CURRICULUM VITAE OF ROBERT J. SCHERRER

Address:

Department of Physics and Astronomy
Vanderbilt University
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Education

Sept. 1977 - June 1981: Princeton University, A.B. in physics, magna cum laude

Sept. 1981 - Aug. 1983: Cambridge University, M.A. in physics.

Sept. 1983 - Oct. 1986: University of Chicago, Ph.D. in physics (Thesis advisor: Prof. Michael S. Turner).

Positions Held

Oct. 1986 - Jun. 1987, Oct. 1987 - Jul. 1988: Harvard University, Postdoctoral Research Associate.

Jun. 1987 - Oct. 1987, Jul. 1988 - Dec. 1988: Queen Mary College, University of London, NATO Postdoctoral Fellow.

Jan. 1989 - Sept. 1993: Assistant Professor, Department of Physics, The Ohio State University.

Oct. 1993 - Sept. 1998: Associate Professor, Department of Physics, The Ohio State University.

Oct. 1996 - Sept. 1998: Associate Professor, Department of Astronomy, The Ohio State University.

Sept. 1997 - May 1998: Visiting Scientist, Theoretical Astrophysics Group, Fermilab

Oct. 1998 - Aug. 2003: Professor, Department of Physics and Department of Astronomy, The Ohio State University.

Oct. 1999 - Aug. 2003: Vice-Chair for Undergraduate Studies, Department of Physics, The Ohio State University

Sept. 2003 - present: Professor, Department of Physics and Astronomy, Vanderbilt University.

Jan. 2004 - present: Chair, Department of Physics and Astronomy, Vanderbilt University

Honors and Awards

Marshall Scholarship (1981-83).

McCormick Graduate Fellowship (University of Chicago 1983-86).

NATO Postdoctoral Fellowship (1987-88).

The Ohio State University Alumni Award for Distinguished Teaching (1999).

Fellow of the American Physical Society (2001).

5th Prize, Gravity Research Foundation Essay Competition (2007).

Klopsteg Memorial Award, American Association of Physics Teachers (2010).

Books

Quantum Mechanics: An Accessible Introduction
Robert J. Scherrer
San Francisco: Addison-Wesley (2005).

Instructor Solutions Manual for Quantum Mechanics: An Accessible Introduction
Robert J. Scherrer
San Francisco: Addison-Wesley (2006).

Refereed Publications

1] Massive neutrinos and primordial nucleosynthesis
Edward W. Kolb and Robert J. Scherrer
Physical Review D, **25**, 1481 (1982).

2] Primordial element production in universes with large lepton-baryon ratio
Robert J. Scherrer
Monthly Notices of the Royal Astronomical Society, **205**, 683 (1983).

3] Deuterium and helium-3 production from massive neutrino decay
Robert J. Scherrer
Monthly Notices of the Royal Astronomical Society, **210**, 359 (1984).

4] Decaying particles do not "heat up" the Universe
Robert J. Scherrer and Michael S. Turner
Physical Review D, **31**, 681 (1985).

5] On the relic cosmic abundance of stable, weakly-interacting massive particles
Robert J. Scherrer and Michael S. Turner
Physical Review D, **33**, 1585 (1986).

6] Cosmic strings as random walks
Robert J. Scherrer and Joshua A. Frieman
Physical Review D, **33**, 3556 (1986).

7] Cosmological baryon diffusion and nucleosynthesis
James H. Applegate, Craig J. Hogan, and Robert J. Scherrer
Physical Review D, **35**, 1151 (1987).

8] The formation of large-scale structure from cosmic string loops and cold dark matter
Adrian L. Melott and Robert J. Scherrer
Nature **328**, 691 (1987).

9] Large-scale structure from cosmic string loops. I. Formation and linear evolution of perturbations
Robert J. Scherrer
The Astrophysical Journal **320**, 1 (1987)

10] Cosmological quantum chromodynamics, neutron diffusion, and the production of primordial heavy elements
James H. Applegate, Craig J. Hogan, and Robert J. Scherrer
The Astrophysical Journal, **329**, 572 (1988).

11] Primordial nucleosynthesis with decaying particles. I. Entropy-producing decays
Robert J. Scherrer and Michael S. Turner
The Astrophysical Journal, **331**, 19 (1988).

12] Primordial nucleosynthesis with decaying particles. II. Inert decays
Robert J. Scherrer and Michael S. Turner
The Astrophysical Journal, **331**, 33 (1988).

13] Large-scale structure from cosmic string loops in a baryon-dominated universe
Adrian L. Melott and Robert J. Scherrer
The Astrophysical Journal, **331**, 38 (1988).

