, 156
- Herter, T. L.; Vacca, W. D.; Adams, J. D.; **Keller, L. D.**; Schoenwald, J.; Hirsch, L.; Wang, J.; De Buizer, J. M.; Helton, L. A.; Llorens, M. C. **2013**, “Data Reduction and Early Science Calibration for FORCAST, A Mid-Infrared Camera for SOFIA,” *Publications of the Astronomical Society of the Pacific*, 125, 1393
- Adams, Joshua J.; Simon, Joshua D.; Bolatto, Alberto D.; Sloan, G. C.; Sandstrom, Karin M.; Schmiedeke, Anika; van Loon, Jacco Th.; Oliveira, Joana M.; **Keller, Luke D.** **2012**, “Dusty OB Stars in the Small Magellanic Cloud. II. Extragalactic Disks or Examples of the Pleiades Phenomenon?,” *Astrophysical Journal*, 771, 112
- Salgado, F.; Berné, O.; Adams, J. D.; Herter, T. L.; Gull, G.; Schoenwald, J.; **Keller, L. D.**; De Buizer, J. M.; Vacca, W. D.; Becklin, E. E.; Shuping, R. Y.; Tielens, A. G. G. M.; Zinnecker, H. **2012**, “First Science Results from SOFIA/FORCAST: The Mid-infrared View of the Compact H II Region W3A,” *Astrophysical Journal Letters*, 749, L21
- Adams, Joseph D.; Herter, Terry L.; Osorio, Mayra; Macias, Enrique; Megeath, S. Thomas; Fischer, William J.; Ali, Babar; Calvet, Nuria; D'Alessio, Paola; De Buizer, James M.; Gull, George E.; Henderson, Charles P.; **Keller, Luke D.**; Morris, Mark R.; Remming, Ian S.; Schoenwald, Justin; Shuping, Ralph Y.; Stacey, Gordon; Stanke, Thomas; Stutz, Amelia; Vacca, William **2012**, “First Science Observations with SOFIA/FORCAST: Properties of Intermediate-luminosity Protostars and Circumstellar Disks in OMC-2,” *Astrophysical Journal Letters*, 749, L24
- Hirsch, Lea, Adams, Joseph D., Herter, Terry L., Hora, Joseph L., De Buizer, James M., Megeath, S. Thomas, Gull, George E., Henderson, Charles P., **Keller, Luke D.**, Schoenwald, Justin; Vacca, William, **2012**, “SOFIA/FORCAST and Spitzer/IRAC Imaging of the Ultracompact H II Region W3(OH) and Associated Protostars in W3,” *Astrophysical Journal*, 757, 113
- Harvey, Paul M.; Adams, Joseph D.; Herter, Terry L.; Gull, George; Schoenwald, Justin; **Keller, Luke D.**; De Buizer, James M.; Vacca, William; Reach, William; Becklin, E. E., **2012**, “First Science Results from SOFIA/FORCAST: Super-resolution Imaging of the S140 Cluster at 37 μm ,” *Astrophysical Journal Letters*, 749, L20
- Nikola, T.; Herter, T. L.; Vacca, W. D.; Adams, J. D.; De Buizer, J. M.; Gull, G. E.; Henderson, C. P.; **Keller, L. D.**; Morris, M. R.; Schoenwald, J.; Stacey, G.; Tielens, A. **2012**, “Mid-IR FORCAST/SOFIA Observations of M82,” *Astrophysical Journal Letters*, 749, L19

