

## CURRICULUM VITA

N. David Mermin  
Laboratory of Atomic and Solid State Physics  
Clark Hall, Cornell University, Ithaca, NY 14853-2501

**Born:** 30 March 1935, New Haven, Connecticut, USA

### **Education:**

1956           A.B., Harvard (Mathematics, summa cum laude)  
1957           A.M., Harvard (Physics)  
1961           Ph.D., Harvard (Physics)

### **Positions:**

1961 - 1963       NSF Postdoctoral Fellow, University of Birmingham, England  
1963 - 1964       Postdoctoral Associate, University of California, San Diego  
1964 - 1967       Assistant Professor, Cornell University  
1967 - 1972       Associate Professor, Cornell University  
1972 - 1990       Professor, Cornell University  
1984 - 1990       Director, Laboratory of Atomic and Solid State Physics  
1990 - 2006       Horace White Professor of Physics, Cornell University  
2006 -            Horace White Professor of Physics Emeritus, Cornell University

### **Visiting Positions and Lecturerships:**

1970 - 1971       Visiting Professor, Instituto di Fisica "G. Marconi," Rome  
1978 - 1979       Senior Visiting Fellow, University of Sussex  
1980            Morris Loeb Lecturer, Harvard University  
1981            Emil Warburg Professor, University of Bayreuth  
1982            Phillips Lecturer, Haverford College  
1982            Japan Association for the Advancement of Science Fellow, Nagoya  
1984            Walker-Ames Professor, University of Washington  
1987            Welch Lecturer, University of Toronto  
1990            Sargent Lecturer, Queens University, Kingston Ontario  
1991            Joseph Wunsch Lecturer, the Technion, Haifa  
1993            Feenberg Lecturer, Washington University, St. Louis  
1993            Guptill Lecturer, Dalhousie University, Halifax  
1994            Chesley Lecturer, Carleton College  
1995            Lorentz Professor, University of Leiden  
1995            Brattain Lecturer, Whitman College  
1995            Tanner Lecturer, Utah Academy of Sciences, Arts, & Letters  
1997            Cruikshank Lecturer, University of Rhode Island  
1997            Konopinski Lecturer, Indiana University  
1998            Distinguished Scientist, Trinity University, San Antonio  
2002            Wolfgang Paul Lecturer, University of Bonn  
2004            Hamister Distinguished Lecturer in Physics, Kenyon College

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|------|---|
| 2004 | Tenneco Lecturer, University of Houston                         |
| 2005 | Coulter McDowell Lecturer, Royal Holloway, University of London |
| 2006 | Oakes Lecturer, University of Texas, Austin                     |
| 2007 | Hamilton Lecturer, Princeton University                         |
| 2007 | Walter Kohn Lecturer, University of Sherbrooke, Quebec          |
| 2008 | Oppenheimer Lecturer, University of California, Berkeley        |
| 2008 | Mueller Lecturer, Pennsylvania State University                 |
| 2009 | Visiting Professor, Niels Bohr Institute, Copenhagen            |
| 2010 | Misel Lecturer, University of Minnesota                         |
| 2011 | Hofstadter Lecturer, Stanford University                        |
| 2012 | Fellow, Stellenbosch Institute for Advanced Study               |

### **Fellowships and Awards:**

|             |  |
|-------------|--|
| 1966 - 1970 | Sloan Foundation Fellow  |
| 1970        | Fellow, American Physical Society                                  |
| 1970 - 1971 | Guggenheim Foundation Fellow                                       |
| 1988        | Member American Academy of Arts and Sciences                       |
| 1989        | First recipient, Lilienfeld Prize of the American Physical Society |
| 1991        | Member National Academy of Sciences                                |
| 1994        | Klopsteg Memorial Award, Am. Assoc. Physics Teachers               |
| 1997        | Russell Distinguished Teaching Award, Cornell University           |
| 2010        | Majorana Prize, EJTP Best Person in Physics                        |
| 2011        | Outstanding Referee, American Physical Society                     |
| 2015        | Member, American Philosophical Society                             |
| 2017        | Dagmar and Václav Havel Foundation VIZE 97 Prize                   |

## **PUBLICATIONS, N. DAVID MERMIN**

### **Books:**

*Space and Time in Special Relativity*, McGraw-Hill, New York, 1968.

