Curriculum Vitae

DR. SETH D. HORNSTEIN

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EDUCATION:

- **Doctor of Philosophy in Astronomy**, University of California, Los Angeles, 12/2006
  Dissertation: *Multi-wavelength Observations of the Supermassive Black Hole at the Galactic Center*
  Advisor: Dr. Andrea Ghez
- **Master of Science in Astronomy and Astrophysics**, University of California, Los Angeles, 12/2002
  Thesis: *Limits on the Short-Term Variability of Sagittarius A* in the Near-Infrared*
  Advisor: Dr. Andrea Ghez (2020 Nobel Laureate)
- **Bachelor of Science in Physics with Astronomy and Math**, Virginia Polytechnic Institute & State University, 5/2000, *Summa Cum Laude*

TEACHING EXPERIENCE:

Observatory and Education Director of Sommers-Bausch Observatory, University of Colorado at Boulder, Department of Astrophysical and Planetary Sciences, 2013 - present

- Curriculum development
- Science education research
- Observatory management

Workshop Leader, STEM Teachers as Researchers (STAR) Program, Boulder Cohort, Cal Poly San Luis Obispo, 2011-present (summers)

- Coordinate and run weekly education workshops for pre-K12 teachers at NCAR, NOAO, NREL, and NEON.

Senior Instructor, University of Colorado at Boulder, Department of Astrophysical and Planetary Sciences, 2007-present.

- Teach 1-2 courses per semester. Typically 100-200 students per course. Courses taught:
  - ASTR 1000: The Solar System
  - ASTR 1010: Introductory Astronomy I (w/ Lab)
  - ASTR 1200: Stars & Galaxies
  - ASTR 2600: Introduction to Scientific Programming (Python)
  - ASTR 3510: Astronomical Observations and Instrumentation

Workshop Presenter, American Astronomical Society, Jan 2014, Jan 2015, Aug 2015, Jan 2016

- Center for Astronomy Education's Teaching Excellence Workshop for Current and Future Astronomy and Space Science Instructors

Workshop Presenter, American Astronomical Society, June 2012,

- Center for Astronomy Education /CATS Tier II Special Topics Workshop: Using Technology in the Classroom

Planetarium Coordinator, UCLA Department of Physics, 2000 to 2004

- Revitalized UCLA Planetarium after years of neglect and misuse.
- Organized and chaired the UCLA Planetarium Committee.
- Organized and presented private shows for local schools and educational groups.
- Developed topical multimedia shows to be given in addition to general Planetarium shows.
- Hosted telescope viewing and planetarium shows for both students and members of the public.

Short Course Instructor, Center for Adaptive Optics, National Science Foundation Science and Technology Center, 2002 and 2003

- Designed and taught a weeklong orientation course for undergraduate interns.
- Used both traditional (lecture based) and non-traditional (including inquiry, peer instruction, presentation) teaching methods.

Teaching Assistant, UCLA Department of Physics and Astronomy, 2000 to 2003

- Astronomy 3: Introduction to Astronomy (both w/ Lab and w/ Discussion)
- Astronomy 8: Astronomy with Physics
- Astronomy 180: Astrophysics Laboratory

- Discussion section responsibilities included explaining lecture material, preparing and grading exams and providing individual instruction.
- Lab section responsibilities included designing and leading classroom based labs for introductory astronomy courses and leading observational (24" optical telescope, 6" heliostat, 7' radio telescope) labs for upper level astronomy course as well as providing individual instruction and lecture reviews.

Professional Development Workshop Instructor, Center for Adaptive Optics, National Science Foundation Science and Technology Center, 2000-2003

- Participant for two years, instructor for one at this workshop designed to instruct graduate students in teaching philosophy and non-traditional teaching methods.
- Helped organize and lead the workshop's main inquiry activity.
- Led discussion groups.

Virginia Tech Physics Outreach Volunteer, Virginia Tech Department of Physics, 1998 to 2000

- Traveled to nearby elementary, middle and high schools to lead and explain physics demonstrations.
- Helped organize and plan physics demonstrations.
- Presented astronomy lectures to middle and high school students.

