Appendix I: Biographical Sketches (in alphabetical order)

Yuichiro Anzai

Present Position Professor and Dean, Faculty of Science and Technology, Keio University

Education

1969	Bachelor of Engineering, Keio University
1971	Master of Engineering, Keio University
1974	Doctor of Engineering, Keio University

Professional Positions

1971	Assistant, Faculty of Engineering, Keio University
1981-82	Visiting Assistant Professor, Carnegie-Mellon University
1985	Associate Professor, Faculty of Letters, Hokkaido University
1988-96	Professor, Department of Electrical Engineering, Faculty of Science and Technology, Keio University
1996-present	Professor, Department of Information and Computer Science, Faculty of Science and Technology, Keio University
1993-present	Dean, Faculty of Science and Technology, Keio University (concurrent appointment).

Research Interests

- Computer science
- Cognitive science
- Computer-human interactions
- Robot-human interaction

Memberships

- Japan Society of Cognitive Science (former president)
- Information Processing Society of Japan
- Japan Society of Neural Circuitry Science
- Editorial Boards of the *Journal of Artificial Intelligence* and the *International Journal of Human-Computer Interaction.*

William A. Blanpied

William A. Blanpied, who received his PhD in Physics from Princeton University, is Senior International Analyst in the Division of International Programs at the U.S. National Science Foundation (NSF). He is involved in assessing U.S. and foreign science policies and analyzing opportunities for scientific cooperation in various geographical regions, most recently within Central/Eastern Europe and the NAFTA region. Blanpied serves as NSF's principal staff liaison officer for the International Council of Scientific Unions (ICSU) and the International Institute for Applied Systems Analysis (IIASA). He also represents NSF on an ad-hoc, interagency group, chaired by the Office of Science and Technology Policy (OSTP), which is concerned with the scientific programs of the Organisation for Economic Co-operation and Development (OECD). In the latter capacity, he provided substantive assistance in planning for the March 1992 Science Policy Ministerial Meeting at the OECD that resulted in the establishment of the OECD Megascience Forum, and has remained an active participant in the activities of that body. Since 1993, he has served as U.S. delegate to the OECD's Group on the Science System, and in April 1996 was elected its chair.

Blanpied's international experience prior to joining NSF included extended periods of working residence in Italy (as a post-doctoral fellow at the National Synchrotron Laboratory at Frascati) and India, where he served as resident physicist with the National Science Foundation's Science Education Liaison Staff in New Delhi from 1969-71. During his two years in India, he became interested in the development of modern science in Asia and has written and lectured extensively on that topic. Blanpied's current scholarly interest is in the development of science policy in the post-World War II period. He has presented invited lectures on topics in several countries, including India, Mexico, Hungary, and the People's Republic of China. Blanpied served concurrently as Chair of the American Physical Society's ad-hoc Task Force on the Crisis of Physics in the Former Soviet Union, and its Forum on International Physics. He spent eight weeks in Japan in the Autumn of 1997 under the auspices of a Short Term Invitational Fellowship awarded by the Japan Society for the Promotion of Science where he explored implementation of the Science and Technology Basic Plan, which was adopted by the Government of Japan on July 2, 1996.

Blanpied joined NSF in 1976 as Program Manager for Ethics and Human Values in Science and Technology and was subsequently Head of the Office of Special Projects. Prior to that time, he held faculty appointments in the physics departments at Case Western Reserve, Yale, and Harvard Universities, where his research interests were in experimental particle physics. While at Harvard, he established and served as first editor of an international newsletter that subsequently evolved into the quarterly journal, *Science, Technology and Human Values*. He left Harvard in 1974 to become Head of the Division of Public Sector Programs at the American Association for the Advancement of Science (AAAS), where he was among those responsible for instituting the annual AAAS analysis and colloquium on *Research and Development in the Federal Budget*.

Blanpied is a Fellow of the American Association for the Advancement of Science and the American Physical Society. He is an Adjunct Professor at George Mason University's

International Institute in Arlington, Virginia. He is the author of three books, and has published numerous articles and reviews on in the professional literature on physics, history of science, international science, and science policy, including both national and international aspects.

Jennifer Sue Bond

Jennifer Sue Bond, Director of the National Science Foundation's Science and Engineering Indicators Program since 1990, has been involved with indicators data and international studies since she joined the Foundation in 1976. From March through November 1991, she was detailed to the White House Office of Science and Technology Policy where she served as a Senior Analyst in the Directorate for Policy and International Affairs.

Ms. Bond holds a Bachelor of Arts degree in International Relations and Political Science from Stanford University and a Master of Arts degree in Science, Technology and Public Policy from The George Washington University. Prior to joining NSF, she organized a Science Policy Research Group at the Brazilian Space Research Institute which she headed for two years, and held positions at the Center for Policy Alternatives at the Massachusetts Institute of Technology, the National Academy of Sciences, and the World Bank.

Ms. Bond has been the principal US delegate to the OECD Group of National Experts on Science and Technology Indicators for almost 20 years and has served as Vice Chairman of that group since 1990. She has provided substantial assistance to groups of national experts in APEC and the Organization of American States (OAS) in developing their regional indicators programs, and has provided similar guidance and assistance to many national indicators programs. She is a project manager for the Ibero American/InterAmerican Indicators and a Co-Chairman of the Editorial Board of the APEC/PECC *Pacific Science and Technology Profile*.

Ms. Bond has lectured extensively on science policy issues in the United States and abroad, and has received two special recognition awards from the Director of the National Science Foundation. She was elected a Fellow of the American Association for the Advancement of Science in 1996.

D. Allan Bromley

D. Allan Bromley is the Sterling Professor of the Sciences and Dean of Engineering at Yale University; during 1989-1993 he was The Assistant to the President for Science and Technology Ed Director of the Office of Science and Technology Policy (OSTP) in the Executive Office of the President of the United States.

One of the world's leading nuclear physicists, he was founder and Director of the A.W. Wright Nuclear Structure Laboratory at Yale from 1963 to 1989. He has carried out pioneering studies on both the structure and dynamics of nuclei and is considered the father of modern heavy ion science, one of the major areas of nuclear science. From 1972 until 1993 he held the Henry Ford II Professorship in Physics at Yale and from 1970 to 1977 served as chairman of the Yale Physics Department. An outstanding teacher, over the 1965-1989 period his laboratory at Yale graduated more PhDs in experimental nuclear physics than any other institution, worldwide. He has published over 475 papers in science and technology as well as edited or authored nineteen books and has received numerous honors and awards, including, in 1988, the National Medal of Science, the highest U.S. scientific award.

