

A SCIENTIFIC MEDLEY

Honoring **DR. JOSHUA LEDERBERG**

on the occasion of his 80th birthday

Joshua Lederberg, Ph.D., president emeritus of The Rockefeller University, has made extraordinary contributions to science as well as academia, government and international affairs. In the course of his doctoral research, he made the unexpected discovery that a form of sexual reproduction occurs in bacteria, demonstrating that bacteria possess a genetic mechanism similar to that of higher organisms, including humans. This work — which earned him a Nobel Prize in 1958, when Dr. Lederberg was 33 — helped lay the foundation for the current revolution in molecular biology and biotechnology. From 1978 to 1990, Dr. Lederberg was the fifth president of The Rockefeller University. Today, at Rockefeller, he is University Professor and the Raymond and Beverly Sackler Scholar. He also heads the Laboratory of Molecular Genetics and Informatics, which currently explores the ultimate limits governing the rate of bacterial growth. Throughout his career, Dr. Lederberg has taken important advisory roles in government, serving as scientific counselor to world leaders on issues ranging from cancer and emerging infectious diseases to space exploration and biological weapons disarmament. He has been a member of the United States Defense Science Board and a director of the Council on Foreign Relations. Dr. Lederberg is a member of the National Academy of Sciences and its Institute of Medicine, which awarded him the 2002 David Rall Medal. In 1989, he received the National Medal of Science, the highest science award given by the United States government.

MODERATOR

Jesse H. Ausubel is director of the Program for the Human Environment and senior research associate at The Rockefeller University. Mr. Ausubel's interests include environmental science and technology, industrial evolution, and the nature of the scientific enterprise. Since 1994 Mr. Ausubel has served concurrently as a program director for the Alfred P. Sloan Foundation. Mr. Ausubel has helped bring into existence major new international programs to assess and explain the diversity, distribution and abundance of life in the oceans (the Census of Marine Life) as well as to develop DNA identifiers for all plant and animals species (the Barcode of Life Initiative).

WELCOMING AND CLOSING REMARKS

Paul Nurse, Ph.D., who shared the 2001 Nobel Prize in Physiology or Medicine, became president of The Rockefeller University in September 2003. He had previously served as chief executive of Cancer Research UK, the largest cancer research organization outside the United States. Dr. Nurse is noted for his discoveries about the molecular machinery that regulates the cell cycle, the process by which a cell copies its genetic material and then divides to form two cells. In addition to the Nobel Prize, Dr. Nurse has received many other honors, including the Albert Lasker Award for Basic Medical Research and the Royal Society's Wellcome, Royal and Copley medals. A fellow of the Royal Society, he is a founding member of the U.K. Academy of Medical Sciences and a foreign member of the U.S. National Academy of Sciences. He was knighted in 1999 and received France's Légion d'Honneur in 2002.

SPEAKER BIOS

Christopher Chyba, Ph.D., is professor of astrophysics and international affairs at Princeton University, where he also co-directs the Program in Science and Global Security at the Woodrow Wilson School. Dr. Chyba served on the national security staff of the White House from 1993 to 1995, entering the Clinton administration as a White House Fellow. In 1994, while director for international environmental affairs on the staff of the National Security Council, Dr. Chyba was named one of *Time* magazine's "Fifty for the Future." In 1996, he received the Presidential Early Career Award. He is a member of the Board of Trustees of the SETI Institute, a member of the National Academy of Sciences Committee on International Security and Arms Control, and recent chair of the National Research Council's Committee on Preventing the Forward Contamination of Mars. In October 2001, Dr. Chyba was named a MacArthur Fellow by the John D. and Catherine T. MacArthur Foundation for his astrobiology and international security work.

Stanley N. Cohen, M.D., is the Kwoh-Ting Li Professor of Genetics, professor of medicine and former chairman of the department of genetics at Stanford University. With Herbert W. Boyer, Dr. Cohen invented recombinant DNA technology. Their discoveries provided a cornerstone for virtually all of modern biological and medical research and the scientific foundation for the current revolution in the diagnosis and treatment of human disease. His current research is aimed at understanding the mechanisms involved in host-cell interactions with infectious microbes and in the control of growth in mammalian cells. A member of the U.S. National Academy of Sciences and its Institute of Medicine, Dr. Cohen has received numerous awards, including the National Medal of Science, the National Medal of Technology, the Albert Lasker Award for Basic Medical Research and the Wolf Prize in Medicine.

