

Robert H. Romer - Curriculum Vitae - December, 2009

Personal information –

(See also Who's Who in America and American Men and Women of Science.

Also see personal website at: www.amherst.edu/~rromer .)

Date of birth: April 15, 1931.

Undergraduate education: Amherst College, 1948-52.

Graduate education: Princeton University, 1952-55.

Ph.D., Physics, 1955 (Thesis Adviser: Robert H. Dicke).

National Science Foundation Pre-Doctoral Fellowships, 1952-55.

Faculty Member, Physics Department, Amherst College, 1955-2001

Professor, 1966-2001; Emeritus, 2001-

Chair: 1966-69, 1977-80.

Amherst College “Mellon Faculty Emeritus Fellow” (for research on slavery in western Massachusetts),
2005 -

Current Addresses –

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Professional societies –

American Physical Society

American Association of Physics Teachers

American Association for the Advancement of Science

Honor Societies –

Phi Beta Kappa
Sigma Xi

Professional honors –

Fellow of the American Physical Society, elected 1991.
Fellow of the American Association for the Advancement of Science, elected 1992.
Distinguished Service Citation, American Association of Physics Teachers, 2005.

Appointments at other institutions –

Research Associate, Duke University, 1958-59, with William M. Fairbank (Amherst College "Trustee-Faculty Fellowship").

Visiting Physicist and Guest Physicist, Brookhaven National Laboratory, 1963-72.

National Science Foundation Fellow, 1964-65, Centre de Recherches sur les Très Basses Températures, Grenoble, France (sabbatical leave from Amherst).

Visiting Professor of Physics, Voorhees College, Denmark, South Carolina, 1969-70.

Curatorial staff, Historic Deerfield, Inc., 2001-2004.

Other professional activities –

Accreditation committee at M.I.T., 1968. (New England Association of Colleges and Secondary Schools, accreditation visit.)

American Journal of Physics: Associate Editor, 1968-74.

Member of the Education Panel of the Physics Survey of the National Academy of Sciences, 1970-71.

Member of "COMPAS" (Committee on Physics and Society, American Institute of Physics), 1971-76.

Consultant on the design and evaluation of solar-heated housing project, 1973-78 (Grassy Brook Village, Newfane, Vermont).

Scientific consultant to the Committee for the Scientific Investigation of Claims of the Paranormal, 1975 –

Physics visiting committees:

Dickinson College (1979);
Haverford and Bryn Mawr Colleges (1980);
Bucknell University (1984);
Bowdoin College (1986).

Consultant to the New York State Department of Education, 1980-84, to produce secondary-school curricular materials on solar energy.

American Journal of Physics: Book Review Editor, January, 1982 – June, 1988.

American Journal of Physics: Editor, June, 1988 – June, 2001.

Executive Board of the American Association of Physics Teachers, 1988 – 2001.

Speaker on western Massachusetts slavery to historical societies and other organizations, 2001 –

Vice Chair, Chair Elect, Chair, and Past Chair: Forum on the History of Physics (American Physical Society), 2003-2007. Associate Editor, Newsletter: 2006-2008.

“Physics on the Subway” (also known as “Physics Q & A”, “Thinking About Physics”, or “Physics on the Bus”), a program to put physics “advertisements” on bus systems, 2003 –

See www.amherst.edu/~physicsqanda.

Visiting speaker and discussion leader at workshops for high school and elementary teachers (organized by the PVMA [Pocumtuck Valley Memorial Association]), Deerfield, 2004 –

Miscellaneous –

Board of Directors, Amherst League of Women Voters, 2002-2008. (First male member of the board!)

Board of Directors, Sugarloaf Mountain Athletic Club, 1992-2008. (Former pretty good distance runner – 3:36 Marathon at New York City, 1992, at age 61. Placed 6,665 in a field of about 33,000.)

Oral history interview with Pocumtuck Valley Memorial Association, ca. 2007,
<http://www.memorialhall.mass.edu/activities/oralhistory/romer/index.html>

Publications – Books –

Physics in Perspective, Physics Survey Committee, National Research Council, 1972. (One of many co-authors).

"A Scientific American Offprint Reader on Energy". W.H.Freeman and Co., San Francisco, 1976.