For more than two decades, Dr. Bromley has been a leader in the national and international science and science policy communities. As chairman of the National Academy's Physics Survey in the early 1970s, he contributed in a central way to charting the future of that science in the subsequent decade. As president of the American Association for the Advancement of Science, the world's largest scientific society, and of the International Union of Pure and Applied Physics, the world coordinating body for that science, he has been one of the leading spokesmen for U.S. science and for international scientific cooperation.

The first person to hold the Cabinet level rank of The Assistant to the President for Science and Technology, Dr. Bromley increased both the staff and budget of the White House Office of Science and Technology Policy by factors of more than five between 1989 and 1993. He revitalized and chaired the Federal Coordinating Council for Science, Engineering and Technology and achieved an unprecedented level of cooperation and communication among the more than twenty federal agencies that support U.S. science and technology. For the first time, he published a formal statement of U.S. Technology Polices and played a central role in greatly expanding cooperation between the federal government and the private sector toward more effective utilization of technology throughout U.S. society. He also served as chairman of the President's Council of Advisors on Science and Technology and the Intergovernmental Council on Science, Engineering and Technology. During the Bush Administration he testified 42 times before Congressional Committees and delivered more than 400 addresses to major audiences across this country and around the world as the senior representative of American science and technology.

Prior to his appointment to the Bush Administration, Dr. Bromley served as a member of the White House Science Council throughout the Reagan Administration as a member of the National Science Board in 1988-1969.

Born in Westmeath, Ontario, Canada, he received the B.Sc. degree with highest honors in 1948 in the Faculty of Engineering at Queen's University, Ontario, Canada. He received the M.Sc. degree from Queen's University in 1950 and the PhD. degree from the University of Rochester in 1952, both degrees in nuclear physics. He subsequently has been awarded thirty honorary doctorates from universities in Canada, China, France, Germany, Italy, South Africa and the United States.

He is a member of the U.S. National Academy of Sciences, of the American Academy of Arts and Sciences, of the Brazilian Academy of Sciences, of the Royal South African Academy of Sciences, Academician of the International Higher Education Academy of Sciences, Moscow, and a Benjamin Franklin Fellow of the Royal Society of Arts in London.

He is currently President of the American Physical Society and a member of the Governing Board of the American Institute of physics.

During his APS Presidency he played a leadership role in coordinating the activities of 106 American scientific and technological professional societies representing more than 3 million scientists, mathematicians and engineers in support of continuing federal investment in academic science and technology. He also hosted and organized a meeting of the presidents of the major physical societies and regional societies worldwide for discussion of common problems and opportunities.

He serves on a number of Presidential commissions and on the Boards of Directors of several private sector corporations. He is a founding member of the Washington Advisory Group LLC.

Robert A. Eisenstein

Robert A. Eisenstein was appointed Assistant Director of the Mathematical and Physical Sciences Directorate (MPS) on September 8, 1997. The operational activities of MPS are organized around divisional, disciplinary lines, covering Astronomical Sciences (AST), Chemistry (CHE), Materials Research (DMR), Mathematical Sciences (DMS), and Physics (PHY). However, MPS recognizes that "nature knows no boundaries." MPS emphasizes communication among the divisions and across directorate boundaries to ensure effective support of research and education projects in emerging fields that cut across those lines.

Dr. Eisenstein was born in St. Louis, Missouri in 1942 and was educated at Oberlin College, receiving the AB degree with high honors in Physics in 1964. He received the PhD degree in Experimental Nuclear Physics from Yale University (under the direction of Charles Bockelman) in 1968. He continued his studies at the Weizmann Institute from 1968 to 1970 as a post-doctoral research fellow. He then joined the physics faculty at Carnegie Mellon University, where he remained until 1984. At that time Dr. Eisenstein joined the faculty at the University of Illinois in Urbana/Champaign, where he served as Director of the Nuclear Physics Laboratory for several years. In 1992, he came to the National Science Foundation as Director of the Physics Division in MPS where he served until his recent appointment as Assistant Director.

Dr. Eisenstein received a Weizmann Fellowship to support his post-doctoral research, and has enjoyed sabbaticals at the Los Alamos Meson Facility (LAMPF - 1974) and at the University of Pittsburgh (1983). In 1979 he received the Ryan Award for Excellence in Undergraduate Teaching from Carnegie Mellon. His teaching experience ranges from courses in high-school level physics to graduate level quantum mechanics. His present research interests center around the solar neutrino problem. He is a Fellow of the American Physical Society and a member of Sigma Xi.

Susanne Huttner

Susanne Huttner, a scientist, is director of three major research and education programs at the University of California that promote research and graduate education. As head of UC President Atkinson's Cooperative Research Program she is helping to position UC research and education for the next millennium - so that research discoveries and highly skilled people will contribute more rapidly to the world's increasingly knowledge-based economy.

Dr. Huttner works with the nine UC campuses, the three UC-affiliated National Laboratories, the Agriculture Experiment Station, industry, and government. In the Biotechnology STAR Project, she promotes industry-university partnerships in biotechnology research and technology utilization. In the Systemwide Biotechnology Research and Education Program, she is responsible for developing and supporting interdisciplinary research and graduate training in the life sciences and chemical engineering.

Dr. Huttner is also involved in public education activities ranging from improving K-12 science education to economic analyses of public R&D investments and to communicating on safety issues related to biotechnology and consumer products. Dr. Huttner serves on the boards of several scientific, public policy, and public education organizations. She has written extensively on biotechnology and science policy subjects.

Dr. Huttner has a bachelor's degree from UC Berkeley and a PhD in neurobiology from UCLA.

Hiroshi Inose

Hiroshi Inose was born in Tokyo, Japan on January 5, 1927, and received BE and DE degrees, both from the University of Tokyo, Japan in 1948 and 1955, respectively. He was a Professor of Electronic Engineering at the University of Tokyo for the period of July 1961-March 1987, and served as the Dean of the Faculty of Engineering as well as the Divison of the Computer Center (for nation-wide service) and the Center for Bibliographic Information. From April 1987, he has been the Director General of the National Center for Science Information Systems, the Japanese Ministry of Education. He holds the title of Professor Emeritus at the University of Tokyo.

