

CANDIDATE STATEMENTS

For Chair-Elect

Allan Hoffman

Background: Dr. Hoffman is currently on detail from the U.S. Department of Energy, to serve as Senior Advisor to Winrock International's Clean Energy Group. His responsibilities include serving as advisor on a broad range of emerging energy technologies, with special responsibility for developing a water-energy program for Winrock, an organization focused on helping communities in developing countries achieve sustainable economic development. Earlier positions include Deputy Assistant Secretary for Utility Technologies/U.S. DOE, Executive Director, Committee on Science, Engineering & Public Policy/National Academy of Sciences, Director, Advanced Energy Systems Policy Division/U.S. DOE, and Assistant Professor of Physics/University of Massachusetts, Amherst. In 1974 he received an APS Congressional Fellowship and served until 1978 as Staff Scientist with the U.S. Senate Committee on Commerce, Science & Transportation. In this position he played a leading role in developing the Corporate Average Fuel Economy (CAFÉ) standards for passenger vehicles and in creating the White House Office of Science & Technology Policy (OSTP).

Statement: The Forum on Physics & Society, established in 1972 as the American Physical Society's first Forum, continues to serve a unique and critical role in the physics community. That role must be protected and enhanced. Many of today's critical public issues involve science and technology, and physicists at all levels of training have much to contribute to the understanding of these issues, and to the identification of options for addressing them. The Forum offers a vehicle for discussion within the physics community of these issues, and for effective outreach to other communities, including decision makers at all levels of government. It is also a focal point for physicists, student and otherwise, interested in pursuing careers at the science-public policy interface. As the APS moves into its 2d century, the role of scientists in both academic and non-academic pursuits will be critical to society's decision-making and progress. This first became clear during World War II, and today is exemplified in the large number of professional society Fellows serving on Congressional and Executive Branch staffs. The Forum must continue to stress and demonstrate the importance of this role, and help nurture a new generation of public service-oriented physicists. As Chair-Elect I would provide strong support for and guidance to these efforts.

Mark Sakitt

Background: Dr. Sakitt obtained a B.E.E. from the Polytechnic Institute of Brooklyn and a Ph.D. in Physics from the University of Maryland. He joined the Physics Department of the Brookhaven National Laboratory where he has worked on experimental high energy physics for 30 years. In 1990 he became Assistant Director for Policy and Planning at the lab and was responsible, at various times in strategic planning, technology programs, educational programs and technology transfer. He is currently the Director of a new program at the lab, the Center for International Security Studies, and he is also a Senior Scientist in the Physics Department where he continues to do research in high energy physics. Dr. Sakitt has worked on arms control problems, US Naval strategy and nonproliferation issues. He was a Carnegie Fellow at the Stanford's Center for International Security and Arms Control where he wrote a monograph on naval defense issues. He is a fellow of the APS, a member of the AAAS, the Arms Control Association and has served on the APS Panel on Public Affairs.

Statement: In the near future we will continue to face decreasing resources for research, decreasing prospects for younger scientists in their traditional fields and decreasing public appreciation for the benefits of basic and applied research, but *increasing* reliance on science and technology to address critical national problems, both for understanding and for eventual solutions. Within that challenging picture the American Physical Society's Forum can play a significant role by being involved in those issues for which it has the relevant expertise and resources. The standard for APS studies has been excellent and it must be maintained. The Forum should explore augmenting the effectiveness of those larger studies with smaller narrowly focused mini-studies that would not take the same level of funding. We should be considering other options that can reach out to the public and the people responsible for making key decisions affecting the well-being of science in our nation. The Forum can consider working with other parts of the American Physical Society, and also with other similar societies, to organize special symposia to focus attention on selected key issues. In general we need to generate additional inventive communication vehicles beyond the existing excellent major studies program.

