Daniel F. Styer

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Education:

Swarthmore College: B.A. with High Honors; May 1977
Major: Physics, Minors: Chemistry, Mathematics; Phi Beta Kappa, Sigma Xi
Cornell University: Ph.D.; September 1983
Major: Theoretical Physics, Minor: Experimental Physics
Thesis: *Partial Differential Approximants and Applications to Statistical Mechanics*, supervised by Michael E. Fisher

Positions:

Instructor: Mount Holyoke College; 1977–1979
Postdoctoral Fellow: Rutgers University; 1983–1985
Assistant Professor: Oberlin College; 1985–1990
Visiting Assistant Professor: Case Western Reserve University; fall 1988
Associate Professor: Oberlin College; 1990–1998
Visiting Scientist: University of Colorado, Boulder; fall 1991
Chair of Physics Department: Oberlin College; 1993–1997
Professor: Oberlin College; 1998–2007
Schiffer Professor of Physics: Oberlin College; 2007–present

Honors:

Winner in the 1994 *Computers in Physics* Educational Software Contest [see *Computers in Physics* **8**, 672–678 (1994)]
Associate Editor of the *American Journal of Physics*; 1997–1999
Invited speaker at the Gordon Conference on "Physics Research and Education: Quantum Mechanics"; June 2002
Invited speaker at national meeting of the American Physical Society; April 2005
Invited speaker at national meetings of the American Association of Physics Teachers; January 1995, January 2000, August 2011, July 2017
Oberlin College Award for Teaching Excellence; April 2006

Honors Examiner at Swarthmore College; May 2007
Honors Examiner at Kenyon College; April 2008

Publications:

Books:

D.F. Styer, *The Strange World of Quantum Mechanics* (Cambridge University Press, Cambridge, U.K., 2000). [A serious, rigorous, and honest presentation of quantum mechanics for a general audience, focusing on spin-$\frac{1}{2}$ systems.]

⟦Translated into the Greek by Alex Mamalis as *Ο Παράξενος Κόσμος της Κβαντικής Μηχανικής* (Katoptro Publications, Athens, 2000).⟧

⟦Translated into the Korean by Cho Seung-Sik as 이상한 나라의 양자 역학 (Book's-Hill Publishing, Seoul, 2004).⟧

⟦Translated into the Italian by Enrico G. Campari as *Lo Stano Mondo della Meccanica Quantistica* (Aracne Editrice, Roma, 2005).⟧

D.F. Styer, *Relativity for the Questioning Mind* (Johns Hopkins University Press, Baltimore, Maryland, 2011).

⟦Translated into the Italian by Luisa Doplicher as *Capire Davvero la Relatività: Alla scoperta della teoria di Einstein* (Chiavi di lettura: Zanichelli editore S.p.A., Bologna, 2012).⟧

⟦Translated into the Polish by Bogumił Bieniok and Ewa L. Łokas as *Teoria Względności dla Dociekliwych* (Prószyński Media Sp., Warsaw, 2012).⟧

D.F. Styer, *Invitation to Quantum Mechanics*, in preparation (contracted for bound print publication to World Scientific; will also be available for free download). [A text for the quantum mechanics portion of a sophomore-level course in "Modern Physics".]

Book/Software Combination:

J.R. Hiller, I.D. Johnston, and D.F. Styer, *Quantum Mechanics Simulations* (John Wiley and Sons, New York, 1995). [I wrote the chapters "Quantum Mechanical Time Development," pages 73–103, and "Identical Particles in Quantum Mechanics," pages 144–165, and two computer programs with the same titles.]

Book Revision:

R.P. Feynman and A.R. Hibbs, emended by D.F. Styer, *Quantum Mechanics and Path Integrals.* (Dover Publications, Mineola, New York, 2010). [I uncovered 879 errors in this important 1965 book. The emended edition corrects these errors and makes innumerable other improvements.]

