

PUBLIC POLICY
AND
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TRAINING THE NEXT GENERATION

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Kory Budlong-Sylvester
Robert Powell
Susan Shirk

Dwight Jaeger
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Henry D. I. Abarbanel is a professor of physics in the Marine Physical Laboratory, Scripps Institution of Oceanography and the Department of Physics at UC San Diego. He received his B. S. in Physics from the California Institute of Technology in 1963 and his Ph.D. in physics from Princeton University in 1966.

Dr. Abarbanel is a member of UCSD Neurosciences Graduate Program. He has served as chairman of Special Interest Group for Dynamical Systems, Society of Industrial and Applied Mathematics; chair, University of California–NASA, Steering Committee for Joint Program in Nonlinear Science; chairman,

California Coordinating Committee for Nonlinear Studies of the University of California; and is presently the director of the Institute for Nonlinear Science at UC San Diego and a research physicist at SIO's Marine Physical Laboratory. Dr. Abarbanel also serves as editor-in-chief for the Springer-Verlag Series in Nonlinear Science, and was a member of the Office of Naval Research Board of Visitors in Physics.

Deborah Y. Ball is Senior Russian Political-Military Analyst for the Proliferation, Prevention and Arms Control Program at Lawrence Livermore National Laboratory, is a member of the Committee on Indigenization of Programs to Prevent Leakage of Plutonium and Highly Enriched Uranium from Russia. Her work focuses on Russian civil-military relations, military doctrine and security issues, the prevention of theft of nuclear weapons and weapons-usable nuclear material from the former Soviet Union, as well as the safety and security of Russia's nuclear arsenal. Dr. Ball is currently conducting a survey of former Soviet Weapons of Mass Destruction scientists to assess the extent to which the International Science and Technology Council program in Russia is meeting its nonproliferation goals.

Ball's publications include: "How Safe Is Russia's Nuclear Arsenal?" in *Jane's Intelligence Review* (December 1999), "The Social Crisis of the Russian Military," in *Russia's Torn Safety Nets*, edited by Mark G. Field and Judyth L. Twigg (St. Martin's, 2000) and "The State of Russian Science: Focus Groups with Nuclear Physicists" (with Theodore Gerber) in *Post-Soviet Affairs* (July-September 2002). She received her Ph.D. from the University of Michigan and has been a fellow at Harvard University's Center for Science and International Affairs, as well as Stanford's Center for International Security and Arms Control.

Samuel Bozzette is senior natural scientist at RAND. His expertise is in infectious diseases, particularly HIV and agents of bioterrorism and biowarfare. He is also interested in health outcomes research and clinical decision making. Dr. Bozzette holds an M.D. from the University of Rochester, a M.Phil, and a Ph.D. in Policy Analysis from the RAND Graduate School. He is board certified in Internal Medicine and Infectious Diseases.

Dr. Bozzette currently directs the Health Services Research Unit and the Center for Patient-Oriented Research at the VA San Diego, and is a research director for the VA's Quality Enhancement Research Initiative in HIV/AIDS. He is co-principal investigator of the HIV Cost and Services Utilization Study, which is assessing costs, access, and quality of care in the first nationally representative study of HIV-positive individuals.

Dr. Bozzette is affiliated with the VA San Diego Healthcare System and the UC San Diego School of Medicine. He is a fellow of the American College of Physicians and the Infectious Diseases Society of America; a member of the American Society for Clinical Investigations and the American Association of Physicians; and a participant on many local, national, and international boards and committees.

Former Secretary of Defense **Harold Brown** began his career as a lecturer in physics. In 1952 he went to work for the newly founded Lawrence Livermore National Laboratory, under the directorship of Herbert York. Brown was Secretary of the Air Force during the administration of Lyndon Johnson (1965–69), and returned to government service when President Jimmy Carter appointed him Secretary of Defense in 1977. In the interim he was president of the California Institute of Technology and served as a member of the U.S. delegation to the Strategic Arms Limitations Talks (SALT I and SALT II) with the Soviet Union. Brown currently works with the Center for Strategic and International Studies, a private policy research institute in Washington, D.C.

Kory Budlong-Sylvester is the IGCC Steering Committee representative from Los Alamos National Laboratory (LANL). Budlong-Sylvester is a technical staff member in the Nonproliferation and International Security Division at LANL. He works on a variety of nonproliferation and arms control topics. He is currently LANL's principal investigator for a multi-laboratory project that supports the International Atomic Energy Agency in the area of integrated safeguards. Budlong-Sylvester received his Ph.D. from the Nuclear Engineering Department at MIT in 1997.

