Curriculum Vitae

Edward Frederick Redish

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Education

Degree	*Institution*	*Date*	
Ph.D.	Massachusetts Institute of Technology	1968	
B.S.	Princeton University	1963	(Graduated magna cum laude)

Academic Positions

1979--	Professor	University of Maryland
1982--85	Chairman Department of Physics and Astronomy	University of Maryland
1974--79	Associate Professor	University of Maryland
1970--74	Assistant Professor	University of Maryland
1968--70	Center for Theoretical Physics Fellow	University of Maryland

Concurrent Positions

2007	JILA Fellow	University of Colorado, Boulder
1999-2000	Visiting Scholar	University of California, Berkeley
1993	Visiting Professor	University of Sydney, Sydney, Australia
1992-93	Visiting Professor	University of Washington, Seattle and Rensselaer Polytechnic Inst., Troy, NY
1985-86	Visiting Professor	Indiana University, Bloomington, Indiana
1977--78	Resident Research Associate	Goddard Space Flight Center, Greenbelt, Maryland
1973--74	Visiting Foreign Collaborator	Centre d'Etudes Nucleaires, Saclay, France

Honors and Awards:

Pre-health Collection within MedEdPORTAL's iCollaborative, 2013
    Award for Classroom Ready Materials, Biochemistry: CHEMICAL ENERGY THREAD
Oersted Medal, AAPT, 2013
International Committee on Physics Education (IUPAP committee C-14) medal, 2012
National Society of Collegiate Scholars, Distinguished Member, 2008
University System of Maryland Board of Regents Award for Teaching, 2007
Distinguished Scholar Teacher, University of Maryland, 2006-07
National Science Foundation Director's Award, Distinguished Teaching Scholar 2005-09
Lilly Fellow, University of Maryland, 2005
Member of the University of Maryland Academy of Excellence in Teaching and Learning, 2005-08
Faculty of the Year Award, Panhellenic and Greek Societies, University of Maryland, 2001
Selected as APS Centennial Speaker, 1999 (one of ~200 nationwide).
Selected to give a Centennial Lecture at the APS Centennial Meeting 1999
Robert A. Millikan Award, AAPT, 1998
Guy and Rebecca Forman Award, Vanderbilt University, 1996
Glover Medal Award, Dickinson College, 1991
Fellow, American Association for the Advancement of Science, 1991
Computers in Physics, physics educational software contest 1990
    Best Simulation: ORBITS
    Honorable Mention Simulation: THERMO
    Honorable Mention Utilties: The MUPPET Utilities
Maryland Association of Higher Education, Outstanding Educator Award, 1989
Fellow, Washington Academy of Sciences, 1988
Leo Schubert Award for the Teaching of Sciences, Washington Academy of Sciences, 1988
Fellow, American Physical Society, 1983
Institute Science Medal, Central Research Institute for Physics (Budapest, Hungary) 1979
Magna Cum Laude in Physics, Princeton University, 1963
Shiuchi Kusaka Memorial Prize in Physics, 1963
Sigma Xi Physics Prize, 1963
Phi Beta Kappa, 1963
Elected to Sigma Xi, 1963

Fellowships:

JILA Fellowship, University of Colorado, Boulder, CO 2007
N.A.S.-N.R.C. Senior Resident Research Associate, Goddard Space Flight Center, MD 1977-78
Center for Theoretical Physics Fellow, University of Maryland, 1968-70
Woodrow Wilson Fellow (Honorary), 1963
N.S.F. Pre-doctoral Fellow, 1963-65, 1966-67

Professional and Academic Societies

American Physical Society (Fellow)
American Association for the Advancement of Science (Fellow)
American Association of Physics Teachers
Washington Academy of Sciences (Fellow)
National Association of Research in Science Teaching

Professional Service

Refereeing, Review, and Advisory Panels

Referee of Scientific Papers for
Physical Review *Physical Review Letters*,
Physics Letters, *Annals of Physics*,
Nuclear Physics, *American Journal of Physics,*
Physics Today
Referee of Proposals for
Department of Energy, NSF, Physics Division
NSF, DUE (CCLI, ROLE,) FIPSE,
Spencer Foundation
Referee of manuscripts for Harvard University Press.

