

BIOGRAPHIES

KANEMI BAN is Associate Professor of Economics at Osaka University. Previously, he held the positions of Research Associate at Kyoto University from 1974-77, Lecturer at Hiroshima University from 1977-79, and Lecturer at Tsukuba University from 1979-82. He has developed many macroeconomic models of the Japanese economy to evaluate the impact of economic policy. He is a member of Project Link for the world econometric model, which is organized by Professor Lawrence R. Klein at the University of Pennsylvania.

Appointed in 1987, **JOHN P. BORIGHT** is the Director, Division of International Programs, National Science Foundation. From 1982-1986, he was Counselor for Scientific and Technological Affairs, U.S. Embassy, Paris dealing with the full range of bilateral and general aspects of space, nuclear, environmental, basic science, and industrial applications matters. At the U.S. Department of State's Bureau for Oceans and International Environmental and Scientific Affairs (OES), he was Office Director, Nuclear Technology and Safeguards, 1976 - 1980 and Acting Deputy Assistant Secretary, Nuclear Energy and Technology, 1980 - 1982. Dr. Boright served on the U.S. Mission to the International Atomic Energy Agency (IAEA), 1975-76, and worked on nuclear non-proliferation policy for the U.S. Arms Control and Disarmament Agency from 1970-75. He received his B.A. in Physics in 1965 and his Ph.D. in Physics in 1970 both from Cornell University.

Since 1982, **EDWARD COHEN** has served as Executive Director of the New Jersey Commission on Science and Technology. From, 1970-1985, he was the Assistant Chancellor for Research, Planning and Health professions for the New Jersey Department of Higher Education (DHE). Previously, he served as the DHE's first director of the office of Two Year Colleges during the formative era of New Jersey's community colleges. This followed five years as Vice President of the International Development Foundation. Prior to that he spent eight years in the foreign service, including posts as Educational Attache in Venezuela and Press Attache in Yugoslavia. He did his graduate work in Political Science at Columbia University (1955), and received his undergraduate degree in Public Administration from the College of the City of New York (1951). He serves, or has served on a variety of national and New Jersey governmental, corporate boards and councils.

DALE R. CORSON is the Chairman of the American participants. He is President Emeritus, and was the eighth president of Cornell University, beginning in 1969. From 1977-1979, he served as Chancellor. Dr. Corson was appointed Provost of Cornell University in 1963 after four years as Dean of the College of Engineering. He joined the Cornell faculty as an assistant professor of physics in 1946, became a full professor in 1952, was named Chairman of the Department of Physics in 1956, and Dean of the College of Engineering in 1959. He is co-author of two books, *Electromagnetic Fields and Waves*, now in its third edition, and *Electromagnetism*, and has written numerous papers for physics journals. Among his other activities, he has chaired several panels and commissions on national issues related to science and technology. Dr. Corson received his B.A. degree from the College of Emporia in 1934; his M.A. degree from the University of Kansas, 1935; and his Ph.D. in physics from the University of California in 1938. Over the next eight years, he contributed to construction of the cyclotron at the University of California Radiation Laboratory, was a staff member of the MIT Radiation Laboratory, served as a technical advisor to the U.S. Air Force, and joined the staff of Los Alamos Scientific Laboratory. His distinguished career also includes membership in the National Academy of Engineering, and numerous honorary degrees.

ALAN FECHTER is the Executive Director of the Office of Scientific and Engineering Personnel of the U.S. National Research Council. He has been affiliated with the U.S. National Research Council since 1983. Previously, Mr. Fechter taught for several years at the University of Pittsburgh. In 1964, he worked for the Institute for Defense Analysis, where he served on the staff of two commissions to study the feasibility of an all-volunteer military force and the first Quadrennial Commission on Military Compensation. In 1972, he became Senior Research Associate with the Urban Institute, where he undertook a variety of assignments. In 1978, Mr. Fechter accepted a position at the National Science Foundation, where he was Head of the Scientific and Technical Personnel Studies Section, Division of Science Resources Studies.

CAROLE GANZ-BROWN is Senior Program Manager for Studies and Assessments at the Division of International Programs, National Science Foundation. She joined NSF in 1974 as a Program Manager in the Division of Information Science and Technology. From 1984-85, she served as Science and Technology Projects Officer in the U.S. Embassy, Brasilia dealing with Brazilian computer policy and other critical technology issues. Before joining NSF, Dr. Ganz-Brown was an economic planner for the Secretary of Economics and Planning, Sao Paulo, Brazil, 1970-73; a policy analyst in the New York City Bureau of the Budget, 1969-1970; and an instructor in logic and the philosophy of science at Brooklyn College, New York City, 1965-69. She received her A.B. degree in Chemistry from Vassar College in 1961, her

M.S. in Information Science from Rensselaer Polytechnic Institute in 1962, and her Ph.D. in Logic and the Philosophy of Science from Stanford University in 1969. Among her many publications, she co-edited the volume *National Policies for High Technology Development*, published in 1986.