Energy - An Introduction to Physics. W.H.Freeman and Co., San Francisco, 1976.

Energy Facts and Figures. Spring Street Press, 1985.

"Reading the Equations and Confronting the Phenomena - The Delights and Dilemmas of Physics Teaching", in Teaching What We Do, edited by Peter R. Pouncey (Amherst College Press, 1991), pp. 183-223. Reprinted in American Journal of Physics 61, 128-142 (1993).

“Changes in Physics in the Past 75 years, the Next 25 years” (etc.), in “Celebrating 75 years of Excellence, Interviews with 75 Physicists”. (Booklet published by the AAPT in 2006 on the 75th Anniversary of the Founding of the AAPT.)

Slavery in the Connecticut Valley of Massachusetts. Levellers Press, Florence, Massachusetts, 2009.

Publications – Articles --

(Book reviews and abstracts of unrefereed papers presented at professional meetings are not included.)

"New Technique for High-Resolution Microwave Spectroscopy", *Physical Review* 99, 532-536 (1955). (With Robert H. Dicke).

"Pulse Techniques in Microwave Spectroscopy", *Review of Scientific Instruments* 26, 915-928 (1955). (With Robert H. Dicke).

"Twin Paradox in Special Relativity", *American Journal of Physics* 27, 131-135 (1959).

"Nuclear Spin Relaxation in Liquid Helium-3", *Physical Review* 115, 1415-1416 (1959).

"Nuclear Spin Relaxation in Liquid Helium-3. II", *Physical Review* 117, 1183-1187 (1960).

"Fermi-Dirac Spin Degeneracy in Helium-3 Vapour", *Proceedings of the Eighth International Conference on Low Temperature Physics*, London, 1962, pp. 17-18. (Butterworth, Inc., 1963).

"Hyperfine Specific Heat of Uranium Metal", *Physical Review Letters* 11, 547-549 (1963). (With Colby W. Dempsey and Joel E. Gordon).

"Origin of 'Resistance' in Type-II Superconductors", *Physics Letters* 17, 223-224 (1965).

"Angular Momentum of Static Electromagnetic Fields", *American Journal of Physics* 34, 772-778 (1966).

"Logical Proof of the Entropy Principle", *American Journal of Physics* 35, 164 (1967).

"Electromagnetic Angular Momentum", *American Journal of Physics* 35, 445-446 (1967).

"Matrix Description of Collisions on an Air Track", *American Journal of Physics* 35, 862-868 (1967).

"Normal Fluid Densities in Liquid Helium-II under Pressure", *Physical Review* 186, 255-262 (1969). (With Richard J. Duffy).

"A Double Pendulum Art Machine", *American Journal of Physics* 38, 1116-1121 (1970).

"Resource Letter ERPEE-1 on Energy: Resources, Production and Environmental Effects", American Journal of Physics 40, 805-829 (1972).

"Energy-Momentum Relation of Weakly-Coupled Optical Polarons", Journal of Irreproducible Results 22 (3), 11 (1976). (Frivolous publication)

"Demonstration of the Intermediate-Axis Theorem", American Journal of Physics 46, 575-576 (1978).

"Academic Freedom and Tenure at Nichols College", Academe, May, 1980, pp. 207-212. (I chaired an American Association of University Professors "Committee-A" investigating committee; this report is the result of that investigation, which led to the censure of Nichols College.)

"Motion of a Sphere on a Tilted Turntable", American Journal of Physics 49, 985-986 (1981).

"Response to the Comments by P. Bopp and M. Wolfsberg", Journal of Solution Chemistry 10, 363-364 (1981). (With Bruce B. Benson, Daniel Krause, et al.) (A note on the theory of the solubilities of gases in water.)

"Temperature Scales: Celsius, Fahrenheit, Kelvin, Réaumur, and Rømer", The Physics Teacher 20, 450-454 (1982). (Translated in Fizika za Rubeshom ["Physics Abroad"], Moscow, 1984.)

"What do 'Volts' Measure?: Faraday's Law in a Multiply-Connected Region", American Journal of Physics 50, 1089-1093 (1982). (Translated in Fizika za Rubeshom ["Physics Abroad"], Moscow, 1984.)

"Alternatives to the Poynting Vector for Describing the Flow of Electromagnetic Energy", American Journal of Physics 50, 1166-1168 (1982).