Dr. Inose has gained an international reputation for his invention of the time-slot interchange system which has become a key technology for digital telephone switches and integrated service digital networks. For this work and other works which have been concerned mainly with digital communications technology and road traffic control, Dr. Inose has received 27 awards including the Order of Culture, the Alexander Graham Bell Medal, the Second Marconi International Fellowship and the Japan Academy Prize. He is a member of the Japan Academy, a Life Fellow of the Institute of Electrical and Electronics Engineers (IEEE), a Foreign Associate of the National Academy of Sciences, U.S.A., and the National Academy of Engineering, U.S.A., a Foreign Member of the American Philosophical Society, U.S.A., the Royal Swedish Academy of Engineering Sciences, Sweden, and the Royal Academy of Engineering, the United Kingdom. Dr. Inose was selected as Person of Cultural Merit by the Japanese Government and was made an honorary member of the Royal Institution of Great Britain, the Information Processing Society of Japan, the Institute of Electrical Engineers of Japan, the Institute of Electronics, Information and Communication Engineers of Japan and the Institute of Television Engineers of Japan.

Dr. Inose served the Organisation for Economic Co-operation and Development (OECD) as the Chairman of the Committee for Scientific and Technological Policy for the period of 1984-1987, and then as the Chairman of the Committee for Information, Computer and Communication Policy for to period of 1988-1990. He also served as the President of the Institute of Electronics and Communication Engineers of Japan for the period 1985-86 and the Information Processing Society of Japan for the period of 1981-83.

Dr. Inose has been involved in a number of Japanese government activities, especially in the area of communication and information processing. He served as a science advisor to the Minister of Education, a special advisor to the Minister of the Science and Technology Agency and as a special assistant to the Minister for Foreign Affairs. He is currently the Chairman of the Industrial Technology Council of the Ministry of International Trade and Industry, and the National Science Council of the Ministry of Education.

During his leaves of absence, he was an Associate at the University of Pennsylvania, Philadelphia, Pa. and a Consultant to the Bell Telephone Laboratories, Murray Hill, NJ in 1956-58; a Visiting Professor at the University of Michigan, Ann Arbor, Michigan in 1969; a Visiting Professor at the Rheinische-Westfalische Technische Hochschule, Aachen, Germany

in 1974; and a Sherman Fairchild Distinguished Scholar at the California Institute of Technology, Pasadena, California in 1981.

Dr. Inose served as an overseas consultant to the Publications Board of the Institute of Electrical and Electronic Engineers (IEEE), a member of the Editorial Board of the Proceedings of the IEEE, the Vice President for International Affairs of the Communication Society of IEEE, and the Chairman of the Tokyo Section of IEEE. He also served as the Papers Committee Chairman of the International Switching Symposium 1976, the Program Committee Chairman of the Fourth International Conference on Computer Communication, the Organizing Committee Chairman of the Eleventh National Teletraffic Congress, and the Organizing Committee Chairman of the IEEE Globecom 1987.

Dr. Inose has published more than 150 articles in Japanese and international professional journals. He has also published several books in English including *An Introduction to Digital Integrated Communications Systems*, *Information Technology and Civilization* (jointly with John R. Pierce), *Road Traffic Control* (jointly with Takashi Hamada), and *Creativity and Culture* (jointly with Steven Jay Gould).

Teruo Kishi

Present Positions

Director General, National Institute for Advanced Interdisciplinary Research and Professor, Research Center for Advanced Science and Technology, The University of Tokyo

School Career

March, 1963	Graduated from Metallurgical Department, Faculty of Engineering, The University of Tokyo
March, 1969	Received Doctor Degree of Engineering from The University of Tokyo

Business Career

September 1972	Researcher in Göttingen University, Germany
February 1974	Associate Professor, Institute of Space and Aeronautical Science, Faculty of Engineering, The University of Tokyo
April 1988	Professor, Research Center for Advanced Science and Technology, The University of Tokyo
April 1995	Director General, Research Center for Advanced Science and Technology, The University of Tokyo
April 1997	Director General, National Institute for Advanced Interdisciplinary Research

Awards and Honors

April 1996	Fellow of the Society, The American Ceramic Society
April 1994	Paper Award, The Japan Institute of Metals
April 1987	Paper Award, The Iron and Steel Institute of Japan
April 1984	Progress Award, The Japan Institute of Metals

Fumio Kodama

Fumio Kodama is Professor of Science, Technology and Policy at the Graduate School of Engineering in University of Tokyo. He is also Director of the Socio-Technological Research Department at Research Center for Advanced Science and Technology (RCAST). Previously, he taught at the Department of Industrial Engineering and Management in Tokyo Institute of Technology (1993) and at Graduate School of Policy Science in Saitama University (1984-1993).

He was Visiting Professor at the Kennedy School of Government at Harvard University in 19911992 where he taught in the Program on Science, Technology, and Public Policy. In 1992-1993, he was Visiting Professor of Mechanical Engineering at Stanford University where he taught in the Program in Values, Technology, Science, and Society. In addition to teaching, he has worked as Director-in-Research at Japan's National Institute of Science and Technology Policy (1988-1991).

Dr. Kodama is a graduate of the University of Tokyo, where he the BS and MS degrees in mechanical engineering (in 1964 and 1967), and earned the Ph.D. in Engineering in 1974. He had been an administrator at MITI in 1964-65, a Research Fellow at Institute of Systems Research at Heidelberg in 1967-1969, and a Fulbright visiting professor at Hamilton College's Government Department in New York in 1978-79.

Dr. Kodama is a member of Engineering Academy of Japan and serves as a director on board. He also serves on several advisory committees for the Japanese Government agencies such as MITI, Science and Technology Agency, and Economic Planning Agency.

He is the author of many articles on science and technology policy. One of his works is *Analyzing Japanese High Technology: The Techno-Paradigm Shift*, (Pinter Publishers, London, 1991), the Japanese version of which received the 1991 Sakuzo Yoshino Prize. He is also a recipient of the 1991 Science and Technology Minister's Award for Research Excellence. His journal publication include "Technology Fusion and the New R&D" (Harvard Business Review, July-August 1992). His most recent book, *Emerging Patterns of Innovation: Sources of Japan's Technological Edge*, has been published in April of 1995 by the Harvard Business School Press.

