

## **Curriculum Vita prepared August, 2015**

### **Full Name:**

Philip Howard Bucksbaum

### **City and State of primary residence:**

Menlo Park, CA

### **Employer:**

Stanford University and the SLAC National Accelerator Laboratory, 2575 Sand Hill Road, Menlo Park, CA 94025

### **Sources of compensation in the past five years:**

Stanford University and the SLAC National Accelerator Laboratory

### **Sources of research funding in the past five years:**

U.S. Department of Energy  
National Science Foundation  
Stanford University

### **Expert testimony:**

Technical Expert for the Defendant in IMRA America vs. IPG Photonics, United States District Court Case No. 06-CV-15139, (2007-2011).

Technical Expert for the Plaintiff in Newport Corporation vs. Lighthouse Photonics, United States District Court Case No. Case No. SACV12-719, (2012-14)

### **Education:**

1975, A.B. magna cum laude in Physics, Harvard University.

1978, M.A. in Physics, University of California, Berkeley, CA.

1980, Ph.D. in Physics, University of California, Berkeley, CA.

### **Professional Experience:**

8/80-10/81 Post-doctoral research at Lawrence Berkeley Laboratories, Berkeley, CA 94720, under the supervision of Eugene Commins.

11/81-11/82 Post-doctoral research at AT&T Bell Laboratories, Holmdel, NJ 07733, with Jeffrey Bokor.

11/82-8/90 Principal Investigator Member of Technical Staff, Physics Research Division, AT&T Bell Laboratories, Murray Hill, NJ 07974.

1/89-8/90 Adjunct Associate Professor of Applied Physics, Columbia University, New York, NY

10027.

1996: Miller Visiting Professor of Physics and Electrical Engineering, University of California, Berkeley, CA 94720.

1997: Visiting Research Investigator, Service des Photons, Atomes et Molecules, Centre d'Etudes de Saclay, Commissariat a l'Energie Atomique. Gif-Sur-Yvette 91191 France.

1990-1998: Professor of Physics, University of Michigan.

1998-2005: Otto Laporte Collegiate Professor, College of Literature, Science, and the Arts, University of Michigan

2001-2005: Director of FOCUS, the Center for Frontier Optical Coherent Ultrafast Science, (on leave 8/04-7/05);

2004-2005: Visiting Scholar, Department of Applied Physics and SSRL, Stanford University

2005-2006: Peter Frankin Distinguished University Professor, University of Michigan

2006-present: Professor of Physics, Applied Physics, and the Stanford Synchrotron Radiation Laboratory, Stanford University

2006-present: Director of the Stanford PULSE Institute, Stanford University and SLAC

2007-2010: Chair, Department of Photon Science, SLAC, Stanford University

2009-present: Marguerite Blake Wilbur Professor in Natural Science, Stanford University.

## **National/Professional Service, Memberships, Awards, and Honors**

### ***Awards and Honors:***

President of the Optical Society (2014)

Fellow of American Academy of Arts and Sciences (2012)

Marguerite Blake Wilbur Professor in Natural Science, Stanford (2009)

Peter Frankin Distinguished University Professor, University of Michigan (2005)

Membership in the National Academy of Sciences (2004)

Sokol Award, University of Michigan (2001)

Otto Laporte Collegiate Professor of Physics, University of Michigan (1998-2005)

Distinguished Traveling Lecturer, Division of Laser Science, American Physical Society, 1996-99.

APS Centennial Speaker, (1998-99).

Distinguished Faculty Research Award, University of Michigan, (1996).

John Simon Guggenheim Memorial Foundation Fellow (September 1996- July 1997).

Miller Visiting Research Professor, University of California at Berkeley August-December, 1996).

Fellow of the American Physical Society, (1990); cited for "Seminal work on electrons and atoms in strong radiation fields."

Fellow of the Optical Society of America, (1995); cited for "Distinguished service in the interaction of intense electromagnetic fields with atoms and molecules."

Rosenberg Lecturer in Physics, Yale University, (1995).

NATO Post-doctoral Fellowship, (1981) (resigned before the fellowship tenure began in order to join Bell Laboratories).

NSF Graduate Fellowship, (1975-1978).

