



Speaker Bios

Symposium 2012:

National Security, Medicine, and Engineering



Ralph J. Cicerone is President of the National Academy of Sciences and Chair of the National Research Council. His research on atmospheric chemistry, the radiative forcing of climate change due to trace gases, and the sources of atmospheric methane, nitrous oxide, and methyl halide gases has shaped science and environmental policy nationally and internationally. He received the 1999 Bowe Award and Prize for Achievement in Science from the Franklin Institute and the 2004 Albert Einstein World Award in Science from the World Cultural Council. In 2001, he led an NAS study of the current state of climate change, requested by

President Bush. The American Geophysical Union, the world's largest society of earth scientists, awarded him its 1979 Macelwane Award for outstanding contributions to geophysics by a young scientist. He later served as its president (1992-1994) and was awarded its 2002 Revelle Medal. In addition to the NAS, he is member of the American Academy of Arts and Sciences, the American Philosophical Society and is a foreign member of a number of science academies world-wide, including the Accademia Nazionale dei Lincei and the Royal Society. Educated at MIT and the University of Illinois, he conducted research at the University of Michigan (1970-1978); the Scripps Institution of Oceanography at UC San Diego (1978-1980); the National Center for Atmospheric Research (1980-1989); and UC Irvine (1989-2005) where he was founding chair and Aldrich Professor of Earth System Science, Dean of Physical Sciences, and Chancellor. He serves on the Secretary of Energy's Advisory Committee and as a trustee of the Carnegie Corporation in New York.



Rita Colwell is Distinguished University Professor at the University of Maryland at College Park and Johns Hopkins Bloomberg School of Public Health and President of CosmosID, Inc. Her interests are focused on global infectious diseases, water, and health. Dr. Colwell served as 11th Director of the National Science Foundation and Co-chair of the Committee on Science, National Science and Technology Council. Dr. Colwell has held advisory positions in the U.S. Government, nonprofit science policy organizations, and private foundations. She has authored or co-authored 17 books and more than 800 scientific publications. Dr. Colwell served as Chairman of the Board of Governors of the American Academy of Microbiology,

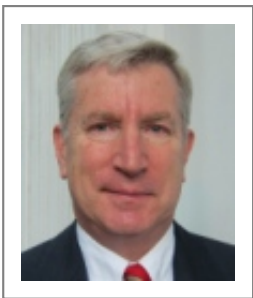
President of the American Association for the Advancement of Science, Washington Academy of Sciences

and American Society for Microbiology, Sigma Xi National Science Honorary Society, International Union of Microbiological Societies, and American Institute of Biological Sciences. Dr. Colwell is a member of the National Academy of Sciences, Royal Swedish Academy of Sciences, Stockholm, Royal Society of Canada, and Royal Irish Academy, American Academy of Arts and Sciences, and American Philosophical Society. Dr. Colwell has been awarded 55 honorary degrees from institutions of higher education and is the recipient of the Order of the Rising Sun, Gold and Silver Star, bestowed by the Emperor of Japan, 2006 National Medal of Science awarded by the President of the United States, and 2010 Stockholm Water Prize awarded by the King of Sweden. A geological site in Antarctica, Colwell Massif, has been named in recognition of her work in the polar regions. Dr. Colwell holds a B.S. in Bacteriology and an M.S. in Genetic from Purdue University, and a Ph.D. in Oceanography from the University of Washington.



Mary (Missy) Cummings received her B.S. in Mathematics from the United States Naval Academy in 1988, her M.S. in Space Systems Engineering from the Naval Postgraduate School in 1994, and her Ph.D. in Systems Engineering from the University of Virginia in 2004. A naval officer and military pilot from 1988-1999, she was one of the Navy's first female fighter pilots. Her previous teaching experience includes instructing for the U.S. Navy at Pennsylvania State University and as an assistant professor for the Virginia Tech Engineering Fundamentals Division. She is the director of the MIT Humans and Automation Laboratory and holds appointments in the MIT Aeronautics and Astronautics department, the MIT Engineering Systems

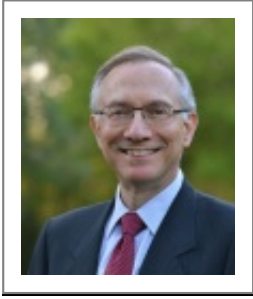
Division, and the Computer Science and Artificial Intelligence Laboratory. Her research interests include human supervisory control, human-unmanned vehicle interaction, bounded collaborative human-computer decision making, simulation and evaluation of human interaction in automated systems, and the ethical and social impact of technology. She has published over 150 peer-reviewed journal articles, conference papers, and book chapters. Prof. Cummings is currently on a leave of absence and serving as the Program Manager for the Office of Naval Research for the Autonomous Aerial Cargo Utility System, a \$100M Innovative Naval Prototype program. She is a member of the National Research Council Board on Human-Systems Integration.