⟦Translated into the Japanese as **量子力学と経路積分** (2017).⟧

Occasional Pieces:

D.F. Styer, "Review of *Quantum Mechanics Using Maple* by Marko Horbatsch," *Computers in Physics* **11** (2), 165–166 (1997).

D.F. Styer, "Review of *Classical and Statistical Thermodynamics* by Ashley Carter," *Am. J. Phys.* **68** (12), 1158–1159 (2000).

D.F. Styer, "Quantum Mechanics: Interpretations or Formulations?" [letter to editor], *Physics Today* **53** (9), 11 (September 2000).

D.F. Styer, "Learning to Teach [on Camel's Hump]," *Appalachian Trailway News* **65** (3), 26–27 (July–August 2004).

D.F. Styer, "Review of *The Quantum Story: A History in 40 Moments* by Jim Baggott," *Am. J. Phys.* **79** (9), 982 (September 2011).

D.F. Styer, "The Errors of Feynman and Hibbs," *Resonance* **16** (9), 849–853 (September 2011).

D.F. Styer, "Review of *Quantum Mechanics: The Theoretical Minimum* by Leonard Susskind and Art Friedman," *Am. J. Phys.* **82** (11), 1104–1105 (November 2014).

Articles:

M.E. Fisher and D.F. Styer, "Partial Differential Approximants for Multivariable Power Series I: Definitions and Faithfulness," *Proc. Roy. Soc.* A **384**, 259–287 (1982).

D.F. Styer and M.E. Fisher, "Partial Differential Approximants for Multivariable Power Series II: Invariance Properties," *Proc. Roy. Soc.* A **388**, 75–102 (1983).

D.F. Styer, "Partial Differential Approximants for Multivariable Power Series III: Enumeration of Invariance Transformations," *Proc. Roy. Soc.* A **390**, 321–339 (1983).

D.F. Styer, "Partial Differential Approximants for Multicritical Singularities: An Overview," in the proceedings of the NATO Advanced Study Institute on *Multicritical Phenomena* (R. Pynn and A. Skjeltorp, eds.), pages 7–11 (Plenum Press, New York, 1984).

D.F. Styer and N.W. Ashcroft, "Ground-state Energy of Metallic Hydrogen in the Wigner-Seitz Approximation," *Phys. Rev.* B **29**, 5562–5569 (1984).

D.F. Styer and M.E. Fisher, "Partial Differential Approximants and the Elucidation of Multi-singularities," in the proceedings of the United Kingdom-United States conference on *Rational Approximation and Interpolation* (P.R. Graves-Morris, E.B. Saff, and R.S. Varga, eds.), pages 313–330 (Springer-Verlag, Berlin, 1984).

J.L. Lebowitz, M.K. Phani, and D.F. Styer, "Phase Diagram of Copper-Gold Type Alloys," *J. Stat. Phys.* **38**, 413–431 (1985).

D.F. Styer, "A First-order Phase Transition in the Face-centered Cubic Ising Antiferromagnet," *Phys. Rev.* B **32**, 393–399 (1985).

D.F. Styer, M.K. Phani, and J.L. Lebowitz, "Multiatom Interactions in the f.c.c. Ising Binary Alloy: Low Temperature Behavior and Monte Carlo Simulations," *Phys. Rev.* B **34**, 3361–3370 (1986).

D.C. Radulescu and D.F. Styer, "The Dobrushin-Shlosman Phase Uniqueness Criterion and Applications to Hard Squares," *J. Stat. Phys.* **49**, 281–295 (1987).

D.F. Styer, M.D. Edwards, and E.A. Andrews, "The Size Function in Two-dimensional Bond Percolation: A Series Analysis," *J. Phys.* A **21**, L1153–L1156 (1988).

A.B. Kirillov, D.C. Radulescu, and D.F. Styer, "Vasserstein Distances in Two-state Systems," *J. Stat. Phys.* **56**, 931–937 (1989).