ACADEMIC SERVICE:

- CU, APS Associate Chair for Undergraduate Education 2021-present
- CU, APS Dept. Undergraduate Curriculum and Concerns Committee, member 2013-present; Chair 2013-2014, 2021-present
    - Address issues and concerns (from both faculty and student perspectives) related to the APS Undergraduate Major.
- UCSC, Institute for Scientist & Engineer Educators (ISEE), Steering Committee member (2019-present)
    - Advise and help guide the development and sustainability of ISEE's network of chapters
- UCSC, Institute for Scientist & Engineer Educators (ISEE), CU APS Chapter Liaison, 2015-present
    - Coordinate Boulder Chapter participation (incl. coordination with the CU Miramontes Arts & Sciences Program) and serve as liaison to ISEE leadership organization.
- CU, Boulder Faculty Alliance (BFA), APS Department Representative 2014-present
    - BFA Nominations and Elections Committee member, 2014-2015
    - BFA Student Affairs Committee Member, 2015-present
    - BFA Intercollegiate Athletics Committee Member, 2015-present; Chair 2017-present
- CU, APS Grad Welcome & Social Committee, 2020-2021
    - Organize social events for department to improve climate across all levels. Coordinate Graduate Prospective Visits.
- CU, OIT Academic Technology Advisory Group, 2017-2021
    - Advise OIT on teaching technology from a faculty perspective
- CU, APS Dept. Laboratories and Course Fees Committee, 2013-2018; Chair 2013 – 2014
    - Allocate APS Department Program Fees budget ($150-200K)
- CU, OIT D2L Advisory Committee, 2012 – 2017
    - Evolved from the committee that provided input on selecting Desire2Learn as the Campus Learning Management Program. Provide feedback to OIT (& D2L) on implementation and improvements to D2L.
- CU, APS Dept. Outreach and Development Committee, Newsletter Editor 2009 – 2020

  - Organized and published the annual APS Department newsletter.
- CU, APS Dept. Undergraduate Mentor, 2009 – present, Lead Mentor 2016- 2020
  - Mentor 8-12 undergraduate majors each semester in career and post-CU advice. Lead Mentor: Oversee the mentoring program and coordinate 150-200 mentee/mentor assignments per semester.
- CU, APS Dept. Learning Assistant Coordinator, 2008 – present
  - Oversee APS Department use of Learning Assistants and serve as liaison to LA Program management.
- CU, APS Dept. Observatory Committee, 2008 to present; chair 2010 – 2012
  - Provide oversight to operation of APS Department's Sommers-Bausch Observatory.
- CU, APS Dept. Planetarium Oversight Committee, 2007 – 2009
  - Provide oversight to operation of APS Department's Fiske Planetarium.
- UCLA Division of Astronomy Journal Club Coordinator, 2003 – 2004
  - Organize weekly journal club discussion of current research topics.

RESEARCH EXPERIENCE:

- **Research Associate,** University of Colorado at Boulder, Department of Astrophysical and Planetary Sciences, Center for Astrophysics and Space Astronomy, 2007 to present
  Development of a Solar System Concept Inventory: Principal Investigator
  Collaboration of Astronomy Teaching Scholars: Project Leader
  National Archive for Astro 101 Think-Pair-Share Questions: Collaborator
- **Graduate Student Researcher**, UCLA Department of Physics and Astronomy, 2000 to 2006
  Advisor: Dr. Andrea Ghez
  Infrared Monitoring of the Supermassive Black Hole at the Galactic Center
- **Undergraduate Researcher**, Virginia Tech Department of Physics, 1999 to 2000
  Advisor: Dr. John Simonetti
  A Search for Novae in the Andromeda Galaxy
- **Research Experience for Undergraduates (REU) Internship**, Maria Mitchell Observatory, 1999
  Advisor: Dr. Vladimir Strelnitski
  Optical Monitoring of the Hydrogen Maser, MWC349

GRANTS AWARDED:

- Chancellor's Award for Excellence in STEM Education, "Developing a Research Base for Effective Teaching Using Fiske Planetarium", **$10K**, 2016, curriculum development
- AUI, "Integrating Radio Astronomy Across the Introductory Astronomy Curriculum, Year3", **$15K**, 2015, **S. Hornstein (PI),** curriculum development
- AUI, "Integrating Radio Astronomy Across the Introductory Astronomy Curriculum, Year2", **$120K**, 2014, **S. Hornstein (PI),** curriculum development
- AUI, "Integrating Radio Astronomy Across the Introductory Astronomy Curriculum", **$100K**, 2013, **S. Hornstein (PI),** curriculum development
- CU Science Education Initiative, "APS Proposal for Funding from the CU Science Education Initiative," **$150K**, 2011-2013, D. Duncan (PI), **S. Hornstein (Co-I),** oversight of department Science Teaching Fellow.
- NSF, "CAREER: Large Focal Plane Array Development for CMB Polarization Studies with the South Pole Telescope", **$875K**, 2010-2015, N. Halverson (PI), **S. Hornstein (Co-I),** educational assessment.