Robert A. Fein is a forensic and national security psychologist with a specialty in threat assessment and the prevention of targeted violence. He is currently a member of the Office of the Director of National Intelligence's Advanced Technology Board. Dr. Fein is a principal of the Metis Group, Inc., a behavioral science organization that works with defense, law enforcement, and intelligence organizations. He served as a member of the Director of National Intelligence's Intelligence Science Board from 2003 to 2010, where he chaired the ISB Study on Educating Information. Since 2001, Dr. Fein has worked with various entities in the Intelligence Community on questions concerning risk assessment, roles of

psychologists in the IC, and educating information. Dr. Fein has spent the last thirty-five years working to understand and prevent targeted violence, having evaluated several thousand violent offenders and testified in state and federal courts on over 1,000 occasions. He worked for more than twenty years with the United States Secret Service reviewing and consulting on protective intelligence cases concerning the assessment and management of persons who might present harm to the President and other national leaders. Fein is the author or co-author of more than thirty publications on preventing targeted violence. He has co-directed two major NIJ-supported, Secret Service operational studies of targeted violence: one focused on assassinations the other on school attacks. He received American Academy of Forensic Psychology's Award for Distinguished Career Contributions to Forensic Psychology in 2003, and currently holds faculty appointments at the University of Massachusetts Medical School and the Harvard Medical School. He received his Ph.D.

in clinical psychology and public practice from Harvard University.



Harvey V. Fineberg is President of the Institute of Medicine. He served as Provost of Harvard University from 1997 to 2001, following thirteen years as Dean of the Harvard School of Public Health. He has devoted most of his academic career to the fields of health policy and medical decision making. His past research has focused on the process of policy development and implementation, assessment of medical technology, evaluation and use of vaccines, and dissemination of medical innovations. Dr. Fineberg helped found and served as president of the Society for Medical Decision Making and also served as consultant to the World Health Organization. At the Institute of Medicine, he has chaired and served on a number of panels dealing with health policy issues, ranging from AIDS to new medical technology. He also served as member of the Public Health Council of Massachusetts (1976-1979), as chairman of the Health Care Technology Study Section of the National Center for Health Services Research (1982-1985), and as president of the Association of Schools of Public Health (1995-1996). Dr. Fineberg is co-author of the books: *Clinical Decision Analysis*, *Innovators in Physician Education*, and *The Swine Flu Affair*, an analysis of the controversial federal immunization program against swine flu in 1976. He has co-edited several books on such diverse topics as AIDS prevention, vaccine safety, and understanding risk in society. He has also authored numerous articles published in professional journals. Dr. Fineberg is the recipient of several honorary degrees and the Joseph W. Mountin Prize from the US Centers for Disease Control. He earned his bachelor's and doctoral degrees from Harvard University.



Robert M. Hauser is Executive Director of the Division of Behavioral and Social Sciences and Education at the National Research Council and Vilas Research Professor of Sociology, Emeritus, at the University of Wisconsin-Madison. While at the UW-Madison, he directed the Center for Demography of Health and Aging, the Institute for Research on Poverty, and the Center for Demography and Ecology. He has been an investigator on the Wisconsin Longitudinal Study (WLS) since 1969 and led the study from 1980 to 2012. The WLS has followed the lives of more than 10,000 Wisconsin High School graduates of 1957 for more than half a century. His current research interests include statistical methodology, trends in educational progression and achievement among American racial and ethnic groups, the uses of educational assessment as a policy tool, and changes in socioeconomic standing, cognition, health, and well-being across the life course. Recent publications include reports of the National Research Council, *Measuring Literacy: Performance Levels for Adults*; *Conducting Biosocial Surveys: Collecting, Storing, Accessing, and Protecting Biospecimens and Biodata*; *High School Dropout, Graduation, and Completion Rates: Better Data, Better Measures, Better Decisions*, and *A Plan for Evaluating the District of Columbia's Public Schools: From Impressions to Evidence* and journal publications about grade retention, educational expectations, social mobility, obesity, cognitive functioning, end-of-life planning, and mortality. He is a member of the National Academy of Sciences, American Academy of Arts and Sciences, the National Academy of Education, and the American Philosophical Society. He received his Ph.D. in sociology from the University of Michigan.

