

Publications – Lawrence M. Krauss

Articles;

1. *Measuring the Scale Parameter of Quantum Chromodynamics at CHEER*, J. Phys. 59, 1769 (1981).
2. *New Currents at CHEER*, with H.C. Lee, B. McPherson, P. Watson, Can J. Phys. 59, 1754 (1981).
3. *QCD-2 and the Classical Correspondence in the Large-N limit*, with J. Lykken, Phys. Lett. 105B, 5 (1981).
4. *Fortune Favors the Prepared Mind- The Movement Against Nuclear War*, with B.M.Casper, Journal of Science Technology and Human Values, MIT Press, 7, 37 (1981).
5. *Gravitation and Phase Transitions in the Early Universe*, MIT Thesis, Sept. 1982.
6. *Gravitation, Phase Transitions, and the Big Bang*, Rev. Lett. 49, 1459, (1982).
7. *New Constraints on "Ino" Masses From Cosmology Supersymmetric "Inos"*, Nucl. Phys. B229, 556 (1983).
8. *New Constraints on Neutrino Masses from Cosmology*, Lett. 128B, 37 (1983).
9. *Baryosynthesis and Primordial Inflation Re-examined*, Lett. 133B, 169, (1983).
10. *Low Energy Supergravity and the Anomalous Magnetic Moment of the Muon*, with D. Kosower and N. Sakai, Lett. 133B, 305 (1983).
11. *Antineutrino Astronomy and Geophysics*, with S.L. Glashow and D.N. Schramm, Nature-Review Article, 310, 191 (1984).
12. *The 'Flatness of the Universe': Reconciling Theoretical Prejudices with Observational Data*, with M. Turner, G. Steigman, Rev. Lett. 52, 2090 (1984).
13. *Dark Matter and Inflation*, Rel. and Grav. ,17, 89 (1985) ; (First Award Essay, Gravity Research Foundation, 1984)
14. *pp Events with Missing Energy: Evidence for a Fourth Neutrino?*, Lett B,143, 248 (1984).
15. *A Stellar Energy Loss Mechanism Involving Axions*, with J. Moody, F. Wilczek, Phys. Lett. B, 144, 391, (1984).
16. *"Subtle is the Lord.....by A. Pais -A Review"*, KOS, Revista di Culture Historia delle Scienze Medice Naturale Humane, 8 (1984).
17. *Can We Rule Out A Heavy Tau Neutrino?*, Rev. Lett., 53, 1976 (1984).
18. *Low Energy Baryosynthesis*, with D. Kosower and L. Hall, HUTP-84/A049, Lett. 150B, 436 (1985).
19. *The Millisecond Pulsar, Gravitational Waves, and Inflation*, HUTP-84/A055, Nature, 313, 32 (1985).
20. *Bolometric Detection of Neutrinos*, with B. Cabrera, F. Wilczek, HUTP-84/A080, (1984), Rev. Lett. 55, 25 (1985).
21. *Solar Neutrinos Oscillations*, with F. Wilczek, HUTP-84/A087 (1984), Phys. Rev. Lett., 55, 122 (1985).
22. *A New Detector for Solar and Reactor Neutrinos*, HUTP-85/A005, in *Neutrino Mass and Low Energy Weak Interactions, Telemark 1984*, ed by V. Barger and D. Cline, World Scientific (Singapore, 1985).
23. *New News on Cosmic's*, HUTP-85/A010 in *Neutrino Mass and Low Energy Weak Interactions, Telemark 1984*, ed by V. Barger and D. Cline, World Scientific (Singapore, 1985).
24. *Spin-Coupled Axion Detection*, with J. Moody, F. Wilczek, and D. Morris, HUTP85/A006 (1985).
25. *Inflationary Universe Cosmology*, 6th Edition, McGraw-Hill Encyclopedia of Science and Technology.
26. *Solar System Constraints on Dark Matter Candidates*, with F. Wilczek and M. Srednicki, HUTP A007/85, revised YTP 85-36, Phys. Rev. D33, 2079 (1986).
27. a) *Cold Dark Matter Candidates and the Solar Neutrino Problem*, HUTP 85/A008a (1985). b) *Cold Dark Matter Candidates and the Solar Neutrino Problem*, with K. Freese, D. Spergel, and B. Press, HUTP-85/A008, Journal, 299, 1001 (1985).
28. *New Gravitational Tests of Early Universe Cosmology*, HUTP-85/A024, J. Gen. Rel. and Grav., 18, 723 (1986).
29. *Calculations for Cosmic Axion Detection*, with D. Morris, J. Moody, F. Wilczek, Phys. Rev. Lett. 55, 1797 (1985).
30. *Inflation and Shadow matter*, with D.N. Spergel, G.B. Field, A.H. Guth, W.H. Press, YTP 85-16, Nature 319, 748 (1986).
31. *Particle Detector*, McGraw-Hill Yearbook of Science and Technology, 1987.

32. *Axions, the Search Continues.....*, YTP 86-41, in *High Energy Physics 1985, Proceedings of the Yale Theoretical Advanced Study Institute*, by M. Bowick and F. Gürsey, World Scientific (Singapore, 1986).
33. *Dark Matter in the Universe-Cosmology Confronts Particle Physics*, Scientific American, Vol 254,#12, 58 (December 1986).
34. *Evidence for a third force in the Two New Sciences*, YTP 86-02.
35. *A short-lived Axion Variant*, with F. Wilczek, YTP 86-03, Phys.Lett. B173, 189 (1986).
36. *$e+e-$ peaks at 1.8 MeV; Phenomenological constraints on Nuclear transitions, axions, and the particle interpretation*, with M. Zeller, YTP 86-08, Phys. Rev. D34, 3385 (1986).
37. *Constraints on Short-lived axions from the decay $\pi \rightarrow e+e-e+$* , with M. Wise, YTP 86-13/ CALT-68-1356 Lett. B176, 483 (1986).
38. *Phenomenology of $e+e-$ events at GSI: Axions and other goodies*, YTP 86-15, in *Quarks, Strings, Dark Matter, And All The Rest: Proceedings of 7th Vanderbilt Conference on High Energy Physics*, by R. S. Panvini and T.J. Weiler, World Scientific (Singapore, 1987).
39. *Gravitational Lensing by Isothermal Spheres with Finite Core Radii: Galaxies and Dark Matter*, with G. Hinshaw, YTP 86-14, Astrophys. J. 320, 468 (1987).
40. *New Quarks and Neutrino Counting Below the Z Threshold*, with F. Wilczek, YTP 8620, Phys. Lett. B181, 380 (1986).
41. *Dark Matter--The Cosmic Connection*, YTP-86-26, *Particle Physics in the Cosmos*, Scientific American reader, ed. by R.A. Carrigan and W. Trower.
42. *"Just So" Neutrino Oscillations*, YTP 87-03, with S. L. Glashow, Phys. Lett. B190, 199 (1987).
43. *Spontaneous $e+e-$ Pair Creation in Heavy Ion Collisions*, YTP-87-04 with D. Carrier, Phys. Lett. B194, 141 (1987).
44. *Neutrino Spectroscopy of the Supernova 1987a*, YTP 87-16, Nature, 329, 689 (1987).
45. *Dark Matter in the Universe...and in the Laboratory*, YTP 87-22, in *The Standard Model, The Supernova 1987a*, Proceedings of 22nd Rencontres de Moriond, , ed by J. Tran Thanh Van, Editions Frontieres (Gif Sur Yvette 1987).
46. *Weak Interaction Axions, and 1.8 MeV $e+e-$ Peaks at GSI: Some New Wrinkles*, YTP 87-23, in *The Standard Model, The Supernova 1987a*, Proceedings of 22nd Rencontres de Moriond, , ed by J. Tran Thanh Van, Editions Frontieres (Gif Sur Yvette 1987).
47. *A Viable Weak Interaction Axion ?*, YTP 87-24, with D. Nash, Phys. Lett. B202, 560 (1988).
48. *Higher-Order Pair-Conversion Peaks in Heavy Ion Collisions*, with D. Carrier, YTP 87-31, Phys Rev. C38, 1225 (1988).
49. *Son of Supernova: Thunder and Lightning?*, with S. Colgate, D. Schramm, and T. Walker, YTP 87-30.
50. *Test of the Weak Equivalence Principle for Neutrinos and Photons*, with S. Tremaine, YCTP 87-1/ YTP 87-39, Phys. Rev. Lett. 60, 176 (1988).
51. *The Stochastic Gravitational Wave Spectrum Resulting from Cosmic String Evolution.*, with F. Accetta, YCTP-P5-88 , Nucl. Phys. B391, 747 (1989).
52. *New Signatures in for Dark Matter Detectors*, with P. Romanelli, YCTP-P3-88, Phys. Rev. D39, 1225 (1989).
53. *Desperately Seeking Dark Matter*, YCTP-P5-88, in Moriond 88, *Dark Matter*, by J. Audouze and J. Tran Thanh Van, Editions Frontieres, (Gif-sur-Yvette, 1988).
54. *The Equivalence Principle and Supernova 1987a*, YCTP-P6-88, Honorable Mention, Gravity Research Foundation 1988.
55. *Dark Matter: An Homage to Neutrinos*, YTCP-P14-88, Proceedings, *Neutrino Physics and Astrophysics*, J. Scheps et al, ed. (World Scientific 1989).
56. *Magneto-Hydrodynamic Jets, Pulsar Formation, and SN 1987a*, with S. Colgate, D. Schramm, T. Walker, YCTP-P12-88 (YTP 87-30 revised), Astrophysical Letters and Communications, 27, 411 (1990).
57. *Statistics of Gravitational Lenses: Galaxies and Dark Matter*, YTCP-P15, in Springer Lecture Notes in Physics 330, ed. by J. Moran (Springer-Verlag, 1988).
58. *Cosmic String Evolution and the Stochastic Background of Gravitational Waves*, YCTP-P16-88, in *Cosmic Strings, The Current Status*, by F. Accetta and L. Krauss, (World Scientific, 1988).