***National/professional service***

**2013-2015**

*Chairmanships and other leadership positions:*

Chair of the Board on Physics and Astronomy of the National Research Council, (2012-14);  
Member (2006-2014).

Chair of the Advanced Light Source Crosscut Review on AMO Physics (2013)

Chair of the National Research Council Study on High Intensity Lasers (2015)

*Other significant professional service outside of Stanford:*

Member of the National Academy Divisional Board for Engineering and Physical Sciences  
(2012-14)

Member of the Physical Review Letters Advisory Board (2012-present)

Member of the Math and Physical Sciences Advisory Committee for the National Science Foundation (2013-present)

Member of the Optics and Photonics Special Committee for the Math and Physical Sciences Directorate, NSF (2013-14)

Member of the Weizmann Institute of Sciences International Board of Directors (2012-present)

Member of the Max Planck Institute for Quantum Optics Science Advisory Committee (2012-present)

Member of the Science Advisory Committee for the Advanced Photon Source at Argonne (2010-present).

***Other significant professional service outside of Stanford:***

Chair of the NSF Committee of Visitors Subcommittee on AMO Physics and Quantum Information Science, for the Math and Physical Sciences Directorate, (2011-12).

Editor of the Virtual Journal of Ultrafast Science (2002-2012).

Member of the National Academy Divisional Board for Engineering and Physical Sciences (2012-)

Member of the LBNL Molecular Foundry Science Advisory Committee (2012-)

Member of the Weizmann Institute of Sciences Science Advisory Committee (2012-)

Member of the Weizmann Institute of Sciences International Board of Directors (2012-)

Member of the Max Planck Institute for Quantum Optics Science Advisory Committee (2012-)  
Physics Class Representative to the Class Membership Committee of the National Academy of Sciences

Member of the QANU International Evaluation Committee for Physics in The Netherlands, 2011.

Member of the Science Advisory Committee for the Advanced Photon Source at Argonne (2010-).

***Past service:***

Member of the Harvard Physics Visiting Committee (2009).

Member of the National Research Council Committee for Physics at NIST (2010- 2012).

Member of the Advisory Board of the NSF ERC for Extreme Ultraviolet Science, Fort Collins, CO (2006-2012).

Member of the Advisory Board of the Materials Research Laboratory, University of Illinois at Urbana-Champaign; (2007-present);

Member of the Science Advisory Committee for the Advanced Light Source at Berkeley (2006-2009);

Member of the Advisory Committee of Physics Today; (2006-2009)  
Member of the Board on Physics and Astronomy of the National Research Council, (2006-2010)  
Member of the Science Advisory Committee for the SLAC Linac Coherent Light Source (LCLS) (1999-2009);  
Divisional Associate Editor of Physical Review Letters (2002-2008);  
Member of the Board of Directors of the Optical Society of America (2006-2008)  
Member of the UCSB iQCD External Review Committee, May 2007  
Member of the Harvard ITAMP External Advisory Board (2004-2007)  
Member of the BESAC Grand Challenges Committee (2005-2007);  
Chair of the 2007 Quantum Control Gordon Research Conference, Newport, RI, August 2007.  
Chair, AMO 2010, the National Academy of Sciences decadal study of AMO physics (2005-2006);  
Member of BESAC (The Basic Energy Sciences Advisory Committee to the Office of Science, Department of Energy)(resigned January 2005);  
Member of the NAS Committee on AMO Science (CAMOS);  
Chair of the American Physical Society nominating committee (this committee selects nominees for the APS presidential line, and for POPA, the Public Affairs Committee);  
Member of the DOE-Basic Energy Sciences committee to review the 25-year plan for major facilities (2004);  
Member of the SAUUL advisory group (Science and Applications of Ultra-intense Ultrafast Lasers).  
General Councilor at Large, American Physical Society(1998-2002).  
Executive Board Member, American Physical Society (2001-2002).  
I lobbied Congress on behalf of the University of Michigan at a CNSF event in 2002.  
Member of the National Academy Committee to update the FAMOS report: Future of Atomic, Molecular, and Optical Science (1999-2001).  
Co-author of the Science Case for X-ray Free Electron Lasers, commissioned by Basic Energy Sciences, Department of Energy (1999-2000)  
Member of the Program Committees for the APS Annual Meeting Division of Atomic, Molecular and Optical Physics, 1999,2000.  
Member of Technical Advisory Committee for the Laser Program, LLNL (1996-2000).  
Centennial Speaker, American Physical Society (1998-99).  
General Co-Chair, Quantum Electronics and Laser Science Meeting (A major joint meeting of the Optical Society and the APS Division on Laser Science), (May 1999).  
Member of the Leone Panel, to review 4th generation synchrotron facilities, (1999.)  
Program Co-Chairman of the Quantum Electronics and Laser Spectroscopy Meeting (A major joint meeting of the Optical Society and the APS Division on Laser Science), (May, 1997.)  
Co-Chairman of the US-Japan Seminar on Coherent Manipulation of Matter, (September 1997).  
Chairman of DoE-BES Report on Future Directions of High Field Interactions Atoms and Molecules with Photons, (September, 1997).  
Member of Special NSF Review Panel for Stanford/LIGO project (May 1996).  
Member of the Program Committee for the International Conference on Multiphoton Processes, (1996,) Garmisch-Partenkirchen, Germany.  
Session Organizer and Local Committee Member for APS Division of Atomic, Molecular, and Optical Physics, (1996).  
Participant to the National Research Council Workshop on Research and Education in Optical Science and Engineering, Irvine, (January 1996.)  
Member of the Fellowship Committee for the Laser Science Topical Group of the APS, (1995.)

