CURRICULUM VITAE

Scott Dodelson

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Personal Data

Date and Place of Birth: August 17, 1959; Pittsburgh, PA
Citizenship: United States

Employment

1994 - present:	Scientist I, Head Theoretical Astrophysics, Fermilab.
1998 - present:	Professor, Department of Astronomy and Astrophysics, University of Chicago.
1995 - 1998:	Visiting Professor, Department of Astronomy and Astrophysics, University of Chicago.
1991 - 1994:	Post-doctoral fellow in theoretical astrophysics, Fermilab.
1988 - 1991:	Post-doctoral fellow in theoretical physics, Harvard University.
1985 - 1988:	Research assistant in cosmology and particle physics, Columbia University; Advisor: Prof. Gerald Feinberg; Thesis: "*Baryogenesis in an Inflationary Era.*"
Summer 1983:	Research assistant in experimental particle physics, Nevis Laboratory (New York).
Summer 1982:	Research assistant in experimental particle physics, Weitzmann Institute of Science (Rehovot, Israel).

Education

May 1988 :	PhD in physics, Columbia University, New York.
May 1983 :	BS in applied physics, Columbia School of Engineering and Applied Science.
October 1982 :	BA in engineering, Columbia College.

Teaching and Mentoring

2002-present: Supervised undergraduate theses: Sara Burtwell, "Correlation function of SDSS galaxies," (2002); Matt Billmire, "Lensing of the CMB by clusters of galaxies," (2003).

1995-present: Taught in Department of Astronomy and Astrophysics at the University of Chicago. Graduate seminars on the large scale structure of the universe, the cosmic microwave background, gravitational lensing, and QSO absorbtion systems. Core course for first year graduate students on Radiative Processes in Astrophysics. Undergaduate course on galaxies and the universe for physics majors concentrating in astronomy.

1995-present: Supervised graduate students: Kim Coble (PhD 1999), Ryan Scranton (2002), Eduardo Rozo (expected 2005);

1994-present: Supervised post-doctoral fellows. These include: Stephane Colombi (currently faculty at IAP), Andrew Heckler (Ohio State), Yun Wang (Oklahoma), Istvan Szapudi (Hawaii), Antonio Riotto (Padua), Will Kinney (post-doc at Columbia), Chris Metzler, Lam Hui (faculty at Columbia, Fermilab), Andrew Sornborger (Mt. Sinai), Ewan Stewart (KAIST), Zoltan Haiman (Columbia), Pasquale Blasi (Florence), Michael Blanton (post-doc at NYU), Idit Zehavi (post-doc at Arizona), Ravi Sheth (faculty at Pittsburgh), Andreas Berlind (post-doc at NYU), John Beacom (faculty at Ohio State), Nicole Bell (FNAL), Patrick Greene (FNAL), Kev Abazajian (post-doc at Los Alamos), Gianfranco Bertone (FNAL), and Pengjie Zhang (FNAL).

1987-1990: Volunteer: Brookline School System and Double Discovery Program in New York City. Guided disadvantaged elementary student in independent research project. Tutored urban high school students in math and science.

1982 - 1986: Preceptor of Columbia's undergraduate physics labs.

Honors, Awards, and Activities

- Managing Editor, International Journal of Modern Physics D (2004-present)
- *Fellow*, American Physical Society (2004)
- Divisional Editor, Physical Review D (2004-present)
- Principal Investigator, NASA Grant, "Fundamental Physics from Space" (2004-2006).
- Editor, Journal of Astroparticle Physics (2003-present)
- Member, Local Advisory Committee, Center for Cosmological Physics, Chicago (2001-present).
- Head, External Advisory Committee, Theoretical Astrophysics Center, Denmark (2002).
- Co-organizer, Workshop on Neutrinos and Cosmology, Fermilab and Cosmo-02 (2002).

