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**EDUCATION:**

- 2003 Ph.D. in Planetary Science, California Institute of Technology, Pasadena, CA.  
NASA Michelson Fellow  
Advisor: S. R. Kulkarni
- 1997 Bachelor of Science with Honors in Astronomy, California Institute of Technology,  
Pasadena, CA.

**RESEARCH INTERESTS:**

Developing high-contrast imaging and other advanced optical techniques for studying extra-solar planetary systems and other systems of astrophysical interest.

**RESEARCH EXPERIENCE:**

- 2003- Pappalardo Postdoctoral Fellow in Physics, Massachusetts Institute of Technology.  
*Co-Investigator in a sounding rocket flight experiment to directly image a planet orbiting a nearby star. I am responsible for the flight camera development, optical system simulations and modeling, and instrument systems engineering.*
- 2003 Scientist, Interferometry Systems and Technology Section, Jet Propulsion Laboratory.  
*Participated in development and laboratory demonstrations of an optical nulling interferometer concept for detection of extrasolar terrestrial planets.*
- 1998-2003 NASA Michelson Graduate Fellow, Dept. of Geology and Planetary Sciences, Caltech.  
*Developed phase referencing, micro-arcsecond astrometry and several other interferometric techniques. Used high angular resolution observations to study Cepheids and low-mass stars.*
- 1997-1998 Engineer, Interferometry Systems and Technology Section, Jet Propulsion Laboratory.  
*Engaged in development of both real-time operational and data-analysis software, interferometer operations, and design and implementation of system upgrades including new apertures and extended wavelength coverage.*
- 1994-1997 Undergraduate Research Assistant, Dept. of Astronomy, Caltech.  
*Conducted research into neutron star-black hole binaries.*

**TEACHING EXPERIENCE:**

- 2000-2003 Graduate Teaching Assistant, Dept. of Geology and Planetary Sciences, Caltech.  
*Helped teach Applications of Physics to Geosciences, a graduate level physics course. My responsibilities included weekly help sessions, grading and substitute lectures.*
- 1999 Graduate Teaching Assistant, Dept. of Geology and Planetary Sciences, Caltech.  
*Helped teach introductory Planetary Science at the senior undergraduate level. My responsibilities included holding weekly TA lectures.*
- 1997 Undergraduate Teaching Assistant, Dept. of Astronomy, Caltech.

*Helped teach Introductory Astronomy, a freshman level astronomy class.*

**ACADEMIC AWARDS, GRANTS AND COMMITTEES:**

- 2005-2007 Co-I Planet Imaging Concept Testbed Using a Rocket Experiment (NASA, \$3M)
- 2005-2008 NASA Terrestrial Planet Finder Mission, Science Working Group Member
- 2005-2008 Co-I Palomar Precision Astrometric Search for Exoplanet Systems (NASA, \$300k)
- 2005-2008 Co-I An Astrometric Search for Exoplanets (NSF, \$150k)
- 2003-2006 MIT Pappalardo Fellowship in Physics
- 1999-2002 NASA Michelson Fellowship.
- 1996-1997 Achievement Rewards for College Scientists (ARCS) Scholar.
- 1995, 1996 Caltech Academic Merit Awards (2).

**PROFESSIONAL AND ACADEMIC ORGANIZATIONS:**

- 2000 SPIE - The International Society for Optical Engineering.
- 1997 Sigma Xi Scientific Research Society.
- 1996 American Astronomical Society.

