

Union of Concerned Scientists

40th Anniversary Symposium on Science
and Public Policy in the 21st Century



40
Years



Union of Concerned Scientists
Citizens and Scientists for Environmental Solutions

Founding Document: Beyond March 4

On March 4, 1969, the day on which the Union of Concerned Scientists held its very first public event at MIT, the role and mission of the nascent group was envisioned in a statement titled “Beyond March 4” distributed to the participants. Written on behalf of the UCS founders by Kurt Gottfried, then a visiting professor at MIT and currently on the UCS board of directors, the following is an excerpt from this document:

We are immersed in one of the most significant revolutions in man’s history. The force that drives this revolution is not social dissension or political ideology, but relentless exploitations of scientific knowledge. There is no prospect that this revolution will subside; on the contrary, it will continue to transform profoundly our modes of living and dying. That many of these transformations have been immeasurably beneficial goes without saying. But, as with all revolutions, the technological revolution has released destructive forces, and our society has failed to cope with them. Thus we have become addicted to an irrational and perilous arms race, and we are unable to protect our natural environment from destruction.

Can the American scientific community—all those who study, teach, apply or create scientific knowledge—help to develop effective political control of the technological revolution? Our proposal is based on the conservative working hypothesis that the existing political system and legal tradition have sufficient powers of adaptation to eventually contain and undo the destruction and peril generated by technological change.

At first sight recent history appears to indicate that our democratic system of government will fail the test just described. Let us recognize, however, that an intricate pattern of political and technological developments have conspired to subvert profoundly the democratic process. The government that we see today is in many respects no longer democratic because the vast bulk of its constituency cannot begin to scrutinize some of the gravest issues. One can claim that this has always been the case, but in so doing one tacitly ignores the radically altered relationship between the government and the citizenry. For we must remember that before the advent of nuclear weapons, government decision could only on rare occasion threaten the existence of any large portion of mankind. Now such decisions are a common occurrence, and they pass virtually unnoticed. This is not simply due to the habitual apathy of the electorate. A more important cause is surely the shroud of secrecy that enfolds so much of the government’s operations. Today many tens of billions of dollars pass through the hands of classified government programs and agencies, and hundreds of thousands of Americans hold security clearances. Both of these figures have grown enormously in recent decades.

The technological revolution tends to erode democracy even in the absence of secrecy. The vastly increased importance

and complexity of technology has, in effect, increased the ignorance of the public and its elected representatives, and thereby concentrated power in the administration and the military. This trend has been greatly amplified by external threats, both real and imagined. In the face of these developments, the Congress has largely surrendered its constitutional duties.

The scientific community has various responsibilities, most of which it has ably discharged. Thus it has created the basic knowledge and developed the applications that make the continuing technological revolution possible; it has trained an ample supply of technical manpower, and it has advised the administrative and military branches of the government.

Our community has the additional responsibility to educate the public, to evaluate the long-term social consequences of its endeavor, and to provide guidance in the formation of relevant public policy. This is a role it has largely failed to fulfill and it can only do so if it enters the political arena.

Only the scientific community can provide a comprehensive and searching evaluation of the capabilities and implications of advanced military technologies. Only the scientific community can estimate the long-term global impact of an industrialized society on our environment. Only the scientific community can attempt to forecast the technology that will surely emerge from the current revolution in the fundamentals of biology.

The scientific community must meet the great challenges implied by its unique capacity to provide these insights and predications. It must engage effectively in planning for the future of mankind, a future free of deprivation and fear. This important endeavor, in which we seek your active participation, stems from our conviction that even though the technological revolution has greatly benefited mankind, it has also released destructive forces that our society has failed to control.

Far-reaching political decisions involving substantial applications of technology are made with virtually no popular participation. It is our belief that a strengthening of the democratic process would lead to a more humane exploitation of scientific and technical knowledge, and to a reduction of the very real threats to the survival of mankind.

