



National Science Foundation
Awards Ceremony

May 5, 2015

*U.S. Department of State
Washington, D.C.*

THE WHITE HOUSE
WASHINGTON

April 30, 2015

I am pleased to once again send greetings to all those attending the National Science Foundation (NSF) and National Science Board (NSB) Annual Awards Ceremony.

Since our Nation's founding, the ingenuity of our people has helped uncover new frontiers and contribute to America's progress and global leadership. Using reason and inquiry to address our greatest challenges, our scientists and engineers help us reimagine the world around us and open our eyes to a future of limitless possibilities.

Reflecting the innovative spirit that has fueled our country's progress, the NSF and NSB have advanced America's scientific journey, encouraged growth in the fields of engineering and technology, and helped spark the curiosity of our next generation. By upholding an unwavering commitment to discovery and public service, the recipients of the NSF and NSB awards are doing their part to help Americans understand the world we live in today and shape the path we will take tomorrow.

As you come together in our Nation's capital to recognize outstanding achievements in science and engineering, I wish you all the best for an enjoyable ceremony.

A handwritten signature in black ink, appearing to be Barack Obama's signature, consisting of a large 'B', a stylized 'O', and a long horizontal line extending to the right.

MENU

Radish, Apple and Meyer Lemon Salad
accompanied by Assorted Dinner Breads

Merlot Beef Tenderloin rubbed with Garlic and Fresh Rosemary and
Filet of Halibut crusted with Yellow Beets and Horseradish
*accompanied by Silver Queen Corn Soufflé Timbale
Multicolored Carrots and Spring Vegetables*

Vegetarian Option
Vegan Shepherd's Pie

Steamed Lemon Pudding with Raspberry Coulis

Coffee



PROGRAM

Presiding

Dan E. Arvizu

Chairman, National Science Board

Message from the President of the United States

John P. Holdren

Assistant to the President for Science and Technology
Director, White House Office of Science and Technology Policy

DINNER

Presentation of the Vannevar Bush Award

Vinton "Vint" Cerf

Chairman, ad hoc Committee on Honorary Awards

Presentation of the Alan T. Waterman Award

France A. Córdova

Director, National Science Foundation

Presentation of the NSB Public Service Awards

Vinton "Vint" Cerf

Closing Remarks

Dan E. Arvizu



Vannevar Bush Award

The Vannevar Bush Award honors truly exceptional lifelong leaders in science and technology who have made substantial contributions to the welfare of the Nation through public service activities in science, technology, and public policy. The award was established in 1980 in memory of Vannevar Bush, who served as a science advisor to President Franklin Roosevelt during World War II, helped to establish Federal funding for science and engineering as a national priority during peacetime, and was behind the creation of the National Science Foundation

2015 Selection Committee

Vinton "Vint" Cerf, Chairman
Bonnie Bassler
Sethuraman Panchanathan

Dan E. Arvizu, *ex officio*
Kelvin K. Droegemeier, *ex officio*
France A. Córdova, *ex officio*



James J. Duderstadt

**President Emeritus and Professor of Science and Engineering,
University of Michigan**

*For articulating and demonstrating a clear vision of how the interplay of science,
engineering research and education, and public policy is necessary to
enhance the welfare of our Nation and its people.*



ABOUT THE RECIPIENT

James J. Duderstadt is President Emeritus and University Professor of Science and Engineering at the University of Michigan. A graduate of Yale University (B.Eng., 1964) and the California Institute of Technology (M.S., Ph.D., 1967), he has served the University of Michigan since 1968 as a faculty member, dean, provost, and president. His teaching and research interests have spanned a wide range of subjects in science, mathematics, and engineering, including nuclear fission reactors, thermonuclear fusion, computer simulation, information technology, and policy development in areas such as energy, education, and science. He has published over 30 books and 200 technical publications.

Duderstadt has served on or chaired governing and advisory boards including the National Science Board, the National Academies, and various federal agencies, international organizations, and corporations. At the University of Michigan, he co-chairs the program in Science, Technology, and Public Policy and directs the Millennium Project, a research center exploring the impact of advanced technologies on society, located in the James and Anne Duderstadt Center, a multimedia complex on the Michigan campus.

He has received recognition for teaching, research, and service activities, including election to Phi Beta Kappa, Tau Beta Pi, the National Academy of Engineering, and the American Academy of Arts and Sciences. Among his many awards are the E.O. Lawrence Award for excellence in nuclear research, the Arthur Holly Compton Prize for outstanding teaching, the Reginald Wilson Award for national leadership in achieving diversity, and the National Medal of Technology for exemplary service to the nation.