14] Self-excited cosmic string dynamos
David N. Spergel, William H. Press, and Robert J. Scherrer
Nature, **334**, 682 (1988).

15] Cosmic string loop fragmentation
Robert J. Scherrer and William H. Press
Physical Review D, **39**, 371 (1989).

16] Electromagnetic self-interaction of superconducting cosmic strings
David N. Spergel, William H. Press, and Robert J. Scherrer
Physical Review D, **39**, 379 (1989).

17] The formation of large-scale structure from cosmic strings and massive neutrinos
Robert J. Scherrer, Adrian L. Melott, and Edmund Bertschinger
Physical Review Letters, **62**, 379 (1989).

18] Void statistics, scaling, and the origins of large-scale structure
J.N. Fry, Riccardo Giovanelli, Martha P. Haynes, Adrian L. Melott, and Robert J. Scherrer
The Astrophysical Journal, **340**, 11 (1989).

19] The area of isodensity contours in cosmological models and galaxy surveys
Barbara S. Ryden, Adrian L. Melott, David A. Craig, J. Richard Gott III, David H. Weinberg, Robert J. Scherrer, Suketu P. Bhavsar, John M. Miller
The Astrophysical Journal, **340**, 647 (1989).

20] Properties of realistic cosmic string loops
Robert J. Scherrer, Jean M. Quashnock, David N. Spergel, and William H. Press
Physical Review D, **42**, 1908 (1990).

21] The formation of pregalactic objects from white-noise density perturbations
Robert J. Scherrer and Tanmay Vachaspati
The Astrophysical Journal, **361**, 338 (1990).

22] Seeded hot dark matter models for large-scale structure
Jens V. Villumsen, Robert J. Scherrer, and E. Bertschinger
The Astrophysical Journal, **367**, 37 (1991).

23] Comparison of likely candidate models for Abell cluster structures against the observed distribution
David J. Batuski, Adrian L. Melott, Robert J. Scherrer, and Edmund Bertschinger
The Astrophysical Journal, **367**, 393 (1991).

24] Indirect photofission of light elements from high-energy neutrinos in the early universe
John Gratsias, Robert J. Scherrer, and David N. Spergel
Physics Letters B, **262**, 298 (1991).

25] A quantitative measure of phase correlations in density fields
Robert J. Scherrer, Adrian L. Melott, and Sergei F. Shandarin
The Astrophysical Journal, **377**, 29 (1991).

26] Statistics of primordial density perturbations from discrete seed masses
Robert J. Scherrer and Edmund Bertschinger
The Astrophysical Journal, **381**, 349 (1991).

27] Gravitino-induced baryogenesis, primordial nucleosynthesis, and the Tremaine-Gunn limit
Robert J. Scherrer, James Cline, Stuart Raby, and D. Seckel
Physical Review D, **44**, 3760 (1991).

28] Cosmological explosions from cold dark matter perturbations
Robert J. Scherrer
The Astrophysical Journal, **384**, 391 (1992).

29] Topology of large-scale structure in seeded hot dark matter models
Matthew M. Beaky, Robert J. Scherrer, and Jens V. Villumsen
The Astrophysical Journal, **387**, 443 (1992).

30] Linear velocity fields in non-Gaussian models for large-scale structure
Robert J. Scherrer
The Astrophysical Journal, **390**, 330 (1992).

31] Seeded hot dark matter models with inflation
John Gratsias, Robert J. Scherrer, Gary Steigman, and Jens V. Villumsen
The Astrophysical Journal, **405**, 30 (1993).

32] How constant is the Fermi coupling constant?
Robert J. Scherrer and David N. Spergel
Physical Review D, **47**, 4774 (1993).

33] Improved cosmological constraints on neutrino-producing decaying particles
Andrew A. de Laix and Robert J. Scherrer
Physical Review D, **48**, 562 (1993).

34] Linear evolution of the gravitational potential: a new approximation for the nonlinear evolution of large-scale structure
Tereasa G. Brainerd, Robert J. Scherrer, and Jens V. Villumsen
The Astrophysical Journal, **418**, 570 (1993).

35] Big bang nucleosynthesis constraints on the tau neutrino mass
Masahiro Kawasaki, Pete Kernan, Ho-Shik Kang, Robert J. Scherrer, Gary Steigman, and Terry P. Walker
Nuclear Physics B, **419**, 105 (1994).

36] Skewness in large-scale structure and non-Gaussian initial conditions
J.N. Fry and Robert J. Scherrer
The Astrophysical Journal, **429**, 36 (1994).

37] Velocity differences as a probe of non-Gaussian density fields
Paolo Catelan and Robert J. Scherrer
The Astrophysical Journal, **445**, 1 (1995).