We ask you, as a member of the scientific community, to join us in a concerted and continuing effort to influence public policy in areas where your own scientific knowledge and skill can play a significant role. The issues which are of primary concern to us are survival problems where misapplication of technology literally threatens our continued existence. These fall into three categories: those that are upon us, as in the nuclear arms race; those that are imminent, as are pollution-induced climatic and ecological changes; and those that lie beyond the horizon, as, for example, genetic manipulation.



8:00-9:00 a.m. Registration

9:00 a.m. Convene

Kevin Knobloch, UCS President
Kurt Gottfried, Board of Directors

9:15 a.m. Plenary Session—Mike Tennis Memorial Plenary Panel

Climate Solutions: New and Emerging Technologies

Moderator: Kevin Knobloch, UCS President
Laurie Burt, Commissioner, Massachusetts Department of Environmental Protection
Jim Gordon, President, Cape Wind Associates
Sherif Marakby, Chief Engineer, Global Hybrid Engineering, Ford Motor Company

10:30 a.m. Break

11:00 a.m. Concurrent sessions

The Role of the Private Sector in Sustainable Agriculture

Moderator: Margaret Mellon, Director, UCS Food and Environment Program
Anne Kapuscinski, Sherman Fairchild Distinguished Professor of Sustainability Science, Dartmouth College
Tim LaSalle, Chief Executive Officer, Rodale Institute
Julie Rawson, Executive Director, Northeast Organic Farming Association

History of the Role of Science in Public Policy

Moderator: Francesca Grifo, Director, UCS Scientific Integrity Program
Curt Meine, Director for Conservation Biology and History, Center for Humans and Nature
Susan Wood, Associate Professor, George Washington University School of Public Health and Health Services

The Future of U.S. Nuclear Weapons

Moderator: Lisbeth Gronlund, Co-Director, UCS Global Security Program

Raymond Jeanloz, Professor of Astronomy and of Earth and Planetary Science, University of California, Berkeley

Jeffrey Lewis, Director of the Nuclear Strategy and Nonproliferation Initiative, New America Foundation

12:00 p.m. Lunch

1:15 p.m. Concurrent sessions

The Role of the Private Sector in Sustainable Agriculture

Moderator: Margaret Mellon, Director, UCS Food and Environment Program
Kate Howell, Sales Director, Red Tomato
Bill Kurtis, Chairman & Founder, Tallgrass Beef Company

Missile Defense and Space Security

Moderator: David Wright, Co-Director, UCS Global Security Program
Victoria Samson, Washington Office Director, Secure World Foundation
John Steinbruner, Director, Center for International and Security Studies, University of Maryland

2:15 p.m. Break

2:30 p.m. Plenary session

Moderator: Steve Curwood, Host and Executive Producer, NPR's *Living on Earth*
Don MacGillis, Assistant Editorial Page Editor, *Boston Globe*
Mario Molina, Nobel Laureate, Chemistry; Professor of Chemistry, University of California, San Diego
The Honorable John Porter, former U.S. Representative (IL); Partner, Hogan and Hartson

3:30 p.m. Closing

Kevin Knobloch, UCS President
Jim McCarthy, Chair, UCS Board of Directors

Mike Tennis Memorial Plenary Panel



Michael Tennis was an innovative member of the UCS staff from 1991 to 1997. He brought important analytical expertise to the area of renewable energy development and made significant contributions to the field throughout his career. His untimely death from cancer in 2007 was a tremendous loss to his family, colleagues, and friends, and to the larger community in which he worked.

While at UCS, Mike co-authored our 1993 report, *Powering the Midwest*, which identified the nation's heartland as a prime candidate to lead the country in tapping its abundant clean energy resources. He subsequently worked with analysts and advocates in several Midwest states to realize the report's vision. Continuing his commitment to local empowerment, Mike's 1995 study, *Renewing Our Neighborhoods*, identified Boston neighborhoods where renewable energy could help defer expensive investments in electricity transmission and distribution, increasing its value to utilities.