Alan T. Waterman Award

The Alan T. Waterman Award recognizes an outstanding young researcher in any field of science or engineering supported by the National Science Foundation. Congress established the Alan T. Waterman Award in August 1975 to mark the 25th Anniversary of the National Science Foundation and to honor its first Director. In addition to a medal, the awardee receives a grant of \$1,000,000 over a 5-year period for scientific research or advanced study in the mathematical, physical, biological, engineering, social, or other sciences at the institution of the recipient's choice.

2015 Selection Committee

Juan Meza, Chairman
Cynthia Burrows
Patricia Kuhl
Jane Lubchenco
Marcia K. McNutt
Randy Nelson

Jill Pipher
Charles Manski
Mark Smith
Karan Watson
Peidong Yang
Ali Yazdani

Dan Arvizu, *ex officio*
Ralph Cicerone, *ex officio*
France A. Córdova, *ex officio*
C. D. Mote, *ex officio*



NSB Group Public Service Award

The National Science Board Public Service Award honors individuals and groups that have made substantial contributions to increase public understanding of science and engineering in the United States.

2015 Selection Committee

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Bonnie Bassler
Sethuraman Panchanathan

Dan E. Arvizu, *ex officio*
Kelvin K. Droegemeier, *ex officio*
France A. Córdova, *ex officio*



 AMERICAN MUSEUM OF NATURAL HISTORY

New York, NY

For fostering public understanding of science through scientific research, improving the teaching and learning of science, and training and encouraging the next generation of scientists.



ABOUT THE RECIPIENT

The American Museum of Natural History, founded in 1869, is one of the world's preeminent scientific, educational, and cultural institutions.

The Museum encompasses 45 permanent exhibition halls, including the Rose Center for Earth and Space and the Hayden Planetarium, as well as galleries for temporary exhibitions. It is home to the Theodore Roosevelt Memorial, New York State's official memorial to its 33rd governor and the nation's 26th president, and a tribute to Roosevelt's enduring legacy of conservation. The Museum's five active research divisions and three cross-disciplinary centers support approximately 200 scientists, whose work draws on a world-class permanent collection of more than 33 million specimens and artifacts, as well as specialized collections for frozen tissue and genomic and astrophysical data, and one of the largest natural history libraries in the world.

Through its Richard Gilder Graduate School, it is the only American museum authorized to grant the Ph.D. degree. In 2012, the Museum began offering a pilot Master of Arts in Teaching program with a specialization in Earth science, which is the only non-university affiliated such program in the United States. Annual attendance has grown to approximately 5 million, and the Museum's exhibitions and Space Shows can be seen in venues on five continents. The Museum's website and collection of apps for mobile devices extend its collections, exhibitions, and educational programs to millions more beyond its walls.



**National Center for
Technological Literacy**

Museum of Science, Boston

Boston, MA

For advancing public understanding of engineering and science and for pioneering and championing the introduction of engineering education in K-12 schools nationwide.



ABOUT THE RECIPIENT

The Museum of Science, Boston, led by president and director Ioannis Miaoulis, PhD, created the National Center for Technological Literacy* (NCTL*) in 2004 to foster science, technology, engineering, and math (STEM) knowledge for all. One of the world's largest science centers, drawing over 1.4 million visitors a year, the Museum is the first science museum in the United States with a strategy and infrastructure to integrate engineering into schools and museums nationwide. The strategy involves: advocacy; reforming standards and assessments; creating K-12 curricula, teacher professional development, and museum programming; and enhancing public views of engineering.

Because of the lack of elementary engineering curricula, the NCTL piloted Engineering is Elementary* in 2003-2004 with 8 teachers and 200 students. The NCTL has also created middle and high school curricula, Building Math and Engineering the Future*, as well as out-of-school-time curricula. As of February 2015, NCTL curricula had reached an estimated 83,800 teachers and 7.7 million students nationwide. Its Gateway Project guides STEM reform via districtwide leadership development and strategic planning.

Through the NCTL, the Museum has also promoted engineering to over 3 million museum-goers via its Star Wars: Where Science Meets Imagination exhibition, engaged over 580,000 visitors in Design Challenges, and, since 2005, led a \$41 million National Science Foundation-funded Nanoscale Informal Science Education Network, reaching 30 million people. The NCTL helped build support for the Engineering Education for Innovation Act, introduced in Congress (2010, 2011), and the Educating Tomorrow's Engineers Act (2013, 2015).