38] When can non-Gaussian density fields produce a Gaussian Sachs-Wolfe effect?
Robert J. Scherrer and Robert K. Schaefer
The Astrophysical Journal, **446**, 44 (1995).

39] Constraints on self-interacting dark matter
Andrew A. de Laix, Robert J. Scherrer, and Robert K. Schaefer
The Astrophysical Journal, **452**, 495 (1995).

40] Big Bang nucleosynthesis in crisis?
N. Hata, Robert J. Scherrer, G. Steigman, D. Thomas, T.P. Walker, S. Bludman, and P. Langacker
Physical Review Letters, **75**, 3977 (1995).

41] Predicting Big Bang deuterium
N. Hata, Robert J. Scherrer, G. Steigman, D. Thomas, and T.P. Walker
The Astrophysical Journal, **458**, 637 (1996).

42] A linear programming approach to inhomogeneous primordial nucleosynthesis
Richard E. Leonard and Robert J. Scherrer
The Astrophysical Journal, **463**, 420 (1996).

43] Another look at Gaussian isocurvature hot dark matter models for large-scale structure
Andrew A. de Laix and Robert J. Scherrer
The Astrophysical Journal, **464**, 539 (1996).

44] Local Lagrangian approximations for the evolution of the density distribution function in large-scale structure
Zacharias A.M. Protogeros and Robert J. Scherrer
Monthly Notices of the Royal Astronomical Society, **284**, 425 (1997).

45] Skewness of the large-scale velocity divergence from non-Gaussian initial conditions
Zacharias A.M. Protogeros and Robert J. Scherrer
Monthly Notices of the Royal Astronomical Society, **286**, 223 (1997).

46] Testing tree-level perturbation theory for large-scale structure with the Local Lagrangian Approximation
Zacharias A.M. Protogeros, Adrian L. Melott, and Robert J. Scherrer
Monthly Notices of the Royal Astronomical Society, **290**, 367 (1997).

47] Cosmic string formation from correlated fields
Robert J. Scherrer and Alexander Vilenkin
Physical Review D, **56**, 647 (1997).

48] Constraints on the effects of locally-biased galaxy formation
Robert J. Scherrer and David H. Weinberg
The Astrophysical Journal, **504**, 607 (1998).

49] Probing unstable massive neutrinos with current cosmic microwave background observations
Robert E. Lopez, Scott Dodelson, Robert J. Scherrer, and Michael S. Turner
Physical Review Letters, **81**, 3075 (1998).

50] Lattice effects in simulations of topological defect formation
Robert J. Scherrer and Alexander Vilenkin
Physical Review D, **58**, 103501 (1998).

51] A classification of scalar field potentials with cosmological scaling solutions
Andrew R. Liddle and Robert J. Scherrer
Physical Review D, **59**, 023509 (1999).

52] Constraining variations in the fine-structure constant with the cosmic microwave background
Manoj Kaplinghat, Robert J. Scherrer, and Michael S. Turner
Physical Review D, **60**, 023516 (1999).

53] Improved treatment of cosmic microwave background fluctuations induced by a late-decaying massive neutrino
Manoj Kaplinghat, Robert E. Lopez, Scott Dodelson, and Robert J. Scherrer
Physical Review D, **60**, 123508 (1999).

54] Inhomogeneous neutrino degeneracy and Big Bang nucleosynthesis
Scott E. Whitmire and Robert J. Scherrer
Physical Review D, **61**, 083508 (2000).

55] The effect of time variation in the Higgs vacuum expectation value on the cosmic microwave background
Jens Kujat and Robert J. Scherrer
Physical Review D, **62**, 023510 (2000).

56] Self-interacting warm dark matter
Steen Hannestad and Robert J. Scherrer
Physical Review D, **62**, 043522 (2000).

57] Cosmic microwave background constraint on residual annihilations of relic particles
Patrick McDonald, Robert J. Scherrer, and Terry P. Walker
Physical Review D, **63**, 023001 (2001).

58] Recent CMB observations and the ionization history of the universe
Steen Hannestad and Robert J. Scherrer
Physical Review D, **63**, 083001 (2001).

59] Extended quintessence and the primordial helium abundance
Xuelei Chen, Robert J. Scherrer, and Gary Steigman
Physical Review D, **63**, 123504 (2001).

60] How does CMB + BBN constrain new physics?
James P. Kneller, Robert J. Scherrer, Gary Steigman, and Terry P. Walker
Physical Review D, **64**, 123506 (2001).

61] The real and redshift space density distribution function for large-scale structure in the spherical collapse approximation
Robert J. Scherrer and Enrique Gaztañaga
Monthly Notices of the Royal Astronomical Society, **328**, 257 (2001)

62] Prospects for determining the equation of state of the dark energy: what can be learned from multiple observables?
Jens Kujat, Angela M. Linn, Robert J. Scherrer, and David H. Weinberg
The Astrophysical Journal, **572**, 1 (2002).