AWARDS/DISTINCTIONS:

- CU Chancellor's Award for Excellence in STEM Education, 2016
- CU ASSETT Award of Student Appreciation for Teaching with Technology, 2016
- CU ASSETT Award of Excellence as an Outstanding Teacher for Technology in Teaching, 2013
- UCLA Dissertation Year Fellowship, 2005
- UCLA Physics & Astronomy Alumni Alliance (PAAL) Outstanding Graduate Award, 2004
- UCLA Department of Physics and Astronomy Award for Outstanding Teaching, 2001 and 2002
- UCLA Institute for Geophysics and Planetary Physics Fellowship, 2000 and 2001
- UCLA Department of Physics & Astronomy Fellowship, 2000

- Virginia Tech Commonwealth Scholar, 2000
- Virginia Tech H. Y. Loh Award for Excellence in Physics, 2000
- Virginia Tech Robert Preston Hamilton Prize, 1999
- Virginia Tech Frank Leigh Robeson Scholarship, 1998
- Central Intelligence Agency Exceptional Performance Award, 1998
- Virginia Tech Daniel C. and Delia F. Grant Scholarship for Merit Scholars, 1997 to 2000
- Top Secret Governmental Security Clearances, 1997 to 1999
- Virginia Tech Hugh D. Ussery Award for Excellence in Scholarship, 1997
- Virginia Tech University Merit Scholarship, 1995

PROFESSIONAL MEMBERSHIPS:

- CU Center for STEM Learning, 2013 to present
- Astronomical Society of the Pacific, 2007 to present
- UCLA Institute for Geophysics and Planetary Physics, Center for Astrobiology, 2000 to 2006
- NSF Center for Adaptive Optics, 2000 to 2006
- Phi Beta Kappa, 1999 to Present
- American Astronomical Society, 1998 to Present
- Sigma Pi Sigma: Physics Honor Society, 1998 to Present

TELESCOPE RESEARCH EXPERIENCE:

- **National Radio Astronomy Observatory**, 12-meter, radio, Kitt Peak, AZ
- **W. M. Keck Observatory**, 10-meter, infrared, Mauna Kea, HI
- **Lick Observatory**, 3-meter, infrared, Mt. Hamilton, CA
- **National Undergraduate Research Observatory (NURO)**, 0.8-meter, optical, Flagstaff, AZ
- **UCLA Observatory,** 0.6-meter, optical, Los Angeles, CA
- **Martin Observatory**, 0.4-meter, optical, Blacksburg, VA

REFEREED PUBLICATIONS:

- "A New Lecture-Tutorial for Teaching Interferometry to Astro 101 Students" Wallace, Colin S.; Hatcher, Chase; Chambers, Timothy G.; **Hornstein, Seth D.;** Kamenetzky, Julia; Prather, Edward E., 2021, *The Physics Teacher*, 59, 6
- "Mapping the Milky Way: A Radio Astronomy-Directed Investigation for Lecture-Based Astro 101 Courses" Williamson, K.; Reichart, D.; Wallace, C.; Prather, E.; **Hornstein, S.**, 2018, *Robotic Telescope, Student Research and Education Proceedings*, 1, 283
- "A New Lecture-Tutorial for Teaching about Molecular Excitations and Synchrotron Radiation" Wallace, C., Prather, E., **Hornstein, S.,** Burns, J., Schlingman, W., Chambers, T., 2016, *The Physics Teacher*, 54, 40
- "A Near-Infrared Variability Study of the Galactic Black Hole: A Red Noise Source with NO Detected Periodicity" Do, T.; Ghez, A. M.; Morris, M. R.; Yelda, S.; Meyer, L.; Lu, J. R.; **Hornstein, S. D**.; Matthews, K., 2009, *The Astrophysical Journal,* 691, 1021
- "A Disk of Young Stars at the Galactic Center as Determined by Individual Stellar Orbits" Lu, J. R.; Ghez, A. M.; **Hornstein, S. D.**; Morris, M. R.; Becklin, E. E.; Matthews, K., 2009, *The Astrophysical Journal,* 690, 1463
- "An X-ray, IR, and Submillimeter Flare of Sagittarius A*" Marrone, D. P.; Baganoff, F. K.; Morris, M.; Moran, J. M.; Ghez, A. M.; **Hornstein, S. D.**; Dowell, C. D.; Munoz, D. J.; et al., 2008, *The Astrophysical Journal,* 682, 373
- "Results from an Extensive Simultaneous Broadband Campaign on the Underluminous Active Nucleus M81*: Further Evidence for Mass-scaling Accretion in Black Holes" Markoff, S.; Nowak, M.; Young, A.; Marshall, H. L.; Canizares, C. R.; Peck, A.; Krips, M.; Petitpas, G.; Schödel, R.; Bower, G. C.; Chandra, P.; Ray, A.; Muno, M.; Gallagher, S; **Hornstein, S**.; et al., 2008, *The Astrophysical Journal,* 681, 905
- "A Constant Spectral Index for Sagittarius A* during Infrared/X-Ray Intensity Variations" **Hornstein, S. D.**, Matthews, K., Ghez, A. M., Lu, J. R., Morris, M.; Becklin, E. E., Rafelski, M., Baganoff, F. K., 2007, *The Astrophysical Journal,* 667, 900