- Herter, T. L.; Adams, J. D.; De Buizer, J. M.; Gull, G. E.; Schoenwald, J.; Henderson, C. P.; **Keller, L. D.**; Nikola, T.; Stacey, G.; Vacca, W. D., **2012**, "First Science Observations with SOFIA/FORCAST: The FORCAST Mid-infrared Camera," *Astrophysical Journal Letters*, 749, L18
- D. Gehrz, E. E. Becklin, J. de Buizer, T. Herter, **L. D. Keller**, A. Krabbe, P. M. Marcum, T. L. Roellig, G. H. L. Sandell, P. Temi, W. D. Vacca, E. T. Young, and H. Zinnecker, **2011**, "Status of the Stratospheric Observatory for Infrared Astronomy (SOFIA)," *Advances in Space Research*, Volume 48, Issue 6, pp. 1004-1016
- A. S. Meech, K. J. et al. (**Luke D. Keller** one of 187 coauthors, a personal record!), **2011**, "EPOXI: Comet 103P/Hartley 2 Observations from a Worldwide Campaign," *Astrophysical Journal Letters*, 734, L1
- Luke Keller** and Jürgen Wolf, "NASA's New Airborne Observatory: Flown on a Boeing 747, SOFIA will carry infrared astronomy to new heights," *Sky & Telescope Magazine*, October **2010** issue, p. 22
- Najita, Joan R., Carr, John S., Strom, Stephen E., Watson, Dan M., Pascucci, Haria, Hollenback, David, Gorti, Uma, **Keller, Luke D.** **2010**, "Spitzer Spectroscopy of the Transition Object TW Hya," *Astrophysical Journal*, 712, 274
- Keller, L. D.** & Sloan, G. C. **2009**, "PAH emission from disks around intermediate-mass stars: the peculiar aroma of hydrocarbons orbiting Herbig Ae/Be stars." *Astronomical Society of the Pacific Conference Series: Cosmic Dust - Near and Far*, 414, 107
- Christopher C. Stark, Marc J. Kuchner, Wesley A. Traub, John D. Monnier, Eugene Serabyn, Mark Colavita, Chris Koresko, Bertrand Mennesson, **Luke D. Keller** **2009**, "51 Ophiuchus: A Possible Beta Pictoris Analog Measured with the Keck Interferometer Nuller," *Astrophysical Journal*, 703, 1188
- Watson, Dan M., Leisenring, Jarron M., Furlan, Elise, Bohac, C. J., Sargent, B., Forrest, W. J., Calvet, Nuria, Hartmann, Lee, Nordhaus, Jason T., Green, Joel D., Kim, K. H., Sloan, G. C., Chen, C. H., **Keller, L. D.**, d'Alessio, Paola, Najita, J., Uchida, Keven I. Houck, J. R. **2009** "Crystalline Silicates and Dust Processing in the Protoplanetary Disks of the Taurus Young Cluster," *Astrophysical Journal Supplement*, 180, 84
- Luke D. Keller**, G. C. Sloan, W. J. Forrest, S. Ayala, P. D'Alessio, S. Shah, N. Calvet, L. Hartmann, J. Najita, B. Sargent, A. Li, D. M. Watson, & C. H. Chen **2008**, "PAH Emission from Herbig Ae/Be Stars," *Astrophysical Journal*, 684, 411
- Berthoud, M.C., **Keller, L.D.**, Herter, T.L., Whelan, D., and Richter, M.J., **2007**, "CO overtone emission from a circumstellar disk around 51 Ophiuchi," *Astrophysical Journal*, 660, 461
- Chen, C. H., Sargent, B. A., Bohac, C., Kim, K. H., Leibensperger, E., Jura, M., Najita, J., Forrest, W. J., Watson, D. M., Sloan, G. C., **Keller, L. D.** **2006**, "Spitzer IRS Spectroscopy of IRAS-discovered Debris Disks," *Astrophysical Journal Supplement*, 166, 351
- Furlan, E., Hartmann, L., Calvet, N., D'Alessio, P., Franco-Hernández, R., Forrest, W. J., Watson, D. M., Uchida, K. I., Sargent, B., Green, J. D., **Keller, L. D.**; Herter, T. L. **2006**, "A Survey and Analysis of Spitzer Infrared Spectrograph Spectra of T Tauri Stars in Taurus," *Astrophysical Journal Supplement*, 165, 56
- Sloan, G. C., **L. D. Keller**, W. J. Forrest, E. Leibensperger, B. Sargent, A. Li, J. Najita, D. M. Watson, C. H. Chen, J. D. Green, F. Kemper, T. L. Herter, P. D'Alessio, P. W. Morris, D. J. Barry, P. Hall, B. R. Brandl, P. C. Myers, & J. R. Houck **2005**, "Mid Infrared Spectra of PAH Emission in Herbig Ae/Be stars," *Astrophysical Journal*, 632, 956
- Calvet, N.; D'Alessio, P.; Watson, D. M.; Franco-Hernández, R.; Furlan, E.; Green, J.; Sutter, P. M.; Forrest, W. J.; Hartmann, L.; Uchida, K. I.; **Keller, L. D.**; Sargent, B.; Najita, J.; Herter, T. L.; Barry, D. J.; Hall, P. **2005**, "Disks in Transition in the Taurus Population: Spitzer IRS Spectra of GM Aurigae and DM Tauri," *Astrophysical Journal Letters*, 630, L185