D.F. Styer, "The Motion of Wavepackets Through Their Expectation Values and Uncertainties," *Am. J. Phys.* **58**, 742–744 (1990).

D.F. Styer, "Simple Derivation of Lagrange's Three-body Equilibrium," *Am. J. Phys.* **58**, 917–919 (1990).

D.F. Styer, "Subroutine Library for Partial Differential Approximants," *Computer Physics Communications* **61**, 374–386 (1990).

D.F. Styer, "Using Computers to Build Insight," in the proceedings of the Sloan conference on *Computing in Advanced Undergraduate Physics* (D.M. Cook, ed.), pages 201–203 (Lawrence University, Appleton, Wisconsin, 1990). [See also my summarizing remarks on pages 217–219.]

D.F. Styer, "Common Misconceptions Regarding Quantum Mechanics," *Am. J. Phys.* **64**, 31–34 (1996). Erratum: **64**, 1202 (1996).

D.F. Styer, "Specific Heats of Model Gas Molecules: An Oral Exam Teaching Strategy," *Am. J. Phys.* **65**, 974–978 (1997).

D.F. Styer, "Guest Comment: Getting There is Half the Fun," *Am. J. Phys.* **66**, 105–106 (1998). [An advocacy piece arguing that pedagogical physics problems should devote equal time to finding a formula that is "the answer" and to examining the characteristics of that answer. It presents specific, concrete suggestions for formulating such problems.]

S. Wong and D. Styer, "Answer to Question #52: Group Velocity and Energy Propagation," *Am. J. Phys.* **66**, 659–661 (1998).

D.F. Styer, "A Thermodynamic Derivative Means an Experiment," *Am. J. Phys.* **67**, 1094–1095 (1999).

D.F. Styer, "Insight into Entropy," *Am. J. Phys.* **68**, 1090–1096 (2000).

D.F. Styer, "Quantum Revivals versus Classical Periodicity in the Infinite Square Well," *Am. J. Phys.* **69**, 56–62 (2001).

D.F. Styer, "The Word 'Force'," *Am. J. Phys.* **69**, 631–632 (2001).

D.F. Styer, Miranda S. Balkin, Kathryn M. Becker, Matthew R. Burns, Christopher E. Dudley, Scott T. Forth, Jeremy S. Gaumer, Mark A. Kramer, David C. Oertel, Leonard H. Park, Marie T. Rinkoski, Clait T. Smith, and Timothy D. Wotherspoon, "Nine Formulations of Quantum Mechanics," *Am. J. Phys.* **70**, 288–297 (2002).

D.F. Styer, "Science as a Liberal Art," *The Journal of College Science Teaching* **32**, 139–142 (2002).

D.F. Styer, "What Good is the Thermodynamic Limit?," *Am. J. Phys.* **72**, 25–29 (2004). Erratum: **72**, 1110 (2004).

D.F. Styer, "How Do Two Moving Clocks Fall Out of Sync? A Tale of Trucks, Threads, and Twins," *Am. J. Phys.* **75**, 805–814 (2007).

D.F. Styer, "Entropy and Evolution," *Am. J. Phys.* **76**, 1031–1033 (2008). Reprinted in the *Virtual Journal of Biological Physics Research* **16** (15 October 2008). Erratum: **82**, 706 (2014).

D.F. Styer, "Entropy and Rust," *Am. J. Phys.* **78**, 1077 (2010). [A tiny paper that in just four paragraphs decisively demolishes the common (and poisonous) misconception that entropy is analogous to decay or destruction.]

D.F. Styer, "'Find-the-Flaw' Problems," *The Physics Teacher* **49**, 277–279 (2011).

Noah A. Morris and D.F. Styer, "Visualizing Poynting Vector Energy Flow in Electric Circuits," *Am. J. Phys.* **80**, 552–554 (2012).

D.F. Styer, "Equilibrium versus Homogeneity," *Am. J. Phys.* **83**, 749–750 (2015).