Chair of NSF Special Emphasis Panel on Manipulating Matter with Light, Cambridge, MA, (February, 1995.)  
Member of the Program Committee for the Annual Meeting of the Optical Society, (1993,94,95).  
Member of the Program Committee for the International Laser Spectroscopy Conference, (1992,93,94,95).  
Member of the Executive Committee of the Division of Atomic, Molecular, and Optical Physics of the APS, (1993,94,95.)  
Member of Program Committee and Session Organizer of the APS annual meeting for AMO Physics (1991,92,93,94,95).  
Chair of the Optical Science Division and member of the Technical Executive Council of the Optical Society of America, (1992,93,94).  
Participant to the National Academy Panel on Future Free Electron Lasers, Washington, (March, 1994).  
Member of the Program Committee for the OSA Topical Meeting on Ultrafast Processes, California, May, 1994.  
Member of the Program Committee for the OSA Topical Meeting on High Field Interactions and Short Wavelength Generation, St. Malo, August, 1994.  
Member of the Program Committee for the International Conference on Atomic Physics, 1994.  
Member of National Research Council selection panel for NRC Postdoctoral Fellowships, 1993,94.  
Member, selection committee for the APS Award for Outstanding Doctoral Thesis Research in AMO Physics, 1993,94.  
Member of the Fellows Committee for the APS Topical Group on Precision Measurements, 1993.  
Member, AIP expert panel on new publishing directions, May, 1992.  
Member of the International Physics Advisory Panel, IUPAP, 1992.  
Co-editor (with M. Skalsey, R. Conti, D. Gidley) of "Arthur Rich Memorial Conference on Time Reversal" AIP publication.  
Program Committee, Optical Society Topical Meeting on Short Wavelength Coherent Radiation: Generation and Applications; San Diego, CA, March 28-31, 1993.  
Program Chairman, Laser Spectroscopy Subcommittee, Conference on Quantum Electronics and Laser Spectroscopy (QELS'91), Baltimore, Maryland, May, 1991.  
Member, Laser Spectroscopy Subcommittee, International Quantum Electronics Conference (IQEC'90), Los Angeles, CA, May, 1990.

**University-wide and Laboratory-wide Service (Includes University of Michigan service, Bell Laboratories service and awards prior to 1990)**

Director of the Stanford PULSE Center, a research unit of SLAC and an Independent Laboratory at Stanford, 2006-present.  
Director of the Division of Chemical Sciences, Photon Science Directorate, SLAC, until 12/31/11.  
Chair of the Department of Photon Science, SLAC, Stanford University, term ended 2007-2010  
SLAC Faculty Task Force (2008)  
Search Committee for the SLAC Associate Laboratory Director for LCLS, 2007-2008  
SLAC Strategic Planning Committee, 2007-2008  
Space Working Group, SLAC, 2006-2007.  
Accelerator Center Committee at SLAC, 2006-2007.  
Scientific Computing Committee at SLAC, 2006-2007.

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