59. *Primordial Lithium and the Standard Model(s)*, with C.P. Deliyannis, P. Demarque, S. Kawaler, and P. Romanelli, YCTP-P13-88, Phys. Rev. Lett. 62, 1583 (1989).
60. *Discrete Gauge Symmetry in Continuum Physics*, with F. Wilczek, YCTP-P26-88 [NSFITP88-187], Phys. Rev. Lett. 62, 1221 (1989).
61. *Big Bang Nucleosynthesis: Predictions and Uncertainties*, with P. Romanelli, YCTP-P1-89, Astrophys. J. 358, 47 (1990).
62. *Neutrinos and Particle Astrophysics--an Overview*, YCTP-P5-89 plenary lecture, in *Particle Astrophysics, Forefront Experimental Issues*, Ed, E. Norman, World Scientific 1989.
63. *Are Cosmic Strings Ruled Out by the Millisecond Pulsar?*, with F. Accetta, YCTP-P289, Phys. B233, 93 (1989).
64. *Non-Classical Hair on Black Holes*, YCTP-P7-89, Gen. Rel. Grav. 22 253 (1990) (Fourth Prize Award Gravity Research Foundation).
65. *Supernovae Neutrinos*, *The Reference Encyclopedia of Astronomy and Astrophysics*, 1989.
66. *Particle Physics and Cosmology--a book review*, Science, 247, 92 (1990).
67. *Z decay and the Search for Dark Matter*, YCTP-P14-89, Phys. Rev. Lett. 64, 999 (1990).
68. *Local Discrete Symmetry and Quantum-Mechanical Hair*, with J. Preskill, YCTP-P2189, Phys. B341, 50 (1990).
69. *Spin Dependent Scattering of Weakly Interacting Massive Particles in Heavy Nuclei*, with F. Iachello, YCTP-P15-89, Phys. Lett. B254, 220 (1991).
70. *Implications of Z Width Measurements for the Search for Dark Matter; or There Is No Substitute For Experimental Data.*, in Proceedings of XXVth Rencontres de Moriond (1990).
71. *Big Bang Nucleosynthesis: The Morning After*, in Proceedings of XXVth Rencontres de Moriond (1990).
72. *New Limits on the Variability of G from Big Bang Nucleosynthesis*, with P. Romanelli, F. Accetta, YCTP-P1-90, Phys. Lett. B248, 146 (1990).
73. *A Correlation of Solar Cycle Neutrino Modulation with Internal Solar Variations*, YCTP-P11-90, Nature, 348, 403 (1990).
74. *A New Approach to Gravitational Microlensing: Time Delays*, with T. Small, YCTP-P10-90, Astrophys. J. 378, 22 (1991).
75. *Duality, Axion Charge, and Quantum Mechanical Hair*, with Soo-Jong Rey, YCTP-P11-90, Phys. Lett. B254, 355 (1991).
76. *Dark Matter Theory: Constraints from Particle Physics*, YCTP-P22-90, in *AIP Conference Proceedings 222: After the First Three Minutes (College Park 1990)*, eds. S. Holt, C. Bennett, V. Trimble (AIP, NY) 1991.
77. *LEP Physics and the Early Universe*, in *Primordial Nucleosynthesis and Evolution of the Early Universe*, by K. Sato, J. Audouze, Proceedings IUPAP conference on Big Bang Nucleosynthesis and the Early Universe 1990, Kluwer Pubs (1992).
78. *Low Energy Neutrino Detection and Precision Tests of the Standard Model*, YCTP-P591, Lett. B269, 407 (1991).
79. *Cosmology, Astrophysics, and a 17 keV Neutrino*, YCTP-P13-91, Phys. Lett. B263, 441 (1991).
80. *Quantum Hair and Quantum Gravity*, with S. Coleman, J. Preskill, F. Wilczek., YCTP-P15-91, Gravity Research Foundation 2nd Prize Award, J. Gen. Rel. Grav., 1991.
81. *Solar Neutrino Data and its Implications*, with E. Gates, M. White, YCTP-P26-91, Phys. Rev. D46, 1263 (1992).
82. *The Signal from a Galactic Supernova: Measuring the Tau Neutrino Mass*, with P. Romanelli, D. Schramm, R. Lehrer, YCTP-P29-91, Nucl. Phys. B380, 507 (1992).
83. *Gravitational Waves from Global Phase Transitions*, YCTP-P33-91, Phys. Lett. B284, 229 (1992).
84. *LEP and the Early Universe: A Review*, in Proceedings of XIV International Warsaw Meeting on Elementary Particle Physics, *Puzzles of the Electroweak Scale*, ed. Z. Ajduk, S. Pokorski, and A. K. Wroblewski, (World Scientific 1992).
85. *Low Energy Neutrino Detection and Physics Beyond the Standard Model*, in Proceedings of XIV International Warsaw Meeting on Elementary Particle Physics, *Puzzles of the Electroweak Scale*, ed. Z. Ajduk, S. Pokorski, and A. K. Wroblewski, (World Scientific 1992).
86. *Gravitational Lensing, Finite Galaxy Cores, and the Cosmological Constant*, with M. White., YCTP-P42-91, Ap J. 394, 385 (1992).

87. *Is No SNU's Good News?*, YCTP-P48-91, *Nature*, 355, 399 (1992).
88. *Supernova Neutrinos And The Signal From The Next Galactic Supernova*, YCTP-P4991, *Nucl. Phys. B* (Proc. Suppl.) 28A 106 (1992).
89. *Gravitational Lensing and the Variability of G* , with M. White, YCTP-P2-92, *Astrophysical Journal* 397, 357 (1992).
90. *Rediscovering Creation*, in the science anthology, *Mysteries of Life and the Universe*, W. Shore, Harcourt-Brace-Jovanovich, 1992.
91. *Monopole Non-Annihilation at the Electroweak Scale*, with E. Gates, J. Terning, YCTP-P3-92, *Phys. Lett.* B284, 309 (1992).
92. *Spontaneous CP Violation at the Weak Scale*, with Soo-Jong Rey, YCTP-P4-92, *Phys. Rev. Lett.* 69, 1308 (1992).
93. *A New Look at the Solar Neutrino Problem*, with M. White, E. Gates, YCTP-P14-92, *Phys. Rev. Lett.* 70, 375 (1993).
94. *Grand Unification, Gravitational Waves, and the Cosmic Microwave Background Anisotropy*, with M. White, YCTP-P15-92, *Phys. Rev. Lett.* 69, 869 (1992).
95. *Inflationary Universe Cosmology*, updated for McGraw Hill Encyclopedia of Astronomy, 2nd edition.
96. *Reopening the Solar Neutrino Problem*, YCTP-P19, *Nature* 357, 437 (1992).
97. *Supernova Neutrinos: The Next Supernova and the Tau Neutrino Mass*, YCTP-P21, in Proceedings of the Franklin Symposium, 1992.
98. *Cobe, Inflation, and Light Scalars*, YCTP-P21-92, arxiv:hep-ph/9207243 (1992).
99. *Baryon Number Violation at the Electroweak Scale, an Introduction*, introduction to "*Proceedings of Yale Workshop on Baryon Number Violation at the Electroweak Scale*", ed. by L.M. Krauss and S.J. Rey, (World Scientific 1992).
100. *Universal Lensing and New Limits on the Cosmological Constant*, YCTP-P32-92, with D. Schramm, *J.* 405, L43 (1993).
101. *Solar Neutrino Data, Solar Model Uncertainties, and Neutrino Oscillations*, YCTPP39-92, with M. White, and E. Gates, *Phys. Lett.* B299, 94 (1993).
102. *Let's Go Supernova, A Manual for the Use of SN 19?*, with P. Romanelli, M. White, R. Lehrer, YCTP-P39-92.
103. *Cosmology and Astrophysics 1992*, YCTP-P40-92, Plenary Lecture at XXVI International Conference on High Energy Physics, (Dallas), AIP. Conference Proceedings 272, ed. by J. Sanford (1993).
104. *Dark Matter Candidates, Light Heavy and Nothing*, YCTP-P43-92, in Proc. Rencontres de Blois (1992).
105. *Neutrino Masses and Cosmology: A Brief Review*, YCTP-P3-93, in proceedings of International Conference on Neutrino Astrophysics, Takayama Japan, Oct 1992.
106. *Cosmic Variance and Cosmic Microwave Background Anisotropies: From 1 Degree to COBE*, with M. White and J. Silk, YTCP-P44-92., *Astrophys. J.* 418, 535 (1993).
107. *Neutrino Cosmology and Limits on Extended Technicolor*, with T. Appelquist and J. Terning, YCTP-P8-93. *Phys Rev. Lett.*, 71, 823 (1993).
108. *The Impact of COBE on Inflation, Dark Matter, and Structure Formation: A Brief Review*, YCTP-P14-93, CASE-P1-93, in Proceedings 5th International Workshop on Neutrino Telescopes, and Rencontres de Physique de la Vallee d'Aoste, La Thuile, 1993.
109. *Cosmology and Neutrino Masses*, Proceedings of Moriond 1993 Workshop on Neutrinos, Atomic Physics and Gravitation.
110. *The Holy Grail of Physics*, *The Sciences*, 33, 40 (1993).
111. *Neutrino Physics and Cosmology*, Proceedings of the XIV International Workshop on Weak Interactions and Neutrinos, Seoul 1993 CWRU-P1-94.
112. *Refined Big Bang Nucleosynthesis Constraints on b and N* , with P. Kernan, CWRU-P2-94, *Phys. Rev. Lett.* 72, 3309 (1994).
113. *Implications of Recent Nucleon Spin Structure Measurements for Neutralino Detection*, with M. Kamionkowski, and T. Ressel, CWRU-P3-94.

114. *The Sun as a Probe of Varying G*, with P. Demarque, D. Guenther, D. Nydam, CWRU-P4-94, AP. J. , 37, 879 (1994).
115. *Treating Solar Model Uncertainties: A Consistent Statistical Analysis of Solar Neutrino Models and Data*, with E. Gates, M. White, CWRU-P5-94, Phys. Rev. D51, 2631 (1995).
116. *Recent Deuterium Observations and Big Bang Nucleosynthesis: A New Paradigm?*, with P. Kernan, CWRU-P6-94, J. Letters, 432, L79 (1994).
117. *G Modes in the Sun and Variations of G*, with P. Demarque, D. Guenther, CWRU P8-94, Astrophysical Journal, 445, 148 (1995).
118. *Big Bang Nucleosynthesis and Dark Matter: Baryons and Neutrinos*, CWRU P10-94, Proceedings of UCLA Workshop on Critique of Sources of Dark Matter in the Universe, World Scientific (1995).
119. *Big Bang Nucleosynthesis and : A Guide for CMB Interpreters*, CWRU -P11-94, Proceedings CWRU Workshop (World Scientific) (1995).
120. *Yet Another Paper on SN1987A: Large Angle Oscillations, and the Electron Neutrino Mass*, with P. Kernan, CWRU P7-94, Nuclear Physics B437, 243 (1995).
121. *Big Bang Nucleosynthesis Constraints and Light Element Abundance Estimates*, with P. Kernan, CWRU P9-94, Physics Letters, B347, 347 (1995).
122. *Albert Michelson*, with P. Taylor, for Macmillan Encyclopedia of Physics (1996).
123. *The Cosmological Constant*, for Macmillan Encyclopedia of Physics (1996).
124. *The Michelson-Morley Experiment*, for Macmillan Encyclopedia of Physics (1996).
125. *Big Bad Nucleosynthesis*, Phys. B (Proc. Suppl) 43, 208 (1995).
126. *The Best Fit Universe?: Does Nature Require a Cosmological Constant?:* with M. Turner, CWRU P2 -95.
127. *The Cosmological Constant is Back*, with M. Turner, CWRU P6-95, 5th prize award Gravity Research Foundation, Journal of Gen. Rel. Grav. 27, 1135 (1995).
128. *Dark Sun, The Making of the Hydrogen Bomb* Book review, Cleveland Plain Dealer, Aug 20, 1995.
129. *A Lower Limit on the Age of the Universe*, with B. Chaboyer, P. Kernan, P. Demarque, CWRU P10-95, Science 271, 957 (1996).
130. *A Short History of the Universe*: Book review, Physics Today, Jan 1996 issue.
131. *Inventure Place*, Northern Ohio Live, December 1996 issue.
132. *The Force of Symmetry*, Book Review, Physics Today, March 1996 issue.
133. *The Sounds of Science*, Liner notes, Telarc International Recording of the Music from Star Trek., 1996.
134. *The Third Rock from Ursa Majoris*, New York Times, Jan 21, 1996.
135. *How Strange Thou Art?*, Book Review, Natural History Magazine, June 1996 issue.
136. *Violation of the Weak Energy Condition, Quantum Hair, and Black Hole Thermodynamics*, with H. Liu, CWRU-P5-96, Grav. Research Foundation, Honorary Mention.
137. *A Precision Age Determination Technique for Globular Clusters*, with B. Chaboyer, P. Kernan, P. Demarque, A. Sarajedini, CWRU-P6-96, N.R.A.S., 283, 683 (1996).
138. *Problems and Challenges for Cosmology Involving Massive Neutrinos*, CWRU-P1096, opening lecture, Venice Conference on Neutrino Telescopes, Feb 27 - March 1, 1996, Proceedings, 7th Intl Workshop on Neutrino Telescopes.
139. *Nucleosynthesis, Cosmology, and : The Saga Continues*, CWRU-P11-96, Sources and Detection of Dark Matter '96, Nuclear Physics. B, Proc. Suppl. 51B, 61-65, 1996.
140. *Life, The Universe, and Nothing: The Case for a Cosmological Constant*, CWRUP12-96, Proceedings of IInd Rencontres du Vietnam, *Physics at the Frontiers of the Standard Model*, Editions Frontieres.
141. *Old Galaxies at High Redshift and the Cosmological Constant*, CWRU-P13-96, Astrophysical Journal, 480, 466-469, May 10, 1997.
142. *Equal Time for Nonsense*, The New York Times, July 28, 1996.
143. *Reflections on a Star Trek Anniversary*, The Daily Telegraph, Aug 25, 1996.
144. *Dirty Black Holes and Hairy Black Holes*, with H. Liu and J. Heo, CWRU P16-96, Phys. Rev. Lett., 77, 5164 (1996).
145. *Star Trek and the Future*, CONOCER magazine, Madrid Spain, Oct 1996 issue.