63] Cosmic microwave background and large scale structure limits on the interaction between dark matter and baryons
Xuelei Chen, Steen Hannestad, and Robert J. Scherrer
Physical Review D, **65**, 123515 (2002).

64] Big Bang nucleosynthesis with Gaussian inhomogeneous neutrino degeneracy
Spencer D. Stirling and Robert J. Scherrer
Physical Review D, **66**, 043531 (2002).

65] Big Bang nucleosynthesis constraints on brane cosmologies
Jonathan D. Bratt, A.C. Gault, Robert J. Scherrer, and T.P. Walker
Physics Letters B, **546**, 19 (2002).

66] Big Bang nucleosynthesis and cosmic microwave background constraints on the time variation of the Higgs vacuum expectation value
Jerry Jaiyul Yoo and Robert J. Scherrer
Physical Review D, **67**, 043517 (2003).

67] Evolution of Inverse Power Law Quintessence at Low Redshift
Casey R. Watson and Robert J. Scherrer
Physical Review D, **68**, 123524 (2003).

68] The Uncertainty in Newton's Constant and Precision Predictions of the Primordial Helium Abundance
Robert J. Scherrer
Physical Review D, **69**, 107302 (2004).

69] Purely kinetic k-essence as unified dark matter
Robert J. Scherrer
Physical Review Letters, **93**, 011301 (2004).

70] Do Fermions and Bosons Produce the Same Gravitational Field?
John D. Barrow and Robert J. Scherrer
Physical Review D, **70**, 103515 (2004).

71] Phantom dark energy, cosmic doomsday, and the coincidence problem
Robert J. Scherrer
Physical Review D, **71**, 063519 (2005).

72] Constraints on the variation of G from primordial nucleosynthesis
Timothy Clifton, John D. Barrow, and Robert J. Scherrer
Physical Review D, **71**, 123526 (2005).

73] Generalizing the generalized Chaplygin gas
A.A. Sen and Robert J. Scherrer
Physical Review D, **72**, 063511 (2005).

74] Dark energy models in the $w - w'$ plane
Robert J. Scherrer
Physical Review D, **73**, 043502 (2006).

75] Classical cancellation of the cosmological constant re-considered
S.M. Barr, S.-P. Ng, and Robert J. Scherrer
Physical Review D, **73**, 063530 (2006).

76] Phantom dark energy models with negative kinetic term
Jens Kujat, Robert J. Scherrer, and A.A. Sen
Physical Review D, **74**, 083501 (2006).

77] Tracking quintessence and k-essence in a general cosmological background
Rupam Das, Thomas W. Kephart, and Robert J. Scherrer
Physical Review D, **74**, 103515 (2006).

78] Radiation can never again dominate matter in a vacuum dominated universe
Lawrence M. Krauss and Robert J. Scherrer
Physical Review D, **75**, 083524 (2007).

79] The return of a static universe and the end of cosmology
Lawrence M. Krauss and Robert J. Scherrer
Journal of Gravitation and General Relativity, **39**, 1545 (2007).

80] The weak energy condition and the expansion history of the universe
A.A. Sen and Robert J. Scherrer
Physics Letters B, **659**, 457 (2008).

81] Thawing quintessence with a nearly flat potential
Robert J. Scherrer and A.A. Sen
Physical Review D, **77**, 083515 (2008).

82] Dirac fields in loop quantum gravity and Big Bang nucleosynthesis
Martin Bojowald, Rupam Das, and Robert J. Scherrer
Physical Review D, **77**, 084003 (2008).

83] Toward a minimum branching fraction for dark matter annihilation into electromagnetic final states
James B. Dent, Robert J. Scherrer, and Thomas J. Weiler
Physical Review D, **78**, 063509 (2008).

84] Phantom dark energy models with a nearly flat potential
Robert J. Scherrer and A.A. Sen
Physical Review D, **78**, 067303 (2008).

85] Evolution of oscillating scalar fields as dark energy
Sourish Dutta and Robert J. Scherrer
Physical Review D, **78**, 083512 (2008).

86] Hilltop quintessence
Sourish Dutta and Robert J. Scherrer
Physical Review D, **78**, 123525 (2008).

87] Dark energy from a phantom field near a local potential minimum
Sourish Dutta and Robert J. Scherrer
Physics Letters B, **676**, 12 (2009).

88] Dark radiation as a signature of dark energy
Sourish Dutta, Stephen D.H. Hsu, David Reeb, and Robert J. Scherrer
Physical Review D, **79**, 103504 (2009).