"Foucault, Reich and the Mines of Freiberg", (letter to the editor), American Journal of Physics 51, 683 (1983).

"Electromagnetic Angular Momentum", (letter to the editor), American Journal of Physics 53, 15-16 (1985).

"Olaf Rømer and the Speed of Light", (letter to the editor), American Journal of Physics 54, 583-584 (1986).

"Bouncing the Earth Into the Sun", (problem & solution), American Journal of Physics 56, 39 & 94 (1988). (With Dudley H. Towne.)

"Covering the U.S.A.: Exponential Growth of Railroad Tracks", The Physics Teacher 28, 46-47 (1990).

"The motion of a superconducting loop in an inhomogeneous magnetic field: The harmonic oscillator equation in an unfamiliar setting", Eur. J. of Physics 11, 103-106 (1990).

"Olaf Rømer's Relatives?", (letter to the editor [sic]), American Journal of Physics 58, 296

(1990).

"Ads in Scientific Journals", (letter to the editor), *Science* 248, 144-145 (13 April, 1990).

"Spots on the Lawn", *The Physics Teacher* 28, 326 (1990).

"The undergraduate physics major", *American Journal of Physics* 59, 106-111 (1991). (With Neal B. Abraham, James B. Gerhart, Russell K. Hobbie, Lillian C. McDermott, and Bruce R. Thomas).

"The Mathematics of Exponential Growth - Keep it Simple!",
The Physics Teacher 29, 344-345 (1991).

"Religion versus science? - An editorial comment", *Am. J. Phys.* 60, 871 (1992).

"Oersted on the Subway", *The Physics Teacher* 31 (2), 92 (1993).

"Robert Frost and the Second Law of Thermodynamics", *The Physics Teacher* 31, 360 (1993).

"An editorial comment on eastward deflection and other sample 'Questions and Answers' ", *Am. J. Phys.* 62 (11), 970-971 (1994).

"Faith in the second law of thermodynamics", *The Physics Teacher* 33 (3), 135 (1995).

"Electromagnetic field momentum", *Am. J. Phys.* 63 (9), 777-779 (1995). (Question #26.)

"60.000 Hz? Synchronization of the power grid", *Am. J. Phys.* 65 (12), 1133 (1997). (Question #68.)

"S is for entropy, Q is for charge", *Am. J. Phys.* 66 (4), 275-276 (1998). (Question #73.)

"Australian-American major league baseball players", *Am. J. Phys.* 67 (2), 104 (1999).

"You've got mail!", *Am. J. Phys.* 67 (6), 470 (1999).

"The Spin-Statistics Theorem", *Am. J. Phys.* 70 (8), 791 (2002).

"Physics on the Subway", *The Physics Teacher* 40 (3), 132-133 (2002). (With John G. King.)

"Thinking About Physics, <http://www.amherst.edu/~physicsqanda>", *The Physics Teacher* 41 (4), 254 (2003)

"The Answer is Forty-Two – Many Mechanics Problems, Only One Answer", *The Physics Teacher* 41 (5), 286-290 (2003).

"Physics on the Bus – How About Physics on Your Bus?", *The Physics Teacher* 42 (9), 528-529 (2004).

“Balancing Sticks and Reaction Times Revisited”, The Physics Teacher 43 (2), 68-69 (2005).

“My Half-Hour with Einstein”, The Physics Teacher” 43 (3), 140-143 (2005).

“Higher Education and Slavery in Western Massachusetts”, Journal of Blacks in Higher Education, No. 46, 98-101 (Winter 2004/2005).

Special item –

“American Association of Physics Teachers statement on the teaching of evolution and cosmology”, Am. J. Phys. 68 (1), 11 (2000). (Principal author - with other members of the AAPT Executive Board.)

American Journal of Physics editorials –

"The joy of physics", Am. J. Phys. 56 (7), 585 (1988).

"Wanted - Tutorial articles for the American Journal of Physics", Am. J. Phys. 56 (8), 681 (1988).

"958 men, 93 women - How many Lise Meitners among those 865?", Am. J. Phys. 56 (10), 873-874 (1988).

"Physics for nonscientists - A role for the visiting committee", Am. J. Phys. 56 (12), 1065 (1988).