*Solid State Physics*, with N. W. Ashcroft, Holt, Rinehart and Winston, New York, 1976. *Translations:* Russian, 1979; Japanese, 1981-2; Polish, 1986; German, 2001; French, 2002; Portuguese, 2011.

*Boojums all the Way Through — Communicating Science in a Prosaic Age*, Cambridge University Press, 1990. *Translations:* Japanese, 1994.

*It's About Time: Understanding Einstein's Relativity*, Princeton University Press, 2005. *Translations:* Polish, 2008; Romanian, 2009; German, 2016; Greek, 2017.

*Quantum Computer Science: An Introduction*, Cambridge University Press, 2007. *Translations:* Japanese, 2009; French, 2010.

*Why Quark Rhymes with Pork and Other Scientific Diversions*, Cambridge University Press, 2016.

*Mysl, smysl, svět* (in Czech only), Dagmar and Václav Havel Foundation, Prague, 2017.

### Technical Articles:

1. “The Second-Order Distribution of Integrated Shot Noise,” *IRE Transactions on Information Theory* **5**, 75 (1959), with J. Keilson.
2. “A Theorem on Cross Correlation Between Noisy Channels,” *IRE Transactions on Information Theory* **5**, 77 (1959), with J. Keilson and P. Bello.
3. “Determination of Thermodynamic Green’s Functions,” *J. Math. Phys.* **2**, 232 (1961), with G. Baym.
4. “Two Models of Brownian Motion,” *Am. J. Phys.* **29**, 510 (1961).
5. “RPA Instability and the Gas-Liquid Transition. Part I,” *Ann. Physics* **18**, 421 (1962).
6. “RPA Instability and the Gas-Liquid Transition. Part II. Effect of Short Range Repulsion,” *Ann. Physics* **18**, 454 (1962).
7. “Stability of the Thermal Hartree-Fock Approximation,” *Ann. Physics* **21**, 99 (1963).
8. “Long Wavelength Oscillations of a Quantum Plasma in a Uniform Magnetic Field,” *Ann. Physics* **26**, 247 (1964), with Eric Canel.
9. “Oscillations of a Quantum Electron Gas in a Uniform Magnetic Field,” in *Lectures on the Many Body Problem*, Proceedings of the 5th International School of Physics, Ravello, Italy, E. R. Caianello, ed., Volume 2 (Academic Press, 1964), with Eric Canel.
10. “Time-Dependent Correlations in a Solvable Ferromagnetic Model,” *Phys. Rev.* **134**, A112 (1964).
11. “Long Wavelength Oscillations of a Quantum Plasma in a Uniform Magnetic Field. II,” *Ann. Physics* **30**, 249 (1964), with V. Celli.
12. “Instability in the Quantum Helicon Dispersion Relation,” *Phys. Rev.* **136**, A346 (1964), with V. Celli.
13. “Thermal Properties of the Inhomogeneous Electron Gas,” *Phys. Rev.* **137**, A1441 (1965).