146. *Confusing Fact and Fiction*, New Scientist Magazine, Nov 16, 1996 issue.
147. *Quantum Hair, Instantons, and Black Hole Thermodynamics*, with H. Liu, CWRUP17-96, Nucl. Phys. B., 491, 365 (1997).
148. *Gravitational Lensing and Cosmic Strings*, with A. De Laix, T. Vachaspati, CWRUP2-97, Phys. Rev. Letters, 79, 1968 (1997).
149. *Baryons or Nothing: Results from BBN*, CWRU-P23-96, proceedings of International Workshop on Dark Matter Detection, Sheffield England.
150. *Its Only Rocket Science*, Discover Magazine, May 1997
151. *To Boldly Go Where No One Has Gone Before*, New York Times, Jan 1997.
152. *Forward, Feynman's Dirac Lecture, CD and Video*, AIP.
153. *The Inflationary Universe*, review, CERN Courier, Vol 37, Sept 1997.
154. *Science and Science Fiction*, Wizard Sci-Fi Magazine, May 1997.
155. *Testing the Constancy of the Gravitational Constant using Helioseismology*, with D. Guenther, P. Demarque, Ap. J. 498, 871 (1998).
156. *The Age of Globular Clusters in Light of Hipparos: Resolving the Age Problem?*, with B. Chaboyer, P. Demarque, P. Kernan, CWRU-P4-97, Ap. J 494, 96 (1998).
157. *The End of the Age Problem, and the Case for a Cosmological Constant Revisited*, CWRU-P5-97, Ap. J. 501, 461 (1998).
158. *Hybrid Inflation and Particle Physics*, with G. Dvali, and H. Liu, CWRU-P6-97, submitted to Phys. Rev. Lett.
159. *Propellantless Propulsion: The Most Inefficient Way to Fly?*, Proceedings of NASA Workshop on Breakthrough Propulsion, Aug, 1997.
160. *The Case for a Cosmological Constant*, Proceedings of Workshop on Particle Physics, La Thuile, 1998.
161. *Big Bright Secret*, New York Times, Oct 11 1997 (reprinted, International Herald Tribune, Oct 14, 1997).
162. *Science and Science Fiction*, Wizard Sci Fi Invasion Magazine, May 1997.
163. *Starship Troopers and Reality*, Wizard Sci Fi Invasion Magazine, November 1997.
164. *Before the Beginning: A Book Review*, Physics Today, 1998.
165. *The Impossible Beam*, New York Times, Dec 23, 1997.
166. *A Matter of Some Gravity*, Wizard Sci Fi Invasion Magazine, May 1998.
167. *Gravitational Lensing and Dark Structures*, with N. Cheng, CWRU-P14-98, Ap. J., March 20 issue.
168. *Other Worlds, a Book Review*, Discover Magazine.
169. *Gravity, Chaos, and a New Source of Solar System Dark Matter*, with T. Damour, CWRU-P16-98, submitted to Gravity Research Foundation Competition.
170. *New Signatures and Sources for the Detection of WIMP Dark Matter in the Solar System*, Reports., Dark Matter 1998 Proceedings.
171. *Selling Physics to Unwilling Buyers: Science Fiction and Science Teaching*, Physics World, July 1998 issue.
172. *A New Cosmological Paradigm: The Cosmological Constant and Dark Matter*, in *Particle Physics and Cosmology*, J. F. Nieves, AIP Proceedings 444 (AIP 1998).
173. *A New Solar System Population of WIMPS and New Signatures for Dark Matter Detectors*, with T. Damour, Physical Review Letters, 81, 5726 (1998).
174. *New Signatures and New Sources of WIMPS*. with T. Damour, Physical Review D.59, 063509 (1999).
175. *"Just So" Neutrino Oscillations are Back*, with S. Glashow and P. Kernan, Phys. Lett B445, 412 (1999).
176. *Cosmological Antigravity*, Scientific American, Jan 1999 issue.
177. *Gravitational Lensing and the Cosmological Constant Revisited: Galaxy Parameters and Uncertainties*, with N. Cheng, IJMPA, 15, 697 (2000).
178. *Directional Sensitivity, WIMP Detection, and the Galactic Halo*, with C. Copi, and J. Heo, CWRU-P18-99, Phys. Lett. B461 43-48 (1999).
179. *May the Force Be With You*, The Skeptical Inquirer Magazine, Nov/Dec 1998 issue.
180. *High Temperature Symmetry Breaking, SUSY Flat Directions, and the Monopole Problem*, with G. Dvali, CWRU-P31, arxiv:hep-ph/9811298, 1998.

181. *The New Cosmology and Dark Matter*, Proceedings of Sheffield International Workshop on Dark Matter, Sept 1998, CWRU-P3-99.
182. *New Detection Signatures for WIMPs: Angular Effects and WIMPs in the Solar System*, Proceedings of Sheffield International Workshop on Dark Matter, Sept 1998, CWRU-P4-99.
183. *Dark Energy and Dark Matter: From A Cosmological Constant to New WIMP Signatures*, Proceedings of WEIN'98, Santa Fe, June 1998, CWRU-P5-99.
184. *Life, The Universe and Nothing: Life and Death in an Ever Expanding Universe*, with G. Starkman, CWRU-P1-99, *Astrophysical Journal*, 531, 22 (2000).
185. *Breakthrough Books, Review*, *Lingua Franca Magazine*.
186. *Baryogenesis Below the Electroweak Scale*, with M. Trodden, CWRU-P11-99, *Physical Review Letters*, 83, 1502 (1999).
187. *Stop The Flying Saucer, I Want to Get Off*, *New York Times*, Feb 22, 1999.
188. *Geometry and Destiny*, with M. Turner, CWRU-P16-99, Gravity Research Foundation Essay Competition, 2nd Prize, *J. Gen. Rel. Grav.*, 31, 1543 (1999).
189. *Implications of a New Solar System Population of Neutralinos on Indirect Detection Rates*, with L. Bergstrom, T. Damour, J. Edsjo, P. Ullio, *JHEP* 0908 (1999) 010.
190. *The Age of Globular Clusters*, *Physics Reports* 333-334, 33 (2000).
191. *La fisica piu "umana" di Capitan Kirk*, in *Ricerca Roche*, Marzo 1999 issue.
192. *The Fate of Life in the Universe*, with G. Starkman, *Scientific American*, Nov 1999 issue.
193. *An Elliptical Galaxy Luminosity Function and Velocity Dispersion Sample of Relevance for Gravitational Lensing Statistics*, with N. Cheng, CWRU-P28-99, *New Astronomy*, 6, 249 (2001).
194. *The Test Ban Treaty is a Technical Issue*, *Cleveland Plain Dealer*, Oct 13, 1999.
195. *Black Holes Make Light Reading*, *Physics World*, November 1999 issue.
196. *An Article of Faith: Science and Religion Don't Mix*, *Chronicle of Higher Education*, November 26, 1999.
197. *Six Easy Pieces*, *New Scientist*, November 1999
198. *Music and the Rising Stars*, Al Bustan Festival notes, International Festival of Music and the Arts, Lebanon, February 2000.
199. *Cosmological Physics*, book review, *Physics Today*, March 2000
200. *The Programmable Computer*, in *The Greatest Inventions of the Past 2000 years*, edited by John Brockman, Simon and Schuster (NY 2000).
201. *The Real Armageddon*, *Science First Online*, April 2000.
202. *Pushing the Limits of Science, and Public Relations*, *New York Times*, March 10, 2000.
203. *Rare Earth, A Review*, *Physics Today*, Sept 2000 issue.
204. *Reflections on A Flat Universe*, *New York Times*, June 6, 2000.
205. *Angular Signatures for Galactic Halo WIMP Scattering in Direct Detectors: Prospects and Challenges*, with C. Copi, CWRU-P8-2000, *Phys. Rev. D* 63, 043507 (2001).
206. *Analyze This: A Physicist on Applied Politics*, *New York Times*, Nov 21, 2000.
207. *Einstein's Unfinished Symphony: A Book Review*, *Phys. Today*, Aug 2001 issue.
208. *Space, Time, and Matter: Cosmological Parameters 2001*, of Int. Workshop on the Detection of Dark Matter, York, UK, 2001 (World Scientific, Singapore).
209. *A new population of WIMPs in the solar system and indirect detection rates*, with L. Bergstrom, T. Damour, J. Edsjo, P. Ullio) astro-ph/0012235, *Proc. Int. Conference on Detection of Dark Matter*, York, UK, 2001 (World Scientific, Singapore).
210. *Challenges for Space Travel*, *Plain Dealer*, July 2001.
211. *From Here to Eternity*, *Astronomy*, 29, 52 (2001).
212. *War Won't Eliminate Terrorists*, *Cleveland Plain Dealer*, Sept 2 2001.
213. *Cosmology as Seen from Venice*, Proceedings on Neutrino Telescopes, March 2001, Venice.
214. *If the Guinea Pig Dies, Beware*, *New York Times*, Nov 6, 2001.