For Vice Chair

Mark Goodman

Background: Dr. Goodman is a Physical Scientist in the Office of Multilateral Nuclear Affairs at the Department of State, working on nuclear nonproliferation at State and ACDA since 1995. He manages the State Department-funded program of research and development to support the International Atomic Energy Agency in implementing safeguards to verify that states are not diverting nuclear materials or misusing nuclear facilities to produce fissile material for nuclear weapons. He also supports negotiations and policy formulation on IAEA verification of excess fissile material in the U.S. and Russia under the Plutonium Management and Disposition Agreement, and on a prospective Fissile Material Cutoff Treaty. After receiving his Ph.D. in theoretical particle physics at Princeton University in 1986, Goodman held postdoctoral research positions at the Institute for Theoretical Physics at University of California-Santa Barbara and Rutgers University. His work at Harvard's Center for Science and International Affairs formed part of a 1991 book with recommendations on U.S. nuclear weapon policy after the Cold War. As an AIP Congressional Science Fellow in 1992-93, Goodman worked for Senator Kent Conrad (D-ND) on science, technology, energy, environment, and defense issues. He contributed to reports by the Office of Technology Assessment on civilian satellite remote sensing, and the reports of the Advisory Committee on Human Radiation Experiments.

Statement: The Forum on Physics and Society provides a mechanism for APS members to learn about, exchange views on, and otherwise engage in societal issues where physics plays an important role. Since coming to Washington I have also worked on nuclear arms control, energy and climate, international scientific cooperation, and public mistrust of science. Recent events and ongoing changes in U.S. policy have brought many of these issues back into the fore, but in a changed context that requires careful reexamination. I had the good fortune to work for two of the finest organizations that brought scientific and technical expertise to bear on public policy issues – the Arms Control and Disarmament Agency (which was merged into the Department of State) and the Office of Technology Assessment (which was eliminated). The unfortunate demise of these institutions has made it harder for decision makers in the Executive and Legislative Branches to obtain balanced technical advice on many important issues. One of the

key challenges facing the scientific community in general, and one I hope to address as Vice Chair of the Forum, is how to strengthen the institutional mechanisms for interaction between scientists and government.

Tina Kaarsberg

Background: Dr. Kaarsberg is a Professional Staff member (Majority) for U.S. House of Representatives Committee on Science, in the Subcommittee on Energy. She was previously at the U.S. Department of Energy, where she led the Power Technologies Analysis Collaborative for the Office of Energy Efficiency and Renewable Energy. Prior to joining DOE, Dr. Kaarsberg was the Northeast-Midwest Institute's senior scientist. She also worked for Sandia National Laboratories' Strategic Technologies group. In 1992, she was an APS Congressional Science Fellow in the office of Senator Pete Domenici (R-NM). In 1990, Dr. Kaarsberg moved from a UCLA physics department faculty position to the APS Washington Office to staff the Panel on Public Affairs and the newly-formed Physics Planning Committee. She received a Bachelor of Arts degree with distinction in physics from Yale University and master's and doctoral degrees in physics from the State University of New York at Stony Brook. She is active in both the APS and the AAAS and has served on numerous public policy committees in both organizations, including helping to create an endowment for the Leo Szilard Award.

Statement: The events of the past few years have strengthened my longtime belief that physicists could be key players in addressing many of the security, economic and environmental problems now facing society. The Forum on Physics and Society has a long and distinguished record of catalyzing physicist involvement in issues ranging from nuclear weapons policy to global climate change. More recently, the FPS also has partnered with other APS Fora on issues of workforce (with the Forum on Education) and economic development (with the Forum on Industrial and Applied Physics). Starting as a graduate student, going to November 11th committee meetings at Cornell, and especially since 1990, I have worked in many of these areas. I believe I have the experience (or can recruit others who have the experience) to guide FPS efforts on a wide range of societal challenges. For example, in my current position working for Congress, I am especially well positioned to encourage increased communication between physicists and policymakers. In the past year I have worked on the role of science and technology in homeland security and in energy and climate policy. Specifically, as Vice chair, I would try to (a) expand the readership of the Forum newsletter; (b) increase the number of Forum-sponsored or co-sponsored sessions at APS meetings; (c) involve our distinguished past and current prize winners in these and other activities.