14. "Ground State of an Electron Gas in a Magnetic Field," *Phys. Rev.* **140**, A839 (1965), with V. Celli.
15. "A Short Simple Evaluation of Expressions of the Debye-Waller Form," *J. Math. Phys.* **7**, 1038 (1966).
16. "Absence of Ferromagnetism or Antiferromagnetism in One- or Two-Dimensional Isotropic Heisenberg Models," *Phys. Rev. Lett.* **17**, 1133 (1966), with H. Wagner.
17. "Existence of Zero Sound in a Fermi Liquid," *Phys. Rev.* **159**, 161 (1967).
18. "Absence of Ordering in Certain Classical Systems," *J. Math. Phys.* **8**, 1061 (1967).
19. "Fermi-Liquid Effects in Magnetoplasma Modes in Alkali Metals," *Phys. Rev. Lett.* **20**, 839 (1968), with Y. C. Cheng.
20. "Magnetoplasma Modes in Alkali Metals," *Phys. Rev. Lett.* **20**, 1486 (1968), with Y. C. Cheng and J. S. Clarke.
21. "Exact Lower Bounds for Some Equilibrium Properties of a Classical One-Component Plasma," *Phys. Rev.* **171**, 272 (1968).
22. "Crystalline Order in Two Dimensions," *Phys. Rev.* **176**, 250 (1968). Erratum: *Phys. Rev. B* **20**, 4762 (1979). Erratum: *Phys. Rev. B* **74**, 149902(E) (2006).
23. "Some Applications of Bogolyubov's Inequality in Equilibrium Statistical Mechanics," *J. Phys. Soc. Japan* **26** Supplement, 203 (1969).
24. "Attenuation of Transverse Zero Sound in He<sup>3</sup>," *Phys. Rev.* **180**, 225 (1969), with L. R. Corruccini, J. S. Clarke and J. W. Wilkins.
25. "Absence of Anomalous Averages in Systems of Finite Thickness or Cross Section," *Phys. Rev.* **185**, 760 (1969), with G. V. Chester and M. E. Fisher.
26. "Lindhard Dielectric Function in the Relaxation-Time Approximation," *Phys. Rev. B* **1**, 2362 (1970).
27. "Condensation of the Rotating Two-Dimensional Ideal Bose Gas," *Phys. Rev. B* **1**, 3160 (1970), with J. J. Rehr.
28. "Zero Sound in Anisotropic Metals," *Ann. Phys.* **60**, 27 (1970), with Y. C. Cheng.
29. "Solvable Model of a Vapor-Liquid Transition with a Singular Coexistence-Curve Diameter," *Phys. Rev. Lett.* **26**, 169 (1971).
30. "Lattice Gas with Short-Range Pair Interactions and a Singular Coexistence-Curve Diameter," *Phys. Rev. Lett.* **26**, 957 (1971).

31. "Generality of the Singular Diameter of the Liquid-Vapor Coexistence-Curve," *Phys. Rev. Lett.* **26**, 1155 (1971), with J. J. Rehr.
32. "Asymmetry in the Liquid and Vapor Density Fluctuations at the Critical Point," *Phys. Rev. A* **4**, 2408 (1971), with J. J. Rehr.
33. "Proof of Two Conjectures of Widom," *J. Chem. Phys.* **54**, 3958 (1971).
34. "Models with Particle-Hole Symmetry and Singular Coexistence-Curve Diameters," *Phys. Rev. A* **7**, 379 (1973), with J. J. Rehr.
35. "Revised Scaling Equation of State at the Liquid-Vapor Critical Point," *Phys. Rev. A* **8**, 472 (1973), with J. J. Rehr.
36. "Thermal Anomalies of  $\text{He}^3$ : Pairing in a Magnetic Field," *Phys. Rev. Lett.* **30**, 81 (1973), with V. Ambegaokar.
37. "Ginzburg-Landau Approach to  $L \neq 0$  Pairing," *Phys. Rev. Lett.* **30**, 1135 (1973), with G. Stare.
38. "The Order Parameter in Liquid  $^3\text{He}$ ," in *Proceedings of the 24th Nobel Symposium on Collective Properties of Physical Systems*, Aspensaasgarden, Sweden, 1973, B. Lundqvist and S. Lundqvist, eds. (Academic Press, New York, 1974), 97, with V. Ambegaokar.
39. " $d$ -Wave Pairing Near the Transition Temperature," *Phys. Rev. A* **9**, 868 (1974).
40. "Evidence Against  $f$ -Wave Pairing in Superfluid  $^3\text{He}$ ," *Phys. Rev. Lett.* **34**, 1651 (1975).
41. " $f$ -Wave Pairing of Parallel Spins Near the Transition Temperature," *Phys. Rev. B* **13**, 112 (1976).
42. "Circulation and Angular Momentum in the A Phase of Superfluid Helium-3," *Phys. Rev. Lett.* **36**, 594 (1976), with Tin-Lun Ho.
43. "Games to Play with  $^3\text{He-A}$ ," *Physica* **90B**, 1 (1977).
44. "Surface Singularities and Superflow in  $^3\text{He-A}$ ," in *Quantum Fluids and Solids*, S. B. Trickey, E. D. Adams, and J. W. Dufty, eds. (Plenum Press, 1977), pp. 3-22. Reprinted in *Topological Quantum Numbers in Nonrelativistic Physics*, David J. Thouless, ed. (World Scientific, Singapore, 1998), pp. 259-278.
45. "Superfluidity in Helium-3," in *Quantum Liquids*, J. Ruvalds and T. Regge, eds. (North-Holland, 1978), p. 195.

