

Joshua Eisner

Department of Astronomy/Steward Observatory
933 N. Cherry Ave.
University of Arizona
Tucson, AZ 85721
(520) 626-7645 (work)
(520) 247-8489 (cell)
jeisner@email.arizona.edu

EDUCATION

- **California Institute of Technology** Ph.D. in Astrophysics, June 2005. Dissertation entitled “*High angular resolution studies of the structure and evolution of protoplanetary disks*”. Michelson Graduate Fellow. Advisors: Lynne Hillenbrand and Anneila Sargent.
- **Cambridge University (Emmanuel College)** Master of Philosophy in Physics, August 2000. Dissertation entitled “*Data reduction, pointing models, and scintillation at COAST*”. Herchel Smith Harvard Scholar at the Cavendish Laboratory. Advisor: David Buscher.
- **Harvard University** A.B. Summa Cum Laude in Astronomy & Astrophysics and Physics, June 1999. Dissertation entitled “*SiO Masers, H₂O Masers, and Outflow in the W51-IRS2 Star Forming Region*”. Advisors: Lincoln Greenhill and James Moran.

POSITIONS

- **Assistant Professor and Assistant Astronomer** University of Arizona, 2008-
- **Project Scientist** Keck Interferometer ASTRA Project, 2008-
- **Miller Research Fellow** University of California at Berkeley, 2005-2008
- **Michelson Graduate Fellow** California Institute of Technology, 2002-2005
- **Herchel Smith Harvard Scholar** University of Cambridge, 1999-2000

HONORS AND AWARDS

- **Alfred P. Sloan Research Fellowship** 2011-
- **Miller Research Fellowship** University of California at Berkeley 2005-2008
- **Michelson Graduate Fellowship** California Institute of Technology 2002-2005
- **GBT Student Support Award** National Radio Astronomy Observatory 2003

- **Reed Fellowship** California Institute of Technology 2000-2001
- **Herchel Smith Harvard Scholarship** Cambridge University 1999-2000
- **Michelson Summer Research Fellowship** California Institute of Technology 1999
- **Phi Beta Kappa** Harvard University 1999
- **Hoopes Senior Thesis Prize** Harvard University 1999
- **Leo Goldberg Astronomy Thesis Prize** Harvard University 1998, 1999
- **NSF Summer Research Fellowship** National Radio Astronomy Observatory 1998
- **National Science Foundation Honorable Mention** 1999,2000
- **John Harvard Scholarship** Harvard University 1997-1999
- **Harvard College Scholarship** Harvard University 1996-1997

PEER-REVIEWED PUBLICATIONS

35. “Resolving the Sub-AU-Scale Gas and Dust Distribution in FU Orionis Sources”, **J.A. Eisner** & L.A. Hillenbrand, 2011, *Astrophysical Journal*, 738, 9
34. “Time-Variable Accretion in the TW Hya Star/Disk System”, **J.A. Eisner**, G.W. Doppmann, J.R. Najita, D. McCarthy, C. Kulesa, B.J. Swift, & J. Teske, 2010, *Astrophysical Journal Letters*, 722, 28
33. “Direct detection of density perturbations in a circum-Be-star disk using the new spectro-astrometry at the Keck interferometer”, J.-U. Pott, J. Woillez, S. Ragland, P. L. Wizinowich, **J.A. Eisner**, et. al., 2010, *Astrophysical Journal*, 721, 802
32. “Spatially and Spectrally Resolved Hydrogen Gas within 0.1 AU of T Tauri and Herbig Ae/Be Stars”, **J.A. Eisner**, J. D. Monnier, J. Woillez, R.L. Akeson, R. Millan-Gabet, J.R. Graham, L. A. Hillenbrand, J.-U. Pott, S. Ragland, & P. Wizinowich, 2010, *Astrophysical Journal*, 718, 774
31. “Science with the Keck interferometer ASTRA program”, **J.A. Eisner**, R. Akeson, M. Colavita, A. Ghez, J. Graham, L. Hillenbrand, R. Millan-Gabet, J.D. Monnier, J.-U. Pott, S. Ragland, P. Wizinowich, J. Woillez, 2010, *Proc. SPIE*, 7734, 36
30. “First Keck interferometer measurements in self-phase referencing mode: spatially resolving circum-stellar line emission of 48 Lib”, J.-U. Pott, J. Woillez, S. Ragland, P. L. Wizinowich, **J.A. Eisner**, et. al., 2010, *Proc. SPIE*, 7734, 24
29. “ASTRA: ASTrometry and phase-Referencing Astronomy on the Keck interferometer”, J. Woillez, R. Akeson, M. Colavita, **J.A. Eisner**, et. al., 2010, *Proc. SPIE*, 7734, 37