215. *Age Estimates of Globular Clusters in the Milky Way: Constraints on Cosmology*, with B. Chaboyer, *Science*, 299, 65 (2003) (Cover Article).
216. *Clouds also are Missile Shields*, *Cleveland Plain Dealer*, Dec 18, 2001.
217. *Theoretical Uncertainties in the Subgiant--Mass Age relation and the absolute age of Omega Cen*, with B. Chaboyer, *Ap. J.* 567 L45-L48 2002.
218. *Phobos Anthology of Science Fiction, Forward*, March 2002
219. *The Unknown Possibilities of Existence*, T.V. Guide, April 2002 Special Issue.
220. *The Cosmological Constant*, *Encyclopedia of Particle Physics*.
221. *Comparing WIMP Interaction Rate Detectors with Annual Modulation Detectors* with Craig J. Copi, *Rev D.* 67, 103507, 2003.
222. *Strong lensing constraints on the velocity dispersion and density profile of elliptical galaxies*, with A. Davis and D. Huterer, *MNRAS*, 344, 1029, 2003.
223. *Odds Are Stacked When Science Tries to Debate Pseudoscience*, *New York Times*, April 30, 2002.
224. *A Model for Neutrino Masses and Dark Matter*, with S. Nasri and M. Trodden, *Phys. Rev. D.*, 67, 085002, 2003.
225. *Proposed Science Standards are Flawed*, *Cleveland Plain Dealer*, Oct 22, 2002.
226. *Dark Energy and the Hubble Age*, *J.* 604 (2004) 481-483.
227. *Science and Words*, *Chronicle of Higher Education*, Nov 29, 2002 issue.
228. *The History and Fate of the Universe: A Guide to Accompany the Contemporary Physics Education Project Chart*, *The Physics Teacher*, March 2003.
229. *The State of the Universe: Cosmological Parameters 2002*, *Astronomy, Cosmology, and Fundamental Physics*, March 2003 issue: ESO-CERN-ESA Symposium on Astronomy, Cosmology and Fundamental Physics.
230. *Decision Leaves Ohio Doomed to Mediocrity*, *Cleveland Plain Dealer*, Dec 16, 2002.
231. *Aliens Unlimited*, *Nature*, 421, 114 (2003).
232. *Manned Space Missions Must Continue*, *Cleveland Plain Dealer*, Feb 14, 2003.
233. *The Citizen-Scientist's Obligation to Stand Up for Standards*, *New York Times*, April 22, 2003.
234. *Cosmology: A Just So Story*, *Nature*, 432, 230 (2003).
235. *Implications of the WMAP Age Measurement for Stellar Evolution and Dark Energy*, *J.* 596, L1 (2003).
236. *New Mindset, New Threat*, *Cleveland Plain Dealer*, Aug 6, 2003.
237. *Alpha and Omega: A Book Review*, *New York Times Book Review*, Oct 6/2003.
238. *Computer Voting Isn't Foolproof*, *Cleveland Plain Dealer*, Oct 19, 2003.
239. *A New Nucleosynthesis Constraint on the Variation of G*, with C. Copi and A. Davis, *Physical Review Letters*, *Phys. Rev. Lett.*, 92, 171 (2004).
240. *Ohio Faces a New Challenge in Intelligent Design Debate*, *Cleveland Plain Dealer*, November 2004.
241. *In Search for Life on Mars, Machines Can Boldly Go Where Humans Can't*, *New York Times*, *Science Times Essay*, Jan 6, 2004.
242. *Redshift Accuracy Requirements for Future Supernova and Number Counts Surveys*, with D. Huterer, A. Kim, T. Broderick, *J.* 615, 595 (2004).
243. *Board Violates its Own Standard*, *The Cincinnati Enquirer*, March 4, 2004.
244. *Politics Trumps Science*, *Cleveland Plain Dealer*, April 12, 2004.
245. *A Universal Limit on Computation*, with G. Starkman, arxiv:astro-ph/0404510, May 2004.
246. *The Standard Model, Dark Matter, and Dark Energy: From the Sublime to the Ridiculous*, arxiv:astro-ph/0406673, *Canary Islands Winter School in Astrophysics Series*, June 2004.
247. *A Cosmic Conundrum*, with M. Turner, *Scientific American*, Sept. 2004 issue.
248. *Diablo Canyon is Ideal for Neutrino Study*, *San Luis Obispo Tribune*, Sept. 2, 2004.
249. *What is Dark Energy?*, *Nature*, 431, 519 (2004).
250. *Different Halo Models and DAMA/CDMS/EDELWEISS and Future Detectors*, with C. Copi, *New Astronomy Reviews*, 49, 185 (2005).
251. *Space Probe Makes Science Fiction Wonders of Childhood Real*, *New York Times*, Jan 25, 2005.
252. *The Big Bang, A Review*, *Los Angeles Times*, (2005).

253. *Reflections on Einstein*, in press.
254. *Assessing Alternatives for Directional Detection of a WIMP Halo*, with C. Copi, astro-ph/0508649, Phys. Rev. D75 023514 Jan 2007.
255. *Supernovae Searches and Strategies for Constraining Dark Energy*, in preparation.
256. *When Sentiment and Fear Trump Reason and Reality*, The New York Times, Science Times Commentary, March 29, 2005.
257. *School Boards Want to 'Teach the Controversy.' What Controversy?* The New York Times, Science Times Commentary, May 17, 2005.
258. *Survival of the Slickest*, New Scientist Magazine, Commentary, July 9, 2005.
259. *The Long Arm of Einstein Guides My Steering Wheel*, The New York Times, Science Times Essay, August 16, 2005.
260. *The Pope and I*, The Skeptical Inquirer, Nov 2005.
261. *Science and Religion Share Fascination in Things Unseen* The New York Times, Science Times Essay, November 8, 2005.
262. *Lost in Los Angeles*, Nature Physics, 1, 5 (2005).
263. *Why Should Physicists Care about Dover?*, Nature Physics, 1, 71 (2005).
264. *Return to the Space Race*, Nature Physics 1 131, December 2005.
265. *Mind Your Scientific Language*, The New Scientist, December 3, 2005.
266. *The allure of worlds we cannot experience*, Newsday, December 4, 2005
267. *The Big Bang*, BBC Sky and Night Magazine.
268. *What's In a Theory*, Nature Physics, 2, 7 (2006).
269. *Forward, The Physics of Superheroes*, Gotham Books, 2005.
270. *What is the Role of Neutrinos in Shaping the Universe*, arxiv:astro-ph/0605378, Proceedings of International Workshop on No-VE, Venice 2006.
271. *Anthropic Fever*, Nature Physics, 2, 64 (2006)
272. *Physics and Philanthropy*, Nature Physics, 2, 137 (2006)
273. *Into the Breach?*, Nature Physics, 2, 215 (2006)
274. *Imagining Hidden Worlds*, The Cleveland Plain Dealer, Op-Ed, January 23, 2006.
275. *State Board is Failing to Heed Judicious Call for Sound Science* The Columbus Dispatch, Op-Ed, January 30, 2006.
276. *Case Trustees Must Talk to the Faculty, Use Its Expertise* The Cleveland Plain Dealer, Op-Ed, March 15, 2006.
277. *Spring Fever*, Nature Physics, 2, 293 (2006)
278. *Science vs. Religion in the ID Debate*, Free Inquiry Magazine, April/May 2006.
279. *Discovery for the Sake of Discovery*, Cover Essay, Seed Magazine, June/July 2006.
280. *Changes in board are first step to turnaround at Case*, The Cleveland Plain Dealer, Op-Ed, June 9, 2006.
281. *The defense that doesn't work*, Nature Physics, 2, 429 (2006).
282. *On The Side of the Angels*, New Scientist Magazine, Commentary, July 6, 2006.
283. *Thanks a Lot, Einstein*, Discover Magazine, Aug 2006.
284. *Voters Must Make Education, Not Faith, The Central Issue*, Cleveland Plain Dealer, Aug 11, 2006.
285. *The 10 Most Important Days in Astronomy*, Mental Floss Magazine, Sept 2006.
286. *Beware Government's Creeping Censorship of Scientific Inquiry*, Daily Forward, September 1, 2006.
287. *Observation of Incipient Black Holes and the Information Loss Problem*, with T. Vachaspati, D. Stojkovic, Phys. Rev. D76 025005 2007.
288. *Indirect Signatures of Light Neutralino Dark Matter in the NMSSM*, with F. Ferrar, S. Profumo, arxiv.org: hep-ph/0609257, Phys. Rev D15, 74,115007 (2006).
289. *Exotic Energy*, BBC Sky at Night Magazine, Oct 2006.
290. *Values Campaign Doesn't Value Some Things We Need*, The Tennessean, Oct 3, 2006.
291. *Dark Matter Candidates: What's Cold.. and What's Not*, arxiv:hep-ph/0702051, Neutrino 2006 Proceedings
292. *Superconducting Cosmic Strings Aren't*, with H. Mathur, F. Ferrer, in preparation

293. *First Strike*, Nature Physics, 2, Nov (2006).
294. *Nobel Nightmares*, Nature Physics, 2, 721 (2006).
295. *Inflationary Cosmology*, McGraw Hill Encyclopedia of Science.
296. *Beyond Evolution. Will State School Board tackle the issues?*, Akron Beacon Journal, Oct. 13, 2006.
297. *Black Holes as Mirages*, with T. Vachaspati, D. Stojkovic, 2006.
298. *Another Year Over*, Nature Physics, 2, Dec (2006)
299. *Sermons and Straw Men*, Nature, 443, 914 (2006)
300. *Dark Energy, The Cosmological Constant, and Type 1a Supernovae*, with D. Huterer and K. Jones-Smith, astro-ph/0701692, New J. Phys. 9 (2007) 141.
301. *Reason, Unfettered by Faith*, Chronicle of Higher Education, Jan 12, 2007.
302. *Radiation can never again dominate matter in a vacuum dominated Universe*, with R. J. Scherrer, astro-ph/0702207, Phys. Rev. D15, 083524 (2007)
303. *Testing Times*, New Scientist, Feb 17, 2007 issue, p. 18.
304. *Cosmic Deconstructionism*, with G. D. Starkman, arxiv:astro-ph/0702333, February 2007
305. *New Data, real of Not, Should Enrich the Christian Conversation*, The Tennessean, Mar 6, 2007.
306. *More Dangerous Than Nonsense*, New Scientist Magazine, May 12, 2007.
307. *It's The Plutonium Stupid*, Bulletin of American Scientists, June 2007.
308. *The Return of a Static Universe and the End of Cosmology*, arxiv 0704.0221, (Gravity Research Foundation Prize Award) J. Gen.. Rel., Grav 39, 1454 (2007).
309. *Museum of Misinformation Posing as Science*, Cincinnati Enquirer, May 19, 2007.
310. *'Creation' Museum is educational travesty and disservice to Religion*, The Tennessean, May 21, 2007.
311. *Scientific Fraud Masked as Religion*, Louisville Courier Journal, May 24, 2007.
312. *Genesis Argument Nothing More than Scientific Fraud in the Name of Religion*, Kentucky Post, May 26, 2007.
313. *Museum of Misinformation*, New Scientist Magazine, May 26, 2007.
314. *Should Science Speak to Faith?*, with R. Dawkins, Scientific American, July 2007 issue, 88 (2007)
315. *Science Versus Religion*, The Religion and Science Debate: Why Does it Continue?, Yale University Terry Lectures, September 1, 2009.
316. *Is there Purpose to the Universe? Unlikely*, The Economist, New York Times, 2007.
317. *Don't Vote for Ignorance*, New Scientist Magazine, July 28, 2007.
318. *Drip Paintings and Fractal Analysis*, with K. Jones Smith and H. Mathur, arxiv:0710.4917, Phys. Rev. E79 046111 (2009).
319. *Atheism a la Carte*, New Scientist Magazine, Aug 25, 2007.
320. *Anthropics Arguments and the Cosmological Constant, with and without the Assumption of Typicality*, with Maor and G. Starkman, arXiv:0709.0502, Phys. Rev. Lett. 100, 041301 (2008).
321. *The Late Time Behavior of False Vacuum Decay: Implications for Cosmology and Metastable Inflating States and a String Landscape*", with J. Dent. arXiv:0711.1821, Phys. Rev. Lett, 100, 171301 (2008).
322. *A Dark Future for Cosmology*, Physics World, Dec 2007, p. 16-17.
323. *Time Deconstructed*, Nature, 450, 480 (2007).
324. *A Nearly Scale Invariant Spectrum of Gravitational Radiation from Global Phase Transitions*", with Mathur, K. Jones-Smith, arxiv:0712.0778, Phys. Rev. Letters, 100, 131302 (2008).
325. *Science and the Candidates*, Wall St. Journal, Dec 6, 2007.
326. *Make Science Part of the Debate*, with C. Mooney, Los Angeles Times, Dec 12, 2007.
327. *The End of Cosmology?*, with R. Scherrer, Scientific American, 298, 46 (2008).
328. *Where the Presidential Candidates Stand on Nuclear Issues*, Bulletin of Atomic Scientists, Jan 9, 2008.
329. *Science and the Candidates*, with S. R. Kirshenbaum, C. Mooney, S. L. Otto, M. Chapman, A. Dacey, R. Holt, Science, 320, 182 (2008).
330. *Science Debate 2008 – Take two*, with M. Chapman, Huffington Post, April 10, 2008.