Ethan Bueno de Mesquita is assistant professor of political science at Washington University, St. Louis, Missouri. He is the author of "Informative Precedent and Intra-Judicial Communication" (with Matthew Stephenson), *American Political Science Review* 96 (4); "The Binds that Tie: Creating a Virtuous Cycle of Commitment through Communal Expectations," *CCAR Journal: A Reform Jewish Quarterly* (winter 2002); and "Strategic and Non-Policy Voting: A Coalitional Analysis of Israeli Electoral Reform," *Comparative Politics* 33 (1):63–80.

Bueno de Mesquita received his Ph.D. and M.A. in Political Science from Harvard University and his B.A. in Political Science from the University of Chicago. In 2002, he was awarded a Center for American Political Studies Seed Grant.

Gregory Canavan joined Los Alamos National Laboratory in 1981 as a group leader in the P Division. His research involves lasers, pulse power, and inertial fusion. During his two decades at LANL, he has held leadership positions in that division as assistant and associate division leader and scientific advisor. Canavan's expertise in remote sensing for defense, civil, and scientific applications has brought him recognition as a technical expert and consultant to numerous private and government agencies. His contributions to national security and defense programs include providing technical advice to Presidents Reagan and Bush on the Strategic Defense Initiative and Theater Missile Defense initiatives. He also has consulted with industry, working with Motorola Corp. to develop their Iridium satellite-based mobile-phone system. Canavan has a Ph.D. and a master's degree in applied science from UC Davis, an M.B.A. from Auburn University, and a B.S. in mathematics and physics from the U.S. Air Force Academy. He is a fellow of the American Physical Society and chair of the Hertz Foundation, which supports graduate education in the applied sciences.

Albert Carnesale became chancellor of the University of California, Los Angeles (UCLA) in 1997. Chancellor Carnesale holds professorial appointments in the School of Public Policy and Social Research and in the Henry Samueli School of Engineering and Applied Science. He teaches an undergraduate course in international affairs and security, and is a sought-after speaker on that topic, as well as on higher education. Prior to assuming the chancellorship of UCLA in 1997, Carnesale was at Harvard University for 23 years, serving as provost of the university from 1994 to 1997. His earlier career included positions in the private sector and in government.

Carnesale has represented the United States Government in high-level negotiations on defense and energy issues (including the Strategic Arms Limitation Talks, SALT I, with the Soviet Union), and has consulted regularly for several government agencies and companies. He holds bachelor's and master's degrees in mechanical engineering and a Ph.D. in nuclear engineering, has been awarded three honorary doctorate degrees, and is a fellow of the American Academy of Arts and Sciences and a member of the Council on Foreign Relations.

Elaine Chandler is program manager in the Dynamics of Metals Program, B Division, at Lawrence Livermore National Laboratory.

John M. Cornwall's research interests lie in two major fields: Quantum field theory and space plasma physics. In quantum field theory his works involve non-perturbative aspects of gauge theories in three and four dimensions, including infrared properties of QCD and the electroweak theory above its transition temperature in the early universe. He also studies many-particle scattering amplitudes in the non-perturbative regime. In space plasma physics, Professor Cornwall has been active in auroral and magnetospheric physics, including generation of parallel electric fields and wave-particle interactions.

Lawrence Ferderber is director of the National Security Office at Lawrence Livermore National Laboratory (LLNL). He has had a long and distinguished career at LLNL, starting as a group leader in 1976. His publications include "Implications of the Comprehensive Test Ban Treaty for the United States Stockpile Stewardship and Management Program," in *The Comprehensive Test Ban Treaty: Issues and Answers* (Cornell University Press, 1997). From 1986–94 he was scientific advisor to the manager of U.S. Department of Energy, Nevada Office, and a participant, in the joint verification experiments, in Semipalatinsk, Kazakstan, in 1988. Ferderber received his M.S. and B.S. in Electrical Engineering from UC Berkeley.

Richard L. Garwin is Philip D. Reed Senior Fellow for Science and Technology at the Council on Foreign Relations and IBM Fellow Emeritus at the Thomas J. Watson Research Center. He joined IBM Corporation in 1952, after three years on the faculty of the University of Chicago, and was until June

1993 IBM Fellow at the Thomas J. Watson Research Center. He has also been professor of public policy in the Kennedy School of Government at Harvard University.