28. "Precision astrometry of a sample of speckle binaries and multiples with the adaptive optics facilities at the Hale and Keck II telescopes", K.G. Helminiak, M. Konacki, S.R. Kulkarni, & **J.A. Eisner.**, 2009, *Monthly Notices of the Royal Astronomical Society*, 400, 406
27. "Spatially Resolved Mid-Infrared Imaging of the SR 21 Transition Disk", **J.A. Eisner**, J. D. Monnier, P. Tuthill & S. Lacour, 2009, *Astrophysical Journal Letters*, 698, L169
26. "Spatially Resolved Spectroscopy of Sub-AU-Sized Regions of T Tauri and Herbig Ae/Be Disks", **J.A. Eisner**, J. R. Graham, R. L. Akeson, & J. Najita, 2009, *Astrophysical Journal*, 692, 309
25. "High Resolution K-band Spectroscopy of MWC 480 and V1331 Cyg", J.R. Najita, G.W. Doppman, J.S. Carr, J.R. Graham, & **J.A. Eisner**, 2009, *Astrophysical Journal*, 691, 738
24. "Proplyds and Massive Disks in the Orion Nebula Cluster Imaged with CARMA and SMA", **J. A. Eisner**, R. L. Plambeck, John M. Carpenter, S. A. Corder, C. Qi, & D. Wilner, 2008, *Astrophysical Journal*, 683, 304
23. "Near-Infrared Interferometric, Spectroscopic, and Photometric Monitoring of T Tauri Inner Disks", **J.A. Eisner**, L.A. Hillenbrand, R.J. White, J.S. Bloom, R.L. Akeson, & C.H. Blake, 2007, *Astrophysical Journal*, 669, 1072
22. "Interferometric Observations of V1663 Aquilae (Nova Aql 2005)", B.F. Lane, A. Retter, **J.A. Eisner**, M.W. Muterspaugh, R.R. Thompson, & J.L. Sokoloski, 2007, *Astrophysical Journal*, 669, 1150
21. "Water vapour and hydrogen in the terrestrial-planet-forming region of a protoplanetary disk", **J.A. Eisner**, 2007, *Nature*, 447, 562
20. "Spectrally Dispersed K-Band Interferometric Observations of Herbig Ae/Be Sources: Inner Disk Temperature Profiles", **J.A. Eisner**, E.I. Chiang, B.F. Lane, & R.L. Akeson, 2007, *Astrophysical Journal*, 657, 347
19. "Stellar and Molecular Radii of a Mira Star: First Observations with the Keck Interferometer Grism", **J.A. Eisner**, J.R. Graham, R.L. Akeson, E.R. Ligon, M.M. Colavita, G. Basri, K. Summers, S. Ragland, & A. Booth, 2007, *Astrophysical Journal Letters*, 654, L77
18. "Interferometric Observations of RS Ophiuchi and the Origin of the Near-IR Emission", B.F. Lane, J.L. Sokoloski, R.K. Barry, W.A. Traub, A. Retter, M.W. Muterspaugh, R.R. Thompson, **J.A. Eisner**, E. Serabyn, & B. Mennesson, 2007, *Astrophysical Journal*, 658, 520
17. "Spatially Resolving the Inner Disk of TW Hya", **J.A. Eisner**, E. I. Chiang, & L. A. Hillenbrand, 2006, *Astrophysical Journal Letters*, 637, L133
16. "Massive Protoplanetary Disks in the Trapezium Region", **J.A. Eisner** & John M. Carpenter, 2006, *Astrophysical Journal*, 641, 1162