**REFEREED PUBLICATIONS:**

- 31. Muterspaugh, M.W., Lane, B.F. et al., "PHASES differential astrometry and the mutual inclination of the V819 Herculis triple star system", 2006, A&A, 446, 723 .
- 30. Muterspaugh, M.W., Lane, B.F. et al., "PHASES Differential Astrometry and Iodine Cell Radial Velocities of the kappa Pegasi Triple Star System", 2006, ApJ, 636, 1020.
- 29. Muterspaugh, M.W., Lane, B.F. et al., "PHASES High Precision Differential Astrometry of  $\delta$  Equulei", 2005, AJ, 130, 2866.
- 28. Zapatero Osorio et al., "Lithium depletion in the brown dwarf binary GJ 569Bab", 2005, AN, 326, 948
- 27. Lane, B. F., Retter, A., Thompson R.R., Eisner, J. A. "Interferometric Observations of V838 Monocerotis", 2005, ApJL, 622, L137.
- 26. Malbet et al., "New insights on the AU-scale circumstellar structure of FU Orionis", 2005, A&A, 437, 627
- 25. Liang, M.-C., Lane, B. F., Pappalardo, R. T., Allen, M., Yung, Y. "The Atmosphere of Callisto", 2005, JGRE, 110, E02003.
- 24. M.R. Zapatero-Osorio, Lane, B. F., Pavlenko, Ya., Martn, E. L., Britton, M., Kulkarni, S. R., "Dynamical Masses of the Binary Brown Dwarf GJ 569Bab", 2004, ApJ, 615, 958.
- 23. Eisner, J., Lane, B. F., Hillenbrand, L.A., Akeson R.L., Sargent, A.I., "Resolved Inner Disks around Herbig Ae/Be Stars", 2004, ApJ, 613, 1049.
- 22. Lane, B. F., and Muterspaugh, M. W., "Differential Astrometry of Sub-arcsecond Scale Binaries at the Palomar Testbed Interferometer," 2004, ApJ, 601, 1129.
- 21. Konacki, M. and Lane, B. F., "The Visual Orbits of the Spectroscopic Binaries HD 6118 and HD 27483 from PTI", 2004, ApJ, 610, 443.
- 20. Dalal, N., and Lane, B. F., "Bringing Closure to Microlensing Mass Measurement," 2003, ApJ, 589, 199.

19. Eisner, J., Lane, B. F. et al., "Near-Infrared Interferometric Measurements of Herbig Ae/Be Stars," 2003, ApJ, 588, 360.
18. Lane, B. F., "Pulsating Stars," 2003, Ap&SS, 286, 177.
17. Lane, B. F., and Colavita M. M., "Phase Referenced Stellar Interferometry at the Palomar Testbed Interferometer," 2003, AJ, 125, 1623-1628.
16. Lane, B. F., et al., "Long Baseline interferometric observations of Cepheids," 2002, ApJ, 573, 330-337.
15. Nordgren, Tyler E., Lane, B. F., "Calibration of the Barnes-Evans Relation Using Interferometric Observations of Cepheids," 2002, AJ, 123, 3380.
14. Lane, B. F., et al., "The Orbit of the Brown Dwarf Binary Gl 569B," 2001, ApJ, 560, 390-399.
13. Linfield, R.P., Colavita, M.M., Lane, B.F., "Atmospheric Turbulence Measurements with the Palomar Testbed Interferometer", 2001, ApJ, 554, 505
12. Lane, B. F., et al., "Interferometric Measurement of the Angular Sizes of Dwarf Stars in the Spectral Range K3-M4," 2001, ApJ, 551, L81-L83.
11. Boden, A. F. and Lane, B. F., "A Preliminary Visual orbit of BY Draconis," 2001, ApJ, 547, 1071.
10. Lane, B. F., et al., "Direct detection of pulsations of the Cepheid star  $\zeta$  Gem," 2000, Nature, 407, 485-487.
9. Martín, E. L., Koresko, C.D., Kulkarni, S.R., Lane, B.F., Wizinowich, P.L., "The Discovery of a Companion to the Very Cool Dwarf Gliese 569B with the Keck Adaptive Optics Facility," 2000, ApJ, 529, L37-L40.
8. Boden, A. F., Lane, B. F. et al. (PTI Collaboration), "The Visual Orbit of 64 Piscum," 1999, ApJ, 527, 360B.
7. Boden, A. F. et al. (PTI Collaboration), "The Visual Orbit of Iota Pegasi," 1999, ApJ, 515:356B.
6. Colavita, M.M., et al. (PTI Collaboration), "The Palomar Testbed Interferometer," 1999, ApJ, 510:505C.
5. Stappers, B. W., Van Kerkwijk, M. H., Lane, B. F., Kulkarni, S. R., "The Light Curve of the Companion to PSR J2051-0827," 1999, ApJL, 510L:45S.
4. van Belle, G. T., Lane, B. F. et al. (PTI Collaboration), "Radii and Effective Temperatures for G, K and M Giants and Supergiants," 1999, AJ, 117:521.
3. Koresko, C. D. et al. (PTI Collaboration), "The Visual Orbit of the 0.002'' RS CVn Binary Star TZ Triangulum from Near-Infrared Long-Baseline Interferometry," 1998, ApJL, 509:45.
2. Malbet, F. et al. (PTI Collaboration), "FU Orionis Resolved by Infrared Long-Baseline Interferometry at a 2 AU Scale" 1998, ApJL, 507, 149.
1. Boden, A.F., et al. (PTI Collaboration), "An Interferometric Search for Bright Companions to 51 Pegasi," 1998, ApJL, 504L:39B