D.F. Styer, "My Favorite Exam Question," *The Physics Teacher* **53**, 535 (2015).

D.F. Styer, "The Geometrical Significance of the Laplacian," *Am. J. Phys.* **83**, 992–997 (2015).

Noah A. Morris and D.F. Styer, "A Computer Simulation for Quantal Interference," *The Physics Educator* **1**, 1920002-(1–5) (June 2019).

D.F. Styer, "Entropy as Disorder: History of a Misconception," *The Physics Teacher* **57**, 454–458 (October 2019). Erratum: **58**, 5 (January 2020).

D.F. Styer, "On the Separation of Identical Particles in Quantum Mechanics," *European Journal of Physics* **41** 065402 (7 pages) (14 October 2020).

Presentations:

How Should One Approximate Functions of One and Two Variables?, Chemical Physics Seminar, Cornell University, Ithaca, New York; November 1981.

Euler Invariance for Partial Differential Approximants, 46th Statistical Mechanics Meeting, Rutgers University, New Brunswick, New Jersey; December 1981.

Shedding Thermodynamics on Light, Graduate Student "No-Name" Seminar, Cornell University; April 1982.

Metallic Hydrogen: Wigner-Seitz Revisited, Chemical Physics Seminar, Cornell University; December 1982.

Critical Phenomena: The Role of Series Expansions, Middlebury College, Middlebury, Vermont; March 1983.

Partial Differential Approximants for Multicritical Functions, NATO Advanced Study Institute, Geilo, Norway; April 1983; and Theoretical Physics Department, Oxford University; April 1983.

The Whys and Hows of Partial Differential Approximants, University of Kent at Canterbury; April 1983.

Theory of Partial Differential Approximants, United Kingdom-United States Conference on Rational Approximation and Interpolation, Tampa, Florida; December 1983.

Phase Diagram of the f.c.c. Ising Antiferromagnet: Low Temperature Expansions, 51st Statistical Mechanics Meeting, Rutgers University; May 1984.

Dimensional Crossover in Lattice Percolation, Department of Mathematics, Rutgers University; October 1984.

First Order Phase Transition in the f.c.c. Ising Antiferromagnet, 52nd Statistical Mechanics Meeting, Rutgers University; December 1984.

The Transportation Problem and Rigorous Statistical Mechanics, Rutgers Center for Operations Research; 5 March 1985.

Binary Alloys/Ising Antiferromagnets on the Face-centered Cubic Lattice, Physics Department, Carnegie-Mellon University, Pittsburgh, Pennsylvania; 14 March 1985.

An Ising Antiferromagnet with Three-body Interactions, 53rd Statistical Mechanics Meeting, Rutgers University; 6 May 1985.

Hard Squares in Two Dimensions: Rigorous Results via Computer, Meeting of the Ohio Section of the American Physical Society, Case Western Reserve University, Cleveland, Ohio; 12 October 1985.

Optimization by Monte Carlo Simulated Annealing, Physics Department, Oberlin College, Oberlin, Ohio; 22 November 1985.

Transition Activity of Hard Squares, 54th Statistical Mechanics Meeting, Rutgers University; 20 December 1985.

Phase Transition in Hard Squares, Theoretical Physics Seminar, University of Akron; 28 January 1986.

Binary Alloys/Ising Antiferromagnets: Frustration on the f.c.c. Lattice, Condensed Matter Physics Seminar, Case Western Reserve University, Cleveland, Ohio; 10 March 1986.

Faculty Research Presentation (one of four speakers), Physics Department, Oberlin College; 11 April 1986.

Rigorous Results via Computer: Transition Activity of Hard Squares (with D. Radulescu and J. Lebowitz), poster at Statphys-16, Boston, Massachusetts; 13 August 1986.

Sliding through Sandstone: Anisotropic Bond Percolation (with M. Msall), SOHIO Warrensville Heights Research and Development Center; 2 October 1986.

