

Robert P. Kirshner

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Education:

1975 Ph.D. in Astronomy, California Institute of Technology
1970 A.B. *magna cum laude* in Astronomy, Harvard College

Employment:

2001- Clowes Professor of Science, Harvard University
2004-2009 Harvard College Professor
2006-2007 Visiting Scientist, Kavli Institute for Theoretical Physics
2001-2007 Master of Quincy House, Harvard College
1998-2002 Head, Optical and Infrared Division, CfA
1990-1997 Chairman, Department of Astronomy, Harvard University
1986- Professor of Astronomy, Harvard University
1976-1984 Assistant, Associate, Full Professor of Astronomy
Director, McGraw-Hill Observatory
The University of Michigan
1974-1976 Postdoctoral Research Associate, Kitt Peak National
Observatory

Honors and Awards

2011 Dannie Heineman Prize in Astrophysics, Am Inst Physics
2010 Honorary Doctor of Science, The University of Chicago
2007 Co-recipient (with High-Z Team) of the Gruber Prize in
Cosmology
2005 Elected Member, American Philosophical Society
2004 Caltech Distinguished Alumni Award
2003-2005 President, American Astronomical Society
1998 Elected Member, National Academy of Sciences
1992 Elected Member, American Academy of Arts and Sciences
Fellow, American Physical Society
Fellow, American Association for the Advancement of Science
Member, International Astronomical Union
1980 Henry Russel Award, The University of Michigan
1978 Alfred P. Sloan Fellowship, The University of Michigan
1970 Bowdoin Prize (Useful and Polite Literature), Harvard College

Named Lectures

- 2011 Memorial Science Lecturer, Shippensburg University
- 2010 Cave Lecturer, Queen's University, Kingston, Ontario
- 2009 Selby Lecturer, Australian Academy of Sciences
- 2009 Year of Astronomy Lecturer, New Zealand Royal Astronomical Society
- 2009 Distinguished Lecturer, Elon University
- 2009 Distinguished Science Lecturer, Trinity University
- 2008 Onassis Lectures, Heraklion, Crete
- 2008 Public Lecture, International Workshop on Particle Physics and Cosmology, Albuquerque
- 2008 James Woods Science Lecture, Butler University
- 2008 The Hans Bethe Lecturer Cornell University

Selected Recent Activities

Astro 2010 Stars and Stellar Evolution Science Frontiers Panel, Optical and Infrared Observations from the Ground Program Priorities Panel; NASA JDEM Science Consulting Group; NASA JDEM Figure-of-Merit Scientific Working Group, Member, Giant Magellan Telescope Board; Trustee, Associated Universities Incorporated; Member, The Magellan Council; Smithsonian Science Commission; Gemini International Board; Next Generation Space Telescope Ad Hoc Science Working Group; AURA Board; AAS Council; HST Users' Committee, AURA Observatories Committee, World Book Encyclopedia "Science Year" Board, National Academy of Sciences Publications Board.

Educational Work

Instructor for Science of the Physical Universe 19, "The Energetic Universe" a General Education course; author of *The Extravagant Universe—exploding stars, dark energy, and the accelerating cosmos*, from Princeton University Press, now available in 5 languages, winner of the 2002 AAP Award for best scholarly book in Physics, finalist for the Aventis Prize for Science Books, 2003; Contributor to Annenberg "Physics for the 21st Century", author of articles for the general public in Sky and Telescope, Natural History, Scientific American and National Geographic magazines. Speaker at AAAS, National Science Teachers' Association, Knight Journalism Fellows at MIT, Neiman Fellows at Harvard. Advisor for 18 Ph.D. theses, including two members of the National Academy.

Selected Recent Publications

2010-2011

(Total publications on ADS ~ 276, with 28000 citations and $h = 77$)

Blondin, S., K. S. Mandel, and **R. P. Kirshner** "Do spectra improve distance measurements of Type Ia supernovae?" *Astronomy and Astrophysics* 526, A81 (2011)

Mandel, K. S., G. Narayan, and **R. P. Kirshner** "Type Ia Supernova Light Curve Inference: Hierarchical Models in the Optical and Near Infrared" ArXiv e-prints arXiv:1011.5910 (now accepted by Ap.J.)