Lucian Leape is a health policy analyst whose research has focused on patient safety and quality of care. Prior to joining the faculty at Harvard in 1988, he was Professor of Surgery and Chief of Pediatric Surgery at Tufts University School of Medicine and the New England Medical Center. Dr. Leape is internationally recognized as a leader of the patient safety movement, starting with the publication in *JAMA* of his seminal article, *Error in Medicine*, in 1994. His subsequent research demonstrated the success of the application of



systems theory to the prevention of adverse drug events. In addition, he has directed research into overuse and underuse of cardiovascular procedures. He has published over 140 papers on patient safety and quality of care and has been an outspoken advocate of the nonpunitive systems approach to the prevention of medical errors. Dr. Leape was a member of the authoring committee for the Institute of Medicine reports *To Err is Human* (1999) and *Crossing the Quality Chasm* (2001). Recent honors include the Distinguished Service Award of the American Pediatric Surgical Association, the Donabedian Award from the American Public Health Association, a Robert Wood Johnson Foundation Investigator's Award in Health

Policy Research, and the John Eisenberg Patient Safety Award from the JCAHO and National Quality Forum. He received an honorary Doctor of Medicine from the University of South Florida and honorary fellowship in the Royal College of Physicians and Surgeons of Canada. Dr. Leape is a graduate of Cornell University and Harvard Medical School.



John D. Lee received a B.A. in psychology (1987) and a B.S. in mechanical engineering (1988) from Lehigh University, Bethlehem, PA, and an M.S. in industrial engineering (1989) and a Ph.D. in mechanical engineering (1992) from the University of Illinois at Urbana-Champaign. He is now the Emerson Electric professor in the Department of Industrial and Systems Engineering at the University of Wisconsin, Madison and director of the Cognitive Systems Laboratory. Previously he was a professor at the University of Iowa and director of human factors research at the National Advanced Driving Simulator. His research focuses on the safety and acceptance of complex human-machine systems by considering how technology

mediates attention. Specific research interests include trust in technology, advanced driver assistance systems, and driver distraction. He is a coauthor of the textbook *An Introduction to Human Factors Engineering* and coeditor of the *Handbook of Driving Simulation for Engineering, Medicine, and Psychology*. He is also the co-editor of the *Cognitive Engineering Handbook* and the author or coauthor of over 170 articles. He has recently served on the National Research Council Committee on Human-Systems Integration and the Transportation Research Board Committee on Electronic Vehicle Controls and unintended acceleration.



Kenneth Prewitt is the Carnegie Professor of Public Affairs and is Special Advisor to the University's President at Columbia University. He taught Political Science at the University of Chicago from 1965-1982, and for shorter stints was on the faculty of Stanford University, Washington University, the University of Nairobi, Makerere University and the Graduate Faculty at the New School University (where he was also Dean). Prewitt's professional career also includes: Director of the United States Census Bureau, Director of the National Opinion Research Center, President of the Social Science Research Council, and Senior Vice President of the Rockefeller Foundation. He is a fellow of the American Academy of Arts and Sciences, the

American Academy of Political and Social Science, the American Association for the Advancement of Science, the Center for the Advanced Study in the Behavioral Sciences, the Russell-Sage Foundation, and member of other professional associations, including the Council on Foreign Relations. Among his awards are a Guggenheim Fellowship, honorary degrees from Carnegie Mellon and Southern Methodist University, Distinguished Service Award from the New School for Social Research, the Officer's Cross of the Order of Merit from the Federal Republic of Germany, the Charles E. Merriam Lifetime Career Award, American Political Science Association. He serves on a number of Boards & Advisory Committees, and presently is Chair of the Advisory Board to Division of Social & Behavioral Sciences, National Research Council. He has

a B.A. from Southern Methodist University, an M.S. from Washington University, and a Ph.D. in political science from Stanford University.



Charles M. Vest is President of the National Academy of Engineering and President Emeritus of the Massachusetts Institute of Technology (MIT). Dr. Vest earned a B.S. in mechanical engineering from West Virginia University in 1963, and M.S.E. and Ph.D. degrees in mechanical engineering from the University of Michigan in 1964 and 1967 respectively. From 1981-1990 Dr. Vest served in various academic administration capacities at the University of Michigan. As president of MIT from 1990-2004, Dr. Vest was active in science, technology, and innovation policy; building partnerships among academia, government and industry; and championing the importance of open, global scientific communication, travel, and sharing of

intellectual resources. He was vice chair of the U.S. Council on Competitiveness for eight years and has served on several federal committees and commissions, including the Presidents Committee of Advisors on Science and Technology (PCAST) during the Clinton and Bush administrations, the Commission on the Intelligence Capabilities of the United States Regarding Weapons of Mass Destruction, the Secretary of Education's Commission on the Future of Higher Education, the Secretary of State's Advisory Committee on Transformational Diplomacy and the Rice-Chertoff Secure Borders and Open Doors Advisory Committee. He serves on the boards of several non-profit organizations and foundations devoted to education, science, and technology. He has authored a book on holographic interferometry and two books on higher education. He has received honorary doctoral degrees from seventeen universities, was awarded the 2006 National Medal of Technology by President Bush, and received the 2011 Vannevar Bush Award.

Like Tweet 