- Furlan, E., N. Calvet, P. D'Alessio, L. Hartmann, W. J. Forrest, D. M. Watson, K. L. Luhman, K. I. Uchida, J. D. Green, B. Sargent, J. Najita, G. C. Sloan, **L. D. Keller**, and T. L. Herter **2005**, "Spitzer IRS Spectra Of Young Stars Near The Hydrogen-Burning Mass Limit," *Astrophysical Journal*, 621, L129
- Watson, Dan M., F. Kemper, Nuria Calvet, **Luke D. Keller**, Elise Furlan, Lee Hartmann, W. J. Forrest, C. H. Chen, Keven I. Uchida, Joel D. Green, B. Sargent, G. C. Sloan, Terry L. Herter, Bernhard R. Brandl, J. R. Houck, J. Najita, Paola D'Alessio, P. C. Myers, D. J. Barry, P. Hall, & P. W. Morris **2004**, "Mid Infrared Spectra of Class I Protostars in Taurus," *Astrophysical Journal Supplement Series*, 154, 391
- Forrest, W. J., B. Sargent, E. Furlan, P. D'Alessio, N. Calvet, L. Hartmann, K. I. Uchida, J. D. Green, D. M. Watson, C. H. Chen, F. Kemper, **L. D. Keller**, G. C. Sloan, T. L. Herter, B. R. Brandl, J. R. Houck, D. J. Barry, P. Hall, P. W. Morris, J. Najita, & P. C. Myers **2004**, "Mid Infrared Spectra of Classical T Tauri Stars," *Astrophysical Journal Supplement Series*, 154, 443
- Jura, M., C. H. Chen, E. Furlan, J. Green, B. Sargent, W. J. Forrest, D. M. Watson, D. J. Barry, P. Hall, T. L. Herter, J. R. Houck, G. C. Sloan, K. Uchida, P. D'Alessio, B. R. Brandl, **L. D. Keller**, F. Kemper, P. Morris, J. Najita, N. Calvet, L. Hartmann, & P. C. Myers **2004**, "Mid Infrared Spectra of Dust Debris Around Main Sequence Stars," *Astrophysical Journal Supplement Series*, 154, 453
- Uchida, K. I., N. Calvet, L. Hartmann, F. Kemper, W. J. Forrest, D. M. Watson, P. D'Alessio, C. H. Chen, E. Furlan, B. Sargent, B. R. Brandl, T. L. Herter, P. Morris, P. C. Myers, J. Najita, G. C. Sloan, D. J. Barry, J. Green, **L. D. Keller**, & P. Hall **2004**, "The State Of Protoplanetary Material 10 Million Years After Stellar Formation: Circumstellar Disks In The TW Hydrae Association," *Astrophysical Journal Supplement Series*, 154, 439
- Pak, Soojong, Jaffe, D. T., Stacey, G. J., Bradford, C. M., Klumpe, Eric W., & **Keller, Luke D. 2004**, "Near-Infrared Molecular Hydrogen Emission from the Central Regions of Galaxies: Regulated Physical Conditions in the Interstellar Medium," *Astrophysical Journal*, 609, 692
- E. Furlan, W. J. Forrest, D. M. Watson, K. I. Uchida, B. R. Brandl, **L. D. Keller**, & T. L. Herter, **2003**, "Near-Infrared, Adaptive Optics Observations of the T Tauri Multiple-Star System," *Astrophysical Journal Letters*, 596, L87
- Keller, Luke D.**, Pilachowski, C., & Sneden, C. **2001**, " $^{12}\text{C}/^{13}\text{C}$ in Field Halo Giant Stars", *Astronomical Journal*, Vol. 122, 2554
- Giovanelli, R. *et al.* **2001**, "The Optical/Infrared Quality of High Atacama Sites. I. Preliminary Results of Optical Seeing", *Publications of the Astronomical Society of the Pacific*, 113, 789-802
- Giovanelli, R. *et al.* **2001**, "The Optical/Infrared Quality of High Atacama Sites. II. Infrared Characteristics," *Publications of the Astronomical Society of the Pacific*, 113, 803-813
- Keller, Luke D.**, Jaffe, D.T., Ershov, O. A., Benedict, Tom A., & Graf, U. U. **2000**, "Fabrication and Testing of Chemically Micromachined Silicon Echelle Gratings", *Applied Optics*, 39, 1094
- Keller, Luke D. 2000**, "Science, Observation, and Mystery," *Parabola Magazine*, 25:2
- Levenson, N. A., Graham, James R., **Keller, Luke D.**, & Richter, Matthew J. **1998**, "Panoramic Views of the Cygnus Loop", *Astrophysical Journal Supplement*, 118, 541
- Luhman, M. L., Jaffe, D. T., **Keller, L. D.**, & Pak, S. **1995**, "H₂ Emission as a Tracer of Molecular Hydrogen: Large-Scale Observations of Orion", *Astrophysical Journal*, 436, L185
- Maiolino, R., Ruiz, M., Rieke, G. H., & **Keller, L. D. 1995**, "New Constraints on the Unified Model of Seyfert Galaxies", *Astrophysical Journal*, 446, 561
- Pak, Soojong, Jaffe, D.T., & **Keller, L. D. 1996**, "H₂ Emission From the Inner 400 Parsecs of the Galaxy", *Astrophysical Journal*, 457, L43