Diffusion Limited Aggregation with Anisotropic Capture (with M. Msall), 57th Statistical Mechanics Meeting, Rutgers University; 8 May 1987.

Remarks on the Dobrushin-Shlosman Phase Uniqueness Criterion, the Computation of Vasserstein Distances, and Applications to Hard Squares (with D. Radulescu and J. Lebowitz), 58th Statistical Mechanics Meeting, Rutgers University; 17 December 1987.

Vasserstein Distance between Statistical Mechanical States, Statistical Mechanics Conference, University of California at Davis; 27 March 1988.

Random Systems, Transfer Matrices, and Poly(Vinylidene Fluoride), Theoretical Physics Seminar, University of Akron; 17 October 1988.

Random Copolymers, Replicas, and Transfer Matrices, Condensed Matter Seminar, Case Western Reserve University; 14 November 1988.

Statistical Mechanics in Two States, Department of Physics, Oberlin College; 13 April 1989.

Hot News on Cold Fusion (one of three speakers), Departments of Physics and Chemistry, Oberlin College; 24 April 1989.

Dobrushin-Shlosman Uniqueness Criterion Applied to Hard Squares: Computer Results (with A.B. Kirillov and D.C. Radulescu), 63rd Statistical Mechanics Meeting, Rutgers University; 11 May 1990.

Using Computers to Build Insight, Sloan Conference on Computing in Advanced Undergraduate Physics, Lawrence University, Appleton, Wisconsin; 14 July 1990.

The Motion of Quantal Wavepackets, Physics and Astronomy Seminar, Bowling Green State University; 30 January 1991.

Why Quantal Chaos Does Exist: A New Distance Between Quantal States, Physics Colloquium, University of Colorado at Boulder; 9 October 1991.

A New Distance Between Quantal States, 67th Statistical Mechanics Meeting, Rutgers University; 9 May 1992.

The Classical Limit of Quantum Mechanics and Vice-versa, Department of Physics, Oberlin College; 9 October 1992.

A Computer Simulation for Teaching Quantal Time Development, Meeting of the Ohio Section of the American Physical Society, Case Western Reserve University; 14 May 1994.

Style and Styles in Software for Physics Education, Invited lecture, Meeting of the American Association of Physics Teachers, Orlando, Florida; 16 January 1995.

Teaching with Computer Simulations through Exercises, Invited lecture, Great Lakes College Association "Teaching and Technology Workshop," Denison University; 20 April 1996.

A Computer Simulation for Teaching Quantal Time Development, Meeting of the Ohio Section of the American Physical Society, Ohio University; 2 November 1996.

Teaching Time Development in Quantum Mechanics, Meeting of the Ohio Section of the American Physical Society, Miami University; 11 October 1997.

Quantum Mechanics: See It Now, Invited lecture, Meeting of the American Association of Physics Teachers, Kissimmee, Florida; 17 January 2000.

Quantum Mechanics as a General Audience Course, Meeting of the American Association of Physics Teachers, Kissimmee, Florida; 19 January 2000.

Quantum Revivals versus Classical Periodicity in the Infinite Square Well, Meeting of the Ohio Section of the American Physical Society, University of Cincinnati, Cincinnati, Ohio; 6 May 2000.

Using Computer Simulations to Promote Active Problem Solving: A Case Study with Quantum Mechanics, Mellon workshop on "Teaching Science in the 21st Century," Oberlin College; 6 June 2000.

One Hundred Years of Quantum Mechanics, Sigma Xi lecture, Oberlin College; 26 September 2000.

Making Sense of What's Not Common Sense: Two Examples of Five Techniques, Invited lecture, Gordon Conference on "Physics Research and Education: Quantum Mechanics," Mount Holyoke College, South Hadley, Massachusetts; 12 June 2002.

Sherlock Holmes's Watchdog and the Classical Limit of Quantum Mechanics, Invited lecture, Cleveland State University; 27 March 2003.