Sook-Il Kwun

Current Position: Professor, Department of Physics, Seoul National University

Education

1958	BS in Physics, Seoul National University
1965	PhD in Physics, University of Utah

Professional Experience

1958-1961	Research Member, Defense Research Institute
1961-1965	Research Assistant, Physics Department, University of Utah
1965-1966	Research Assistant, Physics Department, University of Chicago
1966-present	Faculty Member, Physics Department, Seoul National University
1973-1974	Visiting Professor, CNRS, Paris
1978-1979	Visiting Professor, Physics Department, University of Southern California
1989-1991	Dean of Research Affairs, Seoul National University
1991-1993	Dean, College of Natural Science, Seoul National University
1991-present	Vice Chairman, Board of Directors, Korea Institute of Standards and Science
1992-present	Chairman, Korea-Japan Joint C ommittee for Basic Scientific Research
1994-1996	Member, Presidential Advisory Committee for Education Reform
1994-present	Member, Korea Academy of Science and Technology
1995-present	President, Korean Physical Society
1996-present	Vice President, Korean Federation of Science and Technology Societies

James C. McGroddy

Jim McGroddy retired from IBM at the end of 1996. He is currently an advisor to several government agencies, serves on a number of National Research Council panels, and spends time as an advisor and a visitor at a number of universities. He also serves as Chairman of the Board of Integrated Surgical Systems, a public company which is bringing robotic technology to the operating room. In addition he is heavily involved in the restructuring of the local health care delivery system in Westchester County.

At IBM, he had been Senior Vice President and Special Advisor to the Chairman since January 1, 1996. From 1989 to the end of 1995 he was Senior Vice President, Research, responsible for the work of about 2500 technical professionals in seven research laboratories around the world. Two of these laboratories, in Beijing, China, and in Austin, Texas, were established under his leadership. He was also a member of IBM's Worldwide Management Council and its Corporate Technical Committee.

McGroddy originally joined IBM in its Research Division in 1965 after receiving a PhD in Physics from the University of Maryland. He earned his BS in Physics from St Joseph's University in Philadelphia in 1958. In his first years at IBM Research he focused on research in solid state physics and electronic devices, and as a result of achievements in these areas was named a Fellow of both the Institute of Electrical and Electronic Engineers and of the American Physical Society. In the 1970-71 academic year he was a Visiting Professor of Physics at the Danish Technical University. Returning to IBM, he served in a number of management positions in research, development and manufacturing before returning to head the Research Division in 1989. He is a member of the US National Academy of Engineering, Chairman of the Board of Integrated Surgical Systems, a member of the board of directors of the Paxar corporation, a Trustee of Phelps Memorial Hospital Center and of the HealthStar Hospital Network, a Trustee of the Guglielmo Marconi Foundation, and a Trustee of his alma mater, St. Joseph's University in Philadelphia.

Shirley Malcom

Shirley Malcom is Head of the Directorate for Education and Human Resources Programs of the American Association for the Advancement of Science (AAAS). The directorate includes AAAS programs in education, activities for underrepresented groups, and public understanding of science and technology. Dr. Malcom was head of the AAAS Office of Opportunities in Science from 1979 to 1989. Between 1977 and 1979, she served as program officer in the Science Education Directorate of the National Science Foundation (NSF). Prior to this, she held the rank of assistant professor of biology, University of North Carolina, Wilmington. Other work experience includes two years as a high school science teacher.

Dr. Malcom received her doctorate in ecology from The Pennsylvania State University; master's degree in zoology from the University of California, Los Angeles; and bachelor's degree with distinction in zoology from the University of Washington. In addition she holds seven honorary degrees.

Dr. Malcom serves on several boards, including American Museum of Natural History, Carnegie Corporation of New York, and National Center on Education and the Economy. She serves as a trustee of Adelphi University and as a Regent of Morgan State University. In addition she has chaired a number of national committees addressing education reform and access to scientific and technical education, careers and literacy. In 1995 Dr. Malcom was elected a fellow of the American Academy of Arts and Sciences.

She was appointed by President Clinton and confirmed by the Senate as a member of the National Science Board, and named to the President's Committee of Advisors on Science and Technology.

Tsuneyuki Morita

Tsuneyuki Morita is a typical Japanese who has been troubled with workaholic symptoms. Since 1975, he has served for the Environment Agency of Japan as a researcher, senior researcher, the Head of Environmental Economic Section, and currently the Head of Global Warming Response Team, all at the National Institute for Environmental Studies. He is also a Professor at Graduate School of Decision Science & Technology, Tokyo Institute of Technology, and an Adjunct Professor at Institute of Advanced Studies, United Nations University, both located in Tokyo, Japan. Morita's fields of research cover environmental modeling analysis, environmental economics and environmental policy studies, and he is in charge as the Project Leader of developing an Asian-Pacific Integrated Model (AIM) to assess policy options for stabilizing global climate. In 1994, he and his colleague were awarded the NIKKEI Grand Prize for Global Environmental Science and Technology for the development of the AIM model. He received the BS, MS, and PhD degrees from Tokyo Institute of Technology, Tokyo, Japan, in 1973, 1975, and 1983, respectively.

Tsuneo Nakahara

Present Position: Executive Adviser to CEO, Sumitomo Electric Industries, Ltd.

Education

March 1953	BS Electrical Engineering, the University of Tokyo.
December 1961	PhD Engineering, the University of Tokyo.

Professional Career:

1953	Joined Sumitomo Electric Industries, Ltd.
1961	Visiting Research Professor of the Microwave Research Institute in the Polytechnic Institute of Brooklyn, N.Y., U.S.A.
1978	Director and General Manager of R&D Group.
1985	Executive Vice President.
1991	Vice-Chairman.
1996	Executive Adviser to CEO.

Other Professional and Public Activities:

1981-85	Elected Member of the 12th Science Council of Japan.
1990	Vice-Chairman of Japan Research Industry Association.
1991	Vice-President of the Engineering Academy of Japan
1992	Advisor for National Institute of Scientific and Technological Politics of Science and Technology.
1992	Vice-Chairman of Osaka Science and Technology Center.
1993	Councilor of Nishina Memorial Foundation.
1993	Member of Panel on General Planning of Prime Minister's Council for Science and Technology.
1994	Chairman of International Science Club of Osaka.
1994	Vice-Chairman of Vehicle, Road and Traffic Intelligence Society
1993-94 of IEEE.	Director of IEEE Asia Pacific Region.
1996-97	Chairman of IEEE Industry Relations Committee
1995	Special Assistant to the Minister of State for Science and Technology
1997	Member of Advisory Committee to University-Industry Cooperative Research Committees, Japan Society for the Promotion of Science
1997	Vice-President of the Japan Techno-Economics Society.
1997	Vice-President of the New Technology Association.