Member, advisory board, *On the Cutting Edge: Professional Development for Geoscience Faculty*, 2008-
Member, advisory board, Department of Engineering Education, Virginia Tech, 2008-2013
Member, Engineering Education Research Colloquys I and II, 2005.
Member, advisory board, Center for the Advancement of Scholarship of Engineering Education (CASEE) 2003-
Advisor and Consultant for Oregon State University Paradigms in Upper Division Physics
NSF grant in Physics Education, 1999-2001.
Member, advisory board for North Carolina State University SCALE-UP NSF grant in Physics Education, 1998-2001.
Member, advisory board for Carnegie-Mellon University NSF grant in Physics Education Research, 1997-2000.
Chair, advisory board for University of Washington NSF grant in Physics Education Research, 1994-96.

Program Review Committee for Science Teaching Department, Weizmann Institute (Israel), 2005.
Program Review Committee for Physics Dept, U. Mass. (Boston), 1997.
Program Review Committee for Physics Dept, Brooklyn College, 1994
Program Review Committee for Physics Dept., Ohio State Univ., 1986-87

Editorships, Editorial Boards, Publication Administration

Associate Editor, *Journal of Research in Science Teaching*, 2005-2008
Editor, *Physics Education Research Supplement/Section to the American Journal of Physics*, 1999-2004.
Member editorial board, *Journal of Computers, Mathematics, Science, and Technology*, 1997-2000.
Member, Editorial Board, *Physics Academic Software*, 1999-2002.
Editor, *ICPE Newsletter* (2 issues produced per year). 1996-1999. This newsletter reports on international activities in physics education. It has a circulation of 1000 in over 35 countries and is supported by a grant from IUPAP.
Graduate Texts in Contemporary Physics (Springer-Verlag), Series Organizer and Editor 1986-1988

National Committee Memberships

Member, Committee of Visitors,
NSF Math-Science Partnerships Program, DUE, 2008
Member, Physics Education Research Leadership Organizing Committee, AAPT (elected) 2006-2008
Member, Committee on Education, American Physical Society, 2004-2006, Chair 2005
Member, Committee of Visitors,
NSF Division of Mathematics and Physics Sciences, Physics, 2003.

Member, Committee of Visitors,
NSF Division of Undergraduate Education, Research on Learning in Education 2002.
Committee on Physics Education, AIP, 1998-2002.
AAPT Nominating Committee 1998-2001
AAPT Committee on Research in Physics Education 1990-93, 1998-2001
Member, Executive Committee, Forum on Education, American Physical Society, 1994-96
Meggers Project Award Committee, American Institute of Physics, 1991-94
Workshop on the Dissemination and Transfer of Innovation in Science, Mathematics, and Engineering Education (Breslin Committee to advise NSF on Education Policy) 1990
Introductory University Physics Project, Subcommittee on Computers, 1989
Bonner Prize Committee, Division of Nuclear Physics, APS: Vice-Chairman, 1988; Chairman, 1989
Disciplinary Taskforce on Undergraduate Physics Education
(Lederman Committee to advise NSF on Education Policy) 1988
Nuclear Science Advisory Committee (DOE/NSF), 1987-90
APS Topical Group on Few Body Systems and Multiparticle Dynamics: Steering Committee, 1987-89, Program Committee Chairman, 1988-89, Chairman, 1989-90
Indiana University Cyclotron Facility Program Advisory Committee, Member, 1985-88; Chairman, 1986-88
Chairman, Search Committee for Theory Director for CEBAF, 1986-87
AIP Search Committee for Editor for New Journal of Computational Physics, 1986-87

International Committee Memberships

Representative, International Commission on Physics Education, committee C-14 of the International Union of Pure and Applied Physics, 1994-2002, Secretary, 1999-2002.
Member, US Liason Committee, IUPAP, 1993-2008.