Luhman, M. L., Jaffe, D. T., **Keller, L. D.**, & Pak, S. **1995**, "A New Fabry-Perot Spectrometer for Observations of Diffuse Near-Infrared Line Emission", Publications of the Astronomical Society of the Pacific, 107, 184

Select publications in conference proceedings

G.C. Sloan, K.E. Kraemer, **L.D. Keller**, I. McDonald, A.A. Zijlstra, M.A.T. Groenewegen **2023**, "Pulsation and the dust dichotomy in Galactic carbon stars: The view from SOFIA," American Astronomical Society Meeting Abstracts

Shuping, Ralph ; Espaillet, Catherine ; **Keller, Luke** ; Vacca, William ; Sitko, Michael **2019**, "Time-variability in the mid-infrared spectra of pre-transitional disk sources AB Aur and MWC 758: preliminary results from SOFIA-FORCAST observations," American Astronomical Society Meeting Abstracts, 233, 163.18

Shuping, Ralph; **Keller, Luke D.**; Adams, Joseph D.; Petkova, Maya; Wood, Kenneth; Herter, Terry; Sloan, Greg; Jaffe, Daniel Thomas; Greene, Thomas P.; Ennico, Kimberly **2017**, "A full 1-40 micron spectral energy distribution for the Becklin-Neugebauer object: Placing constraints on disk size for a runaway massive young stellar object," American Astronomical Society Meeting Abstracts, 229, 241.12