15. “Interferometric observations of explosive variables: V838 Mon, Nova Aql 2005, and RS Oph”, B.F. Lane, A. Retter, **J.A. Eisner**, R.R. Thompson, & M.W. Muterspaugh, 2006, *Proc. SPIE*, 6268, 50
14. “Constraining the Evolutionary Stage of Class I Protostars: Multi-wavelength Observations and Modeling”, **J.A. Eisner**, L.A. Hillenbrand, John M. Carpenter, & S. Wolf, 2005, *Astrophysical Journal*, 635, 396
13. “Interferometric Observations of V838 Monocerotis”, B.F. Lane, A. Retter, R.R. Thompson, & **J.A. Eisner**, 2005, *Astrophysical Journal Letters*, 622, L137
12. “AB Aurigae Resolved: Evidence for Spiral Structure”, S.A. Corder, **J.A. Eisner**, & A.I. Sargent, 2005, *Astrophysical Journal Letters*, 622, L133
11. “New insights on the AU-scale circumstellar structure of FU Orionis”, F. Malbet, R. Lachaume, J.-P. Berger, M. Colavita, E. Di Folco, **J.A. Eisner**, B.F. Lane, R. Millan-Gabet, D. Ségransan, & W. Traub, 2005, *Astronomy & Astrophysics*, 437, 627
10. “Observations of T Tauri Disks at Sub-AU Radii: Implications for Magnetospheric Accretion and Planet Formation”, **J.A. Eisner**, L.A. Hillenbrand, R.J. White, R.L. Akeson, & A.I. Sargent, 2005, *Astrophysical Journal*, 623, 952
9. “Adaptive Optics Imaging of the AU Microscopii Circumstellar Disk: Evidence for Dynamical Evolution”, S.A. Metchev, **J.A. Eisner**, L.A. Hillenbrand, & S. Wolf, 2005, *Astrophysical Journal*, 622, 451
8. “Observations and modeling of the inner disk region of T Tauri stars”, R.L. Akeson, C.H. Walker, K. Wood, **J.A. Eisner**, E. Scire, B. Penprase, D.R. Ciardi, G.T. van Belle, B. Whitney, & J.E. Bjorkman, 2005, *Astrophysical Journal*, 622, 440
7. “Resolved Inner Disks around Herbig Ae/Be Stars”, **J.A. Eisner**, B.F. Lane, L.A. Hillenbrand, R.L. Akeson & A.I. Sargent, 2004, *Astrophysical Journal*, 613, 1049
6. “Distribution of Circumstellar Disk Masses in the Young Cluster NGC 2024”, **J.A. Eisner** & John M. Carpenter, 2003, *Astrophysical Journal*, 598, 1341
5. “Near-Infrared Interferometric Measurements of Herbig Ae/Be Stars”, **J.A. Eisner**, B.F. Lane, R.L. Akeson, L.A. Hillenbrand, & A.I. Sargent, 2003, *Astrophysical Journal*, 588, 360
4. “Detecting Outer Planets in Edge-On Orbits: Combining Radial Velocity and Astrometric Techniques”, **J.A. Eisner** & S.R. Kulkarni, 2002, *Astrophysical Journal*, 574, 426
3. “Outflow 20-2000 AU from a High-Mass Protostar in W51-IRS2”, **J.A. Eisner**, L.J. Greenhill, J.R. Herrnstein, J.M. Moran, & K.M. Menten, 2002, *Astrophysical Journal*, 569, 334
2. “Sensitivity of the Astrometric Technique in Detecting Outer Planets”, **J.A. Eisner** & S.R. Kulkarni, 2001, *Astrophysical Journal*, 561, 1107
1. “Sensitivity of the Radial Velocity Technique in Detecting Outer Planets”, **J.A. Eisner** & S.R. Kulkarni, 2001, *Astrophysical Journal*, 550, 871

INVITED TALKS

- **Tucson Amateur Astronomy Association** Invited Lecture, September 2011
- **Goldschmidt 2011, Prague** Invited Review, August 2011
- **ALMA Community Day, Tucson** Invited Talk, May 2011
- **Science with Optical Interferometry, Socorro, NM** Invited Review, March 2011
- **Harvard University CfA Colloquium**, February 2011
- **Harvard University ITC Luncheon**, February 2011
- **University of Arizona Steward Public Lecture**, November 2010
- **W.M. Keck Observatory Public Astronomy Talk**, November 2010
- **University of Chicago Astronomy & Astrophysics Colloquium**, October 2010
- **Cal Poly Pomona Physics Seminar**, January 2010
- **SUNY Stonybrook Astronomy Seminar**, July 2009
- **UCLA Astronomy Colloquium**, February 2009
- **NOAO Flash Talk**, October 2008
- **University of Arizona Steward Observatory Internal Symposium**, October 2008
- **University of Toronto Astronomy Colloquium**, September 2008
- **McMaster University Origins Institute Colloquium**, April 2008
- **California Institute of Technology Astronomy Colloquium**, October 2007
- **University of Virginia Joint UVa/NRAO Colloquium**, October 2007
- **NASA Ames Research Center Astrophysics Colloquium**, July 2007
- **University of Arizona Astronomy Colloquium**, May 2007
- **UC Berkeley Joint EPS/Astronomy Colloquium**, March 2007
- **Cornell Astronomy Colloquium**, March 2007
- **University of Washington Astronomy Colloquium**, March 2007
- **University of Hawaii IfA Colloquium**, March 2007
- **Lawrence Livermore National Lab IGPP Colloquium**, February 2007
- **Carnegie Institution of Washington DTM Colloquium**, February 2007