Dr. Garwin received his Ph.D. in physics from the University of Chicago in 1949. He is coauthor of many books, among them *Nuclear Weapons and World Politics* (1977), *Nuclear Power Issues and Choices* (1977), *Energy: The Next Twenty Years* (1979), *Science Advice to the President* (1980), and *Managing the Plutonium Surplus: Applications and Technical Options* (1994). He is a fellow of the American Physical Society and of the American Academy of Arts and Sciences, and a member of the National Academy of Sciences. He is a long-time member of Pugwash and has served on the Pugwash Council. The U.S. Government awarded him the 1996 R. V. Jones Foreign Intelligence Award and the 1996 Enrico Fermi Award.

Charles L. Glaser is deputy dean and professor at the Irving B. Harris Graduate School of Public Policy Studies and co-director of the Program on International Security Policy (PISP). From 1994 to 1996, Glaser served as acting dean of the Harris School, and the following year he was a fellow at the Center for International Security and Arms Control at Stanford University. After earning his Ph.D. at the John F. Kennedy School of Government at Harvard University, Glaser was a post-doctoral fellow at the Center for Science and International Affairs, Harvard University, and a research associate at the Center for International Studies at the Massachusetts Institute of Technology. Before joining the University of Chicago, Glaser taught political science at the University of Michigan (1987–1991) and served on the Joint Staff in the Pentagon (1990–1991). HE is the author of numerous articles and the book *Analyzing Strategic Nuclear Policy* (Princeton University Press, 1990).

Tsuyoshi Hasegawa is professor of modern Russia and Soviet history at UC Santa Barbara. He received his Ph.D. from Washington University in 1969. He was co-founder of the Center for Cold War Studies with Frederik Logevall in 1994. His publications include *The Northern Territories Dispute and Russo-Japanese Relations* (International and Area Studies, UC Berkeley, 1998), *The February Revolution: Petrograd, 1917* (U. Washington Press, 1981), and co-editorship of *Russia and Japan: An Unresolved Dilemma Between Distant Neighbors* (International and Area Studies, UC Berkeley, 1993). Hasegawa studies the political and social history of the Russian Revolution, Russian/Soviet-Japanese relations, and Soviet military history. He has extensive teaching experience in Japan. In April 2001 he was a visiting professor to Meiji-Gakuin University.

Ward Hawkins is LANL principal investigator for the Nuclear Testing Limitations project formerly known as On-Site Inspection (OSI) for verification of the Comprehensive Nuclear Test Ban Treaty (CTBT). He was an invited lecturer for the United Nation's CTBT Organization's short course on OSI. Prior to the signing of the CTBT, Hawkins was involved with the Threshold Test Ban Treaty (TTBT) as geology element chief for a deployment to the Russian test site. He was also involved in several TTBT negotiating sessions both in the United States and in Russia and participated in the Joint Verification Experiment at the NTS and at

the Kazakhstan test site. He is currently a member of Defense Threat Reduction Agency's Interagency Geotechnical Assessment Team (IGAT), which provides geological site characterizations for STRATCOM and serves as an IGAT steering committee member.

Hawkins received his degree in geology from the Mackey School of Mines at the University of Nevada, Reno in 1977. Following graduation he worked for a contractor at the Nevada test site (NTS) as a geologist and then leader of the geologic support group for LANL. In 1979 he joined the laboratory as a technical staff member in the Underground Nuclear Test Containment group and soon became a containment scientist. As a Containment Scientist, he is responsible for the development of a containment evaluation prospectus which involves the integration of detailed hydrogeologic site characterizations and engineering concerns with device performance to predict explosion phenomena. Since the containment program began, all LANL tests have been successfully contained underground. With ongoing test readiness efforts, Hawkins continues involvement in underground testing archiving activities for the DOE National Nuclear Security Administration, Nevada Support Office (NNSA NSO). He is currently vice-chairman of the Technical Working Group for the Underground Test Areas, Environmental Restoration Project and is a charter member of DOE NSO's Earth Science Advisory Panel.