Keller, Luke D.; Sloan, G. C.; Ferreira, Rafael*; Oliveira, J. M.; van Loon, J. Th.; Kraemer, K. E.; Wood, P. R.; and Simon, J. D. **2015**, "Proto-planetary disks orbiting intermediate-mass stars in the Small Magellanic Cloud," Conference: Star and Planet Formation I, Tucson Arizona

Ferreira, Rafael*; **Keller, Luke D.**; and Sloan, G. C. **2015**, "Properties of Young Stars with Proto-Planetary Disks in the Small Magellanic Cloud," Conference: Star and Planet Formation I, Tucson Arizona

Smith, Erin C.; Miles, John W.; Helton, L. Andrew; Sankrit, Ravi; Andersson, B. G.; Becklin, Eric E.; De Buizer, James M.; Dowell, C. D.; Dunham, Edward W.; Güsten, Rolf; Harper, Doyal A.; Herter, Terry L.; **Keller, Luke D.**; Klein, Randolph; Krabbe, Alfred; Logsdon, Sarah; Marcum, Pamela M.; McLean, Ian S.; Reach, William T.; Richter, Matthew J.; Roellig, Thomas L.; Sandell, Göran; Savage, Maureen L.; Temi, Pasquale; Vacca, William D.; Vaillancourt, John E.; Van Cleve, Jeffrey E.; Young, Erick T. **2014**, "SOFIA science instruments: commissioning, upgrades and future opportunities," Proceedings of the SPIE, 9147

Adams, Joseph D.; Herter, Terry L.; Gull, George E.; Schoenwald, Justin; Henderson, Charles P.; **Keller, Luke D.**; De Buizer, James M.; Stacey, Gordon J.; Nikola, Thomas; Vacca, William D.; Hirsch, Lea; Wang, Jason; Helton, L. Andrew, **2012**, "The FORCAST mid-infrared facility instrument and in-flight performance on SOFIA," SPIE, 8446

Keller, Luke D., Deen, C.P., Jaffe, D.T., Ennico, Kimberly A., Greene, Thomas P., Adams, Joseph D., Herter, Terry, Solan, Gregory **2010**, "Progress report on FORCAST grism spectroscopy as a future general observer instrument mode on SOFIA," Proceedings of the SPIE, 7735

Deen, C.P., **Keller, L.**, Chitrakar, N., Ennico, Kimberly, Jaffe, Daniel T., Adams, Joseph D., Greene, Thomas P., Herter, Terry, and Sloan, Gregory **2010**, "Quick-look reduction software for FORCAST grism mode on SOFIA," SPIE, 7735

Ennico, Kimberly, **Keller, L.**, Adams, J., Herter, T., Deen, C., Mar, D., Chitrakar, N., Jaffe, D., Greene, T. **2007**, "Grisms For FORCAST - A New Medium Resolution 5-40 Micron Spectroscopic Mode On SOFIA - Performance Testing," American Astronomical Society Meeting Abstracts, 211, 11.14

Sweta Shah*, **Luke Keller**, and Nirbhik Chitrakar* **2006**, "Infrared Identification of Herbig AeBe stars in the Small Magellanic Cloud," American Astronomical Society/American Association of Physics Teachers Joint Meeting Joint Meeting, American Astronomical Society Meeting 209, 168.14

Keller, Luke D., Sloan, G. C., Shah, S*, Chitrakar, N.*, Forrest, W. J., Sargent, B., Watson, D. M., Li, A., Najita, J., Chen, C. H., Green, J. D., Herter, T. F., D'Alessio, P., Calvet, N., Hartman, L., Houck, J. R. **2006**, "Mid-infrared Spectra of PAH Emission in Herbig AeBe Stars," American Astronomical Society/American Association of Physics Teachers Joint Meeting, American Astronomical Society Meeting 209, 81.01