- **NOAO** Future Directions for Interferometry Workshop, November 2006
- **UC Santa Cruz** Astronomy Colloquium, September 2006
- **UC Berkeley** Astronomy Colloquium, August 2006
- **Caltech/JPL** Michelson Summer Workshop, July 2006
- **UC Berkeley** SSL Colloquium, February 2006
- **UC Berkeley** Star Formation and ISM Seminar, February 2006
- **National Taiwan University** ASIAA Colloquium, September 2005
- **University of Leiden** Oort Workshop, July 2005
- **California Institute of Technology** IPAC Seminar, October 2004
- **Ringberg Castle, Germany** Protoplanetary Disks Workshop, April 2004
- **Jet Propulsion Laboratory** Astronomy Colloquium, March 2004
- **University of Arizona** Astrobiology Conference, January 2004

CONTRIBUTED TALKS

- **Exploring Strange New Worlds** Flagstaff, AZ, May 2011
- **CARMA Science Symposium** Berkeley, CA, February 2011
- **SPIE Astronomical Telescopes and Instrumentation** San Diego, CA, June 2010
- **Aspen Winter Conference on Astrophysics: Formation and Evolution of Black Holes** Aspen, CO, February 2010
- **Keck Science Meeting** Pasadena, CA, September 2009
- **Keck Science Meeting** Pasadena, CA, September 2007
- **Disks06** Vidago, Portugal, September 2006
- **The Disc-Planet Connection** Cambridge, UK, July 2006
- **From Disks to Planets** Pasadena, CA, March 2005

SERVICE/OUTREACH

University Service/Outreach

- Graduate Admissions committee; 2008-2012. Chair, 2010-2011.

- Prelim writing and examination committee; 2009-2012. Chair 2011-2012.
- Contributed to graduate curriculum review; 2009
- Organized pre-colloquium discussion group for graduate students; 2008-
- Organized pre-colloquium discussion group for undergraduate students; 2010-
- Member of research exam committee for graduate student; 2009
- Member of PhD exam committee for graduate student; 2011
- Reviewer for Magellan AO project PDR and SDR; 2009-2010
- Mentor for CAMPARE student (exchange program between UA and Cal Poly Pomona); 2010, 2011
- Speaker at Arizona Astronomy Board meeting; 2008

Community Service/Outreach

- Refereed research articles for *The Astrophysical Journal*, *The Astronomical Journal*, *Astronomy & Astrophysics*, *Icarus*, and *Nature*; 2003-
- Reviewer for NSF Astronomy & Astrophysics grants; 2010
- Reviewer for NSF International Research Fellowship Program; 2010
- Reviewer for NASA Postdoctoral Program; 2010, 2011
- Reviewer for NASA Origins Program; 2011
- Reviewer for NSERC Discovery Grants; 2011
- Served on the time allocation committee for the telescopes of the *National Optical Astronomy Observatory*, *National Radio Astronomy Observatory*, *Arizona Radio Observatory*, *Steward Observatory*, *Combined Array for Research in Millimeter Astronomy*, and *Owens Valley Millimeter Array*; 2004-
- Organizing committee for “Future Directions of Interferometry” workshop; 2006
- Organizing committee and chair of multiple sessions at SPIE meeting; 2010
- Member of IAU commission 54 on Optical & Infrared Interferometry
- Member of US Interferometry Commission Future Developments subcommittee

Media Appearances

- Interviewed for PBS/NOVA, discussing planet/star formation work at Keck; to air in 2011.
- Appeared on NPR (and featured in AZ Daily Star, elsewhere) discussing Keck Interferometer results; 2010
- Appeared on BBC Radio discussing potential of LBT for exoplanet science; 2009

- CARMA/SMA results on protoplanetary disk masses featured in USA Today, elsewhere; 2008.
- Keck Interferometer spectroscopy results featured in The Economist, elsewhere; 2007.