Awards

1983	Distinguished Service Award of the Laser Society of Japan.
1991	Bridge Awards of Pennsylvania State University.
1991	The Harry C. Gatos Distinguished Lecturer Awards of Massachusetts Institute of Technology.
1994	Blue Ribbon Medal from the Emperor of Japan
1997	The Special Award of Superconducting Science and Technology.

Norman P. Neureiter

Norman Neureiter received a bachelor's degree in chemistry from the University of Rochester (N.Y.) in 1948 and a Ph.D. degree in organic chemistry from Northwestern University in Evanston, Illinois, in 1957. In 1955-56, he was a Fulbright Fellow at the Institut für Organische Chemie at the University of Munich, Germany.

In 1957, he joined the Humble Oil and Refining Co. (now part of Exxon Corporation) as a research chemist in the research center in Baytown, Texas. His research work was in the fields of butadiene chemistry, organic sulfur compounds and the development of antioxidant systems for polypropylene. He is the holder of ten patents and the author of a number of scientific publications in the field of organic reaction mechanisms.

From 1957-60, he was also an instructor in German and Russian at the University of Houston. On leave from Humble Oil in 1959, he served the U.S. Government as a guide at the U.S. National Exhibition in Moscow, becoming also a part-time Russian-English interpreter for the U.S. State Department.

In 1963, he joined the International Affairs Office of the National Science Foundation (NSF) in Washington, D.C. and became the program director of the U.S.-Japan Cooperative Science Program, which had been created by President Kennedy and Prime Minister Ikeda to encourage closer relations between the scientific communities of the their two countnes.

Dr. Neureiter entered the U.S. Foreign Service in 1965, serving as Deputy Science Atttache in the U.S. Embassy in Bonn, Germany, and from 1967-69, as the first U.S. Science Attache in Eastern Europe, located in the U.S. Embassy in Warsaw, with responsibility for Hungary, Czechoslovakia and Poland.

In 1969, he returned to Washington as International Affairs Assistant in the White House Office of Science and Technology, reporting to the President's Science Advisor. In this capacity, he was closely involved in preparing agreements on cooperation in science and technology initiated in 1972 and 1973 by President Nixon with the leaders of the Soviet Union and the Peoples Republic of China.

In 1973, he joined Texas Instruments (TI) in Dallas, Texas, where he held a variety of positions on the corporate staff and in international business development and marketing, including: Director of East-West Business Development, Manager of International Business Development, and Manager TI Europe Division. As Vice President, Corporate Staff, he was the company's principal spokesperson throughout the world from 1984 to 1989. He was transferred to Tokyo in 1989, with broad responsibility for representing TI in Japan and throughout the Asia-Pacific region, with the titles of Director, TI Japan and Vice President, TI Asia. During his 5-year stay in Japan, he was closely involved in negotiations with the Japanese government and electronics industry related to the US-Japan Semiconductor Trade Agreement.

After relocating to Dallas in 1994, he continued to be responsible for TI's external relations throughout Asia until taking early retirement from the company at the end of 1996. He also was a regular TI participant in the US-Japan Business Council and the Pacific Basin Economic Council (PBEC), being named Chairman of the Management Committee of the US Committee for PBEC He was also a TI participant in the US-Korea Business Council and in the negotiations leading to the new US-Japan semiconductor relationship agreed on at Vancouver in August, 1996.

Dr. Neureiter is currently president of the Dallas Council on World Affairs, immediate past president of the Japan-America Society of Dallas/Fort Worth. and vice-chairman of the board of the Council on International Educational Exchange (CIEE) in New York, whose Japan office is now responsible for programming the American teachers visiting Japan under the Pulbright Memorial Fund. He is also US co-chairman of the US-Japan High Level Advisory Panel, a committee of industry and university representatives advising the respective governments on science and technology relations between the two countries; and a commissioner of the Marie Sklodowska Curie Fund, which is administered by the US State Department and supports cooperative research between Polish and American scientists. He is also the principal of a newly founded consulting organization, International Business and Education Associates.

Rodney W. Nichols

Rodney W. Nichols, President and CEO of the New York Academy of Sciences, was previously Scholar-in-Residence at the Carnegie Corporation of New York (1990-1992), and Vice President and Executive Vice President of The Rockefeller University (1970-1990). A Harvard graduate, he earlier served as an applied physicist, systems analyst, and R&D executive in industry and in the Federal government.

Co-author of four books, he has written and lectured widely on U.S. research and development, including trends in both civilian and military programs as well as research universities. He has advised the White House Office of Science and Technology Policy; the State, Defense, and Energy Departments; the National Institutes of Health; the National Science Foundation; the United Nations; the U.S. Congress Office of Technology Assessment; the National Academies of Sciences and Engineering; and private firms. He has served on several boards such as the American University in Beirut and the Harbor Branch Oceanographic Institution, and is a member of the Edwin A. Link Foundation's Technical Advisory Board and the Advisory Board to the Critical Technologies Institute (Rand).

Long active in international affairs, Mr. Nichols is a member of: the U.S.-Japan Joint High-Level Advisory Panel on Science and Technology; the National Academy of Sciences' Committee on International Organizations and Programs; and the Board of Advisors to *Foreign Affairs*. He chairs the Committee on Science and Technology in Developing Countries of the International Council of Scientific Unions, and co-chairs the Japan-U.S. Cooperative Science Program. Mr. Nichols has represented the U.S. in international negotiations on arms control and on technology and capacity-building for developing countries. He was a member of the Executive Committee of the Carnegie Commission on Science, Technology, and Government (1989-1994), and chaired its International Steering Group. Principal author of the Commission's January 1992 report entitled *Science and Technology in U.S. International Affairs*, he also was vice chair to former President Jimmy Carter for the Commission's December 1992 report on *Partnerships for Global Development*. He co-authored chapters on "Science and Technology in North America" for UNESCO's biennial *World Science Reports* (1994 and 1996).

In New York, he was a founding member and vice chair of the Board of the Information Technology Center, a member of the Advisory Committee on the Third Plan for the Regional Plan Association, and a founding participant on the Selection Panel for the American Committee for the Weizmann Institute's Women in Science Award. He chaired an independent task force that studied how to modernize New York's telecommunications system and produced *Tomorrow's Information Highways* (1992). Mr. Nichols also serves on the Advisory Council to the American Ditchley Foundation, the CUNY Research Foundation board, and the Eugene Lang College Board of the New School for Social Research.