Nine Formulations of Quantum Mechanics, Invited lecture, Kavli Institute for Theoretical Physics at the University of California, Santa Barbara; 22 July 2003.

Camel's Hump, Edwin Taylor, and the Paradox of Problem Solving, Invited lecture, Meeting of the American Association of Physics Teachers, Madison, Wisconsin; 6 August 2003.

Sherlock Holmes's Watchdog and the Classical Limit of Quantum Mechanics, Invited lecture, University of the South, Sewanee, Tennessee; 29 October 2003.

Relativity as a General Audience Course: The Inventor's Paradox and the Explainer's Paradox, Invited lecture, National Meeting of the American Physical Society, Tampa, Florida; 16 April 2005.

Relativity as a General Audience Course: The Inventor's Paradox and the Explainer's Paradox, Invited lecture, University of Pittsburgh/Carnegie Mellon University joint physics colloquium, Pittsburgh, Pennsylvania; 19 September 2005.

One Hundred Five Years of Quantum Mechanics, Invited lecture, John Carroll University physics colloquium, University Heights, Ohio; 1 December 2005.

Relativity as a General Audience Course: The Inventor's Paradox and the Explainer's Paradox, Invited lecture, Case Western Reserve University physics colloquium, Cleveland, Ohio; 9 February 2005.

One Hundred Five Years of Quantum Mechanics, Invited lecture, Denison University physics colloquium, Granville, Ohio; 13 February 2006; and College of Wooster physics colloquium, Wooster, Ohio; 27 April 2006.

How Do Two Moving Clocks Fall Out of Sync? A Tale of Trucks, Threads, and Twins, Oberlin College physics colloquium; 20 September 2006.

One Hundred Six Years of Quantum Mechanics, Invited lecture, Miami University physics colloquium; 6 December 2006.

One Hundred Seven Years of Quantum Mechanics, Invited lecture, Wright State University physics colloquium; 12 October 2007.

Sherlock Holmes's Watchdog and the Classical Limit of Quantum Mechanics, Invited lecture, Kenyon College; 5 September 2008.

Spin Half — Software for Simulating Core Quantum Concepts (with Mario Belloni and Wolfgang Christian), Meeting of the Optical Society of America, Rochester, New York; 23 October 2008.

Relativity as a General Audience Course: The Inventor's Paradox and the Explainer's Paradox, Invited lecture, Hamilton College physics colloquium, Clinton, New York; 29 November 2010.

Sherlock Holmes's Watchdog and the Classical Limit of Quantum Mechanics, Invited lecture, Ohio Northern University physics colloquium, Ada, Ohio; 26 January 2011.

How Do Two Moving Clocks Fall Out of Sync? A Tale of Trucks, Threads, and Twins, Invited lecture, Ohio Wesleyan University physics colloquium, Delaware, Ohio; 14 April 2011.

Ask, and It Shall be Given You, Invited lecture, Meeting of the American Association of Physics Teachers, Omaha, Nebraska; 1 August 2011.

Quantum Mechanics: The Big, the Small, and the Spooky, Invited lecture at the Studio, Gallery, and Lyceum, Oberlin, Ohio; 22 April 2013.

And Yet it Moves: Quantal Interference and the Aharonov-Bohm Effect, Invited lecture, Oberlin College physics colloquium, Oberlin, Ohio; 19 September 2013.

Relativity for the Questioning Mind, Invited lecture, Friends of the Oberlin College Library, Oberlin, Ohio; 2 October 2013.

Entropy as Disorder: History of a Philosophical Misconception, Invited lecture, Meeting of the American Association of Physics Teachers, Cincinnati, Ohio; 26 July 2017.

Entropy as Disorder: History of a Misconception, Invited lecture, Case Western Reserve University physics colloquium, Cleveland, Ohio; 23 January 2020.