Michael D. Intriligator is professor emeritus in the Department of Economics and past director of the Burkle Center for International Relations at UC Los Angeles. He is the series editor of Handbooks in Economics (Elsevier Publishing) and co-editor of the Handbook of Mathematical Economics and the Handbook of Econometrics. Professor Intriligator has a B.S. in Economics from the Massachusetts Institute of Technology and an M.A. in Economics from Yale University. He returned to MIT for his Ph.D. in Economics. Among his many accomplishments, he has been co-director of the Jacob Marschak Interdisciplinary Colloquium on Mathematics in the Behavioral Sciences at UC Los Angeles; a senior fellow at the Milken Institute and the Gorbachev Foundation of North America; vice-chair and member of the board of Economists Allied for Arms Reduction; a fellow of the Econometric Society; a member of the Council on Foreign Relations and the International Institute for Strategic Studies; and a foreign member of the Russian Academy of Sciences.

Dwight Jaeger, a 25-year veteran Laboratory staff member in the associate directorate for Weapons Engineering and Manufacturing (ADWEM), has received a prestigious award for service to the Department of Defense. Jaeger received the DoD's Exceptional Public Service Award in a recent ceremony at the Laboratory from Fred Celec, deputy assistant to Secretary of Defense Donald Rumsfeld. The award recognizes Jaeger's leadership in nuclear weapon matters and his support for the national nuclear deterrent, helping to assure a continued safe, secure and reliable nuclear stockpile. Jaeger worked for two years, beginning in June 1999, as special scientific advisor to the Assistant to the Secretary of Defense for Nuclear and Chemical and Biological Defense Programs in the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics. Jaeger heads the Military Applications Group in ADWEM. He joined the Laboratory in 1976 as a technical staff member in the former Weapons Analysis and Testing (WX-11) Group and became team leader of that group in 1980. He

has served in a variety of technical and leadership positions, including group leader of Weapons Engineering (ESA-WE) from 1993 to 1998, and staff assistant to the Associate Director for Laboratory Development from 1991 to 1993. He holds a doctoral degree in mechanical engineering from New Mexico State University.

Neil Joeck is currently on assignment at the U.S. State Department from his position as a political analyst in the Directorate for Nonproliferation, Arms Control and International Security at the Lawrence Livermore National Laboratory (LLNL). He is responsible for South Asian and weapons of mass destruction proliferation issues.

Dr. Joeck has served as a consultant with the RAND Corporation, where he co-authored a monograph on discontinuous futures and stability in Asia, and to the Commission to Assess the Organization of the Federal Government to Combat the Proliferation of Weapons of Mass Destruction. He is also a Research Associate of the Center for Global Security Research at LLNL and the Center for South Asia Studies at the University of California, Berkeley.

Dr. Joeck holds a B.A. in Politics from the UC Santa Cruz, an M.A. in International Relations from Carleton University in Canada and an M.A. and Ph.D. in Political Science from UC Los Angeles, where he was awarded teaching and postdoctoral fellowships as well as the department's Graham Fellowship.

Steve Koonin was born in Brooklyn, New York, and educated at the California Institute of Technology, receiving a B.S. in physics in 1972, and at MIT, where he received his Ph.D. in theoretical physics in 1975. He joined the Caltech faculty in 1975, became full professor in 1981, serving as chairman of the faculty from 1989–1991. Professor Koonin has held the position of provost of the Institute since 1995. Early in his career, he was a research fellow at the Niels Bohr Institute from 1976–77 and an Alfred P. Sloan Foundation Fellow from 1977–79. In 1975–76 he received the Caltech Associated Students Teaching Award and the Humboldt Senior Scientist Award in 1985. In 1999 he received the prestigious E. O. Lawrence Award in Physics from the Department of Energy.

Koonin is a member of the Council for Foreign Relations and has served on a number of advisory committees for the National Science Foundation, the Department of Energy, and the Department of Defense and its various national laboratories. He is a fellow of the American Physical Society, the American Association for the Advancement of Science, and the American Academy of Arts and Sciences. His research interests include theoretical nuclear, many-body, and computational physics, nuclear astrophysics, and global environmental science.

James Larrimore most recently serves as a consultant to the International Atomic Energy Agency (IAEA) and Los Alamos National Laboratory on international nuclear safeguards, including extended consultancies in Vienna, Austria. From 1985 to 1998 he worked for the IAEA Department of Safeguards in Vienna in various positions. He is the author of numerous scholarly papers on nuclear nonproliferation, containment, safeguards, and noncompliance issues.