In his capacity as President of the New York Academy of Sciences, Mr. Nichols is Publisher of the award-winning magazine, *The Sciences*—circulated to 85,000 paid subscribers—and

contributes a bimonthly column, entitled "Working Hypotheses," on critical policy choices involving science, engineering, and medicine.

A member of the American Physical Society, Council on Foreign Relations, and Sigma Xi, Mr. Nichols was elected a Fellow of the AAAS and of the New York Academy of Sciences. He was awarded the Secretary of Defense Medal for Distinguished and Meritorious Civilian Service (1970) and the Distinguished Patriot Award of the Sons of Revolution (1996).

Michael W. Oborne

Michael W. Oborne was educated at the Universities of California, Berkeley (BA, MA, Ph.D.), the University of Cambridge (Ford Foundation Fellow), the Ecole Normale Superieure-Ulm in Paris, and the Institut des Sciences Politiques-Ecole des Hautes Etudes (DEA). He taught on the faculties of the University of California, Berkeley, Cambridge University, the Universities of Paris IX and X, as well as the University of Milan, where he held the Fulbright Chair in American Studies in 1980. He joined the Organization for Economic Co-operation and Development in 1981 (OECD), where he first served as a senior research manager in the Development Center. There he specialized in work on technology and investment in the Asia-Pacific region, multilateral technology cooperation, and the emergence of new forms of economic cooperation such as the PECC and later the APEC. He spent time in China and south east Asia during this period, where he complete three research projects on the economic opening of China to the world economy. Dr. Oborne moved to the Cabinet of the Secretary General of the OECD in 1986, where he was special assistant for economic and political matters. In 1989, he moved to the Directorate for Science, Technology and Industry to take up the post of head of division for science, technology and innovation policy. During this time, he oversaw the expansion of work on innovation policy and biotechnology (both producing intergovernmental guidelines); at the same time he was involved in the creation and management of the OECD Megascience Forum. He also supervised and participated in the OECD science and technology reviews of Italy, Denmark, Russia and Mexico.

Since 1993, Dr. Oborne has been the Deputy Director for Science, Technology and Industry within the OECD, with special responsibilities for science and technology policy. He oversees work in the directorate on broader topics, such as science for sustainable development, electronic commerce and the global information society of tomorrow. He has published two books and numerous articles on subjects relating to economic development. Dr Oborne has lectured extensively in Europe, Africa, Latin America and Asia.

Nicklas G. Pisas

Present Position: Professor, College of Oceanic & Atmospheric Sciences, Oregon State University

Education

BA	San Francisco State College, Geology and Mathematics, 1970
MS	Oregon State University, Geological Oceanography, 1974
PhD	University of Rhode Island, Geological Oceanography, 1978

Professional Employment

Marine Research Specialist, Graduate School of Oceanography, University of Rhode Island, 1975
Research Assistant, Graduate School of Oceanography, University of Rhode Island, 1975 78
Research Associate, Geological Sciences, Brown University 1978-79
Research Associate, Graduate School of Oceanography, University of Rhode Island, 1979-81
Visiting Assistant Professor, Geological Sciences, Brown University, 1979-81
Assistant Professor, School of Oceanography, Oregon State University, 1981-83
Associate Professor, College of Oceanography, Oregon State University, 1983-88
Professor, College of Oceanic & Atmospheric Sciences, Oregon State University 1988--present
Associate Dean, College of Oceanic & Atmospheric Sciences, Oregon State University 1993-1998
Interim Director Ocean Drilling Program, JOI Inc. 1998-present

Honors, Scholarships, Fellowships

- Phi Kappa Phi Honor Society (nominated 1975)
- H. Burr Steinbach Visiting Scholar, Woods Hole Oceanographic, June 1986
- Invited Lecturer, Quaternary Research Center, University of Washington,
- Graduate Lecture Series on Paleoclimatology, May 1987
- Visiting Professor, Brown University
- Visiting Scientist, Cambridge University, November 1983

Professional Activities

Memberships:

- Geological Society of America
- American Geophysical Union

International and National Research Programs

- Chair Marine Aspects/Earth System History Steering Committee, 1993-present
- Chairman of the Planning Committee for the Ocean Drilling Program, 1986-1988
- Chairman of the U.S. Science Advisory Committee for the Ocean Drilling Program, 1991- 1993
- Co-Chief Scientist, Leg 138 of the Ocean Drilling Program
- Member of Scientific Party and Principal Proponent for Leg 85, Deep Sea Drilling Project
- Alternate Member of Global Ocean Flux Study (GOFS) Steering Committee
- Member of Benthic Working Group of GOFS
- Member, Earth System History, NSF Advisory Committee 1994-present

Yasufumi Sakitani

Present Position: Deputy Director-General, Science and International Affairs Bureau, Ministry of Education, Science, Sports and Culture (Monbusho)

Positions at Monbusho

April 1970	General Affairs Division, University and Science Affairs Bureau
June 1972	Personal Division, Minister's Secretariat
July 1974	International Science Affairs Division, Science and International Affairs Bureau
August 1975	General Affairs Division, Minister's Secretariat
April 1977	Local Affairs Division, Elementary and Secondary Education Bureau
June 1981	Deputy Director, Lower Secondary School Division, Elementary and Secondary Education Bureau
Dec. 1983	Higher Education Planning Division, University and Science Affairs Bureau
July.1984	Planning Division, Higher Education Bureau
July.1985	Budget and Accounts Division, Minister's Secretariat
June 1986	Research Institute Division, Science and International Affairs Bureau Bureau
July 1991	Director, Local Affairs Division, Local Education Support Bureau
July 1993	Director, Science Division, Science International Affairs Bureau
July 1995	Director-General, Cultural Properties Protection Department, Agency for Cultural Affairs
July 1997	Deputy Director-General, Science and International Affairs Bureau Bureau

Vicki Sara

Education

BA (Hons) (Sydney) 1958
PhD (Sydney) 1974
DOC (Stockholm) 1981

Present Position

Chair, Australian Research Council
Adjunct Professor, Karolinska Institute, Stockholm, Sweden

Appointments

1973-1976;	Senior Research Officer, National Health & Medical Research Council Garvan Institute of Medical Research Sydney
1977-1979	IBRO/UNESCO Fellow Karolinska Institute, Stockholm
1980-1987	Associate Professor and Senior Research Fellow, Karolinska Institute
1987-1982	Head, Endocrine Pathology Research Unit, Karolinska Institute, Dept. of Pathology Karolinska Hospital, Stockholm,
1993-1996	Professor and Head, School of Life Science, Queensland University of Technology, Brisbane
1995-97	Director, CRC for Diagnostic Technologies, Bribane
1995-	Adjunct Professor, Karolinska Institute, Stockholm
1996-1997	Dean, Faculty of Science, Queensland University of Technology, Brisbane
1997-	Chair, Australian Research Council