46. “Modeli s  $p$ -sparivaniem dlya A-fazi sverkhtekuchestv Geliya-3,” in *Sverkhtekuchestv Geliya-3*, Izdatelstvo Mir, 1977, with G. Stare.
47. “Stability of Superflow in  $^3\text{He-A}$ ,” *Phys. Rev. Lett.* **39**, 1290 (1977), with P. Bhattacharyya and Tin-Lun Ho.
48. “Topological Analysis of the Cores of Singularities in  $^3\text{He-A}$ ,” *J. Low Temp. Phys.* **33**, 117 (1978), with V. P. Mineyev and G. F. Volovik.
49. “The Homotopy Groups of Condensed Matter Physics,” *J. Math. Phys.* **19**, 1457 (1978).
50. “Textures and Supercurrents in  $^3\text{He-A}$ ,” *J. de Physique* **C6**, 1283 (1978).
51. “The Topological Theory of Defects in Ordered Media,” *Revs. Mod. Phys.* **51**, 591 (1979). Reprinted in *Anomalies, Phases, Defects ...*, Proceedings of International School held in Ferrara, Italy, June 1989, M. Bregola, G. Marmo, and G. Morandi, eds. (Bibliopolis, 1990), pp. 246-302.
52. “Cooper Pairs vs. Bose Condensed Molecules: the Ground State Current in Superfluid  $^3\text{He-A}$ ,” *Phys. Rev. B* **21**, 980 (1980), with P. Muzikar.
53. “Current Density in the BCS Ground State for a Spatially Non-Uniform Anisotropic Superfluid,” in *Modern Trends in the Theory of Condensed Matter*, Proceedings of the XVI Karpacz Winter School of Theoretical Physics, February 1979, A. Pekalski and J. Przystawa, eds. (Springer-Verlag, New York, 1980).
54. “Gauge Wheel of Superfluid  $^4\text{He}$ ,” *Phys. Rev. Lett.* **44**, 330 (1980), with T.-L. Ho.
55. “Equilibrium Order Parameters and Chemical Potentials in Rotating Superfluids,” *Phys. Rev. B* **21**, 5190 (1980), with T.-L. Ho.
56. “Quantum Mechanics vs. Local Realism Near the Classical Limit: A Bell Inequality for Spin  $s$ ,” *Phys. Rev. D* **22**, 356 (1980).
57. “Joint Distributions and Local Realism in the Higher-Spin Einstein-Podolsky-Rosen Experiment,” *Found. Phys.* **12**, 101 (1982), with Gina Schwarz.
58. “Reply to Comment on ‘Equilibrium Order Parameters and Chemical Potentials in Rotating Parameters and Chemical Potentials in Rotating Superfluids’,” *Phys. Rev. B* **25**, 3395 (1982), with T.-L. Ho.
59. “Comment on ‘Hidden Variables, Joint Probability, and the Bell Inequalities’,” *Phys. Rev. Lett.* **49**, 242 (1982), with A. Garg.
60. “Bell Inequalities with a Range of Violation that Does not Diminish as the Spin Becomes Arbitrarily Large,” *Phys. Rev. Lett.* **49**, 901 (1982), with A. Garg.