- PI, National Science Foundation Grant 0118263, "Workshop on Cosmology" (2001).
- PI, National Science Foundation Grant PHY-0079251, "Probing Fundamental Physics with Cosmological Observations," (2000-2003).
- Co-Organizer "Chicago Chattaqua on Cosmology," for thirty college teachers (1999,2001).
- Co-Organizer "Pritzker Symposium and Workshop on Inflation," "Inner Space/Outer Space II," and "Santa Fe Workshop on Cosmology" (1999).
- Organized "Sloan Digital Sky Survey Collaboration Meeting" and "Missing Energy in the Universe" Workshop (1998).
- Panel member for National Science Foundation research proposals.
- Panel member for NASA Astrophysics Theory Program research proposals.
- Reviewer for Department of Energy research proposals.
- Referee for *Physical Review D, Physical Review Letters, Astrophysical Journal, Astrophysical Journal Letters, Annals of Physics, Physics Letters, New Astronomy.*
- Member, Large Scale Structure Working Group, Sloan Digital Sky Survey.
- Member, PYTHON anisotropy experiment science team.
- Member, Americal Physical Society, Astrophysics Division.
- Co-investigator on Fermilab Astrophysics' NASA grant (1994,1997,2000).
- Appointed Preceptor overseeing undergraduate labs, Columbia University (1985).
- Garden State Graduate Fellowship (1983).
- Sigma Pi Sigma (Physics Honor Society) (1983).
- Third, second prizes, Van Buren Math Prize Competition (1982,83).
- Tau Beta Pi (National Engineering Honor Society) (1982).
- Selected for Summer Research Program at Weitzmann Institute (1982).

Book

Modern Cosmology (Academic Press, Amsterdam, 2003).

Technical Publications

[1] J. F. Beacom, N. F. Bell, and S. Dodelson, "Neutrinoless Universe," submitted to *Phys. Rev. Lett.*, `astro-ph/0404585`.

[2] S. Dodelson, "CMB-Cluster Lensing," to be published in *Phys. Rev. D*, `astro-ph/0402314`.

[3] E. Rozo, S. Dodelson, and J. A. Frieman, "Halo Model Analysis of Cluster Statistics," to be published in *Phys. Rev. D*, `astro-ph/0401578`.

[4] M. Tegmark, M. R.Blanton, M. A. Strauss, K. Abazajian, S. Dodelson, et al., "Cosmological Parameters from SDSS and WMAP," *Phys. Rev. D* **69**, 103501 (2004).

[5] M. Ahmed, S. Dodelson, P. B. Greene, and R. Sorkin, "Everpresent Lambda," *Phys. Rev. D* **69**, 103523 (2004).

[6] S. Dodelson, "Coherent Phase Argument for Inflation," in *Particle Physics and Cosmology* (AIP Conf. Proc. 689:184 (2003).

[7] S. Dodelson, "Cluster Masses accounting for structure along the line of sight," to be published in *Phys. Rev. D*, `astro-ph/0309277` (2003).

[8] K. Abazajian et al., "The First Data Release of the Sloan Digital Sky Survey," *Astron. J.* **126**, 2081 (2003).

[9] S. Dodelson and G. D. Starkman, "Galaxy-CMB Lensing," `astro-ph/0305467` (2003).

[10] S. Dodelson and L. Hui, "A Horizon Ratio Bound for Inflationary Fluctuations," *Phys. Rev. Lett.* **91**, 131301 (2003).

[11] S. Dodelson, E. Rozo, and A. Stebbins, "Primordial Gravity Waves and Weak Lensing," *Phys. Rev. Lett.* **91**, 021301 (2003).

[12] K. Abazajian and S. Dodelson, "Neutrino Mass and Dark Energy from Weak Lensing," *Phys. Rev. Lett.* **91**, 041301 (2003).

[13] J. R. Chisholm, S. Dodelson, and E. W. Kolb, "Stellar-Mass Black Holes in the Solar Neighborhood," *Astrophys. J* **596**, 437 (2003).

[14] SDSS Collaboration, I. Szapudi, J. A. Frieman, R. Scoccimarro, A. S. Szalay, A. J. Connolly, S. Dodelson, et al., "Higher Order Moments of the Angular Distribution of Galaxies from Early SDSS Data," *Astrophys. J.* **570**, 75-85 (2002).

[15] W. Hu and S. Dodelson, "Cosmic Microwave Background Anisotropies," *Ann. Rev. Astron. Astrophys.* **40**, 171 (2002).