France, K., R. McCray, K. Heng, **R. P. Kirshner**, P. Challis, P. Bouchet, A. Crotts, E. Dwek, C. Fransson, P. M. Garnavich, J. Larsson, S. S. Lawrence, P. Lundqvist, N. Panagia, C. S. J. Pun, N. Smith, J. Sollerman, G. Sonneborn, J. T. Stocke, L. Wang, and J. C. Wheeler "Observing Supernova 1987A with the Refurbished Hubble Space Telescope" *Science* 329, 1624 (2010)

Kelly, P. L., M. Hicken, D. L. Burke, K. S. Mandel, and **R. P. Kirshner** "Hubble Residuals of Nearby Type Ia Supernovae are Correlated with Host Galaxy Masses" *The Astrophysical Journal* 715, 743 (2010)

Milisavljevic, D., R. A. Fesen, C. L. Gerardy, **R. P. Kirshner**, and P. Challis "Doublets and Double Peaks: Late-Time [O I] $\lambda\lambda 6300, 6364$ Line Profiles of Stripped-Envelope, Core-Collapse Supernovae" *The Astrophysical Journal* 709, 1343 (2010)

Soderberg, A. M., S. Chakraborti, G. Pignata, R. A. Chevalier, P. Chandra, A. Ray, M. H. Wieringa, A. Copete, V. Chaplin, V. Connaughton, S. D. Barthelmy, M. F. Bietenholz, N. Chugai, M. D. Stritzinger, M. Hamuy, C. Fransson, O. Fox, E. M. Levesque, J. E. Grindlay, P. Challis, R. J. Foley, **R. P. Kirshner**, P. A. Milne, and M. A. P. Torres "A relativistic type Ibc supernova without a detected γ -ray burst" *Nature* 463, 513 (2010)

Foley, R. J., P. J. Brown, A. Rest, P. J. Challis, **R. P. Kirshner**, and W. M. Wood-Vasey "Early- and Late-Time Observations of SN 2008ha: Additional Constraints for the Progenitor and Explosion" *The Astrophysical Journal* 708, L61 (2010)

Kirshner, R. P. "Foundations of supernova cosmology" *Dark Energy: Observational and Theoretical Approaches*, Edited by Pilar Ruiz-Lapuente. Published: Cambridge, UK ; New York by Cambridge University Press, 2010. ISBN 9780521518888 (hardback), p.151 (2010)

Selected Other Highly Cited Publications

Wood-Vasey, W. M., Miknaitis, G., Stubbs, C. W., Jha, S., Riess, A. G., Garnavich, P. M., **Kirshner, R. P.**, and 30 others "Observational Constraints on the Nature of Dark Energy: First Cosmological Results from the ESSENCE Supernova Survey" *The Astrophysical Journal* 666, 694 (2007)

Jha, S., Riess, A. G., and **Kirshner, R. P.** "Improved Distances to Type Ia Supernovae with Multicolor Light-Curve Shapes: MLCS2k2" *The Astrophysical Journal* 659, 122 (2007)

Riess, A. G., Strolger, L.-G., Casertano, S., Ferguson, H. C., Mobasher, B., Gold, B., Challis, P. J., Filippenko, A. V., Jha, S., Li, W., Tonry, J., Foley, R., **Kirshner, R. P.**, Dickinson, M., MacDonald, E., Eisenstein, D., Livio, M., Younger, J., Xu, C., Dahlén, T., and Stern, D. "New Hubble Space Telescope Discoveries of Type Ia Supernovae at $z \geq 1$: Narrowing Constraints on the Early Behavior of Dark Energy" *The Astrophysical Journal* 659, 98 (2007)