331. *Effects of Prior Assumptions on Bayesian Estimates of Inflation Parameters and the Expected Gravitational Wave Signal from Inflation*, with W. Valkenburg, J. Hamann, arXiv:0804.3390, Physical Review D 78, 063521 (2008).
332. *Comment on "Is Faith the Enemy of Science?"*. arXiv:0808.0128, Physics in Canada, 2008.
333. *Worth Every Penny*, The Guardian, June 30, 2008.
334. *Late Time Decay of the False Vacuum, Measurement and Quantum Cosmology*, with, J. Dent and G. Starkman, arXiv:0810.4574, Int. J. Mod. Phys. D17:2501-2505, 2009.
335. *Celebrating Science as Culture*, Science, 321, 643 (2008)
336. *The Science Debates- The Presidential Debate Blog*, Aug 10, 2008
337. *Faith vs. Fact*, The Huffington Post, Aug 27, 2008.
338. *McCain Risks Becoming the Anti-Science Candidate*, The Huffington Post, Sept 2, 2008.
339. *Candidates address world of technology*, The Arizona Republic, Sept. 21, 2008.
340. *Memo to the Next President*, Discover Magazine, November 2008.
341. *McCain's Science Earmark Error*, The Los Angeles Times, Oct 28, 2008.
342. *A Timely Cabinet Appointment for Science*, The Huffington Post, Nov 14, 2008.
343. *Intelligent Design vs Truth*, Censorship Magazine, Dec 2008.
344. *CMBPol Mission Concept Study: A Mission to Map our Origins*, with D. Bauman, A. Cooray, S. Dodelson, J. Dunkley, A. Fraisse, M. Jackson, A. Kogut, K. Smith, M. Zaldarriaga, arXiv:0811.3911, AIP Conf.Proc.1141:10-120, 2009.
345. *CMBPol Mission Concept Study: Probing Inflation with CMB Polarization*, with D. Baumann et al, arXiv:0822.3919, AIP Conf.Proc.1141:3-9, 2009.
346. *Edwin Salpeter, Astrophysicist and Pioneer of Man's Grasp of Stellar Evolution*, The Guardian, Feb 4, 2009.
347. *Replacing Anthropy with Entropy: Does it Work?*, with I. Maor, J. Ng, T. Kephart, G. Starkman, arxiv:0812.1015
348. *State will ultimately suffer from proposed university cuts*, Arizona Capitol Times, Jan 30, 2009.
349. *Observing The Evolution of the Universe*, with J. Aguirre et al, astro-ph arxiv:0903.0902, March 5, 2009.
350. *Why we still love star trek*, New Scientist, June 12, 2009.
351. *God and Science Don't Mix*, The Wall St. Journal, June 26, 2009.
352. *Recalling the Apollo 11 Moon Landing*, The New York Times, July 14, 2009.
353. *Immortality*, Best Creative Non-Fiction Volume, 2009.
354. *Under the Radar*, Cosmos Magazine, July/Aug 2009.
355. *A Universe of Surprises*, ABC Australia, Commentary, Aug 2009.
356. *Cosmological Evolution*, in *Evolution*, a collection in honor of Genie Scott.
357. *Implications of Broken Symmetry for Superhorizon Conservations Theorems*, with H. Mathur, K. Jones-Smith, arxiv:0907.4857.
358. *Unlikely Bedfellows: Science and Politics in the Modern World*, in *Science, She Loves Me*, Banff Center Press, 2010.
359. *A Dark Matter Breakthrough*, The Wall St. Journal, Dec 22, 2009.
360. *How to Turn Back the Clock*, The Bulletin of the Atomic Scientists, Jan 2010.
361. *Primordial Gravitational Waves and Cosmology*, S. Dodelson, S. Meyer, Science, arxiv: 1004.2504, Science 328 (2010) 989-992.
362. *Probing The Gravitational Wave Signature from Cosmic Phase Transitions*, with K. Jones-Smith, H. Mathur, and J. Dent, arXiv: 1003.1735, PhysRevD.82.044001, 2010.
363. *The Use of Nuclear Weapons Against a Civilian Population*, in *This Will Change Everything*, ed J. Brockman, Harper Perennial, Dec 2009.
364. *Judgment Day*, New Humanist Magazine, p. 16 March-April 2010.
365. *The Big Bang, Modern Cosmology and the Fate of the Universe: Impacts upon Culture*, The Role of Astronomy in Society and Culture Jan 2009, IAU Proceedings, D. Valls-Gaubaud and A. Boksenberg, eds, arxiv: 1002.1952.
366. *The Impact of Dark Matter Micro-halos on Signatures for Direct and Indirect Detection*, with A. Schneider, B. Moore, arxiv: 1004.5432, Phys. Rev D82 063525, 2010.

367. *Neutrinos, WMAP, and BBN*, with C. Lunardini, C. Smith, arxiv:1009.4666, Nov 2010
368. *A One-Way Ticket to Mars*, The Wall Street Journal, December 22, 2009.
369. *Forgotten Dreams? A Call to investigate the mysteries of humanity*, Scientific American Guest Blog Nov 2010.
370. *The Emperor's New Missile Defense*, Scientific American Guest Blog, Jan 2011.
371. *Rethinking the Dream*, Scientific American, April 2011.
372. *Religion no excuse for promoting scientific ignorance*, New Scientist, Feb 2011.
373. *Our Spontaneous Universe*, The Wall Street Journal, September 8, 2010.
374. *The Gulf Spill and the Limits of Science*, The Wall Street Journal, June 11, 2010.
375. *The Lies of Science Writing*, The Wall Street Journal, December 4, 2010.
376. *Glenn Beck and the science of crowd counts*, The Los Angeles Times, Sept 5, 2010.
377. *The Doomsday Clock keeps ticking*, The Los Angeles Times, January 22, 2010.
378. *Guns-on-campus bill having chilling effect*, The Arizona Republic, March 19, 2011.
379. *No Sacred Mantle*, The New York Times, Room for Debate, January 6, 2011.
380. *W/Z Bremsstrahlung as the Dominant Annihilation Channel for Dark Matter, Revisited*, with N. Bell, J. Dent, A. Galea, T. Jacques, T. Weiler, arxiv:1104.3823v1, Phys.Lett. B706 (2011) 6-12.
381. *Microhalos and Dark Matter Detection*, with A. Schneider, B. Moore, arxiv:1105.4106, PoS IDM2010 (2011) 079.
382. *From One Physicist to Another: Lawrence Krauss Reflects on the Life and Work of Richard Feynman*, Scientific American Guest Blog, March 2011.
383. *Rethinking the Dream of Human Spaceflight*, Scientific American, April 2011.
384. *Re-ionizing the Universe without Stars*, with M. Dopita, R. Sutherland, C. Kobayashi, C. Lineweaver, arxiv: 1106.5546, Astrophys. Space Sci 335 (2011) 345-352.
385. *The space shuttle programme has been a multi-billion-dollar failure*, The Guardian, July 21, 2011.
386. *The Shuttle Was a Dud But Space Is Still Our Destiny*, The Wall Street Journal, July 22, 2011.
387. *Texas Gov. Rick Perry's misguided day of prayer*, The Los Angeles Times, July 25, 2011.
388. *The War on Science: US science cuts pay for war – and we all suffer*, The New Scientist, July 23, 2011.
389. *Dark Matter, Black Holes and the First Stars*, The Wall Street Journal, July 31, 2011.
390. *A Quantum Life*, The Chronicle of Higher Education, August 20, 2011.
391. *CERN and colliding theories*, The Los Angeles Times, October 4, 2011.
392. *Voyager Heads for the Stars*, The Wall Street Journal, December 10, 2011.
393. *The Hunting of the Higgs: what is it and why does it matter?*, Richard Dawkins Foundation for Science and Reason, December 12, 2011.
394. *What is the Higgs boson and why does it matter?*, New Scientist, December 13, 2011.
395. *Why one Higgs boson will not be enough*, The Guardian, December 13, 2011.
396. *Remembering Christopher Hitchens*, Richard Dawkins Foundation for Science and Reason, December 23, 2011.
397. *To the Moon, Newt!*, Slate Magazine, January 27, 2012.
398. *Constraints on Light Hidden Sector Gauge Bosons from Supernova Cooling*, with J. Dent, F. Ferrer, arxiv:1201.2683, January 2012.
399. *The faithful must learn to respect those who question their beliefs*, The Guardian, February 07, 2012.
400. *Why we need college degrees more than we need faith*, The Washington Post, February 28, 2012.
401. *Why Are Religious Beliefs Off Limits?*, The Huffington Post, March 05, 2012.
402. *Does Conservatism Have to Be Synonymous With Ignorance*, The Huffington Post, March 14, 2012.
403. *Countdown to the Man-Made Apocalypse*, Slate Magazine, March 16, 2012.
404. *Americans Deserve a Presidential Science Debate*, The Huffington Post, March 19, 2012.
405. *A Universe Without Purpose*, The Los Angeles Times, April 1, 2012.
406. *Join the real world and show faith in reasoned debate*, The Sydney Morning Herald, April 14, 2012.
407. *It's Time for the U.S. To Finally Sign the Nuclear Test-Ban Treaty*, Slate Magazine, April 25, 2012.
408. *The Consolation of Philosophy*, Scientific American, April 27, 2012.
409. *Did the Universe Arise from Nothing?*, World Science Festival Blog, May 10, 2012.