89] Dark energy from a quintessence (phantom) field rolling near potential minimum (maximum)
Sourish Dutta, Emmanuel N. Saridakis, and Robert J. Scherrer
Physical Review D, **79**, 103005 (2009).

90] Aetherizing lambda: Barotropic fluids as dark energy
Eric V. Linder and Robert J. Scherrer
Physical Review D, **80**, 023008 (2009).

91] Slow-roll k-essence
Takeshi Chiba, Sourish Dutta, and Robert J. Scherrer
Physical Review D, **80**, 043517 (2009).

92] From finance to cosmology: the copula of large-scale structure
Robert J. Scherrer, Andreas A. Berlind, Qingqing Mao, and Cameron K. McBride
Astrophysical Journal Letters, **708**, L9 (2010).

93] Thermal relic abundances of particles with velocity-dependent interactions
James B. Dent, Sourish Dutta, and Robert J. Scherrer
Physics Letters B, **687**, 275 (2010)

94] Decaying dark matter mimicking time-varying dark energy
Sourish Dutta and Robert J. Scherrer
Physical Review D, **82**, 043526 (2010).

95] Big Bang nucleosynthesis with a stiff fluid
Sourish Dutta and Robert J. Scherrer
Physical Review D, **82**, 083501 (2010).

96] Slow-roll freezing quintessence
Sourish Dutta and Robert J. Scherrer
Physics Letters B, **704**, 265 (2011).

97] The little rip
Paul H. Frampton, Kevin J. Ludwick, and Robert J. Scherrer
Physical Review D, **84**, 063003 (2011).

98] Models for little rip dark energy
Paul H. Frampton, Kevin J. Ludwick, Shin'ichi Nojiri, Sergei D. Odintsov, and Robert J. Scherrer
Physics Letters B, **708**, 204 (2012).

99] Dark Radiation from particle decays during big bang nucleosynthesis
Justin L. Menestrina and Robert J. Scherrer
Physical Review D, **85**, 047301 (2012).

100] The pseudo-rip: Cosmological models intermediate between the cosmological constant and the little rip
Paul H. Frampton, Kevin J. Ludwick, and Robert J. Scherrer
Physical Review D, **85**, 083001 (2012).

101] Scalar dark energy models mimicking ΛCDM with arbitrary future evolution
Artyom V. Astashenok, Shin'ichi Nojiri, Sergei D. Odintsov, and Robert J. Scherrer
Physics Letters B, **713**, 145 (2012).

102] Coincidence problem in cyclic phantom models of the universe
Hui-Yiing Chang and Robert J. Scherrer
Physical Review D, **86**, 027303 (2012).

103] Limits on MeV dark matter from the effective number of neutrinos
Chiu Man Ho and Robert J. Scherrer
Physical Review D, **87**, 023505 (2013).

104] Anapole dark matter
Chiu Man Ho and Robert J. Scherrer
Physics Letters B, **722**, 341 (2013).

105] Sterile neutrinos and light dark matter save each other
Chiu Man Ho and Robert J. Scherrer
Physical Review D, **87**, 065016 (2013).

106] Inflection point quintessence
Hui-Yiing Chang and Robert J. Scherrer
Physical Review D, **88**, 083003 (2013).

107] Anapole dark matter at the LHC
Yu Gao, Chiu Man Ho, and Robert J. Scherrer
Physical Review D, **89**, 045006 (2014).

108] Constraining primordial non-Gaussianity with moments of the large scale density field
Qingqing Mao, Andreas A. Berlind, Cameron K. McBride, Robert J. Scherrer, Roman Scoccimarro, and Marc Manera
Monthly Notices of the Royal Astronomical Society, **443**, 1402 (2014).

109] A new approach to cosmological bulk viscosity
Marcelo M. Disconzi, Thomas W. Kephart, and Robert J. Scherrer
Physical Review D, **91**, 043532 (2015).

110] The quadratic approximation for quintessence with arbitrary initial conditions
Jeffrey R. Swaney and Robert J. Scherrer
Physical Review D, **91**, 123525 (2015).

111] Cosmological particle decays at finite temperature
Chiu Man Ho and Robert J. Scherrer
Physical Review D, **92**, 025019 (2015).

112] Mapping the Chevallier-Polarski-Linder parametrization onto physical dark energy models
Robert J. Scherrer
Physical Review D, **92**, 043001 (2015).

Non-refereed Publications

1] Resurrecting hot dark matter: Large-scale structure from cosmic strings and massive neutrinos
Robert J. Scherrer
Publications of the Astronomical Society of the Pacific, **100**, 1364 (1988)

2] A numerical simulation of loop fragmentation
Robert J. Scherrer
In "Cosmic Strings: The Current Status, Proceedings of the Yale Cosmic String Workshop"
Eds. Frank S. Accetta and Lawrence M. Krauss
Yale University Press (1988).