[16] S. Dodelson and E. Stewart, "Scale Dependent Spectral Index in Slow Roll Inflation," *Phys. Rev.* **D65**, 101301 (2002).

[17] SDSS Collaboration, S. Dodelson, et al., "The 3D Power Spectrum from Angular Clustering of Galaxies in Early SDSS Data," *Astrophys. J.* **572**, 140-156 (2002).

[18] SDSS Collaboration, M. Tegmark, S. Dodelson, et al., "The Angular Power Spectrum of Galaxies from Early SDSS Data," *Astrophys. J.* **571**, 191-205 (2002).

[19] SDSS Collaboration, A. Connolly, R. Scranton, D. Johnston, S. Dodelson, et al., "The Angular Correlation Function of Galaxies from Early SDSS Data," *Astrophys. J.* **579**, 42-48 (2002).

[20] SDSS Collaboration, R. Scranton, D. Johnston, S. Dodelson, et al., "Analysis of Systematic Effects and Statistical Uncertainties in Angular Clustering of Galaxies from Early SDSS Data," *Astrophys. J.* **579**, 48-75 (2002).

[21] SDSS Collaboration, A. S. Szalay, B. Jain, T. Matsubara, R. Scranton, M. S. Vogeley, A. Connolly, S. Dodelson, et al., "KL Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early SDSS Data," *submitted to Astrophys. J.* `astro-ph/0107419` (2001).

[22] K. Coble, S. Dodelson et al., "Cosmic Microwave Background Anisotropy Measurement from Python V," *Astrophys. J.* **584**, 585 (2001).

[23] R. Scranton and S. Dodelson, "Non-Linear Effects on the Angular Correlation Function," *submitted to MNRAS* `astro-ph/0002360` (2000).

[24] S. Dodelson, M. Kaplinghat, and E. Stewart, "Tracking, Oscillating Energy," *Phys. Rev. Lett.* **85**, 5276 (2000).

[25] S. Dodelson, "Cosmic Microwave Background: Past, Future, and Present," *Int. J. Mod. Phys.* **A15S1**, 765 (2000).

[26] P. M. Ricker, S. Dodelson, and D. Q. Lamb, "COSMOS: A Hybrid N-Body/Hydrodynamics Code for Cosmological Problems," *Astrophys. J.* **536**, 122 (2000).

[27] S. Dodelson and L. Knox, "Dark Energy and the CMB," *Phys. Rev. Lett.* **84**, 3523 (2000).

[28] S. Dodelson and E. Gaztanaga, "Inverting the Angular Correlation Function," *Mon. Not. Roy. Ast. Soc.* **312**, 774 (2000).

[29] G. W. Wilson et al., "New CMB Power Spectrum Constraints from MSAMI," *Astrophys. J.* **532**, 57 (2000).

[30] M. Kaplinghat, R. E. Lopez, S. Dodelson, and R. J. Scherrer,"Improved Treatment of Cosmic Microwave Background Fluctuations Induced by a Late-decaying Massive Neutrino," Phys. Rev. D **60**, 123508 (1999).

[31] K. Coble, et al., "Anisotropy in the Cosmic Microwave Background at Degree Angular Scales: Python V Results," *Astrophys. J.* **519** L5-L8 (1999).

[32] R. E. Lopez, S. Dodelson, A. Heckler, and M. S. Turner, "Precision Detection of the Cosmic Neutrino Background," *Phys. Rev. Lett.* **82** 3952-55 (1999).

[33] R. E. Lopez, S. Dodelson, R. J. Scherrer, M. S. Turner, "Probing Unstable Massive Neutrinos with Current Cosmic Microwave Background Observations," *Phys. Rev. Lett.* **81** 3075-78 (1998).

[34] L. Knox, R. Scoccimarro, and S. Dodelson, "The Impact of Inhomogeneous Reionization on Cosmic Microwave Background Anisotropy," *Phys. Rev. Lett.* **81** 2004-2007 (1998).

[35] S. Dodelson, L. Hui, and A. Jaffe, "Likelihood Analysis of Galaxy Surveys," *submitted to ApJ* `astro-ph/9712074` (1997).