410. *Does Religious Liberty Equal Freedom to Discriminate?*, Richard Dawkins Foundation for Science and Reason, May 28, 2012.
411. *The Dark-Matter Ages*, Slate Magazine, June 14, 2012.
412. *A Quantum Leap*, Slate Magazine, July 04, 2012.
413. *Higgs and the holy grail of physics*, CNN.com, July 06, 2012.
414. *How the Higgs Boson Posits a New Story of our Creation*, Newsweek Magazine, July 09, 2012.
415. *A Blip That Speaks of Our Place in the Universe*, The New York Times, July 09, 2012.
416. *Romney: Grounded in the Galaxy?*, Richard Dawkins Foundation for Science and Reason, August 23, 2012.
417. *Philosophy v science: which can answer the big questions of life?*, The Guardian, September 08, 2012.
418. *Searching for Dark Matter at the LHC with a Mono-Z*, with N. Bell, J. Dent, A. Galea, T. Jacques, T. Weiler, arxiv: 1209.0231, Phys. Rev. D 86, 096011, 2012.
419. *With Limited Budgets, Pursuing Science Smartly*, The New York Times, October 01, 2012.
420. *Bombing the Test*, Slate Magazine, October 03, 2012.
421. *Whose Space-Exploration Policy Is Better—Obama’s or Romney’s?*, Slate Magazine, October 04, 2012.
422. *A Quiet, Faraway Milestone for Humanity*, The Wall Street Journal, October 19, 2012.
423. *Finding New Planets: Tracking a Star’s Wobble*, Newsweek Magazine, October 22, 2012.
424. *Mormonism in the Mainstream?* Richard Dawkins Foundation for Science and Reason, October 23, 2012.
425. *Italy blames the messengers*, The Los Angeles Times, October 26, 2012.
426. *Out of the Dark*, Cosmos Magazine, November 20, 2012.
427. *Why must the nation grieve with God?* CNN, December 26, 2012.
428. *The Higgs Boson Hangover*, Slate, January 4, 2013.
429. *One Universe*, Edge, January 11, 2013.
430. *An open letter to President Obama: The time on the Doomsday Clock is five minutes to midnight*, The Bulletin of the Atomic Scientists, January 14, 2013.
431. *CDM and Baryons as Distinct Fluids in a Linear Approximation for the Growth of Structure*, with S. De and J. Dent, arXiv: 1302.0941, Phys Rev D 88 (2013) 023510.
432. *How Close Are We to Doomsday?*, Slate, January 15, 2013.
433. *Deafness at Doomsday*, The New York Times, January 15, 2013.
434. *Additional Light Sterile Neutrinos and Cosmology*, with T. Jacques and C. Lunardini, arxiv: 1301.3119, Phys Rev D. 86 (2013) 083515.
435. *A Guide to Understanding Nothing*, Big Think, February 6, 2013.
436. *LHC’s First Act: Higgs Found, Other Weird Physics Still at Large*, Wired, February 13, 2013.
437. *Are We All Martians? How Recent Discoveries Raise the Possibility*, The Daily Beast, March 23, 2013.
438. *Scientists Need to Throw Out Ideas Like Yesterday’s Paper*, Big Think, April 5, 2013.
439. *Did You Hear About the Real-Life Invisibility Cloak?*, Slate, April 10, 2013.
440. *Front Row at the Dawn of Time*, The New York Times, April 12, 2013.
441. *We Don’t “Know It All.” But Here’s What’s Worth Celebrating*, Big Think, April 28, 2013.
442. *Cutting Carbon Dioxide Isn’t Enough*, Slate, May 13, 2013.
443. *A Higgs–Saw Mechanism as a Source for Dark Energy*, with J. Dent, arXiv:1306.3239v1, PRL 111 (2013) 061802.
444. *The Scientific Reach of Multi-Ton Scale Dark Matter Direct Detection Experiments*, with J. Newstead, T. Jacques, J. Dent, and F Ferrer, arXiv:1306.3239v1, Phys. Rev. D 88 (2013) 076011.
445. *Mandating Scientific Discovery Never Works*, Slate, June 21, 2013.
446. *Letting Go of Our Nukes*, The New York Times, July 6, 2013.
447. *Pope John Paul II and the trouble with miracles*, July 7, 2013.
448. *Damping of Primordial Gravitational Waves from Generalized Sources*, with J. Dent, S. Sabharwal, and T. Vacaspati, arxiv: 1307.7571, Phys Rev D 88 (2013) 084008.
449. *A Tweeting Pope Raises Questions about Social Media’s Effect on the Church*, The Daily Beast, September 20, 2013.
450. *Gravitino Leptogenesis*, with A. Long, and S. Sabharwal, arxiv:1309.1454, Phys. Rev. D 90 (2014) 043503.

451. *Using Cosmology to Establish the Quantization of Gravity*, with F. Wilczek, arxiv:1309.5342, Phys. Rev. D 89 (2014) 047501.
452. *The Next Thing We Need To Do About Carbon*, The New Yorker, October 2, 2013.
453. *Metastability of the False Vacuum in a Higgs-Seesaw Model of Dark Energy*, with A. Long, arxiv:1310.5361, Phys. Rev. D 89 (2014)103525.
454. *What Does the Future of the Universe Hold?*, Smithsonian Magazine, December 16, 2013.
455. *Five minutes is too close*, Bulletin of the Atomic Scientists, January 13, 2014.
456. *The Edge Annual Question 2014: "What Scientific Idea is Ready for Retirement?"*, Edge, January 16, 2014.
457. *Why the One Appealing Part of Creationism is Wrong*, The New Yorker, February 19, 2014.
458. *Why Hollywood Thinks Atheism is Bad for Business*, The New Yorker, March 5, 2014.
459. *The New 'Cosmos' Reboot Marks a Promising New Era for Science*, The Daily Beast, March 9, 2014.
460. *A Scientific Breakthrough Lets Us See to the Beginning of Time*, The New Yorker, March 17, 2014.
461. *Is Higgs Inflation Ruled Out?*, with J. Cook, A. Long, and S. Sabharwal, arxiv:1403.4971, Phys. Rev. D89 103525 (2014).
462. *Killing the Straw Man: Does BICEP Prove Inflation?*, with J. Dent and H. Mathur, arxiv:1403.5166, Phys.Lett. B736 (2014) 305.
463. *I have No Idea How I Ended Up in that Stupid Geocentrism Documentary*, Slate, April 8, 2014.
464. *Science Funding is a National Investment - Not an Expense*, The Conversation, June 9, 2014.
465. *From B Modes to Quantum Gravity and Unification of Forces*, with F. Wilczek, arxiv: 1404.0634, Int.J.Mod.Phys. D23 (2014) 1001 (First Place Essay Winner, Gravity Research Foundation).
466. *Peering Back to the Beginning of Time*, APS Physics 7, 64 (2014).
467. *Climate Change: If we pretend it isn't happening, will it go away?*, Bulletin of the Atomic Scientists, July 23, 2014.
468. *Hawking Evaporation is Inconsistent with a Classical Event Horizon at $e=2M$* , with B. Chowdhury, arxiv: 1409.0187, August 31, 2014.
469. *How Big Bang Gravitational Waves Could Revolutionize Physics* Scientific American, October 01, 2014.
470. *Stephen Hawking's work just might explain our place in the cosmos*, National Post, November 19, 2014.
471. *If You Don't Accept That Climate Change Is Real, You're Not a Skeptic. You're a Denier.*, Slate, December 16, 2014.
472. *Scientists as celebrities: Bad for science or good for society?*, Bulletin of the Atomic Scientists, January 10, 2015.
473. *No, Astrobiology has not made a case for God*, The New Yorker, January 24, 2015.
474. *Science, Religion, and Culture in the light of Paris and Charlie Hebdo*, Science, Religion, and Culture, January 27, 2015.
475. *UNC Isn't Charlie Hebdo, and Thomas Paine Isn't Osama Bin Laden*, Huffington Post, February 13, 2015.
476. *Teaching Doubt*, The New Yorker, March 15, 2015.
477. *Introduction to Haydn's The Creation*, ASU Gammage Auditorium April 2015.
478. *Reheating predictions in single field inflation*, with J. Cook, E. Dimastrogiovanni, and D. Easson, arxiv:1502.04673, JCAP 1504 (2015) 047.
479. *A General Analysis of Direct Dark matter Detection: From Microphysics to Observational Signatures*, with J. Dent, J. Newstead, and S. Sabharwal, arxiv:1505.03117, Phys. Rev. D92 (2015) 6, May 2015.
480. *The Big Unanswered Questions*, Huffington Post Blog, May 14, 2015.
481. *Ideology Subsumes Empiricism in Pope's Climate Encyclical*, Scientific American Blog, June 18, 2015.
482. *Large Slow Roll Parameters in Single Field Inflation*, with J. Cook, arxiv:1508.03647, JCAP1603 (2016) no. 03, 028.
483. *All Scientists Should Be Militant Atheists*, The New Yorker, September 8, 2015.
484. *Ben Carson's Scientific Ignorance*, The New Yorker, September 28, 2015.
485. *The Trouble with Theories of Everything*, Nautilus, October 1, 2015.
486. *What Neutrinos Reveal*, The New Yorker, October 8, 2015.

487. "What, Me Worry?", in John Brockman's (Ed) *What to Think About Machines that Think*, p. 171-174 (2015).
488. *Tangled Up in Entanglement*, The New Yorker, October 31, 2015.
489. *70 years of speaking knowledge to power*, Bulletin of the Atomic Scientists, November 24, 2015.
490. *Constraints on Gravitino Decay and the Scale of Inflation using CMB spectral distortions*, with E. Dimatrogiovanni and J. Chlubac, arxiv: 1512.09212, Phys. Rev. D94 (2016) no. 2, 023518, DOI: 10.1088/1475-7516/2016/03/028
491. *Why the Humanist Magazine Matters*, The Humanist, December 22, 2015.
492. *Thinking Rationally about Terror*, The New Yorker, January 2, 2016.
493. *Still Three Minutes to Midnight*, The New Yorker, January 26, 2016.
494. *How a Celebrity's Silly Belief in Flat Earth Can Be Useful*, Slate, January 29, 2016.
495. *Finding Beauty in the Darkness*, The New York Times, February 12, 2016.
496. *Put an Atheist on the Supreme Court*, The New Yorker, February 19, 2016.
497. *The Blind Leading the Dumb*, Huffington Post Blog, March 22, 2016.
498. *Sound Speed and Viscosity of Semi-Relativistic Relic Neutrinos*, with A. Long, arxiv: 1604.00886, JCAP 1607 (2016) no.07, 002, DOI: 10.1088/1475-7516/2016/07/002.
499. *The Fantasy of the Deathbed Conversion*, The New Yorker, July 6, 2016.
500. *DARWIN: towards the ultimate dark matter detector*, with J. Aalbers, et al., arxiv: 1606.07001, JCAP 1611 (2016) no. 11, 017, DOI: 10.1088/1475-7516/2016/11/017.
501. *The Bump That Wasn't*, Scientific American, August 9, 2016.
502. *Trump's Anti-Science Campaign*, The New Yorker, August 21, 2016.
503. *How Much More Can We Learn About the Universe*, Nautilus, September 1, 2016.
504. *Twenty Science Questions for Donald Trump*, The New Yorker, September 13, 2016.
505. *The House Science Committee's Anti-Science Rampage*, The New Yorker, September 14, 2016.
506. *Gravity's Black Rainbow*, The New York Review of Books, September 29, 2016.
507. *The Real Nuclear Threat*, The New Yorker, October 13, 2016.
508. *Donald Trump's War on Science*, The New Yorker, December 13, 2016.
509. *Rick Perry is the Wrong Choice for Energy Secretary*, The New York Times, December 13, 2016.
510. *Vera Rubin: 1928-2016*, Scientific American Blog, December 26, 2016.
511. *Uncertainty*, Edge, January 1, 2017.
512. *Thanks to Trump, the Doomsday Clock Advances Towards Midnight*, with David Titley, The New York Times, January 26, 2017.
513. *Why the Trump Immigration Ban is Bad for the U.S. and Bad for the World*, Scientific American Blog, January 30, 2017.
514. *A Brief History of the Grand Unified Theory of Physics*, Nautilus, March 16, 2017.
515. *The Greatest Story Ever Told, So Far, 52 Insights*, March 18, 2017.
516. *Killing Science and Culture Doesn't Make the Nation Stronger*, Scientific American Blog, March 21, 2017.
517. *The End of The Universe As We Know It*, The New Yorker, March 23, 2017.
518. *These "Waves" May Let Us See the Big Bang's Earliest Moments*, NBC News, April 12, 2017.
519. *March for Science or March for Reality?*, Scientific American Blog, April 20, 2017.
520. *What is Science Good For?*, The New Yorker, April 21, 2017.
521. *Trump's Budget: Making America Less Great*, Scientific American, May 31, 2017
522. *Damn the federal torpedoes, full speed ahead*, Bulletin of the Atomic Scientists, June 2, 2017
523. *Δ Neff and entropy production from early-decaying gravitinos*, with E. Dimatrogiovanni, arxiv: 1706.01495, Phys. Rev. D98 (2018) no.2, 023006
524. *Whatever You Do, Do Not Take Your Eyes Off Trump's War on Science*, Slate, July 25, 2017
525. *North Korea, Donald Trump and the ticking Doomsday Clock*, Los Angeles Times, August 13, 2017
526. *Pondering Voyagers' Interstellar Journeys, and Our Own*, The New York Times, September 5, 2017
527. *Why Science-fiction Writers Couldn't Imagine the Internet*, Slate, September 11, 2017
528. *The World Needs a Terrestrial Sputnik Moment*, The Atlantic, October 4, 2017