61. “Comment on ‘Resolution of the Einstein-Podolsky-Rosen and Bell Paradoxes’,” *Phys. Rev. Lett.* **49**, 1214 (1982).
62. “Correlation Inequalities and Hidden Variables,” *Phys. Rev. Lett.* **49**, 1220 (1982), with A. Garg.
63. “Local Realism and Measured Correlations in the spin-s Einstein-Podolsky-Rosen Experiment,” *Phys. Rev. D* **27**, 339 (1983), with A. Garg.
64. “Pair Distributions and Conditional Independence: Some Hints About the Structure of Strange Quantum Correlations,” *Philosophy of Science* **50**, 359 (1983).
65. “Relieving Cholesteric Frustration: The Blue Phase in a Curved Space,” *Phys. Rev. Lett.* **51**, 467 (1983), with J. P. Sethna and D. C. Wright.
66. “Farkas’s Lemma and the Nature of Reality: Statistical Implications of Quantum Correlations,” *Found. Phys.* **14**, 1 (1984), with A. Garg.
67. “Pitfalls of the Relaxation Time Approximation: Hydrodynamic Sound in a Multi-component Fermi Liquid,” *J. Low Temp. Phys.* **59**, 115 (1985), with S. Troian.
68. “Mean-Field Theory of Quasicrystalline Order,” *Phys. Rev. Lett.* **54**, 1524 (1985), with S. Troian.
69. “Cholesteric Blue Phases in the High-Chirality Limit,” *Phys. Rev. A* **31**, 3498 (1985), with David C. Wright.
70. “Mean Field Theories of Quasicrystalline Order,” *Ferroelectrics* **66**, 127 (1986), with S. Troian.
71. “Generalizations of Bell’s Theorem to Higher Spins and Higher Correlations, in *Fundamental Questions in Quantum Mechanics*, Laura M. Roth and Akira Inomata, eds. (Gordon and Breach, NY, 1986), p. 7.
72. “The EPR Experiment—Thoughts about the ‘Loophole’,” in *New Techniques and Ideas in Quantum Measurement Theory*, Daniel M. Greenberger, ed. (New York Academy of Sciences, NY, 1986), Vol. 480, p. 422.
73. “Detector Inefficiencies in the Einstein-Podolsky-Rosen Experiment,” *Phys. Rev. D* **35**, 3831 (1987), with A. Garg.
74. “Rudimentary Quasicrystallography: The Icosahedral and Decagonal Reciprocal Lattices,” *Phys. Rev. B* **35**, 5487 (1987), with D. S. Rokhsar and D. C. Wright.
75. “Beware of 46-Fold Symmetry: The Classification of Two-Dimensional Quasicrystallographic Lattices,” *Phys. Rev. Lett.* **58**, 2099-2101 (1987), with D. S. Rokhsar and D. C. Wright.

76. "The Two-Dimensional Quasicrystallographic Space Groups with Rotational Symmetries Less than 23-Fold," with D. S. Rokhsar and D. C. Wright, *Acta Cryst. A* **44**, 197-211 (1988).
77. "A New Representation for the Quantum Theoretic Rotation Matrix that Reveals the Classical Limit of Einstein-Podolsky-Rosen Correlations," in *Proceedings of the Urbino Conference on Microphysical Reality and Quantum Formalism*, A. van der Merwe, F. Selleri and G. Tarozzi, eds. (Kluwer Academic Publishers, 1988), p. 339.
78. "Instability of Quasicrystalline Order in the Local Kalugin-Kitaev-Levitov Model," *Phys. Rev. B* **38**, 3699 (1988), with Lisbeth Gronlund.
79. "Scale Equivalence of Quasicrystallographic Space Groups," *Phys. Rev. B* **37**, 8145-8149 (1988), with Daniel S. Rokhsar and David C. Wright.
80. "Aperiodic Tilings with Non-Symmorphic Space Groups  $p2^jgm$ ," *Acta Cryst. A* **44**, 678-688 (1988), with David A. Rabson and Tin-Lun Ho.
81. "Reinventing Crystallography: The Forbidden Lattices and Spacegroups," XVIIth International Colloquium on Group Theoretical Methods in Physics, Y. Saint-Aubin and L. Vinet, eds. (World Scientific Publishing Co., 1989), pp. 103-126.
82. "Space Groups of Quasicrystallographic Tilings," *Acta Cryst. A* **45**, 538 (1989), with D. A. Rabson and T.-L. Ho.
83. "Crystalline Liquids: The Blue Phases," *Revs. Mod. Phys.* **61**, 385 (1989), with D. C. Wright.
84. "Stacking Quasicrystallographic Lattices," *Phys. Rev. B* **15**, 10,498-502 (1990), with D. A. Rabson, D. S. Rokhsar, and D. C. Wright.
85. "Generalized Crystallography in Two and Three Dimensions", in *Quasicrystals*, Proceedings of the 12th Taniguchi Symposium, eds. T. Fujiwara and T. Ogawa, Springer-Verlag, New York, 1990.
86. "Extreme Quantum Entanglement in a superposition of Macroscopically Distinct States", N. David Mermin, *Phys. Rev. Lett.* **65**, 1838 (1990).
87. "Simple Unified Form for the Major No-Hidden-Variables Theorems", N. David Mermin, *Phys. Rev. Lett.* **65**, 3373 (1990).
88. "The Space Groups of Axial Crystals and Quasicrystals", with David A. Rabson, Daniel S. Rokhsar, and David C. Wright, *Revs. Mod. Phys.* **63**, 699-733 (1991).
89. "Can a Phase Transition Make Quantum Mechanics Less Embarrassing", *Physica* **177**, 561 (1991).