- "Photometric Stellar Variability in the Galactic Center" Rafelski, M., Ghez, A. M., **Hornstein, S. D.**, Lu, J. R., Morris, M., 2007, *The Astrophysical Journal,* 659, 1241
- "Limits on the Short-Term Variability of Sagittarius A* in the Near-Infrared" **Hornstein, S. D.**, Ghez, A. M., Tanner, A., Morris, M., Becklin, E. E., Wizinowich, P. , 2002, *The Astrophysical Journal*, 577, L9
- "The First Laser Guide Star Adaptive Optics Observations of the Galactic Center: Sgr A*'s Infrared Color and the Extended Red Emission in its Vicinity" Ghez, A. M.; **Hornstein, S. D.**, Lu, J. R., Bouchez, A., Le Mignant, D., van Dam, M. A., Wizinowich, P., Matthews, K., et al., 2005, *The Astrophysical Journal*, 635, 1087
- "A Remarkable Low-Mass X-ray Binary within 0.1 Parsecs of the Galactic Center" M. P. Muno, J. R. Lu, F. K. Baganoff, W. N. Brandt, G. P. Garmire, A. M. Ghez, **S. D. Hornstein**, M.R. Morris, 2005, *The Astrophysical Journal*, 633, 228
- "A Infrared Flash Contemporaneous with the Gamma-Rays of GRB 041219a" C. H. Blake, J. S. Bloom, D. L. Starr, E. E. Falco, M. Skrutskie, E. E. Fenimore, G. Duchene, A. Szentgyorgyi, **S. Hornstein**, et al., 2005, *Nature*, 7039, 181
- "IRS 16 SW: A New Comoving Group of Young Stars in the Central Parsec of the Milky Way" Lu, J. R., Ghez, A. M., **Hornstein, S. D.,** Morris, M., Becklin, E. E., 2005, *The Astrophysical Journal*, 625, L51
- "Stellar Orbits around the Galactic Center Black Hole" Ghez, A. M., Salim, S., **Hornstein, S. D.**, Tanner, A., Lu, J. R., Morris, M., Becklin, E. E., Duchene, G., 2005, *The Astrophysical Journal*, 620, 744
- "Variable Infrared Emission from the Supermassive Black Hole at the Center of the Milky Way" Ghez, A. M., Wright, S. A., Matthews, K., Thompson, D., Le Mignant, D., Tanner, A., **Hornstein, S. D.**, Morris, M., et al., 2004, *The Astrophysical Journal*, 601, L159
- "The First Measurement of Spectral Lines in a Short-Period Star Bound to the Galaxy's Central Black Hole: A Paradox of Youth" Ghez, A. M., Duchene, G., Matthews, K., **Hornstein, S. D.**, Tanner, A., Larkin, J., Morris, M., Becklin, E. E., et al. , 2003, *The Astrophysical Journal*, 586, L127
- "Lost Variables on Nantucket Plates" Samus, N. N., Haythe, L., **Hornstein, S.**, Jisonna, L. J., Lu, E., 1999, *Informational Bulletin on Variable Stars*, 4773, 1

OTHER PUBLICATIONS:

- "Using pedagogical discipline representations (PDRs) to enable Astro 101 students to reason about modern astrophysics," Wallace, Colin Scott; Prather, Edward E.; Chambers, Timothy G.; Kamenetzky, Julia R.; **Hornstein, Seth D.**; 2017, *Bulletin of the American Astronomical Society*, 229.21303
- "A Research-Informed Approach to Teaching About Light & Matter in STEM Classrooms" **Hornstein, Seth D.**; Wallace, C. S.; Schlingman, W. M.; Prather, E. E.; 2014, *Bulletin of the American Astronomical Society,* 223.32209
- "Development and Testing of the Solar System Concept Inventory" **Hornstein, S. D.**; Prather, E. E.; English, T. R.; Desch, S. M.; Keller, J. M.; CATS, 2011, *Bulletin Of The American Astronomical Society*, 217.22804
- "Continued Development of a Solar System Concept Inventory" **Hornstein, S. D.**; Prather, E. E.; English, T. R.; Desch, S. M.; Keller, J. M.; CATS, 2010, *Bulletin Of The American Astronomical Society*, 215.44703
- "Development of a Solar System Concept Inventory" **Hornstein, S. D.**; Duncan, D.; CATS 2009, *Bulletin Of The American Astronomical Society*, 213.42908
- "A Near-IR Variability Study of the Galactic Black Hole: A Red Noise Source with No Detected Periodicity" Do, T.; Ghez, A.; Morris, M. R.; Yelda, S.; Meyer, L.; Lu, J.; **Hornstein, S. D.**; Matthews, K. 2009, *Bulletin Of The American Astronomical Society*, 213.41104
- "Orbits and origins of the young stars in the central parsec of the galaxy" Lu, J. R.; Ghez, A. M.; Morris, M.; **Hornstein, S. D.**; Matthews, K. 2008, *Journal of Physics Conference Series*, 131, 012012
- "Testing for periodicities in near-IR light curves of Sgr A*" Do, T.; Ghez, A. M.; Morris, M. R.; Yelda, S.; Lu, J. R.; **Hornstein, S. D.**; Matthews, K., 2008, *Journal of Physics Conference Series*, 131, 012003
- "Simultaneous Observations of Sgr A* Flares in the X-ray, NIR, and Submm" Baganoff, F. K.; Marrone, D.; Moran, J.; Morris, M.; Ghez, A.; **Hornstein, S.**; Dowell, C., 2008, *Bulletin Of The American Astronomical Society*, 212.8801