Conferences

Organization

Member, Steering Committee, International Conference on Physics Education: World View on Physics Education in 2005, Focusing on Change, Delhi, India, August 22-25, 2005
Organizer and Co-Chairman, Enrico Fermi Summer School in Physics, Italian Physical Society, Varenna, Italy, July, 2003. (co-editor of published proceedings)
Organizing Committee, Shaping the Future Conference, USM, November 30, 1998.
Organizer and Co-Chairman, International Conference on Undergraduate Physics Education, College Park, MD, July 31-Aug. 3, 1996. (co-editor of two volume published proceedings)
Member, Steering Committee, Conference on the Introductory Physics Course, RPI, Troy, NY, May 20-23,1993 (published proceedings)
Member, Steering Committee, Conference on Spin and Isospin in Nuclear Interactions, Telluride, CO, March 11-15, 1991 (published proceedings)
Organizer and Session Chair, special APS session on Cold-Fusion, Baltimore, MD, May 1-2, 1989
Co-Chairman, Conference on Computers in Physics Instruction, Raleigh, North Carolina, Aug. 1-5, 1988 (co-editor of published proceedings)
Organizer and Member, Steering Committee for Workshop on Computers in Physics Education, Dickinson College, 1987
Member, Advisory Board International Symposium on Three-Body Forces, George Washington University, 1986 (published proceedings)
Member Advisory Board, National Nuclear Summer School, Georgetown University, 1985-86
Gordon Conference on Few Body Problems in Chemistry and Physics;
Associate Chairman, 1984; Chairman, 1987

Member Organizing Committee, IX. International Conference on Few-Body Problems,
Eugene, Oregon, August 1980 (published proceedings)

Selected International Conferences Outside the USA (since 1992)

World Conference on Physics Education, Istanbul, Turkey, July 1-6, 2012 (keynote speaker)
International Conference on Physics Education: Physics for All, Tokyo, Japan, August 14-18, 2006 (keynote speaker)
International Conference on Physics Education: World View on Physics Education in 2005, Focusing on Change, Delhi, India, August 22-25, 2005 (invited speaker)
Symposium for the Retirement of Uri Ganiel, Weizmann Institute, Rehovoth, Israel, September 9-13, 2001 (invited speaker)
Annual Meeting of GIREP, Barcelona, Spain, August 28-31, 2000 (invited speaker)
Annual Meeting of the South African Institute of Physics, Mmabatho, Bophutatswana, July 5-8, 1994 (invited speaker)
Fourth Arab Conference on Physics Education, Cairo, Egypt, November 15-17, 1993 (invited speaker)
Third China/Japan/US Conference on Physics Education, Zhaoqing, Guangdong, China, July 26-30, 1993 (invited speaker)
Conference on Reform of the Physics Curriculum, Nanjing, China, May, 1992 (invited speaker)

Interdisciplinary Conferences

2nd Conference on Transforming Research in Undergraduate STEM Education (TRUSE), St. Paul, MN, June 3, 2012 (plenary speaker)
American Association of Physicists of Medicine Conference on Education, Houston, TX, July 31-August 1, 2008 (plenary speaker)
Biennial Chemistry Conference on Education, West Lafayette, IN, July 30-August 2, 2006 (keynote speaker)
Bringing Research on Learning to the Geosciences, Wingspread Center, Racine, WI, July 8-10, 2002. (NSF workshop, by invitation only)
Integrating Science and Math Education Research into Teaching, University of Maine, Orono, ME, June 23-25, 2002. (keynote address, invited talk, panelist)
AERA Annual Meeting, New Orleans, LA, April 1-4, 2002. (2 hour poster session)
NSF Transfer Workshop, Washington, DC, March 21-22, 2002.
Math and Science Teacher Education Program (MASTEP) Meeting, City College of San Francisco, San Francisco, CA, March 18, 2000 (3 hour workshop)
Gordon Conference on Innovations in College Chemistry Teaching, Connecticut College, New London CT, Jun 19-24, 1999 (invited speaker)
Project Kaleidescope Workshop, "Building the Quantitative Skills of Non-Majors and Majors in Earth and Planetary Science Courses", College of William and Mary, Williamsburg VA, January 23, 1999 (invited speaker and panelist)
New Orleans Workshop of Teachers, LSU, Baton Rouge NO, January 9, 1998 (invited speaker)
The Second Math Across the Curriculum Workshop, Villanova University, Villanova PA, June 11-13, 1997 (invited speaker and panelist)
Workshop The Sciences of Science Learning, National Academy of Sciences, September 6, 1996 (invited speaker)

Biographical Dictionaries:

Who's Who in America
Who's Who in the World
Who's Who in Science and Technology

Who's Who in Education
Who's Who in Frontier Science and Technology
American Men and Women of Science

Advising:

PhD students in Nuclear Theory:
- Steven K-W. Young (1973)
- Michael Reiner (1974)
- Robert Dixon (1977)
- Wayne Polyzou (1979)
- Dan MacMillan (1981)
- Robert Perry (1984)
- Jeanette Adams (1990)