90. “(Quasi)crystallography is better in Fourier space”, in *Quasicrystals: The State of the Art*, eds. P. J. Steinhardt and D. P. DiVincenzo, World Scientific, 1991, pps. 133-183.
91. “The Space Groups of Icosahedral Quasicrystals and Cubic, Orthorhombic, Monoclinic, and Triclinic Crystals”, *Revs. Mod. Phys.* **64**, 3-51 (1992). Errata: **64**, 635 (1992); **64**, 1163 (1992); **66**, 249 (1994).
92. “Not quite so simply no hidden variables”, *Am. J. Phys.* **60**, 25 (1992).
93. “Quantum Cryptography Without Bell’s Theorem and Without EPR”, with Charles H. Bennett and Gilles Brassard, *Phys. Rev. Lett.* **68**, 557-559 (1992).
94. “Bravais Classes for the Simplest Incommensurate Crystal Phases”, with Ron Lifshitz, *Acta Cryst. A* **48**, 515 (1992).
95. “Copernican Crystallography”, *Phys. Rev. Lett.* **68**, 1172 (1992).
96. “J. S. Bell Memorial Lecture: Some simple unified versions of the two theorems of John Bell”, Proceedings of the XIX International Colloquium on Group Theoretical Methods in Physics, *Anales de Física, Monografías*, M. A. Olmo and M. Santander eds., CIEMAT/RSEF, Madrid (1993), Vol. II, p. 3.
97. “Crystallography without periodicity”, Proceedings of the XIX International Colloquium on Group Theoretical Methods in Physics, *Anales de Física, Monografías*, M. A. Olmo and M. Santander eds., CIEMAT/RSEF, Madrid (1993), Vol. II, p. 302.
98. “Hidden Variables and the Two Theorems of John Bell”, *Revs. Mod. Phys.* **65**, 803-815 (1993).
99. “Space Groups of Trigonal and Hexagonal Quasiperiodic Crystals of Rank Four”, Ron Lifshitz and N. David Mermin, *Acta Cryst. A* **50**, 72-85 (1994).
100. “Bravais Classes and Space Groups of Trigonal and Hexagonal Quasiperiodic Crystals of Arbitrary Finite Rank”, with Ron Lifshitz, *Acta Cryst. A* **50**, 85-97 (1994).
101. “Limits on Quantum Mechanics as a Source of Magic Tricks: Retrodiction and the Bell–Kochen–Specker Theorem”, *Phys. Rev. Lett.* **74**, 831-834 (1995).
102. “The Best Version of Bell’s Theorem”, in *Fundamental Problems in Quantum Theory*, Daniel M. Greenberger and Anton Zeilinger eds., New York Academy of Sciences, New York, 1995, pp. 616-623.
103. “Color Symmetry of Aperiodic Structures”, with Ron Lifshitz, in *Aperiodic ’94, An International Conference on Aperiodic Crystals*, ed. G. Chapuis (World Scientific, Singapore, 1995), pp 77-81.