- "Orbits and Origins of Young Stars in the Central Parsec of the Milky Way" Lu, J. R.; Ghez, A. M.; **Hornstein, S. D.**; Morris, M. R.; Becklin, E. E.; Matthews, K., 2007, *Bulletin Of The American Astronomical Society*, 211.3305
- "Short-Term Variability of Sgr A*" Morris, M. R., **Hornstein, S. D.**, Ghez, A. M., Lu, J. R., Matthews, K., Baganoff, F. K., 2007, Proceedings of IAU Symposium No. 238 "Black Holes: from Stars to Galaxies - across the Range of Masses" eds. V. Karas & G. Matt, 238, 195
- "Infrared/X-ray intensity variations and the color of Sgr A*" **Hornstein, S. D.**, Matthews, K., Ghez, A. M., Lu, J. R., Morris, M., Becklin, E. E., Baganoff, F. K., Rafelski, M., 2006, *Journal of Physics: Conference Series*, 54, 399
- "Photometric Stellar Variability in the Galactic Center" Rafelski, M.; Ghez, A. M.; **Hornstein, S. D.**; Lu, J. R.; Morris, M., 2006, *Journal of Physics: Conference Series*, 54, 316
- "Galactic Center Youth: Orbits and Origins of the Young Stars in the Central Parsec" Lu, J. R.; Ghez, A. M.; **Hornstein, S. D.**; Morris, M.; Matthews, K.; Thompson, D. J.; Becklin, E. E., 2006, *Journal of Physics: Conference Series*, 54, 279
- "Infrared Colors of Sgr A* From HKLM Adaptive Optics Observations" **Hornstein, S. D.**, Ghez, A. M., Matthews, K., Lu, J. R., Rafelski, M., Morris, M., Becklin, E. E.; Thompson, D., 2005, *Bulletin Of The American Astronomical Society*, 207.7813
- "Constraints on Orbits and Origins of Young Stars in the Central Parsec of the Galaxy" Lu, J. R., Ghez, A. M., Matthews K. Y., **Hornstein, S. D.**, et al., 2005, *Bulletin Of The American Astronomical Society*, 207.9086
- "Short Term Variability of Sagittarius A* in the Near-Infrared" **Hornstein, S. D.**, Ghez, A. M., Tanner, A. , Gezari, S., Morris, M., Becklin, E. E., Wizinowich, P., 2002, *Bulletin Of The American Astronomical Society*, 200.4402
- " Limits on the Short-Term Variability of Sagittarius A* in the Near-Infrared" **Hornstein, S. D.**, Ghez, A. M., Tanner, A., Morris, M., Becklin, E. E., 2003, *Astronomische Nachrichten*, 324, 371
- "Short Term Variability of Sagittarius A* in the Near-Infrared" **Hornstein, S. D.**, Ghez, A. M., Tanner, A. M., Gezari, S., Morris, M., Becklin, E. E., Wizinowich, P., 2002, *Bulletin Of The American Astronomical Society*, 200.4402
- "Two-year Monitoring of MWC349 in Optical and Radio Domains" **Hornstein, S.**, Jisonna, L., Jorgenson, R., Lu, E., Gordon, M., Strelnitski, V., 1999, *Bulletin of the American Astronomical Society*, 195.2505
- "The First Laser Guide Star Adaptive Optics Observations of the Galactic Center" Ghez, A. M., **Hornstein, S. D.**, Bouchez, A., Le Mignant, D., Lu, J., Matthews, K., Morris, M., Wizinowich, P., Becklin, E. E. , 2004, *Bulletin of the American Astronomical Society*, 205.2406
- "IRS 16SW - A New Cluster of Young Stars in the Central Parsec of Our Galaxy" Lu, J. R., Ghez, A. M., **Hornstein, S. D.**, Morris, M., Becklin, E. E., 2004, *Bulletin of the American Astronomical Society*, 205.8506
- "Full Three Dimensional Orbits For Multiple Stars on Close Approaches to the Central Supermassive Black Hole" Ghez, A. M.; Becklin, E.; Duchene, G.; **Hornstein, S.**; Morris, M.; Salim, S.; Tanner, A., 2003, *Astronomische Nachrichten*, 324, 527
- "Multiwavelength Monitoring of Sgr A* During Chandra Observations of Multiple X-ray Flares" Baganoff, F. K., Bautz, M. W., Ricker, G. R., Morris, M., Becklin, E. E., Ghez, A. M., **Hornstein, S. D.**, et al., 2002, *Bulletin of the American Astronomical Society*, 201.3108
- "Full 3-D Orbital Solutions for Stars Making a Close Approach to the Supermassive Black Hole at the Center of the Galaxy" Ghez, A. M., Duchene, G., Morris, M., Becklin, E. E., **Hornstein, S. D.**, et al. 2002, *Bulletin of the American Astronomical Society*, 210.6804
- "Lost Variables on Nantucket Plates" Haythe, L., Samus, N. N., Biller, B., **Hornstein, S.**, Jisonna, L. J., Lu, E., 1999, *Bulletin of the American Astronomical Society*, 195.7501

SELECTED ORAL PRESENTATIONS:

- "Enlivening Physics Education through Astronomy Research: Extrasolar Planets & Black Holes," Invited Talk, Gordon Research Conference: Astronomy's Discoveries and Physics Education, June 2012, Waterville, MA
- "Using Black Holes and Extrasolar Planets to Teach Kepler's Laws," Invited Talk, American Association of Physics Teachers, Feb 2012, Ontario, CA

- "Development and Testing of the Solar System Concept Inventory," Special Session Talk, American Astronomical Society, Jan. 2011, Seattle, WA
- "A Student-Centered Approach to Teaching Introductory Astronomy (and Physics)," Astronomy Dept. Colloquium, Pontificia Universidad Católica de Chile, Nov. 2010, Santiago, Chile
- "Infrared/X-ray Intensity Variations and the Color of Sgr A*", Contributed Talk, Galactic Center Workshop, April 2006, Bad Honnef, Germany
- "Sagittarius A*: The Black Hole at the Center of the Milky Way Galaxy," Invited Public Talk, Los Angeles Astronomical Society, Feb. 2005, Los Angeles, CA
- "The Black Hole at the Center of the Milky Way Galaxy," Colloquium, Whittier College, Nov. 2004, Whittier, CA
- "Limits on the Short-Term Variability of Sagittarius A* in the Near-Infrared," Invited Talk, Galactic Center Workshop, Nov. 2002, Kona, HI
- "Creating Inquiry Activities: Design and Preparation," Invited Talk, NSF Research Center Educators Workshop, Oct. 2002, Santa Cruz, CA
- "Two-year Monitoring of MWC 349 in Optical and Radio Domains," Contributed Talk, American Astronomical Society 195th Meeting, Jan. 2000, Atlanta, GA