[36] S. Dodelson and C. Wiegert, "Bending of Light by Vector Perturbations," *submitted to Phys. Rev. D* `astro-ph/9710080` (1997).

[37] B. Allen, R. R. Caldwell, S. Dodelson, L. Knox, E. P. S. Shellard, and A. Stebbins, "CMB Anisotropy Induced by Cosmic Strings on Angular Scales $>$ 15 Arcminutes," *Phys. Rev. Lett.* **79**, 2624-27 (1997).

[38] S. Dodelson, W. Kinney, and E. W. Kolb, "Cosmic microwave background measurements can discriminate among inflation models," *Phys. Rev. D* **56**, 3207-15 (1997).

[39] S. Dodelson, "Anisotropies in the Cosmic Microwave Background: Theory," astro-ph/9702134 to be published in the Proceedings of the 18th Texas Symposium on Relativistic Astrophysics, ed. J. A. Frieman, A. Olinto, and D. N. Schramm (1997).

[40] K. Coble, S. Dodelson, and J.A. Frieman, "Dynamical Lambda Models of Structure Formation," *Phys. Rev. D* **55**, 1851-9 (1997).

[41] S. Dodelson, "Determining Cosmic Microwave Background Anisotropies in the Presence of Foregrounds," *Astrophys. J.* **482**, 577-587 (1997).

[42] S. Dodelson, E. Gates, and M.S. Turner, "Cold Dark Matter Models," *Science* **274**, 69-75 (1996).

[43] S. Dodelson and A.S. Stebbins, "Comment on a paper by Fang, Huang, and Wu," FERMILAB-PUB-96-068-A (1996).

[44] S. Dodelson, E. Gates, and A.S. Stebbins, "Cold + Hot Dark Matter and the Cosmic Microwave Background," *Astrophys. J.* **467**, 10-18 (1996).

[45] S. Colombi, S. Dodelson, and L.M. Widrow, "Large Scale Structure Tests of Warm Dark Matter," *Astrophys. J.* **458**, 1-17 (1996).

[46] S. Dodelson and J. M. Jubas, "Reionization and its Imprint on the Cosmic Microwave Background," *Astrophys. J.* **439**, 503 (1995).

[47] S. Dodelson and A. Kosowsky, "Analysis of small and medium scale Cosmic Microwave Background Experiments," *Physical Review Letters* **75**, 604 (1995).

[48] S. Dodelson, A. Kosowsky, and S. T. Myers, "Noise Correlations in Cosmic Microwave Background Experiments," *Astrophys. J.* **440**, L37 (1995).

[49] S. Dodelson and A. Kosowsky, "Inflation Confronts the CMB: An Analysis Including the Effects of Foreground", in *CMB Anisotropies Two Years After COBE: Observation, Theory and the Future*, edited by L. M. Krauss (World Scientific, Singapore 1994), 112-116.

[50] S. Dodelson, G. Gyuk, and M.S. Turner,"Is A Massive Tau Neutrino Just what Cold Dark Matter Needs?" *Phys. Rev. Lett.* **72**, 3754-7 (1994).

[51] S. Dodelson, L. Knox, and E. Kolb, "Testing Inflation with the Cosmic Microwave Background," *Phys. Rev. Lett.* **72**, 3444-7 (1994).

[52] S. Dodelson, G. Gyuk, and M.S. Turner, "Primordial Nucleosynthesis with a decaying tau neutrino," *Phys. Rev. D* **49**, 5068-81 (1994).

[53] S. Dodelson and J. M. Jubas, "Cosmological Signatures of Decaying Dark Matter," *Mon. Not. Roy. Acad. Soc.* **266**, 886-890 (1994).

[54] S. Dodelson and A. Stebbins, "Analysis of Small Scale MBR Anisotropy in the Presence of Foreground Contamination," *Astrophys. J.* **433**, 440-454 (1994).

[55] S. Dodelson and L. M. Widrow, "Sterile Neutrinos as Dark Matter," *Phys. Rev. Lett.* **72**, 17-20 (1994).

[56] S. Dodelson and J. M. Jubas, "Microwave Anisotropies in the Light of *COBE*," *Phys. Rev. Lett.* **70**, 2224-2227 (1993).