Larrimore received his Ph.D. in Nuclear Engineering from the Massachusetts Institute of Technology in 1963. In 1998 the International Atomic Energy Agency (IAEA) honored him with a Distinguished Service award.

Ronald F. Lehman, II is director of the Center for Global Security Research at the Department of Energy's Lawrence Livermore National Laboratory. He is also chair of the governing board of the International Science and Technology Center, an intergovernmental organization headquartered in Moscow and is a member of the Department of Defense Threat Reduction Advisory Committee. In 1995, he was appointed to the five-member President's Advisory Board on Arms Proliferation Policy. Ambassador Lehman served as the Director of the U.S. Arms Control and Disarmament Agency from 1989 to 1993. Earlier, he served in the Defense Department as Assistant Secretary of Defense for International Security Policy, in the State Department as U.S. Chief Negotiator on Strategic Offensive Arms, and in the White House as Deputy Assistant to the President for National Security Affairs. He has also served on the National Security Council staff as a senior director, on the professional staff of the U.S. Senate Armed Services Committee, and in Vietnam with the United States Army.

Steven A. Maaranen is senior policy advisor in the office of the Los Alamos Deputy Director for National Security. He provides advice and analysis on U.S. national security issues and strategic policy to the laboratory director, deputy director, and other senior managers. Dr. Maaranen recently returned to LANL from the Pentagon, where he served as the first director for Integration in the office of the Deputy Assistant Secretary of Defense for Forces Policy. The Integration directorate is responsible for developing policy guidance for the evolution and use of the New Triad of U.S. strategic forces—long-range conventional and nuclear strike, missile defenses, and a responsive strategic force infrastructure—which were established by the 2001 Nuclear Posture Review.

Dr. Maaranen received his Ph.D. in political science from the Claremont Graduate School in 1975. He has served in several positions at LANL dealing with nuclear weapons policy and strategy, strategic defense, arms control, and nonproliferation. From 1991–1994 he was director of the laboratory's Center for National Security Studies. In addition to his work at the laboratory, Dr. Maaranen has had several assignments in government. He was director for Defense and Space in the Arms Control and Disarmament Agency. He was a professional staff member for the Commission on the Ballistic Missile Threat to the United States (Rumsfeld Commission). He led the nuclear policy component of Secretary Rumsfeld's "top to bottom review" of U.S. defense policy, which wrote the terms of reference for the Nuclear Posture Review.

Michael May received his B.A. in physics and mathematics from Whitman College in 1944 and his Ph. D. in physics from UC Berkeley in 1952. He spent most of his career at the Lawrence Livermore National Laboratory (LLNL), serving as director of the laboratory from 1965 to 1971. His research work there centered on nuclear explosion theory; nuclear weapons design; radiation transfer; and astrophysics and general relativity. In addition, Professor May taught graduate science courses in the Department of Applied Science at Livermore, a part of the School of Engineering of the University of California at Davis. In the eighties, Professor May designed and managed an in-house advanced research program at the laboratory structured to provide opportunities for research into new areas of relevance in the Department of Energy's main areas of responsibility. He retired from LLNL in 1988.

Starting in 1972, May became involved in strategic arms control. May served as a technical representative on the Threshold Test Ban Treaty negotiating team in Moscow in 1974, then as a member of the U.S. delegation to SALT, in Geneva from 1974 to 1976. He has continued to work on arms control through advisory committees to government and through his own academic publications.

May became associated with Stanford University in 1990, Since then his work has focused on two areas, nuclear weapons policy issues and the extent and impact of energy growth in East Asia, especially in China. For the past several years, May and collaborators have studied China's electricity sector at the provincial level. May served as co-director of the Center for International Security and Cooperation in Stanford's Institute of International Studies from 1993 through 1999, during which time he initiated or collaborated on a number of new projects bridging the science and security areas.

Professor May has been a member of the Defense Science Board and other government advisory groups, chairing studies on the deployment of strategic nuclear weapons systems, the utility of lasers in space, and other matters. He was a trustee of the Rand Corporation (1972–93) and a member of the National Academy of Sciences Committee on International Security and Arms Control (1985–95). Professor May received the Department of Defense's Distinguished Public Service Award in 1979; its Distinguished Civilian Service Award in 1975; the Atomic Energy Commission's Ernest Orlando Lawrence Memorial Award in 1970; and an honorary Doctor of Science degree from Whitman College.

