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**Education:**

Ph.D. in Astronomy, University of Washington, 1991  
 M.S. in Physics, Massachusetts Institute of Technology, 1983  
 B.S., *cum laude*, in Astronomy, University of Maryland, 1980

**Distinctions, Honors, Awards:**

Fellow, American Physical Society  
 Gruber Prize for Cosmology 2007 (shared)  
 John Portz Award, University of Maryland, General Honors Program  
 James Goddard Medal, University of Maryland  
 Pi Sigma Pi, Physics Honors Society

**Professional Memberships:**

American Astrophysical Society (AAS)  
 American Physical Society (APS)  
 American Association of Variable Star Observers (AAVSO)

**Research Experience:**

University of Notre Dame, Assistant Professor 2000 – 2003,  
 Associate Professor 2003 – 2008,  
 Professor, 2008 –  
 Supernovae, Cosmology, Gamma-Ray Bursts

Harvard University, Fellow, 1994 – 1999  
 Supernovae, Cosmology, Stellar Jets, Interacting Binary Systems

Dominion Astrophysical Observatory, Research Associate, 1992-1994  
 Supernovae, Spectropolarimetry, Stellar Jets, Gravitational Lenses  
 Interacting Binary Systems, Star Clusters, IR Imaging

University of Washington, Research Assistant, 1985-1991  
 Wide Binary Stars (Dissertation Topic), Galactic Structure  
 Symbiotic Stars, Cataclysmic Variables, HH-Objects

Space Telescope Science Institute, Research Assistant, 1983-1985  
 Galactic Structure, Astronomical Surveys

Massachusetts Institute of Technology, Research Assistant, 1980-1983  
 Optical Interferometry, Io-Jupiter Magnetosphere Interaction  
 Voyager Radio Astronomy Experiment

**Other Experience:**

Notre Dame REU Student Supervisor, 2000-2006  
Undergraduate Research Supervisor, Maria Mitchell Obs. 1995—1996  
Supervisor, CfA Undergraduate Research Program, 1997—1999  
Society of Physics Students, Notre Dame Chapter, Faculty Supervisor  
AAVSO Council Member, 1996—2000  
NSF, STScI Review Panels, 1996, 1998, 2000, 2004, 2007  
Large Binocular Telescope Science Advisory Committee, 2002 –  
Large Synoptic Survey Telescope Science Advisory Committee, 2002 – 2004  
Space Telescope Users Committee, 2006 –