[57] B. Fields, S. Dodelson, and M. S. Turner, "Effect of Neutrino Heating on Primordial Nucleosynthesis," *Phys. Rev. D* **47**, 4309-4314 (1993).

[58] S. Dodelson and B. Gradwohl, "How Effective is the Effective Potential?", *Nucl. Phys. B* **400**, 435-459 (1993).

[59] S. Dodelson and M. S. Turner, "Nonequilibrium Neutrino Statistical Mechanics in the Expanding Universe," *Phys Rev. D* **46**, 3372-3387 (1992).

[60] S. Dodelson, B. R. Greene, and L. M. Widrow, "Baryogenesis, Dark Matter, and the Width of the Z," *Nucl. Phys. B* **372**, 467-493 (1992).

[61] S. Dodelson and J. Jubas, "Reionization and Decaying Dark Matter," *Phys. Rev. D* **45**, 1076-1090 (1992).

[62] S. Dodelson, B. R. Greene, and L. M. Widrow, "Inverse Phase Transitions: Does Baryogensis lead to Dark Matter?", in *Particle Physics from Underground to Heaven*, edited by G. Domokos and S. Kovesi-Domokos (World Scientific, Singapore 1992), 391-401.

[63] S. Dodelson, J. A. Frieman, and M. S. Turner, "Constraints to the Decays of Dirac Neutrinos from SN 1987A", *Phys. Rev. Lett.* **68**, 2572-2575 (1992).

[64] K. M. Benson, J. Bernstein, and S. Dodelson, "Phase Structure and the Effective Potential at Fixed Charge," *Phys. Rev. D* **44**, 2480-2497 (1991).

[65] S. Dodelson and G. Feinberg, "Neutrino – Two Photon Vertex," *Phys. Rev. D* **43**, 913-920 (1991).

[66] J. Bernstein and S. Dodelson, "Relativistic Bose Gas," *Phys. Rev. Lett.* **66**, 683-686 (1991).

[67] S. Dodelson and L. M. Widrow, "Baryogenesis without Baryon Number Violation," *Mod. Phys. Lett. A* **5**, 1623-1628 (1990).

[68] S. Dodelson and L. M. Widrow, "Baryogenesis in a Baryon-symmetric Universe," *Phys. Rev. D* **42**, 326-342 (1990).

[69] S. Dodelson and L. M. Widrow, "Baryon-symmetric Baryogenesis," *Phys. Rev. Lett.* **64**, 340-343 (1990).

[70] J. Bernstein and S. Dodelson, "Aspects of the Zel'dovich-Sunyaev Mechanism," *Phys. Rev. D* **41**, 354-373 (1990).

[71] J. Bernstein and S. Dodelson, "Comment on Reheated Universe by Unstable Neutrinos," *Phys. Rev. Lett.* **62**, 1804 (1989).

[72] S. Dodelson, "Cosmological Implications of Unstable Technibaryons," *Phys. Rev. D* **40**, 3252-3262 (1989).

[73] S. Dodelson, "Post-inflationary Era and Baryogenesis," *Phys. Rev. D* **37**, 2059-2070 (1988).

[74] S. Dodelson, "Relativistic Treatment of Ortho-Para H_2 Transitions," *J. Phys. B* **19**, 2871-2879 (1986).

Popularizations

[1] "Let there be Light," First Congregational Church (2001).

[2] Co-Organizer, "Chicago Chattaqua on Cosmology," for thirty college teachers, 2001.

[3] "Vacuum Energy in the Universe," Dow Corning Technical Exchange Society (2000).

[4] "Big Bang, Kansas, and Creationsim: A Scientist's Perspective," Saginaw Valley State University (2000).

[5] Co-Organizer, "A Symposium on the Nature of Science," for School teachers (800 expected) on evolution and cosmology, `http://www-ed.fnal.gov/symposium` , March, 2000

[6] Co-Organizer, "Chicago Chattaqua on Cosmology," for thirty college teachers, June 1999.

[7] *Extension 702: The Milt Rosenberg Show* , Radio talk show about cosmology and string theory (February 1999).