Mike left UCS to build a local business around these ideas. As a renewable energy consultant, Mike continued working with UCS and our allies to develop a cleaner, safer, and more secure energy system and environment.

In tribute to his accomplishments, a fund was established in his memory at UCS. We are pleased to have this opportunity to honor Mike at the UCS 40th anniversary symposium.

Symposium Speakers



UCS Speakers

James J. McCarthy is chair of the UCS board of directors, Alexander Agassiz Professor of Biological Oceanography at Harvard University, and chair of the American Association for the Advancement of Science. He serves on many panels and commissions relating to oceanography, polar science, and the study of climate and global change. He chaired the committee that oversees the International Geosphere-Biosphere Program, and served as co-chair of the Intergovernmental Panel on Climate Change (IPCC) Working Group II.

Kurt Gottfried is emeritus professor of physics at Cornell University. A co-founder of UCS and chair of the board of directors from 1999 to 2009, he has served on the senior staff of the European Center for Nuclear Research in Geneva, is a former chair of the Division of Particles and Fields of the American Physical Society, and is a member of the American Academy of Arts and Sciences and the Council on Foreign Relations. He has published widely on theoretical physics and national security issues, authoring *Quantum Mechanics, Concepts of Particle Physics, The Fallacy of Star Wars, and Crisis Stability and Nuclear War*. He continues to serve on the UCS board of directors.

Kevin Knobloch is president of the Union of Concerned Scientists. He first worked at UCS from 1989 to 1992 as legislative director for the Arms Control and National Security Program. He returned to the UCS in January 2000 and was named president in December 2003. Prior to his return to UCS, he served as director of conservation programs for the Appalachian Mountain Club in Boston. Previously he served as legislative director for U.S. Senator Timothy Wirth (D-CO) and legislative assistant and press secretary for U.S. Representative Ted Weiss (D-NY). He began his career as an award-winning newspaper journalist, writing for several Massachusetts publications. Knobloch holds a master's degree in public administration from the John F. Kennedy School of Government at Harvard University, and a bachelor's degree from the University of Massachusetts at Amherst, where he concentrated in English and journalism.

Guest Speakers

Laurie Burt was appointed commissioner of the Massachusetts Department of Environmental Protection in 2007. Prior to taking this role, she was partner at the Boston law firm Foley Hoag LLP and founded the firm's Environmental Practice Group. Her expertise covers state and federal hazardous waste and Superfund laws, clean air acts, clean water acts, as well as wetlands, endangered species, and environmental impact regulations. Burt joined Foley Hoag in 1980 after serving for four years as Massachusetts Assistant Attorney General in environmental enforcement. She received her law degree from Boston College Law School and earned a master's degree in urban affairs from Boston University and a bachelor's degree from the University of Wisconsin.

Steve Curwood is executive producer and host of National Public Radio's *Living on Earth*. Curwood created the first pilot of *Living on Earth* in the spring of 1990, and the show has run continuously since April 1991. His relationship with public radio goes back to 1979 when he began as a reporter and host of NPR's *Weekend All Things Considered*. He also hosted NPR's *World of Opera*. Curwood has been a journalist for more than 30 years with experience at NPR, CBS News, the *Boston Globe*, WBUR-FM/Boston and WGBH-TV/Boston. He has received numerous awards in recognition of his work.

Jim Gordon is president of Cape Wind Associates and Energy Management Incorporated (EMI). He has built EMI into one of the most successful privately held independent power companies in America. He recruited and managed a team of dedicated and highly motivated professionals to create state-of-the-art power projects. Gordon's sense of timing and grasp of political and regulatory directions allowed EMI to develop some of New England's first gas-fired cogeneration and independent power projects as well as the first generation of merchant electric plants in the United States. Gordon is a graduate of Boston University's School of Public Communications and worked for Warner Communications Corporation prior to founding EMI.