3] Cosmic string angular momentum
Robert J. Scherrer
In "The Formation and Evolution of Cosmic Strings"
Eds. G.W. Gibbons, S.W. Hawking, and T. Vachaspati
Cambridge University Press (1990).

4] Reviving massive neutrinos for large-scale structure
Robert J. Scherrer
In "Primordial Nucleosynthesis and Evolution of Early Universe"
Eds. K. Sato and J. Audouze
Kluwer (1991).

5] Large-scale velocity fields in non-Gaussian seeded models
Paolo Catelan and Robert J. Scherrer
In "Cosmic Velocity Fields"
Eds. F.R. Bouchet and M. Lachieze-Rey
Editions Frontieres (1993).

6] An introduction to large-scale structure
Robert J. Scherrer
In "The Building Blocks of Creation: From Microfermis to Megaparsecs"
Eds. S. Raby and T.P. Walker
World Scientific (1994).

7] Differential neutrino heating and reduced ^{4}He production from decaying particles in the early universe
Richard E. Leonard and Robert J. Scherrer
astro-ph/9509134 (1995).

8] Big Bang nucleosynthesis: the emerging crisis
G. Steigman, N. Hata, R.J. Scherrer, D. Thomas, and T.P. Walker
In "Particles, Strings, and Cosmology"
Eds. J. Bagger, G. Domokos, A. Falk, and S. Kovesi-Domokos
World Scientific (1996).

9] Zeroing in on the Fundamental Parameters of Cosmology
Robert J. Scherrer
In "Proceedings of the 28th International Conference on High Energy Physics"
Eds. Z. Ajduk and A.K. Wroblewski
World Scientific (1997).

10] Primordial Nucleosynthesis
Robert J. Scherrer
In "Proceedings of the 1999 Gamov Memorial International Conference"
Astronomy and Astrophysics Transactions, **19**, 367 (2000).

11] The Effect of Relic Particle Annihilations on the Cosmic Microwave Background
Robert J. Scherrer
In "Proceedings of DPF2000"
International Journal of Modern Physics A, **16** (2001).

12] Constraints on Non-Standard Recombination from Recent CMB Observations
Angela M. Linn and Robert J. Scherrer
astro-ph/0404282 (2004).

13] The Return of a Static Universe and the End of Cosmology (reprint)
Lawrence M. Krauss and Robert J. Scherrer
International Journal of Modern Physics D, **17**, 685 (2008).

14] Dark energy, with signatures
Sourish Dutta, Robert J. Scherrer, and S.D.H. Hsu
International Journal of Modern Physics D, **19**, 2325 (2010).

Popular Articles

1] From the cradle of creation
Robert J. Scherrer
Astronomy, Feb. 1988.

2] The curtains at the edge of the universe
Robert J. Scherrer and Sarah W. Scherrer
Astronomy, Nov. 1995.

3] Op zoek naar de oerknal (in Dutch)
Robert J. Scherrer
Zenit (Netherlands), May 1996.

4] The end of cosmology?
Lawrence M. Krauss and Robert J. Scherrer
Scientific American, Mar. 2008.

5] Explainer: the mysterious dark energy that speeds the universe's rate of expansion
Robert J. Scherrer
The Conversation, Apr. 23, 2015.

6] Faster-than-light travel: are we there yet?
Robert J. Scherrer
The Conversation, May 8, 2015.

7] Intelligent life in the universe? Phone home, dammit!
Robert J. Scherrer
The Conversation, Jun. 15, 2015.

Research Grants

Ohio State University Office of Research and Graduate Studies

Ohio State University Seed Grant (single investigator)
$14,500 (1989-90)

Department of Energy

Ohio State University Task K (with Gary Steigman and Terry Walker)
$122,000 (1990-1991)
$146,000 (1991-1992)
$170,000 (1992-1993)
$163,000 (1993-1994)
$155,000 (1994-1995)
$190,000 (1995-1996)
$182,000 (1996-1997)
$185,000 (1997-1998)
$200,000 (1998-1999)
$225,000 (1999-2000)
$223,000 (2000-2001)
$213,000 (2001-2002)
$225,000 (2003)

Vanderbilt University (with Tom Weiler and Tom Kephart)
$192,000 (2004-2005)
$205,000 (2005-2006)
$196,000 (2006-2007)
$200,000 (2007-2008)
$225,000 (2008-2009)
$250,000 (2009-2010)
$260,000 (2010-2011)
$260,000 (2011-2012)
$260,000 (2012-2013)
$260,000 (2013-2014)
$190,000 (2014-2015).
$190,000 (2015-2016).