AARON J. GELLMAN is President of Gellman Research Associates, Inc. (GRA) and a noted transportation economist who has published many articles on transportation research and development and the regulation of transportation. He is currently Adjunct Professor of Systems and Regional Science at the Wharton School of the University of Pennsylvania. Other areas of expertise are technology utilization and profiting from technology transfer. Dr. Gellman has given presentations on these subjects both in the United States and abroad. Before forming GRA, Dr. Gellman was a Vice President of the Budd Company where he was responsible for Budd's corporate planning activities. Prior to joining Budd, he was Vice President-Planning at North American Car Corporation. Dr. Gellman has served on a number of government panels and committees including: Academy of Engineering, Committee on Education and Utilization of the Engineer; National Academy of Sciences' Assembly of Engineering Committee on IR&D Issues; U.S. Department of Commerce, Technical Advisory Board (CTAB); National Standards Policy Advisory Committee; and the U.S. Department of Transportation, FAA Committee on Airworthiness Certification. Dr. Gellman received his B.A. in Economics from the University of Virginia, M.B.A. in Transportation from the University of Chicago and a Ph.D. in Economics from the Massachusetts Institute of Technology.

JOHN M. GODFREY is an Industry Analyst with the Business Intelligence Center of SRI International. His specialties include Japanese industrial policy and political economy and technology / market assessment and forecasting. In 1986, he received a Bachelors of Arts in Government from the University of Texas, and in 1988, a Masters of Arts in East Asian Studies from Stanford University. He has served as a summer intern for the U.S. Department of State.

A Professor Emeritus at the Institute of Social and Economic Research, Osaka University, **KEN'ICHI INADA**, has been working in the field of economic growth theories and welfare economics, and was formerly Science Advisor to the Ministry of Education, Science and Culture. He spent three years in the United States at Stanford University. His major at the University of Tokyo was Mathematics.

As director general of the National Center for Science Information Systems, **HIROSHI INOSE** oversees the construction and use of database catalogs of books and journals for university researchers. Before assuming his present

position, he served the University of Tokyo for thirty years as a Professor of Electronic Engineering, Director of the Computer Center, and Dean of the Faculty of Engineering. Early in his career he invented a basic patent for digital switching at Bell Laboratories. Chairman of the Information, Computer and Communication Policy Committee for OECD, he is a foreign associate of the U.S. National Academy of Sciences.

SHUKUO KINOSHITA is currently Senior Advisor, Kyowa Hakko Kogyo Company, Ltd., and Vice-Chairman of the Biotechnology Development Center (BIDEC). He graduated from The Imperial University of Tokyo in agricultural chemistry in 1941, and received a PhD in agricultural chemistry from Tokyo University in 1955. He became President of Kyowa Hakko Kogyo in 1978, and Chairman of the Board in 1984. In 1966, he was a recipient of the Japan Academy Award, and received the "Purple Ribbon Medal" of the Japanese government.

As Director of Research at the Science and Technology Agency's National Institute of Science and Technology Policy and Professor of Saitama University's Graduate School of Policy Science, **FUMIO KODAMA** is responsible for research and education in such areas as the innovation process, policy analysis and mathematical modeling. A graduate of the University of Tokyo, Dr. Kodama has worked in the United States and Europe. He currently serves on several advisory committees for the Ministry of International Trade and Industry.

JACQUES KOPPEL has more than 15 years experience in the field of economic and technology development, both in the private and public sectors. He is presently responsible for managing the Pennsylvania Department of Commerce's technology development activities, which have an annual budget of \$45 million. This includes programs to support research and development, technology transfer, centers of excellence, education and training, and manufacturing initiatives. Prior to his appointment, Mr. Koppel was founder and President of Technology Management Group (TMG), a private research and consulting company. At TMG, Koppel advised private and government organizations in Ohio, West Virginia, Illinois, Maine, New York and Texas to help them develop effective technology assistance programs. He is the author of a number of articles and studies concerning issues varying from the adoption of new technologies by manufacturing industries to export development. Mr. Koppel is also a member of the Board of Directors of the Automation Forum, a Washington based organization of trade and professional associations. Formerly Mr. Koppel was Managing Director of International Trade and Investment Associates, Ltd., a Washington D.C. corporation. His previous experience includes positions as Director of Economic Development for the Northeast-Midwest Institute/

Coalition, manager of a number of projects for the National Council for Urban Economic Development, and Project Director for Commodities Research Unit Ltd., a British corporation. He holds a B.A. from New York University and an MSc. degree from the London School of Economics and Political Science.

