

THOMAS JEFFERSON UNIVERSITY

*presents*

THE 2010  
WILLIAM POTTER LECTURE



Connelly Auditorium  
Dorrance H. Hamilton Building  
1001 Locust Street, Philadelphia PA 19107

Wednesday, April 7<sup>th</sup>, 2010  
3:30 PM



Organized by  
Thomas Jefferson University  
Chapter of Sigma Xi

# THE WILLIAM POTTER LECTURE

The annual William Potter Lecture was created by the late William Potter Wear, a Jefferson Life Trustee, to honor his grandfather and former President of the Jefferson Medical College and Hospital Board of Trustees, the Honorable William Potter, LLD.

Mr. Potter was appointed by President Harrison in 1890 to serve as a Special Commissioner to London, Paris and Berlin, on behalf of the Post Office Department. Subsequently he was a delegate to the Vienna Postal Union Congress which resulted in the present treaty for handling trans-Atlantic Mail.

From 1892 to 1894 he served as Ambassador to Italy and was decorated by Kings Umberto and Victor Emmanuel for his extraordinary efforts in archeological research during his tour of duty in Rome.

Locally, William Potter was an active member of the Board of City Trusts, fusion candidate for the mayoralty of Philadelphia in 1905, and President Wilson's wartime fuel administrator for Pennsylvania. He received an honorary Doctor of Laws degree from Washington and Jefferson College in 1921.

Elected to the Jefferson Board in 1894, he became President in 1897 and served in that capacity until his death in 1926. During his term in office, the Thompson Building was conceived and constructed; Jefferson's endowment program was initiated; and the shift from a proprietary to a non-profit sharing corporation was made.

Partial recognition of this astute leadership was made in the 1910 Flexner report to the Carnegie Commission where Jefferson was repeatedly cited for its superior standards, faculty and facilities.

The Annual Potter Lecturer is selected each year by a faculty committee of Thomas Jefferson University Chapter of Sigma Xi and may speak on any subject in the realm of medicine, but with a topic oriented especially to and for students.

# PROGRAM

## Welcome

**Eleni Anni, Ph.D.**

Assistant Professor of Pathology, Anatomy and Cell Biology  
Thomas Jefferson University  
President of TJU Sigma Xi Chapter

## Introduction of 2010 William Potter Lecture

**Gerald Grunwald, Ph.D.**

Professor of Pathology, Anatomy and Cell Biology  
Acting Dean, Jefferson College of Graduate Studies

## 2010 William Potter Lecturer

**“Eyes of the 21st Century: Controlling the Placement,  
Environments, and Interactions of Molecules at All Scales”**

**Paul S. Weiss, Ph.D.**

Fred Kavli Chair in NanoSystems Sciences,  
Director of California NanoSystems Institute,  
Distinguished Professor of Chemistry and Biochemistry  
University of California, Los Angeles, CA

## Presentation of Student Research Day Awards

**Raj Vadigepalli, Ph.D.**

**Paul S. Weiss, Ph.D.**

Reception in Hamilton Lobby following awards ceremony

## Organizers of TJU Sigma Xi Student Research Day

Eleni Anni, Ph.D.

Dennis B. Leeper, Ph.D.

Carol L. Beck, Ph.D.

Hector Lopez, M.D.

Alan Cahill, Ph.D.

Roderick MacNeil, MLS, MA

Matthew Colombo, B.S.

Stephanie Schulz, Ph.D.

Dennis M. Gross, Ph.D.

Raj Vadigepalli, Ph.D.

## Special Thanks

Faculty Judges, Student Volunteers, Marc Stearns,  
Kara Snyder, Albert Babinskas, Joshua Ogonny and Xiangying Guan

## PAUL S. WEISS, PH.D.



Paul S. Weiss is the Director of the California NanoSystems Institute, Professor of Chemistry and Biochemistry, and Fred Kavli Chair in NanoSystems Sciences at the University of California, Los Angeles. He received his S.B. and S.M. degrees in chemistry from MIT in 1980 and his Ph.D. in chemistry from the University of California at Berkeley in 1986. He was a post-doctoral member of technical staff at Bell Laboratories from 1986-1988 and a Visiting Scientist at IBM Almaden Research Center from 1988-1989. Before coming to UCLA in 2009, he was a Distinguished Professor of Chemistry and Physics at the Pennsylvania State University, where he began his academic career as an assistant professor in 1989. His interdisciplinary research group includes chemists, physicists, biologists,

materials scientists, electrical and mechanical engineers, and computer scientists. Their work focuses on the atomic-scale chemical, physical, optical, mechanical and electronic properties of surfaces and supramolecular assemblies. He and his students have developed new techniques to expand the applicability and chemical specificity of scanning probe microscopes. They have applied these and other tools to the study of catalysis, self- and directed assembly, physical models of biological systems, and molecular and nano-scale electronics. They work to advance nanofabrication down to ever smaller scales and greater chemical specificity in order to connect, to operate, and to test molecular devices. He has published over 200 papers and patents, and has given over 400 invited and plenary lectures.

