

## Curriculum Vitae - Jeffrey S. Urbach

Department of Physics and Institute for Soft Matter Synthesis and Metrology  
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### Education

Ph.D, Physics, Stanford University, 1993.  
Dissertation: *Thermodynamics of Anisotropic Superconductors*.  
Advisor: Prof. Aharon Kapitulnik.

M. A., Physics, Stanford University, 1988.

B. A., Physics, Amherst College, 1985.

### Appointments

Professor, Department of Physics, Georgetown University, 8/06–present.  
Chair, Department of Physics, Georgetown University, 7/00–6/01; 7/04–6/07; 7/16–present.  
Interdisciplinary Chair in Science, Georgetown University, 2012–present.  
NIST Guest Researcher, Sustainable Polymers Group, 2013–present.  
Co-director, Program on Science in the Public Interest, 2006 (founding) – 2011; 2015–16.  
Director, Institute for Soft Matter Synthesis and Metrology, 2011 (founding) – 2015.  
Associate Professor, Department of Physics, Georgetown University, 7/00–7/06.  
Assistant Professor, Department of Physics, Georgetown University, 8/96–6/00.  
Postdoctoral Fellow, University of Texas, Austin, 1993–1996.  
Supervisor: Harry L. Swinney.  
Laboratory Coordinator, Department of Physics, Haverford College, 1985–86.  
Department Chair: Jerry P. Gollub

### Awards and Honors

Fellow, American Physical Society (2016)  
AAAS Science & Technology Policy Fellow (2009-10)  
Distinguished Achievement in Research Award, Georgetown University (2001)  
Presidential Early Career Award for Scientists and Engineers (PECASE, 2000)  
NSF CAREER Award (1999-2003)  
Junior Faculty Research Fellowship, Georgetown University (1999)  
Ralph E. Powe Junior Faculty Enhancement Award, Oak Ridge Associated Universities (1998-99)  
Alfred P. Sloan Foundation Fellowship (1997-99)  
IBM Graduate Fellowship (1990-91)  
Fannie and John Hertz Foundation Grant (1988-89)  
*Summa Cum Laude*, Amherst College (1985)  
Stifler Prize in Physics, Amherst College (1985)

## Service

### Professional Service:

Science Fellow, Office of Senator Chris Coons (D-DE), 2016  
AAAS Science and Technology Policy Fellowships Selection Committee, Spring 2016, 2017  
AAAS Science and Technology Policy Fellowships Career Summit Panelist, January 2016, 2017  
AAAS Science and Technology Policy Fellowships Advisory Committee (2011-2014)  
APS Committee on Constitution and Bylaws (2007-2010, Chair, 2009-10)  
Secretary–Treasurer, American Physical Society Topical Group on Statistical and Nonlinear Physics (2002-05).  
Program Committee, American Physical Society Topical Group on Magnetism and its Applications (1997-1999).

### University Service:

Department Chair (2001, 2004-2007, 2016-present)  
Graduate School PhD Allocation Subcommittee (2017)  
Graduate School Post-doc committee (2017)  
College Dean Search Committee (2016)  
Research Executive Committee (2014-present)  
GUMC Faculty Role Contributions working group (2016)  
Founding Co-Director, Program on Science in the Public Interest (2006-2011; 2015-16)  
Founding Director, Institute for Soft Matter Synthesis and Metrology (2011-2015)  
University Committee on Rank & Tenure (2011-2014)  
Field Committee, Science, Technology and International Affairs Program in the School of Foreign Service (1998-2004, 2011-2013).  
Steering Committee, Environmental Initiative (2010-11).  
Georgetown Magazine Advisory Committee (2005-2010)  
University Research Integrity Committee (2007-2010)  
Search Committee, Chair of the Department of Medicine (2007-8)  
Executive Faculty Committee on Rank and Tenure Policies (2007-8)  
Convener for the Sciences (2006-07)  
Appointing Deans Committee (2006-07)  
Graduate School Internal Grant Review Committee (2003-05)  
Main-Med Synergy working group (2004-05)  
Nuclear Nonproliferation Graduate Program Committee (2004-05)  
Main Campus Planning Committee (2003-2007)  
Co-Director of Graduate Studies (2003-04)  
Steering Committee, Interdisciplinary Program in Cognitive Science (2000-2004, 2005-2008).  
Field Committee, Science, Technology and International Affairs Program in the School of Foreign Service (1998-2004).  
Sciences at Georgetown Committee (2003)  
STIA Science Requirement Committee (2003).  
Graduate Program Committee (1998-2002).  
Search Committee, Dean of the Graduate School (2000-01).  
Departmental Junior Faculty Search Committee (1997-98 and 1999-2000).  
Departmental Representative to the Georgetown University Executive Faculty (1997-2000) and member, Executive Faculty Steering Committee (1999-2000).  
Freshman advisor for all incoming physics majors (1997-2000).  
Jewish Chaplain search committee (1998-99).  
Departmental Cohort Review committee (1997).  
Departmental Senior Faculty Search Committee (1996-97). (Resulted in hire at full professor level.)

