Robert P. Kirshner

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Clowes Research Professor of Science
Department of Astronomy, Harvard University
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Gordon and Betty Moore Foundation
1661 Page Mill Road, Palo Alto CA 94304

Education

1970	A.B. *magna cum laude*	Astronomy, Harvard College
1975	Ph.D.	Astronomy, Caltech

Professional Experience

2016-	Clowes Research Professor of Science, Harvard University
2015-	Chief Program Officer for Science, Gordon and Betty Moore Foundation, Palo Alto, CA
2011 – 2012	General Member, Kavli Institute for Theoretical Physics, UC Santa Barbara
2006 – 2007	General Member, Kavli Institute for Theoretical Physics, UC Santa Barbara
2004 – 2009	Harvard College Professor, Harvard University
2001- 2016	Clowes Professor of Science, Harvard University
2001 – 2007	Master of Quincy House, Harvard University
1998 – 2004	Director, Optical & Infrared Division, Harvard-Smithsonian CfA
1997 - 1998	General Member, Kavli Institute for Theoretical Physics, UC Santa Barbara
1990 - 1997	Chair, Astronomy Department, Harvard University
1985 –	Professor of Astronomy Harvard University

1981 – 1985	Professor & Chairman of Astronomy, The University of Michigan
1979 – 1981	Associate Professor of Astronomy, The University of Michigan
1976 – 1979	Assistant Professor of Astronomy, The University of Michigan
1974 – 1976	Postdoctoral Research Associate, Kitt Peak National Observatory

Honors and Awards:

2019	Honorary Doctor of Science, Ohio University
2015	Wolf Prize in Physics (shared with B.J. Bjorken)
2014	Breakthrough Prize in Fundamental Physics (with High-Z Team)
2014	James Craig Watson Medal, National Academy of Sciences
2012	Guggenheim Fellowship
2011	Dannie Heineman Prize in Astrophysics, American Institute of Physics
2010	Honorary Doctor of Science, The University of Chicago
2007	Gruber Prize in Cosmology (with High-Z Team)
2005	Elected Member, American Philosophical Society
2004	Caltech Distinguished Alumni Award
2004-2006	President, American Astronomical Society
1998	Elected Member, National Academy of Sciences
1992	Elected Member, American Academy of Arts and Sciences
1980	Henry Russel Award, The University of Michigan
1978	Alfred P. Sloan Fellowship, The University of Michigan
1970	Bowdoin Prize for Useful and Polite Literature, Harvard College

Fellow, American Physical Society; Fellow, American Association for the Advancement of Science (past section D chair); Fellow, American Astronomical Society

Recent Service to Science

2020-	Math and Physical Sciences Advisory Committee National Science Foundation
2015-	Moore Foundation Observer of the Thirty Meter Telescope International Observatory
2005-2015	Harvard representative to the Giant Magellan Telescope Board
2000-2015	Harvard representative to the Magellan Council
2015-2016	NASA Advisory Committee; Science Subcommittee
2014-2015	National Research Council Panel: "A Strategy to optimize the US Optical and IR system in the era of the Large Synoptic Telescope."
2012-2014	National Research Council's Committee on Astronomy and Astrophysics
2011-2015	Harvard's Member-representative to Associated Universities for Research in Astronomy
2010	National Research Council Astro 2010 Decadal Review of Astronomy: Stars and Stellar Evolution Science Frontiers Panel Optical and Infrared Observations from the Ground Program Priorities Panel
2008	NASA Joint Dark Energy Mission Science Consulting Group
2008	NASA JDEM Figure-of-Merit Scientific Working Group;
Earlier--	AUI Board (National Radio Astronomy Observatory); Gemini International Telescope Board; NRC 2000 Decadal Review Optical panel

Publications:

Kirshner is a co-author of 392 refereed articles in major astronomical journals that deal principally with supernova explosions and the application of supernovae to cosmology. This work led to the discovery of the acceleration of cosmic expansion, for which his students Brian Schmidt and Adam Riess were awarded the 2011 Nobel Prize in Physics.

His work has been cited over 57 000 times, and his h-index is 108.

Recent papers can be found here:
http://arxiv.org/find/astro-ph/1/au:+Kirshner/0/1/0/all/0/1

Although working full-time at the Moore Foundation since July 2015, Kirshner has published 40 papers since then.

Most cited papers are (most recent first):

Hicken, M., Wood-Vasey, W. M., Blondin, S., Challis, P., Jha, S., Kelly, P. L., Rest, A., and Kirshner, R. P. "Improved Dark Energy Constraints from ~100 New CfA Supernova Type Ia Light Curves" The Astrophysical Journal 700, 1097 (2009)

Davis, T. M., Mortsell, E., Sollerman, J., Becker, A. C., Blondin, S., Challis, P., Clocchiatti, A., Filippenko, A. V., Foley, R. J., Garnavich, P. M., Jha, S., Krisciunas, K., Kirshner, R. P., Leibundgut, B., Li, W., Matheson, T., Miknaitis, G., Pignata, G., Rest, A., Riess, A. G., Schmidt, B. P., Smith, R. C., Spyromilio, J., Stubbs, C. W., Suntzeff, N. B., Tonry, J. L., Wood-Vasey, W. M., and Zenteno, A. "Scrutinizing Exotic Cosmological Models Using ESSENCE Supernova Data Combined with Other Cosmological Probes" The Astrophysical Journal 666, 716 (2007)

Wood-Vasey, W. M., Miknaitis, G., Stubbs, C. W., Jha, S., Riess, A. G., Garnavich, P. M., Kirshner, R. P., Aguilera, C., Becker, A. C., Blackman, J. W., Blondin, S., Challis, P., Clocchiatti, A., Conley, A., Covarrubias, R., Davis, T. M., Filippenko, A. V., Foley, R. J., Garg, A., Hicken, M., Krisciunas, K., Leibundgut, B., Li, W., Matheson, T., Miceli, A., Narayan, G., Pignata, G., Prieto, J. L., Rest, A., Salvo, M. E., Schmidt, B. P., Smith, R. C., Sollerman, J., Spyromilio, J., Tonry, J. L., Suntzeff, N. B., and Zenteno, A. "Observational Constraints on the Nature of Dark Energy: First Cosmological Results from the ESSENCE Supernova Survey" The Astrophysical Journal 666, 694 (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., Dahlen, T., and Stern, D. "New Hubble Space Telescope Discoveries of Type Ia Supernovae at z > 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., Krisciunas, K., Leibundgut, B., Li, W., Matheson, T., Phillips, M. M., Riess, A. G., Schommer, R., Smith, R. C., Sollerman, J., Spyromilio, J., Stubbs, C. W., and Suntzeff, N. B. "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)

Riess, A. G., Press, W. H., and Kirshner, R. P. "A Precise Distance Indicator: Type Ia Supernova Multicolor Light-Curve Shapes" The Astrophysical Journal 473 88 (1996)

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)

Public Outreach:

Kirshner is the author of *The Extravagant Universe: exploding stars, dark energy, and the accelerating cosmos* (Princeton University Press, 2002) which is still in print and has been translated into Japanese, Chinese, Spanish, Portuguese, and Czech.

He has also written for National Geographic, Sky & Telescope, Natural History and Scientific American.

He is a frequent speaker on astronomical subjects for the general public represented by Jodi Solomon Speakers.