Vannevar Bush Award Recipients

2014	Richard A. Tapia	1998	Robert M. White
2013	Neal Lane	1997	H. Guyford Stever
2012	Leon M. Lederman	1996	Phillip H. Abelson
2011	Charles M. Vest	1995	Norman F. Ramsey, Jr.
2010	Bruce A. Alberts	1994	Frank Press
2009	Mildred Dresselhaus	1993	Norman Hackerman
2008	Norman R. Augustine	1992	Jerome B. Wiesner
2007	Shirley Ann Jackson	1991	James A. Van Allen
2006	Raj Reddy	1990	[No Award Presented]
	Charles H. Townes	1989	Linus Pauling
2005	Robert W. Galvin	1988	Glenn T. Seaborg
2004	Mary L. Good	1987	David Packard
2003	Richard C. Atkinson	1986	I. I. Rabi
2002	Erich Bloch	1985	Hans A. Bethe
2001	Lewis M. Branscomb	1984	Roger R. Revelle
	Harold Varmus	1983	Frederick Seitz
2000	Herbert F. York	1982	Lee A. DuBridge
	Norman Borlaug	1981	William O. Baker
1999	Maxine F. Singer	1980	James R. Killian, Jr.

Alan T. Waterman Award Recipients

2014	Feng Zhang	1995	Matthew P. A. Fisher
2013	Mung Chiang	1994	Gang Tian
2012	Scott J. Aaronson	1993	Deborah L. Penry
	Robert J. Wood	1992	Shrinivas R. Kulkarni
2011	Casey W. Dunn	1991	Herbert Edelsbrunner
2010	Subhash A. Khot	1990	Mark E. Davis
2009	David B. Charbonneau	1989	Richard H. Scheller
2008	Terence C. Tao	1988	Peter G. Schultz
2007	Peidong Yang	1987	Lawrence H. Summers
2006	Emmanuel J. Candes	1986	Edward Witten
2005	Dalton Conley	1985	Jacqueline K. Barton
2004	Kristi S. Anseth	1984	Harvey M. Friedman
2003	Angelika Amon	1983	Corey S. Goodman
2002	Erich D. Jarvis	1982	Richard Axel
2001	Vahid Tarokh	1981	W. Clark Still
2000	Jennifer A. Doudna	1980	Roy F. Schwitters
1999	Chaitan S. Khosla	1979	William P. Thurston
1998	Christopher C. Cummins	1978	Richard A. Muller
1997	Eric Cornell	1977	J. William Schopf
1996	Robert M. Waymouth	1976	Charles L. Fefferman

NSB Public Service Award Individual Recipients

2014	Arthur L. Caplan	2005	Ira Flatow
2013	Jo Anne Vasquez	2004	Oliver Sacks
2012	Lawrence M. Krauss	2003	Kathryn D. Sullivan
2011	Moira A. Gunn	2002	Eugenie C. Scott
2010	Nalini M. Nadkarni	2001	Dava Sobel
2009	Roald Hoffman	2000	Philip and Phylis Morrison
2008	[No Award Presented]	1999	Stephen Jay Gould
2007	Bassam Z. Shakhashiri	1998	Jane Goodall
2006	Alan Alda Craig R. Barrett		

NSB Public Service Award Group Recipients

2014	AAAS Science & Technology Policy Fellowships Program	2005	Committee on the Status of Women in Computing Research
2013	[No Award Presented]	2004	Alfred P. Sloan Foundation
2012	NPR Science Desk	2003	Council for the Advancement of Science Writing Earth & Sky, Inc.
2011	Exploratorium	2002	Society for the Advancement of Chicanos and Native Americans in Science
2010	The Expanding Your Horizons Network	2001	Education Division, Wildlife Conservation Society, The Bronx Zoo
2009	American Chemical Society Project SEED	2000	Science Service
2008	Bayer Corporation SAE International	1999	"Bill Nye the Science Guy"
2007	<i>NUMB3RS</i> Television Drama Series	1998	NOVA, PBS Series
2006	Association of Science-Technology Centers		

ABOUT THE NATIONAL SCIENCE BOARD

The National Science Board (NSB) is the 25-member policymaking body for the National Science Foundation and advisor to the President and Congress on science and engineering issues. Drawn primarily from universities and industry, and representing a variety of science and engineering disciplines and geographic areas, NSB members are selected for their eminence in research, education, or public service, and records of distinguished service.

CURRENT MEMBERSHIP

Dan E. Arvizu, *Chairman*, National Renewable Energy Laboratory
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Member *ex officio*:

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Michael L. Van Woert, Executive Officer