**Dissertations Directed:**

“Photometry of Stellar Clusters and Light Echos”, Jason Quinn, Ph.D., 2005

**Publications****Peter M. Garnavich****Refereed Articles**

- "First-Year Sloan Digital Sky Survey-II Supernova Results: Hubble Diagram and Cosmological Parameters," Kessler, et al., *The Astrophysical Journal Sup.*, 185, 32, 2009
- "The Carnegie Supernova Project: First Near-Infrared Hubble Diagram to  $z \sim 0.7$ ," Freedman, et al., *The Astrophysical Journal*, 704, 1036, 2009
- "First-Year Sloan Digital Sky Survey-II (SDSS-II) Supernova Results: Constraints on Nonstandard Cosmological Models," Sollerman, et al., *The Astrophysical Journal*, 703, 1374, 2009
- "From Shock Breakout to Peak and Beyond: Extensive Panchromatic Observations of the Type Ib Supernova 2008D Associated with Swift X-ray Transient 080109," Modjaz, et al., *The Astrophysical Journal*, 702, 226, 2009
- "CfA3: 185 Type Ia Supernova Light Curves from the CfA," Hicken, et al., *The Astrophysical Journal*, 700, 331, 2009
- "Spectroscopy of High-Redshift Supernovae from the Essence Project: The First Four Years," Foley, et al., *The Astronomical Journal*, 137, 3731, 2009
- "The Luminous and Carbon-Rich Supernova 2006gz: A Double Degenerate Merger?," Hicken, M., Garnavich, P. M., Prieto, J. L., Blondin, S., DePoy, D. L., Kirshner, R. P., *ApJ*, in press, arXiv/0709.1501
- "A Study of the Type Ia/IIa Supernova 2005gj from X-ray to the Infrared" , J.L. Prieto, P.M. Garnavich, M.M. Phillips, D.L. DePoy, J. Parrent, et al., *ApJ*, submitted, arXiv/0706.4088
- "The Sloan Digital Sky Survey-II Photometry and Supernova IA Light Curves from the 2005 Data," J. Holzman et al. *Astronomical Journal* 136, 2306, 2008
- "Discovery, Photometry, and Astrometry of 49 Classical Nova Candidates in M81 Galaxy," K. Hornoch, P. Scheirich, P.M. Garnavich et al., *Astronomy and Astrophysics* 492, 301, 2008
- "Supernovae in Early-Type Galaxies: Directly Connecting Age and Metallicity with Type Ia Luminosity," J.S. Gallagher, Peter M. Garnavich, et al., *Astrophysical Journal* 685, 752, 2008
- "Constraining Cosmic Evolution of Type Ia Supernovae," R.J. Foley, et al., *Astrophysical Journal* 684, 68, 2008
- "Go Long, Go Deep: Finding Optical Jet Breaks for Swift-Era GRBs with the LBT," X. Dai, P.M. Garnavich, J. Prieto, et al., *Astrophysical Journal* 682, 77, 2008
- "Time Dilation in Type Ia Supernova Spectra at High Redshift," S. Blondin, et al., *Astrophysical Journal* 682, 724, 2008
- "LMIRcam: an L/M-band imager for the LBT combined focus," J.C. Wilson, et al., *SPIE* 7013, 101, 2008
- "Exploring the Outer Solar System with the ESSENCE Supernova Survey," Becker et al., *Astrophysical Journal* 682, 53, 2008
- "A Measurement of the Rate of Type Ia Supernovae at Redshift  $z \sim 0.1$  from the First Season of the SDSS-II Supernova Survey," B. Dilday et al., *Astrophysical Journal* 682, 262, 2008
- "A Direct Measurement of the Dust Extinction Curve in an Intermediate-Redshift Galaxy," K. Heng et al. , *Astrophysical Journal* 681, 1116, 2008