Honors students supervised:

Madeleine Msall: "Major Features of Diffusion Limited Aggregation Clusters" 1986–1987

Paul Kimoto: "Duffing's Equation and Period Doubling" 1987–1988

Gail Welsh: "Quantum Mechanics of Non-Coulombic Central Potentials" 1987–1988

Stephen Klein: "Classical Orbits and Quantal Degeneracy" 1988–1989

Tim Collins: "Chaos and the Restricted Three-Body Problem" 1989–1990

Mike Keilman: "Lyapunov Exponents (and Their Breakdown) in the Logistic Map" 1989–1990

Dan Frankowski: "Monte Carlo Cluster Enumeration" 1989–1990

Gary Felder: "Distances Between Quantal States in Phase Space" 1992–1993

Dan Butts: "Grand Canonical Monte Carlo Simulations for Hard Squares" 1993–1994

Ed Myers: "Time Development in a Damped Quantal System" 1995–1996

Gamaliel Lodge: "Chaos in the Tri-Linear Three Body Problem" 2000–2001

Timothy Wotherspoon: "The WKB Approximation in Power-Law Potentials" 2001–2002

Karl Duderstadt: "The Fundamental Efficiency of Osmotic Engines" 2003–2004

Wendy Everett: "Weak-Field General Relativity Compared with Electrodynamics" 2006–2007

Nathan Brown: "Observations on the Wigner Quasi-Probability Distribution" 2009–2010

Sarah Hoffman: "Electroweak Unification as a Classical Field Theory" 2009–2010

Joseph Galamba: "Model of the One-Dimensional Molecular Hydrogen Cation" 2011–2012

Dahyeon Lee: "From the Circle to the Square: Symmetry and Degeneracy in Quantum Mechanics" 2016–2017

Professional activities:

Consultant to US Steel, Lorain Works; 1987. (Developed an algorithm to minimize waste in the "tundish fly" operation at the rolling mill in the Lorain Works. The algorithm, developed over the course of four evenings, saves $8,000 monthly.)

Associate instructor in Edwin Taylor's Internet course "Demystifying Quantum Mechanics," offered through Montana State University's "National Teachers Enhancement Network," an NSF project; spring semester 1996 and fall semester 1997.

External reviewer for the Physics Department at the University of the South, Sewanee, Tennessee; 29–30 October 2003.

Instructor for Lorain County Community College outreach course NSCI 170C, "Relativity for the Questioning Mind" (LCCC "Continuing Education for Adults 50 Plus" program, offered at Kendal at Oberlin); April/May 2014.

Reviewer for *Physical Review* B, *Journal of Statistical Physics*, *American Journal of Physics*, *Computers in Physics*, *Chemical Physics Letters*, *Physics Essays*, *Foundations of Physics*, *Physics Letters* A, *Europhysics Letters*, *International Journal of Thermal Sciences*, *Naturwissenschaften*, *European Journal of Physics*, *The Physics Teacher*, Physics Academic Software, Cambridge University Press, John Wiley, W.H. Freeman, World Scientific, Oxford University Press, Princeton University Press, MIT Press, the Ohio Supercomputer Center, NOVA television, and the National Science Foundation.

Other interests:

Backpacking. Botany. Running. The restoration and preservation of natural areas.

Volunteer work in botany:

Multiple biological surveys for the Western Reserve Land Conservancy and for the Natural Areas Division of the Cleveland Museum of Natural History; 2006–present

Non-physics publications:

Dan Styer, "John Muir's Crossing of the Cumberland," *The John Muir Newsletter*, Winter 2010/2011, pages 1, 4–8.

Dan Styer, "Paddling in the wake of Aldo Leopold — the Flambeau," submitted to *Leopold Outlook*.

Dan Styer, "In Search of Mulligan Island," submitted to *Leopold Outlook*.

Non-physics award:

Conservation Award from Cleveland Museum of Natural History, for stewardship of the Wolf Run Nature Preserve, 12 April 2019