Academic Prizes

1974	H. Tasman Lovell Memorial Medallion awarded for doctoral thesis University of Sydney
1993	Rolf Luft Medal awarded for research in endocrinology, Karolinska Institute, Stockholm
1994	Sir John Eccles Award, NH&MRC

Committees and Professional Groups

Member of the New York Academy of Science (*elected*)
Member of the International Brain Research Organisation
Member of Me Endocrine Saci0tr of Australia
Member of the Endocrine Society of America (*elected*)
Member of the Swedish Endocrine Society
Member of the Cancer Society in Stockholm (*elected)*
Member of the Australian Society for Medical Research)

International Committees

World Bank Evaluation Committee Centre Grant Proposals University Research for Graduate Education (URGE), Indonesia, 1994
Directorate General of Higher Education, Indonesia - Review Committee for Graduate Graduate Team Research and Young Academics Programs, Indonesia 1995.
Organizing Committee, 8th Congress on Isozymes - :Gene Families: Structure, Functions, Genetics and Evolution. Brisbane, Australia 1995
International Advisory Committee, Fourth International Symposium on Insulin-like Growth Factors, Tokyo, Japan, 1997

National Committees

Australian Research Council, Chair, 1997
Australian Council for Educational Research, 1997
Cooperative Research Centres Committee, 1997
Australian Research Council, Research Training and Careers Committee, 1994-96
Australian Research Council, International Fellowships Committee Chair, 1994-96
Australian Research Council, Council Member, 1997
Australian Research Council, Chair, Committee for International & National Cooperation 1997
The Internationalisation of Australian Higher Education: An Evaluation of the Contribution of the Overseas Postgraduate, Research Scholarship Scheme
Chair, Steering Committee, 1996
ARC Innovative Project: Patterns of Research in Australian Universities - Phase 2
Steering Committee, 1997
Higher Education Council National Board of Employment, Education and Training (NBEET) Innovations Project Program' Collaboration Between Post-Secondary Education, Training and Research Institutions. Steering Committee, 1997-
Joint ARC/HEC Composite Index Working Party, 1997
Australia as a Centre for Science and Innovation in the Asia-Pacific Region - Representative for Science in Advice to the Minister. Senator Cook, 1994
Member of the Scientific Community Advisory Group to the Minister, Senator Peter C Cook on Australia's Role in APEC Science and Technology Ministerial Conference, 1995

Australia Prize Committee, 1995.
Australian Council of Deans of Science, Member of Executive, 1996-
Scientific Advisory Committee, Kolling Institute of Medical Research, 1997-
Scientific Advisory Committee, Breast Cancer Association of Queensland, Australia, 1994-

Kunio Sato

Kunio Sato, Executive Director of the Japan Society for the Promotion of Science (JSPS) since July 1995, has also been Science Advisor to the Ministry of Education, Science, Sports and Culture (Monbusho) since July 1993.

Mr. Sato holds a BA degree in Economics from Kyoto University and an MA in Educational Administration from the same institution. He joined Monbusho in April 1964 and has held a variety of positions in that organization, including director of its Medical Education Division (1983-88), Chief Inspector of its Department of Higher Education (1992-93), and Deputy Director-General of its Department of Science and International Affairs (1993). He served as First Secretary and then Cultural Councilor at the Japanese Embassy in Paris between March 1978 and April 1981, and was Secretary-General of the University of Tokyo from July 1993 to June 1995.

Mr. Sato has had extensive experience with multilateral organizations. From April 1968 to December 1974, he served UNESCO as Educational Planning Expert in Paris, Lagos and Bangkok. From October 1988 to October 1992 he was Director of Education for the United Nations Relief and Works Agency for Palestine refugees in the Near East. Mr. Sato has been Chair of the Governing Board of the OECD Center for Educational Research and Innovation since March 1997 and Japanese delegate to the OECD's Education Committee since April 1993.

Jean-François Stuyck-Taillandier

Jean-François Stuyck-Taillandier was born in Paris and was a physics student at the Sorbonne and at the Ecole Normale Supérieure. After graduation he went directly to work abroad, first as a chemistry teacher in Algeria then as a scientific diplomat in Poland and the United States. Back in the French Ministry of Foreign Affairs, he was, in the Science Department, in charge successively of environmental affairs, natural sciences as a whole and, finally as Deputy-Director for Scientific and Technological Cooperation, directly involved in all bilateral and multilateral scientific international relations.

From 1986 to 1994 he was in charge of the International Department of the Centre National de la Recherche Scientifique (CNRS), the French scientific organization for basic research, before a new tour abroad, this time as Science Councilor in the French Embassy in Tokyo.

Prior to his position of Executive-Director of the International Council of Scientific Unions, Stuyck-Taillandier was in charge of international relations at the Collège de France, a rather old (created in 1530) but a still respected French scientific institution.

P.A.J. Tindemans

P.A.J. Tindemans received undergraduate training and completed a Ph.D. at Leyden University in 1975 in the Theoretical Physics Department, specializing in statistical and mathematical physics.

Late in 1975, he joined the newly formed Science Policy Department in the Ministry of Education and Science. He coordinated Dutch policy on technological innovation in industry (1979) with follow-up responsibilities in e.g. micro-electronics policy, space policy, and was also responsible for the preparation of the government's information technology stimulation plan (1984) covering education, research and applications in government, agriculture, industry and services.

As director for Evaluation and R&D Programs (1983-1991), he was instrumental in setting up national research programs across a broad range of subjects, such as health, soil pollution, inner city problems, and materials. Responsibilities covered as well the setting up of a Foundation for Public Information on Science and Technology and the Rathenau Institute for Technology Assessment.

International responsibilities have included EC and OECD activities, membership of the Dutch fact finding team on President Reagan's Strategic Defense Initiative SDI, co-membership from 1985 till 1991 of the High Level Group for the European Technology Program EUREKA, and the chairmanship, until 1991, of the COSINE Policy Group on setting up a computer communication infrastructure for Europe's R&D. After that he initiated the ECFRN initiative to further coordinate and advance European research networking efforts.

He is ex officio a board member of severer large Dutch applied R&D institutes, for example in aerospace.