- "Two More Candidate AM Canum Venaticorum (am CVn) Binaries from the Sloan Digital Sky Survey," S.F. Anderson et al., *Astronomical Journal* 135, 2108, 2008
- "First-Year Spectroscopy for the Sloan Digital Sky Survey-II Supernova Survey," C. Zheng et al., *Astronomical Journal* 135, 1766, 2008
- "Optical Spectroscopy of Type Ia Supernovae," T. Matheson et al., *Astronomical Journal* 135, 1598, 2008
- "Measured Metallicities at the Sites of Nearby Broad-Lined Type Ic Supernovae and Implications for the Supernovae Gamma-Ray Burst Connection," M. Modjaz et al., *Astronomical Journal* 135, 1136, 2008
- "The Eclipsing Cataclysmic Variable Lanning 386: Dwarf Nova, SW Sextantis Star, or Both?," S. Brady et al., *Publications of the Astronomical Society of the Pacific* 120, 301, 2008
- "Late-Time HST Photometry of SN 1994I: Hints of Positron Annihilation Energy Deposition," A. Clocchiatti, *Publications of the Astronomical Society of the Pacific* 120, 290, 2008
- "Optical photometry and spectroscopy of the accretion-powered millisecond pulsar HETE J1900.1-2455," P. Elbert et al., *Monthly Notices of the Royal Astronomical Society* 383, 1581, 2008
- "LBT Discovery of a Yellow Supergiant Eclipsing Binary in the Dwarf Galaxy Holmberg IX," J.L. Prieto, K.Z. Stanek, C.S. Kochanek, D.R. Weisz, A. Baruffolo, J. Bechtold, V. Burwitz, C. DeSantis, S. Gallozzi, P.M. Garnavich, E. Giallongo, J.M. Hill, R.W. Pogge, *Astronomical Journal* 673, 59, 2008
- "The Sloan Digital Sky Survey-II Supernova Survey: Search Algorithm and Follow-Up Observations," Masao Sako, B. Bassett, A. Becker, D. Cinabro, F. DeJongh, D. Depoy, B. Dilday, M. Doi, J.A. Frieman, P.M. Garnavich, C.J. Hogan, J. Holtzman, S. Jha, S., et al., *Astronomical Journal* 135, 348, 2008
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- "Measured Metallicities at the Sites of Nearby Broad-Lined Type Ic Supernovae: Implications for SN-GRB Connection", Modjaz, M., Kirshner, R.P., Stanek, K.Z., Challis, P., Garnavich, P.M., Greene, J.E., and Prieto, J.L., *Astrophysical Journal*, submitted, astro-ph/0701246, 2007
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- "Infrared and Optical Observations of GRB 030115 and its Extremely Red Host Galaxy: Implications for Dark Bursts", Levan, A., et al., *Astrophysical Journal*, v647, p471, 2006
- "Hubble Early-Time Photometry and Spectroscopy of the Fast Evolving SN 2006aj Associated with GRB 060218", Modjaz, M., Stanek, K. Z., Garnavich, P.M., Berlind, P., Blondin, S., et al., *Astrophysical Journal*, v645, p21, 2006
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- "Hubble Space Telescope and Ground-Based Observations of Type Ia Supernovae at Redshift 0.5: Cosmological Implications", Clocchiatti, A., Schmidt, B.P., Filippenko, A.V., Challis, P., Coil, A., Covarrubias, R., Diercks, A., Garnavich, P.M., et al., *Astrophysical Journal*, v642, p1, 2006
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- "UBVRI Light Curves of 44 Type Ia Supernovae", Jha, S., Kirshner, R.P., Challis, P., Garnavich, P.M., Matheson, T., Soderberg, A.M., et al., *The Astronomical Journal*, v131, p527, 2006
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- "Spectroscopy of High-Redshift Supernovae from the ESSENCE Project: The First 2 Years," T. Matheson, S. Blondin, R.J. Foley, R. Chornock, A.V. Filippenko, B. Leibundgut, R.C. Smith, J. Sollerman, J. Spyromilio, R.P. Kirshner, A. Clocchiatti, C. Aguilera, B. Barris, A. Becker, P. Challis, R. Covarrubias, P. Garnavich, M. Hicken, S. Jha, K. Krisciunas, W. Li, A. Miceli, G. Miknaitis, J.L. Prieto, A. Rest, A.G. Riess, M.E. Salvo, B.P. Schmidt, C.W. Stubbs, N.B. Suntzeff, J.L. Tonry, *Astronomical Journal*, v129, p2352, 2005
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- "On the Afterglow and Host Galaxy of GRB 021004: A Comprehensive Study with the Hubble Space Telescope," J. Fynbo, J. Gorosabel, A. Smette, A. Fruchter, J. Hjorth, K. Pedersen, A. Levan, I. Burud, K. Sahu, P.M. Vreeswijk, E. Bergeron, C. Kouveliotou, N. Tanvir, S. Thorsett, R. Wijers, C. Castro, A. Castro-Tirado, P. Garnavich, S. Holland, P. Jakobsson, P. Møller, P. Nugent, E. Pian, J. Rhoads, B. Thomsen, D. Watson, S. Woosley, *Astrophysical Journal*, v633, p317, 2005
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- "Hubble Space Telescope Observations of Nine High-Redshift ESSENCE Supernovae," K. Krisciunas, P.M. Garnavich, P. Challis, J.L. Prieto, A.G. Riess, B. Barris, et al., *Astronomical Journal*, v130, p2453, 2005
- "UBVRI Light Curves of 44 Type Ia Supernovae," S. Jha, R.P. Kirshner, P. Challis, P.M. Garnavich, T. Matheson, A.M. Soderberg, et al., *Astronomical Journal*, v131, p527, 2005
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### Invited Talks and Conference Proceedings

