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Education

- Ph. D., Astronomy & Astrophysics, University of California, Santa Cruz, 2000.
Dissertation: *Collapsars: Gamma-Ray Bursts and Explosions in Asymmetric Supernovae*, supervised by S. E. Woosley.
- M. S., Astronomy & Astrophysics, University of California, Santa Cruz, 1997.
- B. A., Astrophysics, Columbia College, Columbia University, New York, 1987.
- Postbaccalaureate study in physics, mathematics and computer science, Harvard University, Cambridge, 1988-1992.

Publications

1. "Supernovae, Jets, and Collapsars," MacFadyen, A. I., Woosley, S. E. & Heger, A., 2001, *Astrophysical Journal*, 550, 410 (2001).
2. "Relativistic Jets from Collapsars," Aloy, M.A., Muller, E., Ibanez, J.M., Marti, J.M., MacFadyen, A.I., *Astrophysical Journal Letters*, 510, 119-122 (2000).
3. "Collapsars - Gamma-Ray Bursts and Explosions in "Failed Supernovae"," MacFadyen, A. I. & Woosley, S. E., *Astrophysical Journal* 524, 262-289 (1999).
4. "Stellar Explosions Powered by Black Hole Accretion," MacFadyen, A. I., *Proceedings of the 10th Maryland Conference on Astrophysics*, eds, S. Holt and W. Zhang, American Institute of Physics (2000).
5. "Collapsars," MacFadyen, A. I., *Fifth Huntsville Conference on Gamma-Ray Bursts* eds. R. M. Kippen, R.S. Mallozzi, & V. Connaughton, American Institute of Physics (2000).
6. "The Collapsar Model for Gamma-Ray Bursts," MacFadyen, A. I., *First KIAS Astrophysics Workshop - Explosive Phenomena in Astrophysical Compact Objects*, American Institute of Physics (2000).
7. "Collapsars, Gamma-Ray Bursts and Supernovae," Woosley, S. E., MacFadyen, A. I. & Heger, A., *Supernovae and Gamma Ray Bursts*, eds. M. Livio, K. Sahu, & N. Panagia (Cambridge: Cambridge University Press, 2000), astro-ph/9909034.
8. "Central engines for gamma-ray bursts," Woosley, S. E. & MacFadyen, A. I., *Astronomy & Astrophysics Supp.*, 138, 499 (1999).
9. "The Most Distant Gamma-Ray Bursts," Hartmann, D. H., MacFadyen, A. I. and Woosley, S. E., *Fifth Huntsville Conference on Gamma-Ray Bursts* eds. R. M. Kippen, R.S. Mallozzi, & V. Connaughton, American Institute of Physics (2000).
10. "Relativistic Jets from Collapsars," Muller, E., Aloy, M. A., Ibanez, J.M., Marti, J.M., MacFadyen, A.I., *Fifth Huntsville Conference on Gamma-Ray Bursts* eds. R. M. Kippen, R.S. Mallozzi, & V. Connaughton, American Institute of Physics (2000).

11. "Hypernovae, Collapsars and Gamma-Ray Bursts", Hartmann, D. H. and MacFadyen, A. I., Proceedings of the Texas Symposium, Nuclear Physics B (Proc. Suppl.) 80, 135-142 (2000).
12. "Relativistic Jets from Collapsars," Aloy, M.A., Muller, E., Ibanez, J.M., Marti, J.M., MacFadyen, A.I., Godunov Methods: Theory and Applications, Oxford, U.K. (1999).
13. "A Search for Stars in the Intergalactic Neutral Hydrogen Cloud HI 1225+01: The Star Formation Threshold in Galaxies," Turner, N. J. & MacFadyen, A. I., Monthly Notices of the Royal Astronomical Society, 285, 125 (1997).

Invited Talks

- Aspen Center for Physics: "Gamma-Ray Bursts In The Afterglow Era," Aspen, Colorado, June, 2001.
- American Astronomical Society 198th Meeting: "Gamma-Ray Bursts: A Mystery and a Tool," Pasadena, California, June, 2001.
- The 18th Jerusalem Winter School in Theoretical Physics: "COSMIC EXPLOSIONS Gamma-Ray Bursts & Related Phenomena," directed by R. Narayan and T. Piran, Hebrew University of Jerusalem, January, 2001.
- Astronomy and Astrophysics Colloquium, University of California, Santa Cruz, September, 2000.
- "Explosive Phenomena in Astrophysical Compact Objects," Korea Institute for Advanced Studies, Seoul, Korea, May, 2000.
- ESO Workshop on Black Holes in Binaries and Galactic Nuclei: "Diagnostics, Demography and Formation, In Honour of Prof. R. Giacconi," Garching b. Munchen, Germany, September, 1999.
- International Astronomical Union Symposium 195: "Highly Energetic Physical Processes and Mechanisms for Emissions from Astrophysical Plasmas," Montana State University, July 1999.

Contributed Papers

- "5th Huntsville Gamma-Ray Burst Symposium," Huntsville, October 1999.
- "10th Annual October Astrophysics Conference in Maryland: Cosmic Explosions," College Park, October 1999.
- "Institute for Theoretical Physics Workshop, Gamma-Ray Bursts and their Afterglows," Santa Barbara, March 1999.
- "Institute for Theoretical Physics Workshop, Black Holes: Theory Confronts Reality," Santa Barbara, February 1999.
- "American Astronomical Society Winter Meeting 193," Austin, January 1999.
- "American Astronomical Society Summer Meeting 192," San Diego, June 1998.
- "Institute for Theoretical Physics Workshop, Supernova Explosions: Their Causes and Consequences," Santa Barbara, August 1997.

Positions

- Lee A. DuBridge Postdoctoral Scholar in Astrophysics, Theoretical Astrophysics and Relativity Group, California Institute of Technology, Pasadena California, 2001 - present.
- Postdoctoral Researcher, Department of Astronomy and Astrophysics, University of California at Santa Cruz and UCO/Lick Observatory, 2000 - 2001.

- Systems Administrator, Department of Astronomy and Astrophysics, University of California at Santa Cruz and UCO/Lick Observatory, 1995 - 2001.
- Teaching Assistant, Department of Astronomy and Astrophysics, University of California at Santa Cruz, 1992 - 1994.
- Project Associate, Harvard College Observatory, Harvard University, Cambridge, 1988 - 1992.
- Physics Teacher, Thomas Alva Edison High School, Jamaica, New York, 1987 - 1988.