MA (with thesis) students in Applied Math:
- Stephen Nunes (1994)

PhD students in Science Education:
- Kristi Hall (biology: 2013)

PhD students in Physics Education:
- Jeffery Saul (1998)
- Michael Wittmann (1998)
- Lei Bao (1999)
- Mel Sabella (1999)
- Rebecca Lippmann (2003)
- Jonathan Tuminaro (2004)
- Paul Gresser (2006)
- Tom Bing (2008)
- Ben Dreyfus (current)
- Ben Geller (current)
- Kimberly Moore (current)

Committee chair, PhD students in Physics Ed.:
- Tim McCaskey (2009)
- Renee-Michelle Goertzen (2010)

Grants

1. Creating a common thermodynamics (NSF, TUES), DUE-11-2-2818, $519,250 (9/1/11-8/31/14).

2. A challenge in life sciences undergraduate education (HHMI), $450,000 (2010-2014).

3. The physics of life: interdisciplinary education at the introductory level (NSF, CCLI), DUE-09-1-9816, $315,515 (9/1/09-8/31/11).

4. Improving students' mathematical sense-making in engineering: research and development (NSF, EEC), EEC-08-3-5880, $499,991 (9/1/08-8/31/11).

5. The impact of livephoto physics materials and workshops (NSF, DUE), DUE-07-1-7803, $25,593 (9/1/07-8/31/11).

6. Open-source physics tutorial worksheets with faculty/TA development and implementation resources (NSF, DUE/Collaborative Research), DUE-07-15567, $258,841 (9/15/07-8/31/09)

7. Learning the language of science: advanced math for concrete thinkers (NSF, DUE/Distinguished Teaching Scholar, $300,000 (est.), DUE-05-24987, 7/1/05-6/30/09).

8. Toward a new conceptualization of what constitutes progress in learning physics, k-16: resources, frames, and networks (NSF, DUE/Research on Learning in Education) $799,800, DRL-04-40113, 4/1/05-3/31/08).

9. Applying science education research and methods (NASA, Education Division) $200,000 (est.) (6/1/04-5/31/07).

10. Helping students learn how to learn: open-source physics worksheets integrated with TA development resources, NSF (DUE/CCLI) $201,507 (4/1/04-6/30/06).

11. Travel support to the fermi summer school on physics education research; Varenna, Ttaly, NSF (Physics Division, International, and ROLE) $75,850 (6/15/03-5/31/04).

12. Learning how to learn science: physics for bioscience majors, NSF (DUE/Research on Learning in Education) $1,044,000 (11/1/00-5/31/05).

13. Evalution of interactive lecture demonstrations and realtime physics, evaluation subcontract to U. of Oregon FIPSE grant, $6,000 (1/1/99-12/31/00).

14. Practical quantum mechanics: opening a door for tomorrow's engineers, inventors, and scientists, FIPSE $230,437 (9/1/97-8/31/00).

15. A new model course in quantum mechanics for scientists and engineers, NSF (DUE/Research in Teaching and Learning) $305,126 (9/1/97-8/31/00).

16. Activity-based physics (a multi-university project based at Dickinson College), NSF (DUE/Course and Curriculum Development) $196,990 (5/1/95-4/30/98).

17. Computer-assisted laboratories and tutorials at the university of Maryland, NSF (Introductory Laboratory Improvement) $104,000 (8/17/95-8/16/97).

18. The international conference on undergraduate physics education, NSF (DUE and Physics) $65,000 (1996-97).

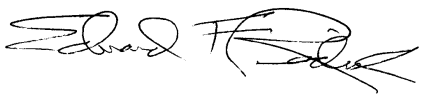
19. Evalution sub-contract, project links (a multi-university project based at RPI), NSF (DUE) $115,000 (10/1/95-9/30/97).

20. Student expectations in university physics, NSF (DUE/ Research in Teaching and Learning) $405,000 (9/1/94-8/31/98).

21. The Maryland University Project in Physics and Educational Technology, FIPSE $345,000 (9/1/85-8/31/88).

22. Was funded by the US Department of Energy for research in Theoretical Nuclear Physics as part of an "umbrella" grant covering 3-5 faculty from 1968-1991. In 1991, the grant was ~$600,000 for 4 faculty members, plus visitors, postdocs and graduate students.

Updated March 4, 2014



Edward F. Redish