

### Colloquia and Invited Talks:

*Saega Dil Vrtilek* “ Analysis of multivariate data: algorithms for physical clustering, with application to extended time series data on XRBs.” AAS 224th Meeting, Boston, MA. June 5, 2014.

“The disk-jet connection in X-ray binaries.” Presentation to undergraduate physics majors. March 3, 2014, Grenfal Campus, Newfoundland.”

“A Hertsprung-Russell Diagram for Accreting Binaries?” Solar and Stellar Meet and Greet, Nov, 25, 2013. CfA.

“Statistical implications of CCI diagrams of X-ray binaries.” Guest lecture for Statistics 310 (Harvard), Statistics 281 (UCI by video) “Topics in Astrostatistics”. Oct 22, 2013, Harvard.

“A statistical approach to identifying compact objects in X-ray binaries” AAS/HEAD 13th Meeting, Monterey, CA, April 9, 2013.

“Adding a new dimension: multi-variate studies of X-ray Binaries” Keynote Address, Indiana Astrophysics Meeting, Rose-Hulman Institute of Technology, Oct 9, 2012. This is a AAS sponsored Shapley Lecture.

“Putting X-ray Binaries in their Proper Place” HEAD Lunch Talk, CfA, February 8, 2012.

“STARRSLC for the Harvard Time Series Center and CCI investigations of X-ray Binaries.” Wide-Field Seminar Pizza Lunch, Phillips Auditorium, CfA July 21, 2011.

“A New Jet Line for XRBs?” Talk at the New England Regional Accreting Binary Annual Meeting. Yale, May 20, 2011.

“Doppler and Modulation tomography: imaging on microarcsecond scales” Talk at the New England Regional Accreting Binary Annual Meeting. MIT, Nov 9, 2009.

“Doppler tomography: imaging on microarcsecond scales” Institute for Theory and Computation Forum, Harvard-Smithsonian Center for Astrophysics, Cambridge, MA. May 7, 2008.

“Multiwavelength Studies of X-ray Binaries” at A Population Explosion: The Nature and Evolution of X-ray Binaries. St. Petersburg, FL, October 29, 2007.

“The X-ray photoionized wind of Cygnus X-1 during X-ray high/soft states” HEAD Lunch Talk, Cambridge, MA July 25, 2007

“Jets and Disks in X-ray Binaries” invited talk for special session on Large Community Projects for the Great Observatories, at Cool Stars 14, Pasadena, CA. November 7, 2006.

“The Chandra View of X-ray Binaries” Astronomy and Physics colloquium at UCSD, Friday May 26th, 2006.

“Hot Topics in Astronomy”, presentation at AAAS planning meeting, St. Louis, MO. February 19, 2006.

“The Chandra View of X-ray Binaries” Talk presented at Six Years of Chandra conference. November 3, 2005. Cambridge, Sonesta Hotel.

“Modulation Tomography of X-ray Binaries” Graduate Students Research Forum, October 3, 2005.

“The Chandra View of X-ray Binaries” HEAD lunch talk at the Center for Astrophysics. December 8, 2004.

Keynote talk at the Chandra Calibration Workshop: XRBs with Chandra. Monday October 25th, 2004. Cambridge, Sheraton-Commander.

“Doppler Tomography of X-ray Binaries”, IAU Joint Discussion 09: Astrotomography. July 21, 2003, Sydney, Australia.

“Coordinated Chandra/HST observations of stellar wind X-ray Binaries” Talk given at conference held at MIT Draper Labs Extension, Cambridge, MA. (Nov. 14, 2002).

“SMC X-1 with Chandra and HST”, Head Lunch Talk, Jan 30, 2002.

“The Chandra View of X-ray Binaries” (**invited review**) at the Astronomical Society of the Pacific’s 113th Annual Meeting. “The X-ray Universe at Sharp Focus” St. Paul, Minnesota (July 17, 2001).

“Superorbital Periods in X-ray Binaries: Windows onto Disk and Wind Structure” Joint Institute for Laboratory Astrophysics Colloquium, Boulder, CO (Nov 15, 1999).

