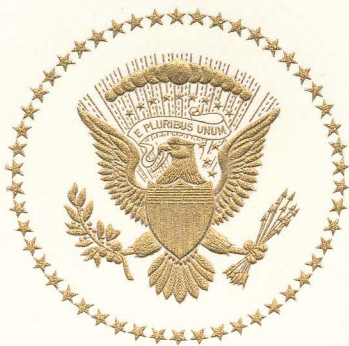




THE PRESIDENT

*welcomes you to*

THE WHITE HOUSE

*on the occasion of the presentation of*

THE NATIONAL  
MEDAL OF SCIENCE  
AND  
THE NATIONAL  
MEDAL OF TECHNOLOGY



*Thursday, November 6, 2003*

# PROGRAM

*Remarks by*  
**THE PRESIDENT**

*Presentation of Medals*



*Reception to follow*

## THE NATIONAL MEDAL OF SCIENCE

*The National Medal of Science is the Nation's highest scientific honor. Established by Congress in 1959 and administered by the National Science Foundation, it is bestowed annually by the President of the United States on a select group of individuals deserving of special recognition for their outstanding contributions in one of the following fields: biology, chemistry, geology, physics, mathematics, sociology, behavioral and economic sciences, and engineering. President John F. Kennedy awarded the first Medal of Science in 1962 to the late Theodore Von Karman, professor emeritus, California Institute of Technology. Three hundred eighty-six individuals have been awarded the Medal of Science, including such distinguished scientists and engineers as Eugene M. Shoemaker, co-discoverer of the Shoemaker-Levy comet; economist Milton Friedman; and C. Kumar N. Patel, inventor of the carbon dioxide laser, which helped revolutionize medical surgery. Each year, an independent committee of twelve presidentially-appointed scientists and engineers reviews nominations and makes its recommendations to the President, who selects the laureates.*



## THE NATIONAL MEDAL OF TECHNOLOGY

*The National Medal of Technology, the Nation's highest award for technological achievement, recognizes American innovators whose vision, intellect, creativity and sheer determination have made profound and lasting contributions to our economy and quality of life. Established by Congress and administered by the Technology Administration Policy within the U.S. Department of Commerce, the Medal has been awarded to one hundred thirty-eight individuals, team members or companies. The first Medal of Technology was presented in 1985 by President Ronald Reagan. Recipients have included such technological pioneers as Ray M. Dolby of Dolby Laboratories; Ronald H. Brown, former Secretary of Commerce; Ed McCracken of Silicon Graphics, Inc.; Steve Wozniak, formerly of Apple Computers and Steven Jobs; 3M; and Johnson & Johnson. An independent committee representing both private and public sectors evaluates the merits of all candidates, who are nominated through an open, competitive solicitation process. Committee recommendations are forwarded to the Secretary of Commerce who makes recommendations to the President for final decision.*



## LAUREATES OF THE 2002 NATIONAL MEDAL OF SCIENCE

### **Leo L. Beranek**

*BBN Technologies, Cambridge, MA*

For his leadership, dedication, and contributions to the art and science of acoustics; for co-founding one of the world's foremost acoustical research and consulting firms; and for sustained contributions to scientific societies and civic organizations.

### **John I. Brauman**

*Stanford University*

For his contributions in chemistry, giving new insight into the properties of ions and the dynamics and mechanisms of reactions, and for his landmark achievement in clarifying the key role of solvents in determining acid-base chemistry.

### **James E. Darnell**

*The Rockefeller University*

For his seminal scientific discoveries related to gene expression in animal cells, including pathways of RNA processing and signal transduction from the cell surface to genes in the nucleus, and for his contributions as a scientific educator.

### **Richard L. Garwin**

*Council on Foreign Relations, New York*

In recognition of his research and discoveries in physics and related fields, and of his longstanding service to the Nation by providing valuable scientific advice on important questions of national security over a half a century.

### **James G. Glimm**

*State University of New York at Stony Brook*

For his original approaches and creative contributions to an array of disciplines in mathematical analysis and mathematical physics, which are fundamental to the theory of operator algebras, shock-wave theory, advanced quantum field theory, quantum statistical mechanics, applied mathematics, and scientific computation.

### **W. Jason Morgan**

*Princeton University*

For his development of the theories of plate tectonics and of deep mantle plumes, which revolutionized our understanding of the geological forces that control the earth's crust and deep interior and consequently influence the evolution of the earth's life and climate.

### **Evelyn M. Witkin**

*Rutgers University*

For her insightful and pioneering investigations on the genetics of DNA mutagenesis and DNA repair that have increased our understanding of processes as varied as evolution and the development of cancer.

### **Edward Witten**

*Institute for Advanced Study  
Princeton, NJ*

For his leadership in a broad range of topics in mathematics and theoretical physics, including attempts to understand the fundamental forces of nature through string theory, and his inspired use of insights from physics to unify apparently disparate areas of mathematics.

## LAUREATES OF THE 2002 NATIONAL MEDAL OF TECHNOLOGY

### **Calvin H. Carter, Jr.**

*Cree, Inc.*

For his exceptional contributions to the development of silicon carbide wafers, leading to new industries in wide bandgap semiconductors and enabling other new industries in efficient blue, green, and white light, full-color displays, high-power solid-state microwave amplifiers, more efficient/compact power supplies, higher efficiency power distribution/transmission systems, and gemstones.

### **M. George Craford**

*LumiLeds Lighting*

### **Russell Dean Dupuis**

*Georgia Institute of Technology*

### **Nick Holonyak, Jr.**

*University of Illinois, U-C*

For contributions to the development and commercialization of light-emitting diode (LED) technology, with applications to digital displays, consumer electronics, automotive lighting, traffic signals, and general illumination.

### **DuPont**

*Wilmington, Delaware*

For policy and technology leadership in the phaseout and replacement of chlorofluorocarbons.

### **Haren S. Gandhi**

*Ford Motor Company*

For his research, development, and commercialization of automotive exhaust catalyst technology, shaping the industry from its very beginning and continually pushing to improve the quality of the air we breathe. Also for leading the automotive industry in ensuring the judicious use of precious metals, including conservation measures such as recycling of spent converters and technological advances in precious metal utilization.

### **Carver A. Mead**

*California Institute of Technology*

For his pioneering contributions to microelectronics that include spearheading the development of tools and techniques for modern integrated-circuit design, laying the foundation for fabless semiconductor companies, catalyzing the electronic-design automation field, training generations of engineers that have made the United States the world leader in microelectronics technology, and founding more than twenty companies.

### **John J. Mooney and Carl D. Keith**

*Engelhard Corporation*

For the invention, application to automobiles, and commercialization of the three-way catalytic converter. Through their persistent efforts, this technology is the key emission-control component in all new light-duty vehicles in the United States and throughout the world.

## THE PRESIDENT'S COMMITTEE ON THE NATIONAL MEDAL OF SCIENCE

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\* Member, Ex Officio

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