[8] "The Missing Energy in the Universe," Lecture to Naperville Astronomical Association (1998).

[9] "The Big Bang," Letter to the Editor, *Commentary*, May (1998).

[10] "Pillars of Cosmology," Six display panels introducing cosmology to the public. Prepared for Fermilab's Open House, attended by 15,000 people (1997).

[11] "Scientific Thinking," Regular column in *Youthline-USA*, weekly newspaper for children (1997).

[12] "The Physics of Baseball," Talk to Friends of Fermilab (1997)

[13] "Anti-Matter in the Universe," in *Ask the Experts*, Scientific American Web Site (1997).

[14] Movie: "Cosmic Radiation Through the Ages," with A. Stebbins (1996).

[15] Review of *3K: The Cosmic Microwave Background Radiation* (R. B. Partridge) for *Science*, **274** (1996).

[16] "The Great Attractor," in *Macmillan Encyclopedia of Physics*, (Macmillan, New York, 1996).

[17] "Dark Matter," in *Macmillan Encyclopedia of Physics*, (Macmillan, New York, 1996).

[18] "The Great Wall," in *Macmillan Encyclopedia of Physics*, (Macmillan, New York, 1996).

Technical Talks

[1] " Cosmological Puzzles," Tropical Workshop on Particle Physics & Cosmology, Cairns (2003).

[2] "Cosmic Harmony," Tropical Workshop on Particle Physics & Cosmology, Cairns (2003).

[3] "Sloan Digital Sky Survey," Colloquium, University of Wisconsin, Madison (2003).

[4] "Dark Energy in the Universe," Experimental Seminar, SLAC (2003).

[5] "Running, CMB, and the Lyman alpha forest," Workshop on CMB, Minnesota (2003).

[6] "What can we learn about Neutrinos from Large Scale Structure," KITP Symposium on Neutrinos, Santa Barbara (2003).

[7] "First Impressions of the WMAP Results," Enrico Fermi Mini-Symposium (2003).

[8] "Dark Energy in the Universe," Illinois Institute of Technology (2002).

[9] "Dark Energy in the Universe," Physics Colloquium, Brandeis University (2002).

[10] "Dark Energy in the Universe," Joint Theoretical/Experimental Seminar, Fermilab (2002).

[11] "CMB Lensing by Galaxies," Workshop on CDM Structure, Chicago (2002).

[12] "CMB Anisotropies: Primary and Secondary," Invited Review Talk, Santa Fe Cosmology Workshop (2002).

[13] "Cosmology Past the Crossroads," Colloquium, Aspen Center for Physics (2002).

[14] "Solving the Why Now Problem," Invited talk, APS Divisions of Particles and Fields, Annual Meeting (2002).

[15] "Results from the Sloan Digital Sky Survey," Plenary talk at Pheno02, Wisconsin (2002).

[16] "Dark Energy in the Universe," Illinois Institute of Technology (2001).

[17] "Can the Inflationary paradigm ever be more than a plausible myth?" Plenary talk at *Frontier of the Universe* Blois, France (2001).

[18] "Cosmology and Particle Physics," High Energy Physics Advisory Panel (HEPAP) (2001).

[19] "Angular Clustering in the SDSS," Workshop on CDM Halos, Fermilab (2001).

[20] "CMB: Past, Future, and Present," Purdue University (2000).

[21] "CMB: Past, Future, and Present," Brookhaven National Laboratory (2000).

[22] "Large Scale Structure from Early SDSS Data," Enrico Fermi Institute (2000).

[23] "CMB: Past, Future, and Present," Ohio State University (2000).

[24] "CMB: Past, Future, and Present," Plenary Talk at PASCOS 99, Lake Tahoe, CA (1999).

[25] "CMB: Future and Present," Plenary Talk at COSMOS 99, Trieste, Italy (1999).

[26] "Cosmic Microwave Background," Plenary Talk at Lepton-Photon 99, Stanford University (1999).

[27] "The Inverse Problem," Sante Fe Workshop on Large Scale Structure, (1999).

[28] "The History of the History of the Universe," Physics Colloquium, Northwestern University (1999).