529. *We're as close to Doomsday today as we were during the Cold War*, The Washington Post, January 25, 2018
530. *Extracting Particle Physics Information from Direct Detection of Dark matter with Minimal Assumptions*, with J. Newstead, arxiv: 1801.08523, January 25, 2018
531. "Uncertainty", in John Brockman's (Ed) *This Idea is Brilliant*, p. 299-302 (2018)
532. *The time I took Stephen Hawking to a cowboy bar*, The Washington Post, March 15, 2018.
533. *Anything But Standard*, Inference International Review of Science, Vol 4, issue 2., October 19, 2018.
534. *Axions and Atomic Clocks*, arxiv: 1905.10014, May 28, 2019
535. *Time to Stop the 'Doomsday Clock'*, The Wall Street Journal, January 22, 2020
536. *Is Secularism the Root of Society's Ills?*, Paragraph, February 23, 2020
537. *Freeman Dyson: In Praise of a Great Contrarian*, Inference International Review of Science, Vol 5, issue 2, May 6, 2020
538. *Solar Neutrino Detection Sensitivity in DARWIN via Electron Scattering*, with J. Aalbers, et al., arxiv:2006.03114, June 4, 2020
539. *Racism is Real But Science Isn't the Problem*, Quillette, July 3, 2020
540. *The Ideological Corruption of Science*, The Wall Street Journal, July 12, 2020
541. *Sensitivity of the DARWIN observatory to the neutrinoless double beta decay of ^{136}Xe* , with F. Agostini et al., arxiv:2003.13407, Sept. 7, 2020: Eur. Phys. J.C. **80**, 808 (2020)
542. *The State of the Modern American University*, Paragraph, September 19, 2020
543. *Cosmology Without Design*, Inference International Review of Science, Vol. 5, issue 3, September 9, 2020
544. *Why is Science Illiteracy So Acceptable?*, Quillette, November 23, 2020
545. *Making the Profane Sacred*, Quillette, February 11, 2021
546. *Science Goes Rogue*, Quillette, March 13, 2021
547. *Why Climate Science is Like the Rest of Science*, Quillette, May 1, 2021
548. *The New Scientific Method: Identity Politics*, The Wall Street Journal, May 9, 2021
549. *In Defense of the Universal Values of Science*, Quillette, June 2, 2021
550. *Canadians Follow U.S. Lead in Ripping Down Statues*, Wall Street Journal, June 30, 2021
551. *Whatever It Is, It Ain't Aliens*, Quillette, July 7, 2021
552. *Steven Weinberg (1933-2021): The World of Physics Has Lost a Giant*, Prospect Magazine, July 27, 2021
553. *The Messages in the Marsquakes*, Wall Street Journal, July 28, 2021
554. *The Single Greatest Threat to Humanity*, The Cosmopolitan Globalist, August 1, 2021
555. *Necessity Is the Mother of Invention, and Has Been for Over 3500 Years*, Quillette, August 13, 2021
556. *The Not-so-Strange 'Unfittedness' of the Universe for Life*, The Globe and Mail, October 2, 2021
557. *Beyond Reasonable Doubt: Climate Science and the Limits of Appropriate Scepticism*, Prospect Magazine, October 7, 2021
558. *How 'Diversity' Turned Tyrannical*, Wall Street Journal, October 20, 2021
559. *Tales From the Gulag*, Quillette, November 2, 2021
560. *Why the Easily Offended Are a Threat to Scientific Progress*, The National Post, December 6, 2021
561. *Fund Science on the Basis of Scientists' Work, Not Their Identity*, Quillette, December 17, 2021
562. *Axions, Time Varying CP Violation, and Baryogenesis*, arxiv 2201.01447, Jan 6, 2022
563. *Google's "Inclusive Language" Police*, The Wall Street Journal, January 28, 2021
564. *A Next-Generation Liquid Xenon Observatory for Dark Matter and Neutrino Physics, submitted Mar 4, 2022*, with J. Aalbers et al, Phys G: Nucl. Part. Phys., **50**, 013001 (2023)
565. *Freaks of Nature*, Substack, March 27, 2022
566. *The IPCC Report and "The Physics of Climate Change"*, Substack, March 29, 2022
567. *Focusing on Science at the Office of Science and Technology Policy*, Substack, March 31, 2022
568. *The Long Goodbye*, Substack, April 2, 2022
569. *The Ski Slope Curve and the IPCC Reports*, Substack, April 2, 2022
570. *Physics Education: The Hordes are at the Gate*, Substack, April 11, 2022
571. *Diversity, Equity and Inclusion Programs at Universities...For Men?*, Substack, May 19, 2022

572. *The Commencement Address I Didn't Give*, Substack, June 1, 2022
573. *What Critical Mass is all About*, Substack, June 13, 2022
574. *The War on Facts*, Substack, June 28, 2022
575. *GPU-based optical simulation of the DARWIN detector*, JINST **17**, P07018 (2022)
576. *The James Webb Space Telescope Images Show Us the Beauty and Power of Science*, The Globe and Mail, July 13, 2022
577. *Darwin Canceled in a French University?*, Substack, July 19, 2022
578. *Association of American Medical Colleges Prescribes a DEI-based Curriculum*, Substack, July 22, 2022
579. *Music and the Good Old Days*, Substack, July 25, 2022
580. *Medical Education and Research continued: DEI or Science?*, Substack, July 31, 2022
581. *The NSF descends into gobbledygook...*, Substack, August 3, 2022
582. *A Canadian University Doubles Down on Discrimination*, Substack, August 5, 2022
583. *The Lunatics Are Running the Asylum*, Substack, August 19, 2022
584. *Return and Recovery: In love with an island*, Substack, October 2, 2022
585. *Touching History: Meditations on a Rock Wall*, Substack, October 6, 2022
586. *Now Even Science Grants Must Bow to 'Equity and Inclusion'*, Wall Street Journal, October 12, 2022
587. *Anti-Male Bias at the NHMRC*, Quillette, October 20, 2022
588. *Is the American Physical Society Seeking Solutions in Search of Problems?*, Substack, November 1, 2022
589. *The Sad Case of David Porter and His Fight for Academic Freedom*, Substack, November 3, 2022
590. *Frances Widdowson: Fired for Asking Questions*, Substack, November 18, 2022
591. *A New Era for Astronomy and Cosmology*, Substack, December 6, 2022
592. *A Year of Mystery*, Substack, December 31, 2022
593. *Apparently Social Work my no longer be a legitimate field, at least at USC and in Michigan*, Substack, January 13, 2023
594. *One Step Forward, Three Steps Back*, Substack, January 23, 2023
595. *The Silencing of Frances Widdowson continues...*, Substack, February 2, 2023
596. *To Woke or Not to Woke, That is the Question, Is the answer Fundamentalist Wokism?*, Substack, February 14, 2023
597. *Artificially Intelligent Offense?*, Quillette, February, 21, 2023
598. *ChatGPT riddled with wokism as it is programmed to avoid giving offense*, National Post, February 26, 2023
599. *There is only one way to knowing about the natural world: Science*, Substack, March 3, 2023
600. *Francisco Ayala, March 23, 1934-March 3, 2023, Scientist Scholar and Religious Defender of Science*, Substack, March 4, 2023
601. *Words Don't Matter*, Quillette, March 13, 2023
602. *Saying 'Words Matter' is code for 'Coddle Me'*, National Post, March 28, 2023
603. *Astrobiology: The Rise and Fall of a Nascent Science*, Quillette, April 6, 2023
604. *How Do We Define 'Life'?*, Quillette, April 17, 2023
605. *The Unbearable Whiteness of Being*, Quillette, May 5, 2023
606. *We should all take a lesson in humility from science, and know what we don't know*, The Globe and Mail, May 12, 2023
607. *Whiteboards are racist because woke physics journal says so*, National Post, May 15, 2023
608. *Campus Puritans Come for an Astronomer—And His Byline*, Quillette, May 25, 2023
609. *A Scientist's Sexuality Shouldn't Matter*, The Wall St. Journal, May 29, 2023
610. *Cormac McCarthy Was a Man of Science*, The Wall St. Journal, June 15, 2023

Music:

Cosmic Reflections, Libretto for Narrated Symphony, World Premiere, Kennedy Center

Nov 2009

Introduction to Haydn's *The Creation*, ASU Gammage Auditorium April 2015

Scientific American "Critical Mass" Columns"

CP Snow in New York, Sept 2009 issue

Space, the Final Frontier, Oct 2009 issue

How Women Can Save the Planet, Nov 2009 issue

War is Peace, Dec 2009 issue

The Doomsday Clock Still Ticks, Jan 2010 issue

Life in a Test Tube? The Real Promise of Synthetic Biology, Feb 2010 issue

End of Days Danger, March 2010 issue

Human Uniqueness and the Future, May 2010 issue

Why I Love Neutrinos, May 2010 issue

Dark Matters, April 2010 issue

A Year of Living Dangerously: Reflections on Hot-Button Science, Sept 2010

Faith and Foolishness: When Religious Beliefs Become Dangerous, Aug 2010 issue *No Country is an Island*, Jul 2010 issue

New Scientist 'WorldLines' Columns:

It Pays to Push Boundaries Dec 8, 2007

A Science Literate President Please Dec 15, 2007

Scientists, show us your good side Jan 5, 2008

The end of frontier science? Jan 19, 2008

Time to Nail Inflation Feb 2, 2008

Ideas that Will Govern America Feb 16, 2008

What Future Astronomers Won't See Mar 1, 2008

Work Together, save the planet Mar 15, 2008

Boltzmann Brains Mar 29, 2008

Why we don't need 'scientism' and 'religionism' April 12, 2008

Meet the real April Fools April 26, 2008

The US should dismantle its nuclear weapons May 7, 2008

Science is losing out to the allure of Wall Street May 21, 2008

It's a Wonderful Cosmos June 4, 2008

Stop Creationists undermining school science June 18, 2008

How Einstein Kept it Simple July 2, 2008

Cash Prizes won't solve our energy problems July 16, 2008

Why God and Science Don't Mix July 30, 2008

Are Some Things Best Left Unsaid? Aug 13, 2008

Editors Must Be Our Gatekeepers Aug 27, 2008

In Praise of the LHC Sept 10, 2008

Let's Celebrate the Real Big Questions Sept 24, 2008

Why 61 Nobel Laureates endorsed Obama Oct 8, 2008

Will Reason or Unreason Prevail? Oct 29, 2008

The Free Lunch That Made Our Universe Nov 19, 2008

Reasons to be jolly about 2008 Dec 17, 2008

Obama is making the right choices for science Jan 7, 2009

Will Obama see sense about the nuclear threat? Jan 21, 2009

Why the Catholic Church can't ignore Science Feb 6, 2009

Celebrate evolution as only star children can Feb 18, 2009

How to wage war on ignorance and poverty, Mar 11, 2009

Science is back in the driving seat, Mar 25, 2009

Books

Cosmic Strings: The Current Status, ed. with F. Accetta, World Scientific, (Singapore, 1988)

The Fifth Essence: The Search for Dark Matter in the Universe, Basic Books, (New York, 1989) (U.K.: Hutchinson Radius 1989, Vintage 1990; Italy: Mondadori 1991)

Baryon Number Violation at the Electroweak Scale, ed. with S.J.Rey, World Scientific, (Singapore, 1992)

Fear of Physics: A Guide for the Perplexed, (Basic Books/Harper Collins, N.Y (Translated into 12 languages) Sept. 1993)

Cosmic Microwave Background Anisotropies Two Years After COBE: Observations, Theory, and the Future, ed. Proceedings of 1994 CWRU Workshop, World Scientific, Singapore 1994

Teaching about Cosmology: A Programmed Guide for High School Teaching and Learning, with G. Starkman (AAPT/AIP 1995)

The Physics of Star Trek (Basic Books NY 1995) Audio tape by Harper Audio. (Translated into 12 languages)
Paperback Harper Perennial 1996

Beyond Star Trek: Physics from Alien Invasions to the End of Time (Basic Books, NY,
1997)(Translated into 8 languages) (Audio tape by Harper Audio)

Quintessence: The Mystery of the Missing Mass in the Universe (Basic Books NY 2000)

Atom: An Odyssey from the Big Bang to Life on Earth....and Beyond., Little Brown and Co., April 2001 (paperback,
May 2002)

Hiding in the Mirror: The Mysterious Allure of Extra Dimensions, Oct 2005 (Viking Penguin, NY, Paperback Penguin,
2006)

Fear of Physics: A Guide for the Perplexed, Revised Edition (Perseus Books, 2007)

The Physics of Star Trek, Revised Edition (Perseus Books, 2007)

Quantum Man: Richard Feynman's Life in Science (Norton 2011)

A Universe From Nothing (Simon & Schuster 2012)

The Greatest Story Ever Told (Atria Books 2017)

The Physics of Climate Change (Post Hill Press, 2021)

The Edge of Knowledge/The Known Unknowns (Post Hill Press 2023/Head of Zeus 2023)

Radio and Television Commentary:

The Real Price of Creationism, Feb 12, 2004, Marketplace Commentary

Ideology Spending, March 24, 2004, Marketplace Commentary

Visa Battles, May 25, 2004, Marketplace Commentary

Another Space Race, July 29, 2004, Marketplace Commentary

Scientists Express Concern Over White House Policies Travis Smiley Show, Oct 26, 2004

Debate Over Intelligent Design Newshour with Jim Lehrer August 5, 2005

Evolution and the Catholic Church Talk of the Nation Science Friday, Aug 12, 2005

Theoretical Science Made Practical Marketplace Commentary: August 29, 2005

Hiding in the Mirror: The Mysterious Allure of Extra Dimensions Talk of the Nation Science Friday Oct 21, 2005

Facing Reality: Public Policy, Science Education, and the Emperor's New Clothes, CSPAN presentation of Keynote
address at American Enterprise Institute, Oct 21, 2005

The Media Report: Bogus History and Pseudoscience Nov 11, Australian Radio National

Interview with Stephen Crittendon,

NPR's All Things Considered Commentary: In Favor of Barring ID from the Science Classroom, Dec 20, 2005

In the Eye of the Beholder, Jan 30, 2007, Marketplace Commentary

University Presidents, Take Notes, April 3, 2007, Marketplace Commentary

Putting Lies and Fraud on Exhibit, May 25, 2007, Marketplace Commentary *Creation Museum*, May 28, 2007, O'Reilly Factor *Scientific Illiteracy*, Feb 11, 2008, CSPAN.

Discovery Channel Daily Planet, Interview, Jan 19, 2009, Barack Obama and Science Physics and the Universe, Radio New Zealand, interview on issues ranging from the future of the Universe to the Large Hadron Collider.

Big Questions in Cosmology Talk of the Nation Science Friday April 3, 2009

Discovery Channel Daily Planet Interview, May 2009, Science of Star Trek

A One Way Mission to Mars, Talk of the Nation, Science Friday, Sept 9, 2009

Exploring Space, TVO Ontario, Agenda Program, Oct 20, 2009

The Doomsday Clock, Talk of the Nation Science Friday, Jan 15, 2010

The Oil Spill and the Limits of Science Talk of the Nation Science Friday Jun 4, 2010

The Physics of Star Trek The Brent Holland Show Jul 7, 2010

Cosmology, Catalyst, September 16, 2010

Science and Morality Talk of the Nation Science Friday Nov 5, 2010

SKA, Catalyst, February 17, 2011

Richard Feynman is The "Quantum Man" Talk of the Nation Science Friday March 25, 2011

Where are all the Aliens?, Catalyst, March 31, 2011

Discovery of Other Earths, Catalyst, April 7, 2011

Connecting Science and Art Talk of the Nation Science Friday April 8, 2011

In a Flash of Gamma-Rays a Star is Gone Talk of the Nation Science Friday June 17, 2011 *A Universe from Nothing* Talk of the Nation Science Friday January 13, 2012

Biggest Bang, Catalyst, June 16, 2011

In a Flash of Gamma-Rays a Star is Gone Talk of the Nation Science Friday, June 17, 2011

Parallel Universes, Catalyst, June 30, 2011

ABC Australia Canberra Radio AM Greg Bayliss Show, July 9, 2011

NATO plan to deploy ABMs in Europe RT News December 9, 2011

Understanding the God Particle: Lawrence Krauss Explains the Higgs Boson, CBC Radio, December 16, 2011

Christopher Hitchens CNN December 20, 2011

A Universe from Nothing Talk of the Nation Science Friday January 13, 2012

Coast to Coast, January 14, 2012

Talk Radio Europe, January 19, 2012

Quirks and Quarks, The CBC, January 21, 2012

A Universe from Nothing Studio 4 with Fanny Kiefer February 21, 2012

Reason Rally "Question Silly Beliefs" The Alyona Show March 27, 2012

Big Bang Could End with a Whimper TV New Zealand May 10, 2012

Why there is Something rather than Nothing? Equal Time for Free Thought June 2, 2012

The Colbert Report June 21, 2012

Hunting for Life in Other Worlds CNN August 12, 2012

Science vs. Religion CNN September 23, 2012

Fox with John Stossel December 13, 2012

Real Time with Bill Maher February 8, 2013

Anderson Cooper 360 February 15, 2013

ABC Australia Q&A February 18, 2013

Gripping Science Tales Need not be Science Fiction Talk of the Nation Science Friday March 29, 2013

The Morning Show, Global News Canada April 29, 2013

The Agenda with Steve Paikin April 30, 2013

ABC Conversations with Richard Fidler May 23, 2013

ABC Australia Q&A May 27, 2013

Adam Hills Tonight June 12, 2013

ABC Australia June 29, 2013

The Agenda with Steve Paikin July 3, 2013

The Agenda with Steve Paikin July 4, 2013

The Hour with George Stroumboulopoulos July 9, 2013

Custom Universe, Catalyst, August 29, 2013

Skeptic Fence Podcast November 23, 2013

Equal Time for Free Thought November 30, 2013

Detecting the 'Bang' from the Big Bang, Talk of the Nation Science Friday, March 21, 2014

ABC TV Q&A June 2, 2014

The Agenda with Steve Paikin June 17, 2014

Larry King Now August 11, 2014

Michael Feldman's *Whatd'ya Know*, February 13, 2015

The Weekly with Charlie Pickering, April 2015

ABC 7:30, June 29, 2015

ABC Australia Q&A June 29, 2015

Science of Sci Fi Films – face or fiction?, Catalyst, March 1, 2016

The Agenda with Steve Paikin, March 2016

Did Christopher Hitchens flirt with faith?, BBC Newsnight, May 20, 2016

Is Religion to Blame for Violence, Al Jazeera, July 16, 2016

The Life Scientific, BBC Radio, May 31, 2016

Why Are We Here? Physics has Answers, Talk of the Nation Science Friday, March 17, 2017

The Joe Rogan Experience, March 27, 2017

Waking Up with Sam Harris, April 10, 2017

NPR *All Things Considered*, January 28, 2018

Wisconsin Public Radio, January 29, 2018

WNYC, February 1, 2018

Arizona Horizon, Monthly, 2012-2018

Major Television Contributions:

Dark Matter in the Universe, BBC Antenna 1989

Escape from Earth, Discovery 1995

The Science of Star Trek, BBC and Discovery, 1995

Aliens, Are We Alone, Discovery 1995

Mysteries of the Universe, NOVA 1998

Universe 2001, Discovery and The Learning Channel 1999

Voyage to Mars, The Learning Channel 1999

The Final Frontier, BBC 2000-2001

Discovering the Universe, NHK 2001

How William Shatner Changed the World, Discovery, Handel/Mentorn Productions, 2005

Black Holes, Horizon, BBC, 2005

National Geographic 'Naked Science', Space Travel 2005

Discovery Channel: "The Science of Star Gate". 2005

The Physics of Space Travel, "Starman", Pioneer Productions, 2005

National Geographic, 'Naked Science', Origin of the Universe, 2006

The History Channel, The Big Bang, 2006

The Science Channel, "The Hawking Paradox", 2006

The History Channel, Beyond The Big Bang, 2006

The History Channel, Modern Marvels, Star Trek Tech, 2007 (Host).

National Geographic, 'Naked Science', The Big Bang, 2006

PBS, "400 Years of the Telescope", 2008

Naked Science, How to Kill a Planet, 2009

Discovery, How to Engineer a Star, 2009

Discovery, The Big Bang, 2009

National Geographic, Black Holes, 2009

BBC, Black Holes, 2009

Discovery, How to Engineer Galaxies, 2010

Discovery, How to Engineer Supernovae, 2010

Catalyst, Australian Broadcasting System, Sept and Oct 2010

National Geographic, Parallel Universes, 2010

How the Universe Works, 2010-2018

Film:

The Unbelievers, Black Chalk and Primordial Productions (World Premier Hot Docs International Film Festival), 2013

Salt and Fire, 2016

Lo and Behold, Reveries of the Connected World, 2016

The Farthest, 2017