“Superorbital Periods in X-ray Binaries” High-Energy Lunch Talk, Cambridge, MA (Nov 10, 1999).

“Multiwavelength Studies of X-ray Binaries”, CfA Colloquium, Cambridge, MA (Dec 5, 1996)

“X-ray Binaries: Beyond the Decade of Discovery”, (**invited review**) HTXS Workshop, Boston, MA (Oct 1, 1996)

“X-ray Binaries”, Harvard-Smithsonian Center for Astrophysics 1996 Summer Colloquia Series, Cambridge, MA. (Jul 25, 1996)

“Accretion Disk Dynamics of Her X-1”, IAU Colloquium 158 on CVs and Related Objects, Keele, England, (Jun 29, 1995).

“UV Echoes from X-Ray Pulsars”, University of Maryland, College Park, MD, (Apr 28, 1995).

“Her X-1/HZ Her: A Simultaneous Look at Four Decades of the Spectrum”, Physics and Astronomy Colloquium, University of Toledo, Toledo, OH, (Feb 2, 1995)

“Multiwavelength Observations of Hercules X-1”, Laboratory for Gamma-Ray Astrophysics, NASA/GSFC, Greenbelt, MD, (Feb 28, 1994)

“Multiwavelength Observations of Hercules X-1: A Simultaneous Look at Four Decades of the Spectrum” Astronomy Colloquium, University of Maryland, College Park, MD, (Feb 16, 1994)

“Simultaneous Multiwavelength Observations of Hercules X-1”, Washington Area Astronomer’s Meeting (**invited talk**), NASA/GSFC, Greenbelt, MD, (Nov 4, 1993)

“Illuminating the Accretion Process: Lines and Edges in the Spectra of X-ray Binaries”, Astrophysics Colloquium, University of Wisconsin, Madison, WI, (Sep 26, 1991)

“Illuminating the Accretion Process: Lines and Edges in the Spectra of X-ray Binaries”, Department of Astronomy Seminar, Pennsylvania State University, University Park, PA, (Aug 8, 1991)

“How Far to Sco X-1? or LMXBs and the Z-shaped Curve: A New Standard Candle?”, Max-Planck Institute Astrophysics Seminar, Garching bei München, W. Germany, (May 8, 1990)

“Multiwavelength Studies of X-ray Binaries: Accretion Disks and the Z-shaped Curve” Pittsburgh University Astrophysics Seminar, Pittsburgh, PA. (Mar 11, 1990)

“X-ray Binaries from A to Z: Accretion Disks and the Z-shaped Curve” Columbia University Astrophysics Colloquium, New York, NY. (Feb 13, 1990)

“Multiwavelength Studies of X-ray Binaries”. High Energy Astrophysics Division (**invited review**), 175th Meeting of the American Astronomical Society, Washington DC. (Jan 10, 1990)

“Calling all wavelengths:  $\lambda\lambda\lambda$  Studies of X-ray Binaries”. High Energy Division, Harvard-Smithsonian Center for Astrophysics, Cambridge, MA. (Dec 13, 1989)

“Cygnus X-2 from A to Z: Accretion Disks and the Z-shaped Curve” Harvard-Smithsonian Center for Astrophysics Colloquium, Cambridge, MA. (Nov 10, 1988)

“X-ray and UV emission Lines from Galactic Bulge Sources” Department of Physics Colloquium, Bucknell University, Lewisburg, PA. (Jan 20, 1988)

“X-ray Spectral Models of Galactic Bulge Sources: The Emission Line Factor” Space Science Division, Naval Research Lab., Washington DC. (Nov 6, 1987)

“X-ray Spectra of Galactic Bulge Sources: The Emission Line Factor” Laboratory for High Energy Astrophysics Colloquium, NASA/GSFC, Greenbelt, MD, (Oct 6, 1987)

“The Physics of Cataclysmic and X-ray Binaries: Highlights of the Aspen (May 25-29) Workshop” Laboratory for High Energy Astrophysics, NASA/GSFC, Greenbelt, MD, (Jun 11, 1987)