## Proposals Funded

- “Georgetown University REU site for materials physics”, NSF DMR-1659532, \$339,658, 4/17 - 3/20 (PI. Amy Liu, co-PI)
- “Physics Industrial Leadership Program”, Scientific & Biomedical Microsystems, LLC, \$56,658 01/03/2017 - 12/31/2017.
- “Natural Helical Filaments for High Performance and Responsive Materials”, AFOSR, \$723,793, 8/1/14 - 7/31/17. (PI. Dan Blair, co-I. Award FA9550-14-1-0171)
- “Nanoscale Investigations of the Stress Response of Interphases in Sustainability Reinforced Polymer Matrix Nano-Composites,” NIST, \$1,958,322, (\$177,250 on campus) 6/1/14 - 5/31/18 (70NANB14H214).
- “Georgetown University REU site for materials physics”, NSF DMR-1358978, \$330,000, 3/14 - 3/17 (PI. Amy Liu, co-I)
- “Aging impairments in angiotensin type 1 receptor actions”, NIH/NIA (Senior Personnel; K. Sandberg PI), \$427,625 8/15/15 - 4/30/17 (0.3 months committed to project).
- “Characterization of Interface Properties in Natural Nanocomposites”, NIST, \$651,757, 10/15/11 - 10/14/14 (PI: All work on NIST campus).
- “The Institute for Soft Matter Synthesis and Metrology”, NIST, \$6.9M, 2010-2012 (joint with 5 other GU faculty).
- “Engineering Robust Nanocomposite Networks”, AFOSR, FA9550-10-1-0473. \$583,713, 9/10 - 8/13. (PI. Dan Blair, co-I; Additional \$126,128 equipment supplement 9/10, new total of \$709,841)
- “Georgetown University REU site for materials physics”, NSF DMR-1004268, \$315,00, 3/10 - 3/13 (PI. Amy Liu, co-I)
- “Mechanisms of Axonal Pathfinding in three dimensional matrices”, NIH, 1R01NS064250, \$1,509,484, 9/09 - 8/14 (PI).
- AAAS Science and Technology Policy Fellowship, \$104,823, 9/09-8/10.
- “A virtual forum for science policy analysis and dissemination’, GU Reflective Engagement in the Public Interest Initiative, \$28,500, 1/09-12/09 (PI, Francis Slakey Co-I).
- “Deformation in Heterogeneous Biopolymer Networks, NSF/DMR, DMR-0804782, \$425,052. (PI, Dan Blair, co-I) 9/08 - 8/11.
- “GU ILP: Raster Processing and Analysis”, FortiusOne, \$30,000, 9/1/08 - 8/31/09 (PI).
- “The cholesterol-dependent dynamics of nicotinic acetylcholine receptors”, GU International Collaborative Research Grant, \$5,250, 7/08 5/09 (PI).
- “Biomechanics of Invading Breast Cancer Cells in 3D matrices, NIH/NCI, \$700,530, 5/07 4/12. (Ryan McAllister, PI, jointly mentored with Susette Mueller, Lombardi).
- “Guiding Neuronal Growth in Tissues with Light”, AFOSR, \$430,416, 2/07 - 11/09 (PI).
- “Axon motility and guidance in three dimensional matrices”, NIH, \$368,620, 1/07 - 11/30/09 (PI).
- “Multiphoton Imaging”, NIH Shared Instrumentation Grant, \$500,000, 4/06-3/07. (PI: Susetter Mueller, Oncology)
- “Microfilaments in Giardia attachment and virulence”, NIH, \$554,400 , 6/05-5/07. (PI: Heidi Elmendorf, Biology)
- “Instrument Development for Biological Research: A High Speed Confocal Microscope for Tracking Single Molecules”, NSF, \$455,310, 9/04-8/07 (PI).
- “Granular Dynamics Without Gravitational Barriers”, NASA, \$463,000, 12/03-11/07.
- “Dynamic Control and Analysis of Biopolymer Networks”, NIH, \$429,784, 7/03-6/06. (PI: Wolfgang Losert, Univ. of MD.)
- “CRCNS: Mechanisms of axonal gradient detection”, NIH, \$717,569, 10/02-9/05. (PI from 1/1/05. Original PI Geoff Goodhill, Dept. of Neuroscience.)
- “The Generation of Precisely Controlled Chemical Gradients for Axon Guidance”, The Whitaker Foundation, \$205,231, 12/00-11/03 (PI).
- “Precisely Controlled Gradients for Axon Guidance”, NIH, \$228,744, 12/99-11/01. (PI: Geoff Goodhill, Dept. of Neuroscience.)

“PECASE: Non-equilibrium dynamics of thin fluidized granular media”, National Science Foundation (PI, originated as CAREER award), \$500,000, 2/99-1/05.  
 “Precisely Controlled Gradients for Axon Guidance”, NIH James A. Shannon Director’s Award, \$100,000, 10/98-9/00. (PI: Geoff Goodhill, Dept. of Neuroscience.)  
 “Making Connections: quantitative studies of axon guidance”, Georgetown University Interdisciplinary Research Fund, \$17,000, 1/98-12/98. (Joint w/ Geoff Goodhill of the Georgetown Institute of Cognitive and Computational Sciences and Mark Esrick of the Dept. of Physics.)  
 “Anomalous Diffusion and Barriers to Transport in Thin Fluid Films”, The Research Corporation, \$36,000, 9/97 - 9/99 (PI).  
 “Granular Thermodynamics and Fluidization of Thin Granular Layers”, Petroleum Research Foundation, \$20,000, 9/97 - 8/99.  
 Ralph E. Powe Junior Faculty Enhancement Award, Oak Ridge Associated Universities \$5,000, 1998-1999  
 Alfred P. Sloan Foundation Research Fellowship, Alfred P. Sloan Foundation, \$35,000, 7/97 - 6/99.