Luke Keller and Michael Rogers **2006**, "Innovative Use of SCALE-UP for Teaching General Education Astronomy," American Astronomical Society/American Association of Physics Teachers Joint Meeting Joint Meeting, American Astronomical Society Meeting 209, #71.03

Ennico, K. A., **Keller, L. D.**, Mar, D. J., Herter, T. L., Jaffe, D. T., Adams, J. D., and Greene, T. P. **2006**, "Grism performance for mid-IR (5 - 40 micron) spectroscopy," SPIE, 6269, 52

Pirger, Bruce E., Schoenwald, Justin, Herter, Terry L., Gull, George E., Adams, Joseph D., **Keller, Luke D.**, Berthoud, Marc, Henderson, Charles, Stacy, Gordon J., and Nikola, Thomas **2006**, "High-speed highly-flexible reconfigurable data acquisition system for astronomy," SPIE, 6276, 620

Adams, Joseph D., Herter, Terry L., **Keller, Luke D.**, Gull, George E., Pirger, Bruce, Schoenwald, Justin, Berthoud, Marc, Stacy, Gordon J., and Nikola, Thomas **2006**, "FORCAST: the facility mid-IR camera for SOFIA," SPIE, 6269, 34

Mar, D. J., Marsh, J. P., Jaffe, D. T., **Keller, L. D.**, and Ennico, K. A. **2006**, "Performance of large chemically etched silicon gratings for infrared spectroscopy," SPIE, 6269, 184

Keller, L. D., Ennico, K. A., Herter, T. L., Jaffe, D. T., Mar, D. J., Greene, T. **2005**, "SOFIA Observational Capabilities for Studies of Star and Planet Formation: A New Medium Resolution 5-40 μm Spectroscopic Mode on SOFIA," in *Protostars and Planets V*, Proceedings of the Conference held October 24-28, in Hilton Waikoloa Village, Hawai'i, 1286, 8481

Keller, Luke D., Herter, Terry, Stacey, Gordon, Gull, George, Schoenwald, Justin, Pirger, Bruce, Adams, Joseph, Berthoud, Marc, Nikola, Thomas **2004**, "First test results from FORCAST: the facility mid-IR camera for SOFIA," Ground-based Instrumentation for Astronomy. Edited by Alan F. M. Moorwood and Iye Masanori. Proceedings of the SPIE, 5492, 1086

Ithaca College Service

2023-present	Chair, Academic Policies Committee , Policy subcommittee
2020	Faculty Facilitator, Anti-racism Workspace for White-identifying Students
2020-present	Physics and Astronomy Anti-racism Working Group
2019-present	The Innovation Scholars Advisory Committee
2020	Pilot Study Member, Center for Faculty Excellence Summer Institute
2016-2018	Co-chair, Steering Committee, Middle States Reaccreditation Self-Study
2014	Co-chair, Search committee, Provost and Vice President for Educational Affairs
2014-2018	Research Council
2013-2015	Chair, C.P. Snow Lecture Steering Committee , School of Humanities & Sciences
2011-2013	Committee for College-wide Requirements
2010	President's Advisory Council on Innovation
2008-2015	Academic Policies Committee (elected representative from Humanities and Sciences)
2010	Faculty Workload Task Force
2008-2018	Faculty Mentor, Outdoor Adventure Learning Community
2006-2007	Chair, Policy sub-committee of the Academic Policies Committee
2006-2007	Chair, Faculty Council ad hoc committee : Standardization of Student Statements (a.k.a. Teaching evaluations)
2006-2008	Faculty Council representative to the Academic Policies Committee
2006	School of Humanities & Sciences ad hoc committee: review of General Education requirements in the natural sciences
2005-2010	Faculty Council (elected representative from Natural Sciences)

Education

1999	Ph.D. in Astronomy, University of Texas at Austin
1995	M.A. in Astronomy, University of Texas at Austin
1990	B.Sc. in Physics, University of Arizona, Tucson