"Spin-1/2 quantum mechanics? - Not in my introductory course!", Am. J. Phys. 57 (6), 491 (1989).

"A brief description of the editorial procedures of the American Journal of Physics", Am. J. Phys. 57 (9), 775-776 (1989). (With Mark D. Semon.)

"Vote for your favorite AJP papers!", Am. J. Phys. 57 (12), 1067 (1989).

"Scientific delegations to the People's Republic of China? Not yet", Am. J. Phys. 58 (4), 298-299 (1990).

"Is clear teaching good teaching? A tale of two teachers", Am. J. Phys. 58 (12), 1129-1130 (1990).

"Memorable papers from the American Journal of Physics, 1933-1990", Am. J. Phys. 59 (3), 201-207 (1991).

"John S. Bell (1928-1990), the man who proved Einstein was right", Am. J. Phys. 59 (4), 299-300 (1991).

"A modest proposal for reform of the professoriat - Let's be students again!", Am. J. Phys. 60 (1), 15-16 (1992).

"A new feature of the American Journal of Physics - NEW PROBLEMS", Am. J. Phys. 60 (6), 487 (1992).

"Cold fusion", Am. J. Phys. 60 (12), 1067 (1992).

"Sixty years of the American Journal of Physics - More memorable papers", Am. J. Phys. 60 (2), 103-106 (1993).

"Please, search the literature - Two new tools that will help", Am. J. Phys. 61 (8), 679-680 (1993).

"Fermat's last theorem", Am. J. Phys. 61 (10), 873 (1993).

"Magnetic monopoles or cross products? Is physics too difficult", Am. J. Phys. 61 (12), 1065-1066 (1993).

"Is 'curiosity' a dirty word?", Am. J. Phys. 62 (3), 199-200 (1994).

" 'Questions and Answers', a new section of the American Journal of Physics", Am. J. Phys. 62 (6), 487-489 (1994).

"A report to the readers – and a request for suggestions", Am. J. Phys. 62 (12), 1065-1076 (1994).

"A century of Resource Letters", Am. J. Phys. 63 (4), 302 (1995).

"Strong inequalities", Am. J. Phys. 63 (8), 681-682 (1995).

"Strong inequalities II – Logarithms", Am. J. Phys. 64 (2), 111-112 (1996).

"Wanted – Qualitative Questions", Am. J. Phys. 64 (7), 844-846 (1996).

"Download the searchable 1972-1995 index database", Am. J. Phys. 64 (8), 969 (1996).

"The American Journal of Physics and AAPT's national meetings", Am. J. Phys. 64 (12), 1450 (1996).

"AJP's annual author and subject indexes", Am. J. Phys. 64 (12), 1536 (1996).

"Teaching or research, research or teaching? – Thoughts about Edward M. Purcell", Am. J. Phys. 65 (8), 689-690 (1997).

"Epiphanies", Am. J. Phys. 65 (10), 945 (1997).

"New low rate for undergraduates – Sign up your students for \$20 per year! ", Am. J. Phys. 66 (4), 281 (1998).

"The sign makes a difference!", Am. J. Phys. 66 (10), 849-850 (1998).

"Units – SI-Only, or Multicultural Diversity", Am. J. Phys. 67 (1), 13-16 (1999).

"American Journal of Physics Goes Online", 67 (3), 178 (1999).

“Physics Education Research – A Supplement to the American Journal of Physics”, Am. J. Phys. 67 (6), 471 (1999).

“Why not be editor?”, Am. J. Phys. 68 (3), 209 (2000).

“100 years of the American Physical Society – 70 years of APS/AAPT cooperation”, Am. J. Phys. 68 (7), 593 (2000).

“Institutional access to the online version of the American Journal of Physics”, Am. J. Phys. 68 (8), 694 (2000).

“Heat is not a noun”, Am. J. Phys. 69 (2), 107-109 (2001).

“AJP’s Referees, 1988-2001”, Am. J. Phys. 69 (4), 409-412 (2001). (With Kannan Jagannathan.)

“Jan Tobochnik, New Editor of the American Journal of Physics”, Am. J. Phys. 69 (5), 533 (2001).

“Editor’s choice”, Am. J. Phys. 69 (6), 635-647 (2001).