Since 1992, Dr. Tindemans has been a special delegate of the Minister for International Scientific Cooperation and Director for Research and Science Policy, combining responsibilities of the ministry for e.g. university research, the Netherlands Research Council (NWO), the Royal Academy of Sciences (KNAW), the Netherlands Organisation for Applied Scientific Research (TNO), the European Organisations for Particle Physics (CERN), Space (ESA), Molecular Biology (EMBL), Synchrotron Radiation (ESRF) and Astronomical Research (ESO), and the coordination of national and international science policy.

Recreant activities range from introducing a foresight mechanism to link science and technology to economic, social and cultural development as a basis for Dutch Science Policy, to cooperative programs with other ministries on linking investments in R&D to industrial development and physical infrastructure projects, and establishing centers of excellence of industry-university collaboration or of international basic science orientation.

Major efforts have been to develop policies on joint human resources development (training, research, and institutional links) with Asian countries - Indonesia, China and Japan. Policy instruments with a broader regional orientation are under development.

Dr. Tindemans has been Chairman of the OECD Megascience Forum from its inception in 1992. The Forum seeks to provide a perspective, an agenda, and a forum to initiate negotiations on global cooperation in very large scientific facilities and programs.

Currently he is heavily involved in preparing the next round of European R&D endeavors, such as the 5th Framework Programme of the European Union, or the Asian Committee of the European Science Foundation. Recently (November 1997) he convened and chaired a meeting at which a China Contact Group was established consisting of the program officers who in the EU Member States, Norway and Liechtenstein, and in the EU-Commission are responsible for cooperation with China in the areas of science, technology and higher education.

Paul Adrian Vanden Bout

Education

AB Calvin College, Grand Rapids, Michigan, 1961
PhD University of California, Berkeley, California, 1966
"Hyperfine Structure Separations, Nuclear Magnetic Moments, and Hyperfine-Structure Anomalies of Gold-198 and Gold-199"

Professional Experience

Director, National Radio Astronomy Observatory, 1985 - Present
Professor, University of Texas at Austin, Astronomy Department, 1979-1984
Associate Professor, University of Texas at Austin, Astronomy Department, 1974-1979
Assistant Professor, University of Texas at Austin, Astronomy Department, 1970-1973
Assistant Professor and Departmental Representative to the School of General Studies, Columbia University, Physics Department, 1969-1970
Instructor, Columbia University, Physics Department, 1968-1969
Postdoctoral, Columbia Radiation Laboratory, Columbia University, 1967-1968
Postdoctoral, Lawrence Radiation Laboratory, University of California, Berkeley, 1966-1967
Research Assistant, University of California, Physics Department, 1963-1966
Teaching Assistant, University of California, Physics Department, 1962-63

Professional Societies

Fellow: American Physical Society
American Association for the Advancement of Science

Member: American Astronomical Society (Councilor, 1991-93)
International Astronomical Union:
Commission 34 - Interstellar Matter, and Commission 40 - Radio Astronomy

Member U. S. National Committee - International Union of Radio Science Commission J - Radio and Radar Astronomy

Administrative Experience/Committee Service

Member, Visiting Committee to the Nobeyama Radio Observatory, 1996
Member, Fachbeirat, Max-Planck-Institut für Radioastronomie, 1988-94
Member, Australia National Telescope Steering Committee, 1988-92
Associate Director for Millimeter Wave Science, Electrical Engineering Research Laboratory, University of Texas at Austin, 1975-1984
Chairman, Department of Astronomy, University of Texas at Austin, 1978-1982

Past Member: National Science Foundation Astronomy Advisory Committee
National Radio Astronomy Observatory Visiting and Users Committees
Committee on Space Astronomy and Astrophysics of the Space ScienceBoard
Various ad hoc advisory committees - NSF and NASA
American Astronomical Society Council

Awards/Honors

Whitford Lecture, University of Wisconsin
Fulbright Research Fellowship in Astronomy, University of Leiden, 1977
Fulbright Scholarship in Mathematics, University of Heidelberg, W. Germany, 1961-62
Dow Employee Tuition Scholarship, Calvin College, 1960

Toshimitsu Yamazaki

Present Position: Supervisor, Japan Society for the Promotion of Science (since August 1966)

Education

Undergraduate course	Department of Physics, University of Tokyo
Graduate course	Department of Physics, University of Tokyo

Professional Career

1957-67	Assistant at Institute for Nuclear Study, University of Tokyo
1964-66	Miller Research Fellow, University of California, Berkeley
1966-67	Research Associate, Lawrence Berkeley Laboratory, University of California
1967	Research Fellow, Niels Bohr Institute, Copenhagen
1967-68	Lecturer, Department of Physics, University of Tokyo
1968-72	Associate Professor, Department of Physics, University of Tokyo
1972-87	Professor, Department of Physics, University of Tokyo
1978-1986	Director, Meson Science Laboratory, University of Tokyo
1982-86	Science Adviser to Ministry of Education, Science and Culture
1986-95	Professor and Director, Institute for Nuclear Study, University of Tokyo
1995-	Professor Emeritus, University of Tokyo
1995-96	Visiting Professor, CERN

Academic Awards

1964	Doctor of Science (University of Tokyo)
1972	Matsunaga Prize
1975	Nishina Memorial Prize
1987	Imperial Prize and Academy Prize of Japan Academy
1991	Fujiwara Prize

Academic Activities

1982-85	Member of Program Advisory Committee, Lawrence Berkeley Laboratory
1986-91	Member of Experiments Evaluation Committee, TRIUMF
1987-93	Member of the International Committee on High Intensity Accelerators
1998-96	Member of RIKEN Advisory Council

Member of the Physical Society of Japan

Member of the Atomic Energy Society of Japan

Books

In-Beam Gamma-Ray Spectroscopy (H. Morinaga and T.Y., North-Holland, 1976)
Perspectives of Meson Science (eds. T.Y., K. Nakai and K. Nagamine, North --Holland, 1992)

Zhu Xuan

July 1939	Date of Birth
September 1962	Graduated from Shanghai Fu-Dan University, Department of Physics
September 1962	State Science and Technology Committee
July 1970	General Office, the Chinese Academy of Sciences (CAS)
February 1983	Deputy Director, Head of 2nd Division of Technology Science, CAS
April 1985	Director, Bureau of Contract Research, CAS
April 1987	Director, Bureau of Planning, CAS
September 1988	Deputy Secretary General, CAS
April 1995	Secretary General, CAS