Margaret Hamburg, M.D., is vice president for biological programs at the Nuclear Threat Initiative, a foundation dedicated to reducing the threat to public safety from nuclear, chemical and biological weapons. She is an expert on health and security issues and a leading advocate for changes in the nation's public health policies and infrastructure, from local health departments to the highest levels of government, to meet the challenges presented by both modern bioterrorism and naturally occurring disease. She is a distinguished senior fellow with the Center for Strategic and International Studies. As health commissioner for New York City from 1991 to 1997, she developed innovative programs for controlling the spread of tuberculosis and AIDS. Before joining the Nuclear Threat Initiative, Dr. Hamburg was assistant secretary for policy and evaluation at the U.S. Department of Health and Human Services.

Donald A.B. Lindberg, M.D., is a scientist who has pioneered in applying computer technology to health care, beginning in 1960 at the University of Missouri. In 1984 he was appointed director of the National Library of Medicine, and, from 1992 to 1997, he served concurrently as director of the Office of High Performance Computing and Communications in the White House Office of Science and Technology Policy. As the country's senior statesman for medicine and computers, he has been called upon to serve on many boards, including the Computer Science and Engineering Board of the National Academy of Sciences, the National Board of Medical Examiners and the Council of the Institute of Medicine. He has honorary degrees from Amherst College, the State University of New York at Syracuse, the University of Missouri-Columbia, and the University for Health Sciences, Medical Informatics and Technology, Innsbruck, Austria.

William J. Perry, Ph.D., is the Michael and Barbara Berberian Professor at Stanford University, with a joint appointment in the School of Engineering and the Freeman Spogli Institute for International Studies, where he is co-director of the Preventive Defense Project, a research collaboration of Stanford and Harvard Universities. Dr. Perry was the 19th U.S. secretary of defense, serving from February 1994 to January 1997. Dr. Perry has received numerous awards, including the Presidential Medal of Freedom (1997), the Department of Defense Distinguished Service Medal (1980 and again in 1981), and Outstanding Civilian Service Medals from the army (1962 and 1997), the air force (1997), the navy (1997), the Defense Intelligence Agency (1977 and 1997), the National Aeronautics and Space Administration (1981), and the Coast Guard (1997).

Gordon Ringold, Ph.D., is chairman and CEO of Alavita Pharmaceuticals, a private company developing therapeutics for treatment of damage associated with stroke, heart attacks and organ transplantation. Dr. Ringold is a co-founder and director of Maxygen Corporation, chairman of Nanoplex Technologies Inc, a co-founder and director of Alexza Pharmaceuticals, and a managing partner of Technogen Associates, L.P., a private investment firm. He has nearly 20 years of experience managing the discovery and development of pharmaceuticals and novel, enabling life science technologies. He was CEO of the Glaxo-Wellcome Group's Affymax Research Institute, where he oversaw the development of novel technologies to accelerate the pace of drug discovery. Prior to Affymax, Dr. Ringold served as director and vice president of the Institute for Cancer and Developmental Biology at Syntex, now a division of Hoffman La-Roche.

Jan Sapp, Ph.D., is a professor in the Department of Biology at York University, Toronto. He was a professor at the University of Melbourne from 1984 to 1990, Andrew Mellon Foundation Fellow in Joshua Lederberg's laboratory at The Rockefeller University in 1991, and a professor at York University from 1992 to 2001. He held the Canada Research Chair in the History of Biology at *Université du Québec à Montréal* from 2001 to 2003. Dr. Sapp has lectured extensively throughout North America and Europe. He is the author of several books, including *Beyond the Gene* (1987), *Where the Truth Lies* (1990), *Evolution by Association: A History of Symbiosis* (1994), *What is Natural? Coral Reef Crisis* (1999), and *Genesis: The Evolution of Biology* (2003). He is editor of *Microbial Evolution and Phylogeny, Concepts and Controversies* (2005).

James D. Wolfensohn is the Special Envoy for Gaza Disengagement. He was the World Bank Group's ninth president and the third president in World Bank history to serve a second term. During his 10 years as president, he traveled to more than 100 countries to gain first-hand experience of the challenges facing the World Bank and its 183 member countries. Prior to joining the Bank, Mr. Wolfensohn was an international investment banker. His last position was as president and chief executive officer of James D. Wolfensohn Inc., his own investment firm set up in 1981 to advise major U.S. and international corporations. A trustee of The Rockefeller University during Joshua Lederberg's presidency, he is an honorary trustee of the Brookings Institution and a member of the Council on Foreign Relations and the Century Association in New York. In May 1995 he was awarded an honorary knighthood by Queen Elizabeth II for his contribution to the arts. Mr. Wolfensohn has also been decorated by the governments of Australia, France, Germany, Morocco and Norway.