NASA

Nonstandard Models for Large-scale Structure (single investigator)
$37,154 (1991-93)

Galactic and Large-Scale Structure (with Barbara Ryden and Andrew Gould)
$90,000 (1994-95)

Dark Matter and Cosmic Structure Formation (with David Weinberg, Barbara Ryden, and Andrew Gould)
$7000 (1995-96)
$100,000 (1996-97)
$100,000 (1997-98)

NSF

The Ohio State University Summer Physics Institute (along with many others, but I was the PI and wrote the proposal)
$215,219 (2003 - 2005)

Seminars, Colloquia, Conference Talks (1989-present)

"An Introduction to Cosmic Strings," colloquium, Case Western Reserve University, Mar. 1989.

"Large-scale structure from Cosmic Strings," seminar, Case Western University, Mar. 1989.

"Cosmic String Angular Momentum," talk at the Cambridge Workshop on the Formation and Evolution of Cosmic Strings, Cambridge, Jul. 1989.

"New Mechanisms for the Formation of Pregalactic Objects," talk at the NATO Advanced Study Institute on Baryonic Dark Matter, Cambridge, Jul. 1989.

"Primordial Nucleosynthesis: Orthodoxy and Heresy," colloquium, University of Kansas, Dec. 1989.

"Seeded Hot Dark Matter Models for Large-scale Structure," seminar, Fermilab, Mar. 1990.

"Seeded Hot Dark Matter Models for Large-scale Structure," talk at the Lawrence Workshop on the Legacy of Zel'dovich, Lawrence, May 1990.

"Seeded Hot Dark Matter Models for Large-scale Structure," talk at the IUPAP Conference on Primordial Nucleosynthesis and the Evolution of the Early Universe, Tokyo, Sept. 1990.

"Reviving eV Neutrinos for Large-scale Structure," seminar, University of California, Berkeley, Dec. 1990.

"Origin and Statistics of the Large-scale Structure of the Universe," seminar, IBM Almaden Research Center, Dec. 1990.

"Statistics of Density Perturbations from Discrete Seed Masses", seminar, University of California, Santa Cruz, Dec. 1990.

"Non-Gaussian Models for Large-Scale Structure", seminar, Bartol Research Institute, Dec. 1991.

"Velocity Fields in some Non-Gaussian Models for Large-Scale Structure", seminar, Fermilab, Mar. 1992.

"Velocity Fields in some Non-Gaussian Models for Large-Scale Structure", seminar, Washington University, Mar. 1992.

"Velocity Fields in some Non-Gaussian Models for Large-Scale Structure", seminar, University of Missouri, St. Louis, Mar. 1992.

"Non-Gaussian Models for Large-Scale Structure", colloquium, Department of Astronomy, Ohio State University, Apr. 1992.

"The New COBE Results: The Third Most Important Discovery in the History of Cosmology", colloquium, Department of Physics, Ohio State University, Apr. 1992.

"Dark Matter after COBE", seminar, Aspen Center for Physics, Jul. 1992.

"The COBE Results and their Implications for the Large-Scale Structure of the Universe", seminar, Case Western Reserve University, Oct. 1992.

"The COBE Results and their Implications for the Large-Scale Structure of the Universe", colloquium, Notre Dame University, Nov. 1992.

"The COBE Results and their Implications for the Large-Scale Structure of the Universe", seminar, Denison

University, Nov. 1992.

"The COBE Results and their Implications for the Large-Scale Structure of the Universe", seminar, Wittenberg University, Jan. 1993.

"Introduction to the Large-Scale Structure of the Universe," TASI summer school lectures, Jun. 1993.

"Skewness in Non-Gaussian Models," seminar, Aspen Center for Physics, Aug. 1993.

"The COBE Results and their Implications for the Large-Scale Structure of the Universe", seminar, Ohio Wesleyan University, Sept. 1993.

"The COBE Results and their Implications for the Large-Scale Structure of the Universe", colloquium, Ohio University, Oct. 1993.

"The COBE Results and their Implications for the Large-Scale Structure of the Universe", colloquium, Wooster College, Feb. 1994.

"Where do Peaks form in the Density Field?" seminar, Aspen Center for Physics, Jun. 1994.

"Linear Programming and Primordial Nucleosynthesis", seminar, Case Western Reserve University, Nov. 1995.

"Linear Programming and Primordial Nucleosynthesis", seminar, Department of Physics, Ohio State University, Mar. 1996.

"The Evolution of the Density Distribution Function in Large-Scale Structure", seminar, Cambridge University, Jul. 1996.