Patrick M. Morgan is the Tierney Chair in Peace and Conflict in the Political Science Department at UC Irvine. A member of the UC Irvine faculty since 1991, Professor Morgan has concentrated his research primarily on national and international security matters: deterrence theory, strategic surprise attack, arms control, and related subjects. He has also had a long-standing interest in theoretical approaches to the study of international politics. Currently he is involved in projects on the theory and practice of deterrence in the post-Cold War era, security strategies for global security management, and security in Northeast Asia. Professor Morgan has been a Fulbright scholar and a fellow of the Wilson Center in Washington, D.C. He was vice president of the International Studies Association from 1988 to 1989 and a fellow of the Rockefeller Center in Bellagio, Italy, in 1997. He has a Ph.D. from Yale University.

Mark F. Mullen, project leader in the Nonproliferation and International Security Division at Los Alamos National Laboratory, is a member of the Committee on Indigenization of Programs to Prevent Leakage of Plutonium and Highly Enriched Uranium from Russia. Mullen has participated in U.S.–Russian cooperative threat reduction programs since their inception in 1992, and was one of the principal architects of the Department of Energy's laboratory-to-laboratory MPC&A program, which sparked a rapid expansion in U.S.–Russian MPC&A cooperation beginning in 1994. From 1995–1997, Mr. Mullen served in the Department of Energy as advisor to the director of the Office of Arms Control and Nonproliferation and chair of the Lab-to-Lab Program; in this capacity, he provided strategic direction and technical leadership to the MPC&A program. He has also contributed to and led many other U.S.–Russian cooperative programs, for both the Department of Energy and the Department of Defense. Additionally, he has authored and co-authored numerous publications.

Mullen has 25 years of experience in nuclear materials safeguards and nuclear nonproliferation. Prior to his work on Russian MPC&A issues, he served as the Los Alamos program manager for international safeguards and led many international nuclear safeguards and arms control projects. He also has extensive experience in risk analysis, cost-benefit analysis, decision analysis, and nuclear safety. Mullen holds a M.S. in Nuclear Engineering from the University of Washington and a B.A. in Mathematics, also from the University of Washington.

Per F. Peterson is professor and chair in the Department of Nuclear Engineering at UC Berkeley. His research focuses on problems in energy and environmental systems, including inertial confinement fusion, advanced light water reactors, high level nuclear waste processing, and nuclear materials management. Professor Peterson also manages the UC Berkeley Thermal Hydraulics Research Laboratory. Professor Peterson's publications focus on topics related to heat and mass transfer and fluid dynamics, with applications to nuclear systems.

Joseph Pilat is with the Nonproliferation and International Security Division of Los Alamos National Laboratory, Los Alamos, New Mexico. He was a special advisor to the Department of Energy's representative at the Third Review Conference of the Nuclear Non-Proliferation Treaty (NPT), and served as representative of the Secretary of Defense to the Fourth NPT Review Conference and as an adviser to the U.S. delegation at the 1995 NPT Review and Extension Conference. Dr. Pilat also served as representative of the Secretary of Defense to the Open Skies negotiations. He has been special assistant to the principal director and assistant for nonproliferation policy in the Office of the Deputy Assistant Secretary of Defense for Negotiations Policy, a senior research associate in the Congressional Research Service and a research associate at the International Institute for Strategic Studies in London.

Dr. Pilat has taught in the Department of Government of Cornell University and the College of William and Mary, and in the Department of History of Georgetown University. He has been a senior associate member of St. Antony's College, Oxford University, a visiting fellow at Cornell's Peace Studies Program and a Philip E. Mosely Fellow at the Center for Strategic and International Studies.

Dr. Pilat has lectured widely at academic and policy institutions. He has written numerous articles and opinion pieces for U.S. and European scholarly journals and newspapers, and is the author or editor of many books, including *Beyond 1995: The Future of the NPT Regime* (1990), and *1995: A New Beginning for the NPT?* (1995).

Robert Powell is Robson Professor of Political Science at UC Berkeley. He is the author of numerous works on international relations, most recently *In the Shadow of Power: States and Strategies in International Politics* (Princeton U. Press, 1999). Powell's current research focuses on the study of continuing conflicts throughout the world. He is an expert on the application of game theory to nuclear deterrence.