“The QPO Quandary” Laboratory for High Energy Astrophysics, NASA/GSFC (Mar 15, 1987)

“Evidence for structure in X-ray Binaries: Emission Lines and Intensity dips” Laboratory for High Energy Astrophysics Colloquium, NASA/GSFC, Greenbelt, MD, (May 13, 1986)

“A new periodicity in Her X-1?” Laboratory for High Energy Astrophysics, NASA/GSFC, Greenbelt, MD, (Mar 7, 1985)

“A new periodicity in Her X-1?” Space Science Division, Naval Research Lab., Washington DC. (Mar 6, 1985)

“Dramatic variability in the X-ray flux from Her X-1” Departments of Physics and Astronomy Colloquium, Oxford, England. (Nov 14, 1983)

#### **Public Talks (Chronological Order):**

“X-rays from Space”, ZONTA International, Mt. Vernon, New York. (Jan 17, 1984); New Brunswick, New Jersey. (Jan 24, 1984); New Rochelle, New York. (Apr 18, 1984).

“X-ray Binaries”, Bunting Institute, Radcliffe College. (Nov 8, 1988).

“Feet on Earth, Head in Clouds, Eyes on the Universe: A Lecture on Astronomy” Harvard-Smithsonian Center for Astrophysics, Cambridge, MA. (Jun 6, 1989).

“X-ray Binaries”, Bedford-Lexington Division of the AAUW, Bedford, MA. (Dec 4, 1991)

“Why Science?”, Panel Member at WAGSEM meeting. UMD Department of Computer Science, College Park, MD, (Nov 11, 1994)

Panel Member for “Women Across Generations, Cultures and Occupations”, American Council on Education, Center for Higher Education, Washington, DC. (Mar 3, 1995)

“Elementary, Enigmatic, Explosive, & Extreme: The Extraordinary Lives of X-ray Binaries”, Harvard-Smithsonian Center for Astrophysics, Observatory Night Public Lecture, Cambridge, MA. (Sep 19, 1996)

“New Eyes on the Universe: The Revolution in Modern Astrophysics” AAAS Annual Meeting, Philadelphia, PA. Invited talk for scientific session on “How Astronomy Expanded into Astrophysics.” (February 15, 1998)

“Women in Science” AAAS Annual Meeting, Boston, MA. Introduction to session as chair and organizer. (February 16, 2002).

Cambridge, MA. “Cosmic Rings and Butterflies”. Harvard-Smithsonian Center for Astrophysics, Observatory Night Public Lecture, Cambridge, MA. (Oct. 20, 2003).

“All Eyes on the Universe: The Revolution in Modern Astronomy” Harvard Summer School Lecture, Aug. 10, 2004.

“New Beasts in the Astronomical Zoo.” Harvard Summer School Lecture, Aug 2, 2005.

“NASA’s Great Observatories: Challenges and Rewards” AAAS Annual Meeting, St. Louis, MO. Introduction to session as chair and organizer. (February 19, 2006).

Panel member for presentation on “How to get into Graduate School” Center for Astrophysics, July 17, 2006.

“Cosmic Rings and Butterflies: The Flamboyant Deaths of Stars” Harvard Summer School Lecture, Aug 8, 2006.

Served as member on panel discussion about foreign women in science for CCTV (Cambridge Cable Television Station), Aug 9, 2006, Cambridge, MA.

Selected as Shapley Lecturer by AAS for 2005-2006 and 2006-2007.

“Intersections of Gender and Power: Improving the Status of Women in Physics” American Physical Society, APS March Meeting 2012, February 27-March 2, 2012, L20.005

“What the Dickens: women in Science!” Harvard Summer School Lecture, Aug 7, 2012

“On Common Ground, Uncommon Ground: Martin Luther King, Gandhi, and Women.” Harvard Summer School Lecture, Jul 23, 2013.

“X-ray Binaries: Elementary, Enigmatic, Explosive, and Extreme” Shapley Lecture, Newfoundland, March 3, 2014.

I have also given numerous talks on my work at high schools and secondary schools in Massachusetts, Maryland, and Virginia.