For Executive Committee:

Kai-Henrik Barth

Background: Dr. Barth is currently a Visiting Assistant Professor in the Security Studies Program at Georgetown University's School of Foreign Service, where he teaches classes on science, technology, and security. His research focuses on the role of scientists in international affairs, in particular in arms control negotiations. He studied physics at the University of Hamburg, Germany, and worked in the ZEUS detector group at DESY. In the early 1990s he moved to the United States to pursue a PhD in history of science and technology at the University of Minnesota with a dissertation on nuclear test ban negotiations and seismic detection of underground nuclear explosions. In 1999 he interned at the National Academy's

Committee on International Security and Arms Control and was as a analyst for the Congressional Research Service. While an NSF Postdoctoral Fellow at Georgetown University's program in Science, Technology, and International Affairs, he began a book manuscript entitled "Experts in International Affairs: Scientists and the Making of the Comprehensive Test Ban Treaty."

Statement: The Forum on Physics and Society fulfills important functions for the physics community, since it connects the professionals with larger societal concerns and reflects our social responsibility. Physicists contribute to many of today's most significant debates, ranging from security and energy to environmental issues. Most prominently, physicists will continue to play a role in nonproliferation efforts, missile defense debates, and in the critical evaluation of energy scenarios. I propose to bring my enthusiasm and background as a physicist, historian of science and technology, and security analyst to the Forum's activities and to use my multidisciplinary background to reach out to groups beyond the scientific community. As a long-time APS member I have always enjoyed the Forum on Physics and Society, in particular the Forum's newsletter. It deserves a broader distribution. I volunteer to seek opportunities to transform the newsletter into a full-fledged journal for physicists and other scientists as well as interested policy analysts, policymakers, historians of physics, and political scientists.

Barry Berman

Background: Dr. Berman is the Columbian Professor of the Natural and Mathematical Sciences, Department of Physics, The George Washington University, Washington, DC, 1985-. Experimental Physics Division, Lawrence Livermore National Laboratory, 1963-86. Visiting scientist at Yale, Toronto, Frankfurt, São Paulo, Melbourne, Saclay, MIT, LBNL, LANL, Jefferson Lab. Harvard BA '57; Illinois MS '59, PhD '63. Consultant to Los Alamos and Sandia National Labs, book and media publishers, industrial companies, U.S. Departments of Energy, Defense, and State, World Bank, foreign governments. Berman's principal field is experimental nuclear physics of photonuclear reactions, few-body nuclei, meson and baryon photoproduction, electron and pion scattering, relativistic heavy ions, neutron physics, nuclear fission, nuclear astrophysics. In addition, he works on applied physics of channeling and other coherent radiation, crystal properties, microlithography, medical imaging, radiation damage to DNA, cancer therapy, substance identification, explosives detection, and lunar geology.

Statement: I would like to see the Forum on Physics and Society continue its role as a clearing house for opinions that are based on real science on issues affecting society at large and as a promoter of in-depth scientific studies of such issues. Current important subjects that come to mind are nuclear energy, global warming, missile defense, air and water pollution, and most important of all right now, detection and control of weapons of mass destruction. I also would like to see the Forum continue and expand its campaign against pseudoscience and other such irrational and/or anti-intellectual pursuits, whether in the form of astrology, alternative medicine, space aliens, parapsychology, or most insidious, creationism.