Weiss has been awarded a National Science Foundation Presidential Young Investigator Award (1991-1996), the Scanning Microscopy International Presidential Scholarship (1994), the B. F. Goodrich Collegiate Inventors Award (1994), an Alfred P. Sloan Foundation Fellowship (1995-1997), the American Chemical Society Nobel Laureate Signature Award for Graduate Education in Chemistry (1996), a John Simon Guggenheim Memorial Foundation Fellowship (1997), and a National Science Foundation Creativity Award (1997-1999). He was elected a Fellow of: the American Association for the Advancement of Science (2000), the American Physical Society (2002), and the American Vacuum Society (2007). He was also elected a senior member of the IEEE (2009). He received Penn State's University Teaching Award from the Schreyer Honors College (2004), was named one of two Nanofabrication Fellows at Penn State (2005-), and won the Alpha Chi Sigma Outstanding Professor Award (2007). He was a Visiting Professor at the University of Washington, Department of Molecular Biotechnology from 1996-1997 and at the Kyoto University, Electronic Science and Engineering Department and Venture Business Laboratory in 1998 and 2000. Weiss has been a member of the editorial boards of *Review of Scientific Instruments* (2000-2005) and other journals, the American Vacuum Society Nanoscience and Technology Division Executive Committee (2001-2003) and the U.S. National Committee to the International Union of Pure and Applied Chemistry (2000-2005). He has been the Technical Co-chair of the Foundations of Nanoscience Meetings, and the Chair of the most recent International Meeting on Molecular Electronics. He was the Senior Editor of *IEEE Electron Device Letters* for molecular and organic electronics (2005-2007), and is the founding Editor-in-Chief of *ACS Nano* (2007-). At *ACS Nano*, he won the Association of American Publishers, Professional Scholarly Publishing PROSE Award for 2008, Best New Journal in Science, Technology, and Medicine.

# WILLIAM POTTER LECTURERS

1928 Sir St. Clair Thompson, M.D.	1955 Carlos Finlay, M.D.	1994 Robert C. Gallo, M.D.
1929 Sir Andrew Macphail, OBE, M.D., LL.D.	1962 John Adriani, M.D.	1995 William A. Blattner, M.D.
1930 Edwin Grant Conklin, Ph.D., Sc.D., LL.D.	1963 Franklin D. Johnson, M.D.	1996 Kenneth I. Berns, Ph.D.
1931 George W. Crile, M.D.	1974 Irving R. Levine	1997 Stuart B. Levy, M.D.
1932 Francis R. Packard, M.D.	1982 Donald S. Fredrickson	1998 Ferid Murad, M.D., Ph.D.
1933 William E. Hughes, M.D.	1983 Hans C. Engell, M.D.	1999 John Gearhart, Ph.D.
1934 Charles R. Stockard, Ph.D., M.D.	1984 Ernest Knobil, Ph.D.	2000 Elaine Fuchs, Ph.D.
1935 C.E.A. Winslow, Ph.D.	1985 Stanley Reiser, M.D., Ph.D.	2001 Richard I. Morimoto, Ph.D.
1936 Dean Lewis, M.D., Sc.D., LL.D.	1986 Mitchell Rabkin, M.D.	2002 Joanna Groden Ph.D.
1937 Henry A. Christian, M.D., A.M., LL.D. S.D.	1987 Charles J. Epstein, M.D.	2003 Lee E. Limbird, Ph.D.
1938 William Boyd, M.S., LL.D., M.R.C.P., Ed.	1988 David G. Grahame-Smith M.B., B.S., Ph.D.	2004 Marlene Rabinovitch, M.D.
1939 M.W. Ireland, M.D., A.M., LL.D.	1989 Verne S. Caviness, Jr., M.D., Ph.D.	2005 Joseph G. Sodroski, M.D.
1940 Irvin Abell, A.M., M.D.	1990 K. Frank Austen, M.D.	2006 Phillip Zamora, Ph.D.
1941 Henrik Dam, Ph.D.	1991 Howard E. Morgan, M.D.	2007 David Julius, Ph.D.
	1992 Leon Eisenberg, M.D.	2008 Bonnie L. Bassler, Ph.D.
	1993 Kenneth L. Davis, M.D.	2009 Yang Shi, Ph.D.

# SIGMA XI STUDENT RESEARCH DAY

## **Program**

### **Registration and Poster set-up**

10:00 AM - 11:00 AM  
Conrady Lobby, Hamilton Building

### **Poster Judging**

11:30 AM - 2:00 PM  
Conrady Lobby, Hamilton Building

12:30 PM - 1:30 PM  
Buffet Lunch  
*(for presenters and co-authors)*

### **2010 William Potter Lecture and Awards Ceremony**

3:30 PM - 5:00 PM  
Connelly Auditorium, Hamilton Building

**“Eyes of the 21st Century: Controlling the Placement,  
Environments, and Interactions of Molecules at All Scales”**

### **Paul S. Weiss, Ph.D.**

Fred Kavli Chair in NanoSystems Sciences,  
Director of California NanoSystems Institute,  
Distinguished Professor of Chemistry and Biochemistry  
University of California, Los Angeles, CA

### **Reception for all Sigma Xi Research Day Participants and Attendees**

5:00 PM - 7:00 PM  
Conrady Lobby, Hamilton Building

### **Poster Dismantling**

6:00 PM - 7:00 PM