

David Hal Weinberg

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Born 16 February, 1963, Washington, D.C., U.S.A.

Academic Appointments

Long Term Positions:

Astronomy Department Chair, Ohio State University	2015 –
Distinguished University Professor, OSU	2017 –
Distinguished Professor of Mathematical and Physical Sciences, OSU	2008 – 2017
Henry L. Cox Professor of Astronomy, OSU	2013 – 2018
Professor of Astronomy, OSU	2002 –
Associate Professor of Astronomy, OSU	1998 – 2002
Assistant Professor of Astronomy, OSU	1995 – 1998
Long-Term Member, Institute for Advanced Study	1992 – 1994
Miller Research Fellow, U.C. Berkeley	1990 – 1991
NATO Postdoctoral Fellow, Cambridge University	1989 – 1990

Visiting Positions

Visiting Member, Institute for Advanced Study, in 2001-2002, 2006, 2009-2010, 2020-2021	
Visiting Researcher, Institut d’Astrophysique de Paris, most summers since 2003	
Chercheur Associé, “Post-Rouge,” Institut d’Astrophysique de Paris	3/02 – 7/02

Education

Princeton University, Princeton, New Jersey

Ph.D. in Astrophysics, October 1989

Thesis Advisor: James E. Gunn

Yale University, New Haven, Connecticut

B.S. in Physics, *summa cum laude*, phi beta kappa, distinction in physics, 1985

Fellowships and Honors

Dannie Heineman Prize (shared with Robert Lupton), AAS and AIP	2021
John Bahcall Memorial Lecturer, Tel Aviv University	2019
Distinguished University Professor, Ohio State University	2017
AAS Lancelot M. Berkeley – New York Community Trust Prize	2015
Fellow of the American Association for the Advancement of Science (elected 2009)	
Ohio State University Distinguished Scholar Award	2006
Fellow of the American Physical Society (elected 2001)	
Princeton University:	
Porter Ogden Jacobus Fellow	1988–1989
Ray Grimm Memorial Prize in Computational Physics	1989
National Science Foundation Graduate Fellow	1985–1988
Pierce Prize in Astrophysics	1985–1986
Yale University:	
George Beckwith Award for excellence in astronomy	1985
DeForrest Pioneers Award for creative achievement in physics	1985

Miscellaneous

Sloan Digital Sky Survey: SDSS-III Project Scientist (2007 – 2014), SDSS-II Scientific Spokesperson (2005 – 2009), SDSS-IV Steering Committee/AC Executive Committee (2011 – 2015), SDSS-V

Steering Committee/AC Executive Committee (2016 –), SDSS-IV Ombudsperson (2015 –), OSU Advisory Council Representative (2005 –), Scientific Publications Coordinator (1999 – 2002)

Nancy Grace Roman Space Telescope (a.k.a. WFIRST): WFIRST Science Definition Team (2011 – 2012), AFTA-WFIRST Science Definition Team (2012 – 2015), High-Latitude Survey Cosmology Team and WFIRST Formulation Science Working Group (2016 –)

Dark Energy Spectroscopic Instrument: Co-Chair of DESI Bright Galaxy Survey Working Group (2014 – 2019)

Dark Energy Survey: Member of DES Advisory Board (2016 – ; appointed co-chair in 12/2020)

National Academies 2020 Decadal Review of Astronomy: Member of the “Galaxies” Science Panel

NASA Senior Review 2019 (Chair)

National Academies Astronomy Mid-Decadal Review Committee, 2015 – 2016

Hubble Space Telescope Cycle 22 Panel Chair and TAC member, 2014

NASA Astrophysics Roadmap Team, 2013

National Research Council 2010 Decadal Review of Astronomy: Vice Chair of the “Cosmology and Fundamental Physics” Science Frontier Panel

NASA Astrophysics Roadmap Committee, 2004 – 2005

NASA Astronomy and Physics Working Group, 2003 – 2005

Kitt Peak Extragalactic Time Allocation Committee, 1998 – 1999

Review panels for NSF, NASA, HST, NASA Hubble and Chandra Fellowships

Lecturer, ICTP Advanced School in Cosmology, Trieste, 5/2016

Lecturer, U. Mass. Summer School in Computational Astrophysics, Amherst, July, 1998; July, 1999

Lecturer, Jerusalem Winter School in Theoretical Physics, “Galaxy Formation,” January, 1998

Current Research Areas

Cosmic Acceleration and Dark Energy
Large Scale Structure
Galaxy Formation
The Intergalactic Medium
Chemical Evolution of the Milky Way

Mentoring

Postdoctoral advisees: Rupert Croft, James Bullock, Andrey Kravtsov, Oleg Gnedin, Francesco Shankar, Eduardo Rozo, Stelios Kazantzidis, Michael Mortonson, Ralph Schönrich, Ying Zu, Hao-Yi Wu

Thesis students: J. Michael Owen, Vijay Narayanan, Andreas Berlind, Zheng Zheng, Jeremy Tinker, James Pizagno, Juna Kollmeier, Jaiyul Yoo, Guangfei Jiang, Molly Peeples, Chris Orban, Vimal Simha, Jonathan Bird, Ying Zu, Brett Andrews, Joe McEwen, Benjamin Wibking

Publications Summary

Author or co-author of more than 300 articles in refereed astronomy journals, 88,000+ citations, $h = 131$. See <http://www.astronomy.ohio-state.edu/~dhw/topcite.html> for summary of most highly cited publications.