- “Supernovae with the SDSS-II Survey,” Valparaiso University, Physics Department, November 2009
- “Age and Metallicity Effects in Type Ia Supernovae,” Kavli Institute of Theoretical Physics, University of California, Santa Barbara, August 2009
- “The Rise and Fall of SDSS-II Supernovae,” American Astronomical Society Meeting, Long Beach, California, January 2009
- “Late-Time Optical Afterglow Observations with LBT and MDM,” X. Dai, K.Z. Stanek, P. Garnavich, *American Institute of Physics Proceedings*, 1065, 93, 2008
- “Asteroids to Cosmology II,” Chicago, August 2008
- “Progenitors of Type Ia Supernovae,” Florence, Italy, May 2008
- “Ten Years of Dark Energy,” Indiana University, South Bend, Indiana, April 2008
- “Dark Energy”, International Workshop on the Interconnection Between Particle Physics and Cosmology, Texas A&M, May 2007
- “Measuring Dark Energy with Supernovae”, Physics Colloquium, University of Oklahoma, April 2007
- “Supernovae and Accreting White Dwarf Stars,” Kavli Institute for Theoretical Physics, Workshop on the Progenitors of Type Ia Supernovae, University of California, Santa Barbara, March 2007
- “Dark Energy with ESSENCE,” Astronomy Colloquium at the University of Illinois, Urbana, October 2006
- “Measuring Dark Energy with Supernovae”, Invited talk at ‘Nuclei in the Cosmos X’, Geneva, Switzerland, June 2006
- “Measuring Dark Energy with Supernovae”, Physics Colloquium, University of Chicago, February 2006
- “Dark Energy with ESSENCE”, Invited talk for the Symposium on Particle Astrophysics and Cosmology, Beijing, China, August 22-26 2005
- “Measuring Dark Energy with Supernovae,” Seminar at Fermi National Laboratory, Batavia, IL, October 31, 2005
- “Hunting Dark Energy”, National Radio Astronomy Observatory and University of Virginia Joint Astronomy Colloquium, March 2005
- “Dark Energy with ESSENCE,” Astronomy Colloquium, Ohio State University, March, 2005
- “The Discovery of the Accelerating Universe,” presentation at Hampshire College, Amherst, MA, December 13, 2005
- “Age and Metallicity Effects on the Brightness of Type Ia Supernovae,” invited talk at the JINA Workshop on Classical Novae and Type Ia Supernovae, Santa Barbara, California, May 20-21, 2005
- “Measuring Dark Energy with Supernovae,” invited colloquium at the University of Virginia Astronomy Department, Charlottesville, VA, March 2005
- “Evidence for Disappearing Dark Matter in Brane-World Cosmology,” G.J. Mathews, P.M. Garnavich, K. Ichiki, T. Kajino, and M. Yahiro in “SUGRA20: Proc. Int. Conf. 20 Years of SUGRA Search for SUSY and Unification,” P. Nath, Ed. (Rinton Press: New Jersey) (2004), pp. 510-516.