CHRISTOPHER W. LE MAISTRE has his Ph.D. in Materials Engineering from Rensselaer Polytechnic Institute. Originally from Australia, he was employed in defense-related research and spent three years in London as a R&D attache for the Australian Defense Department. On returning to Rensselaer he accepted the position of Associate Director of the Center for Manufacturing Productivity and Technology Transfer in 1979. By 1981 there were three industrially sponsored Centers at Rensselaer and in 1982 ground was broken to erect a new building to house the three Centers. This was the Center for Industrial Innovation, and Dr. Le Maistre was appointed Director in 1984. Dr. Le Maistre is also interested in entrepreneurial activities and interfaces with Rensselaer's Incubator Program and Technology Park which house new high-tech start-up companies. He has also been actively involved with Rensselaer's Intellectual Property policy and the processes of Technology Transfer. He is the author of a book on *Computer Integrated Manufacturing* and has co-edited two books on *Industrial Innovation, Productivity Employment and Economic Growth*.

KIMIKAZU MATSUYAMA became President of Kyushu Tokai University in 1988. From 1980 to 1987, he was President of Kumamoto University, and remains Professor Emeritus of Kumamoto University. He received a Bachelor of Engineering degree in electrical engineering from the School of Engineering, Kyushu University, Fukuoka. He became an Assistant Professor at Kumamoto Technical College (presently, the School of Engineering, Kumamoto University) in 1960. His fields of specialization are electrical engineering and information processing.

KIYOSHI NAGAI graduated from Tohoku University in 1951, and received his PhD degree in 1960 in the theoretical study of linear antennas. He continued his research in the University until 1968, when he was nominated as Professor. In the same year he joined the Toshiba R&D Center and continued his work on antennas. He was promoted to Deputy Director of the R&D Center in 1978, and to Director in 1981. He became a member of the Board of Directors in 1984, and has been Senior Vice President since 1986. He is an IEEE Fellow.

In 1989, **GEOFFREY C. NICHOLSON** assumed his current position as Staff Vice-President, International Technical Operations, 3M Corporation. Since 1980, he has held a variety of positions in 3M's International Operations unit.

During 1978–1980, he served as Technical Director, Sumitomo 3M Ltd. He began his career at 3M in 1963 as Senior Chemist, Central Research Laboratories. In 1960, Dr. Nicholson received a Bachelor of Science degree from the University of London, England, and a Ph.D. in 1963 from the Imperial College, University of London, England. His professional affiliations include the American Chamber of Commerce in Japan and the Japan-America Society.

WILLIAM C. NORRIS is Chairman Emeritus of the Board of Directors of Control Data Corporation. He founded the company in 1957, and retired as Chairman and Chief Executive Officer in 1986. He continues to serve as a director of the company and as a member of its Science and Technology Committee. In 1988, the William C. Norris Institute was established by an endowment from Control Data, as a non-profit organization dedicated to advancing technological cooperation and innovation responsive to societal needs. Mr. Norris serves as Chairman of the Board of Directors. Mr. Norris graduated from the University of Nebraska in 1932 with a degree in electrical engineering. His first job with the Westinghouse Corporation was followed by five years of service in the U.S. Navy. After, Mr. Norris helped found Engineering Research Associates Inc, later merged into Sperry Rand Corporation. Mr. Norris headed the Univac Division of Sperry Rand through 1957. In 1986, Mr. Norris was awarded the National Medal of Technology by President Reagan. In 1987, *Datamation Magazine* singled out Mr. Norris as one of 30 people throughout the world who have made major contributions to information processing. Among his many other activities, he serves as a director and chairman of the Executive Committee of the Greater Minnesota Corporation.

Tokyo Denki University professor **SOGO OKAMURA** is the Chairman of the Japanese participants. Currently a member of the Science Council of Japan and Senior Advisor to the Rector of the United Nations University, he has also served as Director General of the Japan Society for the Promotion of Science and Director of Japan National Railways. In addition, he has been a Counselor to the Ministry of Posts and Telecommunications and the Science and Technology Agency, and a Science Advisor to the Ministry of Education, Science, and Culture. Prior to joining Tokyo Denki University as the Dean of its graduate school, Dr. Okamura served for many years at the University of Tokyo, including several years as Dean of the Faculty of Engineering. He currently has emeritus status there. He has also been President of the Institute of Electrical Engineers of Japan, and Vice President of the International Union of Radio Science. His distinguished career has included research in the fields of millimeter waves and microwave solid state devices.