Scott Sagan is associate professor of political science and chair of the international relations program at Stanford University. He is the author of *Moving Targets: Nuclear Strategy and National Security* (1989) and *The Limits of Safety: Organizations, Accidents, and Nuclear Weapons* (1993). *The Limits of Safety* won the 1993/94 Best Book award from the Science, Technology, and Environmental Studies section of the American Political Science Association. Dr. Sagan is also the coauthor (with Kenneth N. Waltz) of *The Spread of Nuclear Weapons: A Debate* (1995). In recent years, Dr. Sagan has served as a consultant to the Organization of the Joint Chiefs of Staff, the Office of the Secretary of Defense, and the Los Alamos National Laboratory. His current research interests include the development of norms concerning the use of force, the politics of weapons acquisition, and the global management of hazardous technologies.

John St. Ledger retired from the United States Air Force in 1995 as a Lieutenant Colonel. While in the Air Force, he served as a navigator in the RF-4C, and a nuclear engineer specializing in the analysis of nuclear weapon effects on military systems. He is currently a military systems analyst with the Systems Engineering and Integration group at Los Alamos National Laboratory in New Mexico. He has a B.S. degree in Engineering Physics from the University of Arizona, an M.S. degree in Nuclear Engineering from the Air Force Institute of Technology, and an M.S. degree in Manufacturing Engineering from the University of New Mexico.

John Scott was educated at UC Berkeley, where he received both his B.S. and Ph.D. in Nuclear Engineering in 1993 and 1998, respectively. He joined Los Alamos National Laboratory at the end of 1998 as a post-doctoral research associate in the Thermonuclear Applications group and became a technical staff member in 2000. As a post-doc, the focus of his work was on hydrodynamic instabilities in cylindrical implosions for the inertial confinement fusion program. After becoming a staff member, his work has primarily been associated with nuclear weapons.

Lawrence Scheinman is Distinguished Professor of International Policy at the Monterey Institute of International Studies, emeritus professor, Cornell University, and adjunct professor, Georgetown University. He also has been a member of the tenured faculties at the University of Michigan and UC Los Angeles. His government service includes appointment as assistant director of the U.S. Arms Control and Disarmament Agency, responsible for Non-Proliferation and Regional Arms Control during the Clinton Administration, and earlier appointments in the Department of Energy, Department of State and Energy Research and Development Administration. He also served for two years as special assistant to Director General Hans Blix at the International Atomic Energy Agency. Dr. Scheinman has published extensively on nuclear proliferation, arms control, safeguards, international relations and international organization. He is a member of the Council on Foreign Relations and of the State Department Arms Control and Non-Proliferation Advisory Board. He is admitted to practice before the Bar of the State of New York.

Susan L. Shirk is an Asia specialist, with an emphasis on Chinese politics, U.S.-China relations, and Pacific international affairs. Shirk is professor of political science at the Graduate School of International Relations and Pacific Studies (IR/PS) at UC San Diego. A former director of IGCC (1991–1997), Shirk accepted an assignment at the U.S. Department of State in 1997, where she served as deputy assistant secretary for China in the Bureau of East Asian and Pacific Affairs. Shirk is the author of *How China Opened Its Door: The Political Success of the PRC's Foreign Trade and Investment Reforms* and *The Political Logic of Economic Reform in China*, and editor of *Power and Prosperity: Economic and Security Linkages in the Asia Pacific*. Shirk returned from her three-year term at the U.S. State Department in 2000 to become an IGCC research director.

Etel Solingen is professor of international relations and political science at UC Irvine, vice-president of the International Studies Association (2002–2003), and former president of the International Political Economy section of the International Studies Association. She holds a Japan Foundation/SSRC Abe Fellowship (2003–2004) and was the recipient of a John D. and Catherine T. MacArthur Foundation Award on Peace and International Cooperation and a Social Science Research Council-Mac Arthur Foundation Fellowship on Peace and Security in a Changing World.

Solingen is interested in the connections between international political economy and international security. Her most recent book is *Regional Orders at Century's Dawn: Global and Domestic Influences on Grand Strategy* (Princeton University Press 1998). Earlier books include *Industrial Policy, Technology, and International Bargaining: Nuclear Industries in Argentina and Brazil* (Stanford University Press 1996) and *Scientists and the State* (University of Michigan Press 1994). Her work on internationalization, institutional theory, regional and international security regimes, democratization, and the comparative political economy of science and technology appeared in *International Security*, *International Organization*, *International Studies Quarterly*, *Comparative Politics*, *Journal of Peace Research*, *Review of International Studies*, *Journal of Theoretical Politics*, *Global Governance*, *Journal of Democracy*, *International History Review*, and *Contemporary Southeast Asia*, among others. Her research has focused mostly on the Middle East, East Asia, Latin America, and the Euro-Mediterranean region.