Charles Ferguson

Background: Dr. Ferguson is the Scientist-in-Residence based in the Washington, DC office of the Center for Nonproliferation Studies (CNS), Monterey Institute of International Studies. For the last several months, he has been the scientific director of a CNS study assessing all major aspects of nuclear and radiological terrorism. Previously, he worked on nuclear reactor safety issues in the Bureau of Nonproliferation, U.S. Department of State. Prior to that, as a Senior

Research Analyst and Director of the Nuclear Policy Project at the Federation of American Scientists, he analyzed nuclear arms control and global security issues. He did postdoctoral work in nonlinear dynamics and statistical mechanics at the University of Maryland. He has also researched computational fluid dynamics problems at the Los Alamos National Laboratory. After achieving a B.S. degree with distinction in physics from the United States Naval Academy in 1987, he graduated from the Naval Nuclear Power School and the Submarine Officers School and served as an officer on a fleet ballistic missile submarine. Upon leaving the U.S. Navy, he earned an M.A. in 1994 and a Ph.D. in 1996 in physics from Boston University.

Statement: Leo Szilard lamented that during World War II scientists were “on tap, but not on top.” Today, society more than ever needs physicists who are both on tap and on top as researchers working to solve society’s problems and as leaders shaping public policy. As a member of the Executive Committee, I would encourage more physicists to apply their analytic skills to public policy. One of physicists’ most valuable strengths is the ability to analyze complex dynamic problems. These are precisely the problems that frequently arise in public policy. Two critical examples, among many, are global warming and nuclear nonproliferation. Because many political leaders do not fully understand the feedback mechanisms and unintended consequences inherent to public policy decisions, the physics community should lead in exploring and explaining these dynamics by providing informed technical advice to policymakers at the beginning of the decision process. Therefore, I would support FPS sessions on examining how to further develop system dynamics skills in the framework of public policy. In a related area, as someone who has applied innovative teaching techniques to the classroom, I am deeply interested in encouraging physicists to become better science educators. I believe that physicists should broaden their educational activities beyond the classroom. To this end, I would support FPS sessions on how to effectively educate political leaders and the public.

Susan Ginsberg

Background: Dr. Ginsberg is currently finishing up her Senior Science Policy Fellowship in the Office of Public Affairs at the American Physical Society. While at APS, Ginsberg has focused on science education issues and increasing basic science research funding at the National Science Foundation, the Department of Energy’s Office of Science and the Department of Defense. Before her Fellowship at APS, she was a AAAS Congressional Science Fellow in the office of Congressman Howard Berman (CA-26th), where she acted as minority counsel for the House Judiciary Subcommittee on Courts, the Internet and Intellectual Property. She received a BA in geology from Amherst College (1994), a MS from the University of Minnesota in geophysics (1997) and a PhD from the University of Minnesota in materials sciences (2000).

Statement: The Forum on Physics and Society has long established itself as a group that produces excellent discussions and presentations at APS meetings as well as a first-rate newsletter. The vast technical backgrounds along with the wide-varying interests of FPS members – as well as their connection with the APS Panel on Public Affairs – have made the Forum stand out within the American Physical Society. I believe that the Forum on Physics and Society can and should continue to look beyond their meeting sessions, both inside and outside APS. Inside the Society, the Forum on Physics and Society should coordinate with other policy committees that are forming, notably the DPF Government Liaison Subcommittee and the APS Task Force on Countering Terrorism. I believe that bringing together representatives from these various groups at FPS sessions, through newsletter exchanges and even special meetings can ensure that APS has a full-dimensional view of science policy issues. Having spent the last year

working with the leadership of DPF and serving as the liaison to the Task Force on Countering Terrorism, I would be able to assist the FPS in establishing these relationships. Outside of the APS, I would like to see FPS take a more active role in Washington, D.C. The APS Office of Public Affairs (OPA) focuses on facilitating communication between physicists, the public, and government on scientific issues of concern to APS members and to the nation as a whole. The Forum is perfectly situated to help the OPA adopt a more proactive approach by offering well-conceived and concrete suggestions for influencing critical policy decisions in Washington and working with the other APS divisions and fora. As a natural liaison between FPS and OPA, I believe that I can facilitate this strengthened relationship.