Broader Activities

Creator of “Galaxy Formation! A Board Game” (1987).

Creator of “The Dark Matter Rap: A Cosmological History for the MTV Generation” (1992), live performance and recording.

Script consultant for “Dark Matter,” winner of the Alfred P. Sloan Prize at the 2007 Sundance Film Festival, recognizing “an outstanding feature film focusing on science or technology as a theme or depicting a scientist or mathematician as a major character.” (Film written by Billy Shebar, directed by Chen Shi-Zheng, starring Liu Ye, Aidan Quinn, and Meryl Streep.)

Scientific and design consultant for five sculptures by Josiah McElheny: *An End to Modernity* (2005), now in the collection of the Tate Modern; *The Last Scattering Surface* (2006), now in the collection of the Phoenix Art Museum; *The End of the Dark Ages* (2008), now in a private collection; *Island Universe*, commissioned by White Cube Gallery (London) and subsequently exhibited by the Reina Sophia Museum (Madrid), the Boston Institute of Contemporary Art, and the Cantor Center for the Visual Arts (Stanford University); and *A Study for The Center is Everywhere* (2012), exhibited at the Boston Institute of Contemporary Art, now in a private collection.

David H. Weinberg: 12 Highly Cited Publications

1. “Cosmological Simulations with TreeSPH.”
Katz, N., Weinberg, D. H., & Hernquist, L. 1996, *Astrophysical Journal Supplements*, 105, 19
2. “The Lyman-Alpha Forest in the Cold Dark Matter Model.”
Hernquist, L., Katz, N., Weinberg, D. H., & Miralda-Escudé, J. 1996, *ApJL*, 457, L51
3. “Recovery of the Power Spectrum of Mass Fluctuations from Observations of the Ly α Forest.”
Croft, R. A. C., Weinberg, D. H., Katz, N., & Hernquist, L. 1998, *ApJ*, 495, 44
4. “Reionization and the Abundance of Galactic Satellites.”
Bullock, J. S., Kravtsov, A. V., & Weinberg, D. H. 2000, *ApJ*, 539, 517
5. “The Halo Occupation Distribution: Toward an Empirical Determination of the Relation Between Galaxies and Mass.”
Berlind, A. A., & Weinberg, D. H. 2002, *ApJ*, 575, 587
6. “Spectroscopic Target Selection in the Sloan Digital Sky Survey: The Main Galaxy Sample.”
Strauss, M. A., Weinberg, D. H., Lupton, R. H., Narayanan, V. K., Annis, J. A., Bernardi, M., et al., (36 authors) 2002, *AJ*, 124, 1810
7. “How Do Galaxies Get Their Gas?.”
Keres, D., Katz, N., Weinberg, D. H., & Davé, R. 2005, *MNRAS*, 363, 2
8. “Self-Consistent Models of the AGN and Black Hole Populations: Duty Cycles, Accretion Rates, and the Mean Radiative Efficiency.”
Shankar, F., Weinberg, D. H., Miralda-Escudé, J. 2009, *Astrophysical Journal*, 690, 20
9. “Galaxy Clustering in the Completed SDSS Redshift Survey: The Dependence on Color and Luminosity.”
Zehavi, I., Zheng, Z., Weinberg, D. H., Blanton, M. R., Bahcall, N. A., Berlind, A. A., et al., (17 authors) 2011, *ApJ*, 736, 59
10. “SDSS-III: Massive Spectroscopic Surveys of the Distant Universe, the Milky Way Galaxy, and Extra-Solar Planetary Systems.”
Eisenstein, D. J., Weinberg, D. H., Agol, E., Aihara, H., Allende Prieto, C., Anderson, S. F., et al. (240 authors) 2011, *AJ*, 142, 72
11. “Observational Probes of Cosmic Acceleration.”
Weinberg, D. H., Mortonson, M. J., Eisenstein, D. J., Hirata, C., Riess, A. G., Rozo, E. 2013, *Physics Reports*, 530, 87-255
12. “Cosmological implications of baryon acoustic oscillation (BAO) measurements.”
Aubourg, Éric, Bailey, S., Bautista, J. E., Beutler, F., Bhardwaj, V., Bizyaev, D. et al. (99 authors), 2015, *Phys Rev D*, 9213516