Shibley Telhami is Anwar Sadat Professor for Peace and Development at the University of Maryland, College Park, and is a senior fellow at the Saban Center at the Brookings Institution. Before coming to the University of Maryland, he was associate professor of government and director of the Near Eastern Studies program at Cornell University and a visiting fellow at the Woodrow Wilson Center. He has taught at several universities including the Ohio State University, the University of Southern California, Princeton University, Columbia University, Swarthmore College, and the University of California at Berkeley, where he received his doctorate in political science.

Among Professor Telhami's publications are *Power and Leadership in International Bargaining: The Path to the Camp David Accords* (Columbia University Press, 1990); *International Organizations and Ethnic Conflict*, edited with Milton Esman (Cornell University Press, 1995); *Identity and Foreign Policy in the Middle East*, edited with Michael Barnett (Cornell University Press, 2002); and *The Stakes: America and the Middle East* (Westview Press, 2003), and numerous articles on international politics and Middle Eastern affairs.

Besides his academic activities, Professor Telhami has been active in the foreign policy arena and has been a contributor to the *Washington Post*, the *New York Times*, and the *Los Angeles Times*. While a Council on Foreign Relations International Affairs Fellow, he served as advisor to the United States delegation to the United Nations during the Iraq-Kuwait crisis, and was on the staff of Congressman Lee Hamilton. He is the author of a report on Persian Gulf security for the Council on Foreign Relations, and the co-drafter of another Council report on the Arab-Israeli peace process. In addition, he is a member of the Council on Foreign Relations and a member of the Board of Human Rights Watch.

Marc Trachtenberg studies national security strategy, diplomatic history, and international relations. He has been a fellow of the Woodrow Wilson Foundation, the John Simon Guggenheim Foundation, the German Marshall Fund, and the SSRC/MacArthur Foundation. His award winning book, *A Constructed Peace: The Making of the European Settlement, 1945–1963* (Princeton University Press, 1999), explores the profound impact of nuclear weapons on the conduct of international relations during the Cold War, making extensive use of newly opened documentary archives in Europe and the United States. *History and Strategy* (Princeton University Press, 1991) studies seminal events like the onset of World War I and the Cuban Missile Crisis to shed light on the role of force in international affairs. Professor Trachtenberg teaches courses on the history of international relations, international security, and historical research methods. His web site provides extensive resources for obtaining and interpreting documentary evidence about the Cold War.

Richard Williams is a graduate student in the Nuclear Engineering Department at the Massachusetts Institute of Technology. He is completing his PhD thesis in the area of computational radiation transport. His thesis work is being done in conjunction with a full-time appointment at Los Alamos National Laboratory, where he works in the Thermonuclear Applications group.

Herbert F. York was tapped to work on the Manhattan Project the year he received his M.S. in Physics from the University of Rochester (1943). His illustrious career includes many distinctions, among them science advisor to President Eisenhower and first chief scientist and co-founder of the Advanced Research Projects Agency (ARPA/DoD). From 1979–81 York was an ambassador and chief negotiator at the trilateral Comprehensive Test Ban talks between the United States, Great Britain, and the Soviet Union, held in Geneva. His academic career included stints as the first chancellor of UC San Diego (1961–64), and founder and first director of IGCC (1983–88). He was also acting chancellor of UC San Diego from 1970–72. In 2000, he received three major awards recognizing his contributions to science. The first, the Enrico Fermi award, is a Presidential award—one of the oldest and most prestigious science and technology awards given by the U.S. Government. It recognizes scientists of international stature for a lifetime of exceptional achievement in the development, use, or production of energy (broadly defined to include the science and technology of nuclear, atomic, molecular, and particle interactions and effects). York also received the Vannevar Bush award from the National Science Foundation's National Science Board. Finally, York received the Clark Kerr Award for Distinguished Leadership in Higher Education, created in 1968 by UC Berkeley's Academic Senate to honor individuals who have made an extraordinary and distinguished contribution to the advancement of higher education.