104. “The Symmetry of Composite Crystals”, with Ron Lifshitz, in *Aperiodic '94, An International Conference on Aperiodic Crystals*, ed. G. Chapuis (World Scientific, Singapore, 1995), pp 82-86.
105. “Symmetry Changes in Rank-Lowering Phase Transitions”, with Ron Lifshitz, in *Aperiodic '94, An International Conference on Aperiodic Crystals*, ed. G. Chapuis (World Scientific, Singapore, 1995), pp 267-271.
106. “Extinctions in Scattering from Periodic or Aperiodic Crystals, *Physica Status Solidi (a)* **151**, 275-279 (1995).
107. “Tetrahedral Quasicrystals”, with Jörg Dräger and Ron Lifshitz, in *Proceedings of the 5th International Conference on Quasicrystals*, Christian Janot and Remy Mosseri eds. (World Scientific, Singapore, 1995), pp 72-75.
108. “Hidden Quantum Non-Locality”, in *Perspectives on Quantum Reality*, Robert K. Clifton ed., Kluwer Academic, 1996, 57-71.
109. “Superspace Groups Without the Embedding: The Link between Superspace and Fourier-space Crystallography”, with Jörg Dräger, *Phys. Rev. Lett.* **76**, 1489-1492 (1996).
110. “Reply to Comment on ‘Correlation Inequalities and Hidden Variables’, with Anupam Garg, *Phys. Rev. Lett.* **76**, 2197 (1996).
111. “How to Ascertain the Values of Every Member of a Set of Observables that Cannot All Have Values”, in *Potentiality, entanglement, and Passion-at-a-Distance*, Cohen, Horne, and Stachel, eds., Kluwer Academic, 1997, 145-153
112. “The Symmetry of Crystals”, in *The Mathematics of Long-Range Aperiodic Order*, R. V. Moody (ed.), Kluwer Academic, 1997, 377-401.
113. “Electronic level degeneracy in nonsymmorphic periodic or aperiodic crystals”, with Anja König, *Phys. Rev. B* **56**, 13607-13610 (1997).
114. “The Ithaca Interpretation of Quantum Mechanics”, *Pramana* **51** (5) 549-565, (1998).
115. “What is quantum mechanics trying to tell us?”, *Am. J. Phys.* **66**, 753-767 (1998).
116. “Nonlocal character of quantum theory?”, *Am. J. Phys.* **66**, 920-924 (1998).
117. “Symmetry and level degeneracy in aperiodic crystals”, with Anja König, *Aperiodic '97*, M. de Boissieu, J-L Verger-Gaugry, and R. Currat eds, World Scientific, New Jersey, 1998.
118. “What do these correlations know about Reality? Nonlocality and the absurd”, *Foundations of Physics*, **29**, 571-587 (1999).

119. “Screw rotations and glide mirrors: Crystallography in Fourier Space”, with Anja König, *Proc. Natl. Acad. Sci. USA* **96**, 3502-3506 (1999).
120. “From classical state-swapping to quantum teleportation”, *Phys. Rev. A* **65**, 012320 (2002); quant-ph/0105117.
121. “Whose knowledge?”, Chapter 19 of “Quantum (Un)speakables: Essays in Commemoration of John S. Bell”, eds. Reinhold Bertlmann and Anton Zeilinger, pps. 271-280, Springer Verlag, 2002; quant-ph/0107151.
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126. “Inclusion of time in the theorem of Bell”, *Europhysics Letters* **61**, 143-147 (2003).
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128. “Copenhagen Computation: How I Learned to Stop Worrying and Love Bohr”, *IBM Journal of Research and Development*, **48**, 1-9 (2004), quant-ph/0305088
129. “Reply to the comment by K. Hess and W. Philipp on ‘Inclusion of time in the theorem of Bell’”, *Europhysics Letters* **67**, 693-4 (2004).
130. “From Einstein’s 1905 Postulates to the Geometry of Flat Space-Time”, *Annalen der Physik* **14**, 103-114 (2005).
131. “What’s Wrong with this Criticism”, *Foundations of Physics* **35**, 2073-77 (2005).
132. “In praise of Measurement”, *Quantum Information Processing* **35**, 239-260 (2006).
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### Pedagogical Articles:

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2. “Bringing Home the Atomic World: Quantum Mysteries for Anybody,” *Am. J. Phys.* **49**, 940-943 (1981).
3. “Improving an Improved Analytical Approximation to  $n!$ ,” *Am. J. Phys.* **51**, 776 (1983).
4. “Relativistic Addition of Velocities Directly from the Constancy of the Velocity of Light,” *Am. J. Phys.* **51**, 1130-1131 (1983).
5. “Stirling’s Formula!,” *Am. J. Phys.* **52**, 362-365 (1984).
6. “Relativity Without Light,” *Am. J. Phys.* **52**, 119-124 (1984).
7. “Pi in the Sky,” *Am. J. Phys.* **55**, 585 (1987).
8. “ $E = mc^2$ ,” *Am. J. Phys.* **56**, 18-21 (1988), with M. J. Feigenbaum.
9. “The Amazing Many-Colored Relativity Engine,” *Am. J. Phys.* **56**, 600-611 (1988).
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