Kate Howell is sales director for Red Tomato, an organization that coordinates a network of family farmers to brand and market their produce to a variety of markets and distributors. She manages all of the tomato programs and is a food system consultant. As a consultant, Kate researches and develops new markets and products for farmers and groups seeking to develop a local wholesale food business in their community. Kate worked as a leadership coach to Red Tomato prior to leaving her 20-year consulting career to join Red Tomato's staff.

Raymond Jeanloz, a professor at the University of California, Berkeley, leads the U.S. National Academy of Sciences' Committee on International Security and Arms Control. His scientific research has been recognized through a MacArthur Award, and his policy work through awards from the Federation of American Scientists and the American Physical Society. After completing his Ph.D., Jeanloz was on the faculty of Harvard University and then moved to UC Berkeley. In addition to research and teaching, he has been an adviser to UC Berkeley and to the U.S. government in areas of resources and environment as well as national and international security.

Anne Kapuscinski, the inaugural Sherman Fairchild Distinguished Professor of Sustainability Science at Dartmouth College, is a world-renowned environmental scientist known for her research on fisheries conservation, ecological risk assessment of genetically modified organisms, and sustainable aquaculture. She has advised the U.S. Secretary of Agriculture under three administrations and written several influential scientific reports for the U.S. government, the National Academy of Sciences, the World Health Organization, the Food and Agriculture Organization, and the state of Minnesota. She has received numerous awards in recognition of her contributions to conservation policy and interdisciplinary analysis of sustainability issues. Kapuscinski is on the UCS board of directors and chairs the Science Advisory Committee of the WorldFish Center.

Bill Kurtis is an acclaimed documentary host and producer, network and major market news anchor, multimedia production company president, and grass-fed cattle rancher. In 2005, Kurtis founded Tallgrass Beef Company to champion the environmental and health benefits of grass-fed cattle ranching and to coordinate

the efforts of small grass-fed cattle ranchers across the country. Today, Tallgrass Beef can be found in restaurants, retailers, and on the internet at www.tallgrassbeef.com. Kurtis graduated from the University of Kansas with a B.S. in journalism and received his J.D. from Washburn University School of Law.

Tim LaSalle is Rodale Institute's first CEO. In this role, he champions his science-based hope for a regenerative food system that will mitigate climate change and prevent famine. He has challenged audiences around the world, including Al Gore's Generation Management Investment, the United Nations Environment Programme, and the National Wildlife Federation. He is also a frequent contributor to Huffington Post and Treehugger. LaSalle received his master's degree in genetics at Virginia Polytechnic Institute and previously taught at California Polytechnic State University.

Jeffrey Lewis is director of the Nuclear Strategy and Nonproliferation Initiative at the New America Foundation. Dr. Lewis is the author of *Minimum Means of Reprisal: China's Search for Security in the Nuclear Age*. Dr. Lewis is a research scholar at the Center for International and Security Studies at the University of Maryland School of Public Policy and a contributor to the Bulletin of the Atomic Scientists. Lewis also founded and maintains the leading blog on nuclear arms control and nonproliferation, *ArmsControlWonk.com*.

Donald MacGillis is the assistant editorial page editor of the *Boston Globe*. In that role, he writes editorials about science, medicine, the environment, and energy. Before joining the editorial board in 2000, he worked on the *Globe's* metro staff, serving as an assistant metro editor for health, science, and higher education and as an assistant city editor. He came to the *Globe* after serving as executive editor and editorial page editor of the *Berkshire Eagle* in Pittsfield, MA.

Sherif Marakby is chief engineer for Global Hybrid Propulsion Engineering at Ford Motor Company. He and his team have recently delivered the Fusion Hybrid sedan powertrain system. Marakby has more than 19 years of automotive experience at Ford Motor Company in various areas including powertrain systems and components, electronic systems and modules, electromechanical systems, and manufacturing and

assembly. Marakby received his master's degree in electrical and electronics engineering from the University of Maryland and an M.B.A. from the University of Michigan.