"Zeroing in on the Fundamental Parameters of Cosmology", invited plenary talk, International Conference on High-Energy Physics, Warsaw, Jul. 1996.

"The Evolution of the Density Distribution Function in Large-Scale Structure", seminar, University of Florida, Sept. 1996.

"Echoes of Creation: Looking for the Large-Scale Structure of the Universe", colloquium, Francis Marion University, Feb. 1997.

"Lattice Effects in Simulations of Topological Defect Formation", 5th Great Lakes Cosmology Workshop, Columbus, May 1997.

"Zeroing In on the Fundamental Parameters of Cosmology", colloquium, University of Wisconsin, Milwaukee, Oct. 1997.

"Initial Conditions for Topological Defects", seminar, University of Wisconsin, Milwaukee, Oct. 1997.

"Initial Conditions for Topological Defects", seminar, Notre Dame University, Oct. 1997.

"Constraints on the Effects of Locally-Biased Galaxy Formation", seminar, Fermilab, Feb. 1998.

"Constraints on the Effects of Locally-Biased Galaxy Formation", seminar, University of Illinois, Feb. 1998.

"Answering the Fundamental Questions in Cosmology", colloquium, University of Houston, Mar. 1998.

"Constraints on Neutrino Properties from the Cosmic Microwave Background", APS Workshop on the Five

Fundamental Parameters of Cosmology, Columbus, Apr. 1998.

"Answering the Fundamental Questions in Cosmology", colloquium, University of Akron, Apr. 1999.

"Big Bang Nucleosynthesis", invited plenary talk, Gamov Memorial International Conference, St. Petersburg, Russia, Aug. 1999.

"Cosmology and its Philosophical Implications: the Anthropic Principle and the Search for Origins", invited talk, Regis University, Denver, Nov. 1999.

"Quintessance and the Cosmological Constant Coincidence Problem", seminar, Vanderbilt University, Mar. 2000.

"The Effect of Relic Particle Annihilations on the Cosmic Microwave Background Spectrum", DPF2000, Columbus, Aug. 2000.

"Cosmology and its Philosophical Implications: the Anthropic Principle and the Search for Origins", invited talk, Pontifical College Josephinum, Columbus, Nov. 2002.

"The Cosmic Microwave Background: A New Window on Physics in the Early Universe", colloquium, Vanderbilt University, Apr. 2003.

"The Cosmic Microwave Background: A New Window on Physics in the Early Universe", colloquium, University of Tennessee, Sept. 2004.

"Dark Energy and the Coincidence Problem", colloquium, University of Kansas, Mar. 2005.

"Dark Energy and the Coincidence Problem", colloquium, Carnegie-Mellon University/University of Pittsburgh, Apr. 2005.

"Quarks and Cosmology", talk at workshop on Cosmological Implications, RHIC & AGS Users' Meeting, Brookhaven National Laboratory, Jun. 2005.

"Dark Energy and the Coincidence Problem", colloquium, Western Kentucky University, Feb. 2006.

"Science and Science Fiction", colloquium, Fermilab, Mar. 2006.

"Gary's Science: 40 Years at the Interface", opening keynote talk, Fundamental Astro-Particle Physics: A Conference in Celebration of Gary Steigman's 65th Birthday, Columbus, May 2006.

"Science and Science Fiction", colloquium, Florida State University, Nov. 2006.

"Science and Science Fiction", colloquium, Vanderbilt University, Nov. 2006.

"Science and Science Fiction", colloquium, Case Western Reserve University, Sept. 2007.

"Dark Energy and the Accelerated Expansion of the Universe", colloquium, University of Alabama, Oct. 2008.

"Science and Science Fiction", colloquium, University of Alabama, Oct. 2008.

"Klopsteg Memorial Lecture", AAPT summer meeting, Jul. 2010.

"Anapole Dark Matter", seminar, Ohio State University, Aug. 2012.

"Anapole Dark Matter", seminar, University of Pennsylvania, Jan. 2013.

"Update/Review of Cosmological Estimates of Neutrino Number," invited presentation, Cosmic Frontier Workshop at SLAC (Snowmass March Meeting), Mar. 2013.

"Anapole Dark Matter", seminar, University of Florida, Aug. 2013.

"Could Dark Matter be Electromagnetic?" colloquium, Vanderbilt University, Oct. 2013.

"Quantum Mechanics and Time Travel", public lecture, Belcourt Theater, Mar. 2014.

"Science and Science Fiction", colloquium, Nashville State Community College, Apr. 2014.

"From Theorist's Playground to Precision Science: The Evolution of Modern Cosmology", colloquium, Lehigh University, Apr. 2014.

"Is the Universe Sticky? The Role of Viscosity in Cosmology", seminar, Princeton University, Mar. 2015.