Riess, A. G., Strolger, L.-G., Tonry, J., Casertano, S., Ferguson, H. C., Mobasher, B., Challis, P., Filippenko, A. V., Jha, S., Li, W., Chornock, R., **Kirshner, R. P.**, Leibundgut, B., Dickinson, M., Livio, M., Giavalisco, M., Steidel, C. C., Benítez, T., and Tsvetanov, Z. "Type Ia Supernova Discoveries at $z > 1$ from the Hubble Space Telescope: Evidence for Past Deceleration and Constraints on Dark Energy Evolution" *The Astrophysical Journal* 607, 665 (2004)

Tonry, J. L., Schmidt, B. P., Barris, B., Candia, P., Challis, P., Clocchiatti, A., Coil, A. L., Filippenko, A. V., Garnavich, P., Hogan, C., Holland, S. T., Jha, S., **Kirshner, R. P.**, and 12 others "Cosmological Results from High- z Supernovae" *The Astrophysical Journal* 594, 1 (2003)

Garnavich, P. M., Jha, S., Challis, P., Clocchiatti, A., Diercks, A., Filippenko, A. V., Gilliland, R. L., Hogan, C. J., **Kirshner, R. P.**, Leibundgut, B., Phillips, M. M., Reiss, D., Riess, A. G., Schmidt, B. P., Schommer, R. A., Smith, R. C., Spyromilio, J., Stubbs, C., Suntzeff, N. B., Tonry, J., and Carroll, S. M. "Supernova Limits on the Cosmic Equation of State" *The Astrophysical Journal* 509, 74 (1998)

Schmidt, B. P., Suntzeff, N. B., Phillips, M. M., Schommer, R. A., Clocchiatti, A., **Kirshner, R. P.**, Garnavich, P., Challis, P., Leibundgut, B., Spyromilio, J., Riess, A. G., Filippenko, A. V., Hamuy, M., Smith, R.

C., Hogan, C., Stubbs, C., Diercks, A., Reiss, D., Gilliland, R., Tonry, J., Maza, J., Dressler, A., Walsh, J., and Ciardullo, R. "The High-Z Supernova Search: Measuring Cosmic Deceleration and Global Curvature of the Universe Using Type IA Supernovae" *The Astrophysical Journal* 507, 46 (1998)

Riess, A. G., Filippenko, A. V., Challis, P., Clocchiatti, A., Diercks, A., Garnavich, P. M., Gilliland, R. L., Hogan, C. J., Jha, S., **Kirshner, R. P.**, Leibundgut, B., Phillips, M. M., Reiss, D., Schmidt, B. P., Schommer, R. A., Smith, R. C., Spyromilio, J., Stubbs, C., Suntzeff, N. B., and Tonry, J. "Observational Evidence from Supernovae for an Accelerating Universe and a Cosmological Constant" *The Astronomical Journal* 116, 1009 (1998)

Garnavich, P. M., **Kirshner, R. P.**, Challis, P., Tonry, J., Gilliland, R. L., Smith, R. C., Clocchiatti, A., Diercks, A., Filippenko, A. V., Hamuy, M., Hogan, C. J., Leibundgut, B., Phillips, M. M., Reiss, D., Riess, A. G., Schmidt, B. P., Schommer, R. A., Spyromilio, J., Stubbs, C., Suntzeff, N. B., and Wells, L. "Constraints on Cosmological Models from Hubble Space Telescope Observations of High-z Supernovae" *The Astrophysical Journal* 493, L53 (1998)

Shectman, S. A., Landy, S. D., Oemler, A., Tucker, D. L., Lin, H., **Kirshner, R. P.**, and Schechter, P. L. "The Las Campanas Redshift Survey" *The Astrophysical Journal* 470, 172 (1996)

Arnett, W. D., Bahcall, J. N., **Kirshner, R. P.**, and Woosley, S. E. "Supernova 1987A" *Annual Review of Astronomy and Astrophysics* 27, 629 (1989)

Kirshner, R. P., Oemler, A., Jr., Schechter, P. L., and Shectman, S. A. "A million cubic megaparsec void in Bootes" *The Astrophysical Journal* 248, L57 (1981)

Kirshner, R. P. and Kwan, J. "Distances to extragalactic supernovae" *The Astrophysical Journal* 193, 27 (1974)