Dr. Curt Meine is director of Conservation Biology and History at the Center for Humans and Nature, senior fellow at the Aldo Leopold Foundation, and associate adjunct professor at the University of Wisconsin-Madison Department of Forest and Wildlife Ecology. Meine is a conservation biologist, historian, and writer. He received his bachelor's degree in English and history from DePaul University in Chicago and his graduate degrees in land resources from the Nelson Institute for Environmental Studies at the University of Wisconsin-Madison. His books include *Aldo Leopold: His Life and Work* and *Correction Lines: Essays on Land, Leopold, and Conservation*.

Mario J. Molina is a professor at the University of California, San Diego, and president of the Mario Molina Center for Strategic Studies in Energy and the Environment. He has served on the U.S. President's Committee of Advisors in Science and Technology, and is a member of the National Academy of Sciences and the Institute of Medicine. Molina and two colleagues shared the 1995 Nobel Prize in chemistry for their research on the depletion of stratospheric ozone. He received his Ph.D. in physical chemistry from the University of California, Berkeley. He currently serves on the UCS board of directors.

John Porter, a partner at Hogan and Hartson in Washington, DC, concentrates his practice on policy, strategy, and advocacy for clients primarily, but not exclusively, in the fields of health and education. He previously served 21 years as a U.S. Congressman from the 10th District in Illinois, where he served on the Appropriations Committee, and as chair of the Subcommittee on Labor, Health and Human Services, and Education. Before his election to Congress, he served in the Illinois House of Representatives and prior to that as an honor law graduate attorney with the U.S. Department of Justice in the Kennedy administration.

Julie Rawson is the executive director of the Northeast Organic Farming Association/Massachusetts Chapter and the NOFA Summer Conference Coordinator. She

co-owns, with her husband Jack Kittredge, Many Hands Organic Farm and Sustainability Center in Barre, MA. The farm, started in 1982, provides a range of food and offers community supported agriculture shares and hands-on workshops.

Victoria Samson is the Washington office director for the Secure World Foundation. From 2001 to 2009, she was a senior analyst at the Center for Defense Information. Prior to joining the center, she was the senior policy associate at the Coalition to Reduce Nuclear Dangers and worked as a consultant to the Ballistic Missile Defense Organization's Directorate of Intelligence.

John Steinbruner is professor of public policy at the University of Maryland's School of Public Policy and director of the Center for International and Security Studies at Maryland. His work has focused on issues of international security and related problems of international policy. John is currently co-chair of the Committee on International Security Studies of the American Academy of Arts and Sciences, chairman of the board of the Arms Control Association, and board member of the Financial Services Volunteer Corps. He is a fellow of the American Academy of Arts and Sciences and a member of the Council on Foreign Relations. He received his A.B. from Stanford University in 1963, and his Ph.D. in political science from the Massachusetts Institute of Technology in 1968.

Susan Wood is associate professor at the George Washington University School of Public Health and Health Services where her work and public advocacy focuses on the use of scientific knowledge in public policy. She served as assistant commissioner for Women's Health and director of the Food and Drug Administration Office of Women's Health from November 2000 through August 2005. She resigned on principle over the continued delay in Food and Drug Administration approval of over-the-counter emergency contraception. Prior to coming to Capitol Hill, Dr. Wood was a research scientist at the John Hopkins University School of Medicine. She received her Ph.D. in biology from the Boston University Marine Program at the Marine Biological Laboratory in Woods Hole, MA.

*T*he Union of Concerned Scientists is the leading science-based nonprofit working for a healthy environment and a safer world. UCS combines independent scientific research and citizen action to develop innovative, practical solutions and to secure responsible changes in government policy, corporate practices, and consumer choices.



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