RICHARD R. RIES is the Acting Assistant Director for the Scientific, Tech-

nological, and International Affairs Directorate (STIA) of the National Science Foundation. Dr. Ries' professional interests include mechanisms for international scientific cooperation; role of scientific communication on effectiveness of R&D; technology transfer; and States' initiatives in science and technology. He has been a member of the STIA staff since this Directorate was created in 1975, serving initially in the Division of International programs, and later in the Office of the Assistant Director. He served for almost four years at the NSF Tokyo Office in the late 1960's. Dr. Ries received his B.S. in Physics from St. Edward's University, Austin, Texas, in 1957. His M.S. and Ph.D. degrees in Physics are from the University of Minnesota, Minneapolis, Minnesota, where he studied from 1957 to 1963. From 1963 to 1964, Dr. Ries worked as a Research Associate at the Max Planck Institute for Chemistry in Mainz, Germany; and in 1965, he was a Lecturer in Physics at Harvard University. Dr. Ries attended the Program for Senior Executive Fellows at the John F. Kennedy School of Government, Harvard University in 1984.

FUMINORI SAKAI is currently Director General, Japan Society for the Promotion of Science; Professor Emeritus, University of Tokyo; and a member of the Science Council, Ministry of Education, Science and Culture. He received a Bachelor of Medicine degree in 1945, and a Doctor of Medicine degree in 1956 from the University of Tokyo. He began his professional career as an Associate Professor, Faculty of Medicine, Tokyo Medical and Dental University in 1953, and was appointed Professor, Faculty of Medicine, University of Tokyo in 1965. From 1982 – 1987, he served as the Executive Director, Japan Society for the Promotion of Science. His research interests include pharmacological studies of the central nervous system, renal physiology and pharmacology, and toxicology. He currently serves as President, Japanese Society of Toxicological Sciences, and participates as a Council Member in several other Japanese scientific societies.

PAULA E. STEPHAN has been Professor of Economics and Senior Associate, Policy Research Program, Georgia State University since 1988. She became Professor of Economics, Georgia State University in 1981, and was Visiting Professor of Economics, Ecole Superieur de Commerce, Paris, in 1984. She received a Bachelor of Arts degree from Grinnell College in 1967; a Master of Arts degree from the University of Michigan in 1968; and a Ph.D. from the University of Michigan in 1971. Her fields of specialization include: labor, applied microeconomics, and industrial relations. She has published extensively, and is a member of the American Economic Association, as well as several other professional associations.

Since 1986, **MAKOTO TEZUKA** has been Group Manager, R&D Planning & Coordination Division, Central R&D Bureau, Nippon Steel Corporation. He

graduated from the University of Tokyo in 1968, and then joined Nippon Steel Corporation as a researcher in the Yawata Research Institute of Technology. After this, he was technical staff to the Steelmaking Division in the Kimitsu Works in 1973, planning manager of the Steelmaking Technical Division of Nippon Steel's Head Office in 1979, and a senior manager of technical activities of the Steelmaking Division of the Kimitsu Works in 1982. In those years, he concentrated on research and development in steelmaking technology, that is, basic oxygen steelmaking technology and continuous steel casting technology. His current responsibilities include planning and coordination of R&D in steelmaking, in new materials, electronics and in information systems.

DR. J. VAN DER MEULEN joined IBM as a Research Staff member in the Applied Research department at the T.J. Watson Research Center in August 1969. For five years he worked on semiconductor science and technology. This work resulted in two dozen publications and presentations at scientific conferences. He became manager of the corporate Ph.D. program in 1974 and manager of university and scientific relations in 1976. From 1979 to 1981 he was on international assignments as manager of technical relations with IBM Germany in Bochlingen, West Germany, returning to the U.S. in 1986. As Manager of Laboratory Administration and Planning, he is responsible for a number of technical staff and support functions at IBM's T.J. Watson Research Center. Among these are Technical Recruiting, Business & Government Relations, Facilities Planning, Technical Education, the Research Library, Industrial Hygiene and Safety, and Customer Executive Relations. In addition, he has management responsibility for IBM's Ph.D. recruiting in the U.S. Educated in the Netherlands, Dr. van der Meulen obtained a Ph.D. degree in solid-state chemistry at Utrecht University in 1965. He came to the United States in January 1968 as a lecturer in the materials science department at the University of Southern California. Dr. van der Meulen is a member of the Royal Dutch Chemical Society and of the Electrochemical Society.