- "Optical Afterglows of Gamma-Ray Bursts," University of Michigan Physics Department, September 2002
- "The Future of Supernova Research," The Hubble Legacy Workshop, University of Chicago, April 2002
- "Recent Results from the High-Z Supernova Search," Dark Matter 2002, 5th International UCLA Symposium, Los Angeles, February 2002
- "Dark Energy Now!," Dark Energy Workshop, University of Chicago, December 2001
- "The Hubble Constant, Matter Density and Dark Energy," Snowmass 2001 - Future of Particle Physics, 'Fundamental Cosmological Parameters,' August 2001
- "Supernovae Near and Far," Kent State University Physics Department, February 2001
- "Supernovae and the Content of the Universe," Valparaiso University Physics Department, October 2000
- "Properties of the Dark Energy," International Astronomical Union Symposium 201, 'New Cosmological Data and the Values of the Fundamental Parameters,' Manchester, England, August 2000
- "The Red Clump: An Improved Distance Indicator," International Astronomical Union Joint Discussion, 'The Distance Scale,' Manchester, England, August 2000
- "Supernovae and the Fate of the Universe," Ball State University Physics Department, December 2000
- "The Fate of the Universe," P. Garnavich, Royal Canadian Institute, Winter Lecture Series, February 1999
- "The Search for High Redshift Supernovae," P. Garnavich, *Astronomical Data and Analysis Software and Systems 1998*, University of Illinois, November 1998
- "Supernovae and the Fate of the Universe," P. Garnavich, Rutgers University Physics Department, September 1998
- "Birth of Supernova Remnant 1987A," G. Sonneborn, J. Pun, P. Garnavich, R. Kirshner, IAU Symposium #190, New Views of the Magellanic Clouds, held in Victoria, British Columbia, Canada, July 1998
- "Constraints on Cosmological Parameters from High Redshift Supernovae," P. Garnavich, Dartmouth College Department of Physics and Astronomy, March 1998
- "Peculiar Type Ia Supernovae," P. Garnavich, *Supernova Explosions: Their Causes and Consequences*, Institute for Theoretical Physics, U.C. Santa Barbara, August 1997
- "Supernova Searches," P. Garnavich, *Variable Stars: New Frontiers*, AAVSO/Geneva Observatory Conference, Sion, Switzerland, April 1997
- "Seven Years of SN 1987A with HST," P. Garnavich, *SN 1987A: Ten Years After*, ESO/CTIO Workshop, La Serena, Chile, February 1997
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- “SDSS ii Supernova Survey”, Dilday, B., et al., AAS Meeting 207, Washington, DC, 2006.
- “Discovery of the Low-Redshift Afterglow of GRB 011121 and Its Progenitor Supernova 2001ke,” P.M. Garnavich, K.Z. Stanek, L. Wyrzykowski, L. Infante, E. Bendek, S.T. Holland, D. Bersier, S. Jha, T. Matheson, R.P. Kirshner, M.M. Phillips, K. Krisciunas, R. Carlberg, *B.A.A.S.*, 34, 2002.
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- “Red Clump Stars – Further Improved Distance Indicator,” K.Z. Stanek, P.M. Garnavich, *B.A.A.S.*, 31, 1999.
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## Other Notable Contributions

### Public Outreach

"A Decade of Dark Energy," public talk for the International Year of Astronomy at Valparaiso University, 2009

Organized "International Year of Astronomy" activities on campus, including public talks by Mario Livio (STScI) and Robert Kirshner (Harvard), April – October 2009

(WSBT Television live interview during total lunar eclipse, August 2007

Presenter and program developer for the dedication of the Digital Visualization Theater (DVT) at University of Notre Dame, August, 2006

WTRC Radio morning show, interviews about astronomy news, 2004 to present

Mars Close Approach Observatory Open House, more than 1000 people visited the observatory, August 2003

The Denver Museum of Nature and Science – consultant on planetarium and astronomy exhibit, 2001-2002.

Earth & Sky Review Committee – review draft scripts for the syndicated radio show "Earth & Sky," 2000-present.

Popular talks: Michiana Astronomical Society, October, 2006; Northern Indiana Astronomical Group, April 2001; Michiana Astronomical Society, April 2001; South Bend Lion's Club, January 2000; Adler Planetarium (Chicago), February 1999; Marlborough (Mass.) Rotary Club, October 1998; Harvard Observatory Public Night, April 1997.

### Press Coverage

"Weird Discovery Yields Prize", *South Bend Tribune*, July 2007

"Hubble Image of M82", Interview with WSBT's Mike Collins, August 2006

"Mystery of Giant Explosions Solved", CNN, May 2003

"Evidence of a Gamma-ray Burst-Supernova Connection," *Los Angeles Times*, *The Economist*, *Sky & Telescope*, May 2002.

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