[29] "MSAM Results" and "Implications for Open Inflation," Pritzker Workshop on Inflation (1999).

[30] "Latest Results from the CMB," Astrophysics Colloquium, Northwestern University (1999).

[31] "Lensed QSOs with the Sloan Digital Sky Survey," Missing Energy Workshop, Fermilab (1998).

[32] "What will we learn from the CMB?" Colloquium, Wayne State University (1998).

[33] "CMB and Parameters," Coral Gables Conference on High Energy Physics and Cosmology (1998).

[34] "Numerical Issues in Cosmology," Computational Methods Seminar, University of Chicago (1997).

[35] "What will we learn from the CMB?" Plenary talk at Birth of the Universe Conference, Rome, Italy (1997).

[36] "Large Scale Structure and the Csomic Microwave Background," Bartol Research Institute (1997).

[37] "The End of Cosmic Confusion," Colloqium, University of Chicago (1997).

[38] "The End of Cosmic Confusion," Coral Gables Conference on High Energy Physics and Cosmology (1997).

[39] "Cosmic Microwave Background: Theory," Plenary talk at 18th Texas Symposium on Relativistic Astrophysics, Chicago, IL (1996)

[40] "The End of Cosmic Confusion," Columbia University (1996)

[41] "The End of Cosmic Confusion," Notre Dame University (1996)

[42] "The End of Cosmic Confusion," Case Western Reserve University (1996)

[43] "Determining CMB Anisotropy in the presence of foregrounds," Moriond Conference on CMB (1996).

[44] “The Doppler Peaks and the CMB,” University of Chicago (1996).

[45] “Learning from the Cosmic Microwave Background,” Enrico Fermi Institute (1995).

[46] “Foreground Separation in Anisotropy Experiments,” Conference on Cosmic Background Radiations, Santa Barbara (1995).

[47] “The Hubble Constant,” Fermilab (1994).

[48] “Warm Dark Matter,” Particle and Nuclear Astrophysics in the Next Millenium, Snowmass Summer Study (1994); University of Pennsylvania (1994).

[49] “Testing Inflation with the Cosmic Microwave Background,” Goddard Institute for Space Science (1993); Ohio State University (1993); Case Western Reserve University (1994); Workshop on the Cosmic Microwave Background, Case Western Reserve University (1994); Particle and Nuclear Astrophysics in the Next Millenium, Snowmass Summer Study (1994); Marcel Grossman Meeting on General Relativity, Stanford (1994); Annual Meeting of Division of Particles and Fields, New Mexico (1994).

[50] “Cosmic Microwave Background: From Inflation to Dust,” Canadian Institute of Theoretical Astrophysics (1993); Queens University (1993).

[51] “CDM confronts the CMB: an analysis including the effects of foreground,” Cosmic Microwave Background Workshop, Capri, Italy (1993).

[52] “Anisotropies in the Cosmic Microwave Background,” Great Lakes Cosmology Workshop, University of Michigan (1993).

[53] “Sterile Neutrinos as Dark Matter,” Princeton University (1993).

[54] “Microwave Anisotropies in Light of COBE,” Annual meeting of Division of Particles and Fields, Batavia, IL (1992).

[55] “Decaying Dark Matter,” Purdue University (1992).

[56] “Tunneling Rates: Is the Effective Potential a good approximation?” Workshop on Cosmological Phase Transitions, University of California at Santa Barbara (1992).

[57] “Towards a Quantitative Understanding of the Electroweak Phase Tranistion,” Bartol Research Institute (1992).

[58] “Is Symmetry Restored at High Temperature?” Cornell (1991); University of Wisconsin (1992).

[59] "Constraints on Neutrino Decays from SN 1987A," Many Aspects of Neutrino Physics conference, Fermilab (1991); Workshop on 17 keV Question, University of California at Berkeley (1991).

[60] "Relativistic Bose-Einstein Condensation," MIT (1991); Boston University (1991).

[61] "Baryon-symmetric Baryogenesis," Fermilab (1989); joint CFA-Tufts early universe seminar (1989); Brown University (1990).

[62] "Distortions of the Microwave Background," University of Georgia (1989); University of Massachusetts, Amherst (1989).