

Meeting the ES&T advisory board

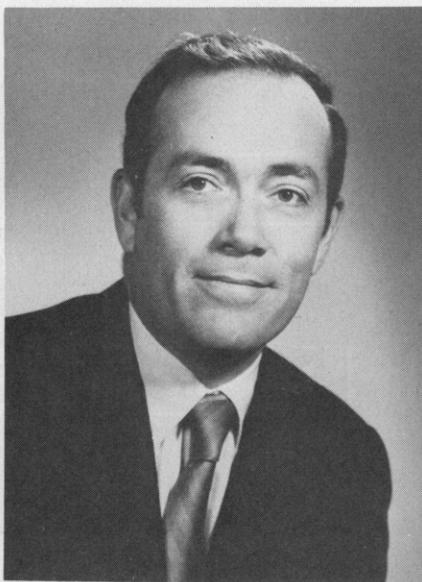
Dr. Christman has appointed the following members to the publication's advisory board.

The members are drawn from the ranks of those active in the fields of environmental science and technology. They represent a wide variety of disciplines and interests, and lend the benefit of their experience to the continuing effort of ES&T to serve its readers in the most competent fashion.

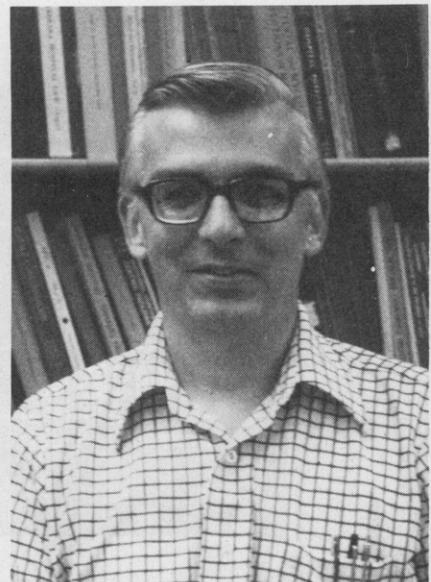
Meeting formally once or twice a year and keeping in touch with the editor and his staff by mail and phone, the advisory board serves to advise the editor on content and subject matter and to assist, when requested, in solving problems that may arise.

Members of the board are normally appointed to a three-year term. Dates (end of year of service) are shown in the table.

Bufalini	1976
Brezonik	1976
Levin	1978
Morgan	1977
Orem	1978
Sebastian	1978
Seinfeld	1976
Touhill	1977
Tuesday	1977



Editor: Christman



Associate Editor: O'Melia

Dr. Christman is professor of environmental sciences and chairman of the department of environmental sciences and engineering at the University of North Carolina at Chapel Hill. His undergraduate studies in chemistry were pursued at the University of Miami, Tulane University, and the University of Florida. He received his B.S. (1958), his M.S. (1960) and Ph.D. (1962) in chemistry from the University of Florida.

Professor Christman joined the faculty of the University of Washington in Seattle in December 1962. While at the University of Washington he was responsible for the development of an applied chemistry and biology teaching and research program in the water and air resources division of the department of civil engineering. In 1970, he was appointed assistant to the provost and director of the division of environmental affairs and charged with organizing a University-wide teaching and research program in environmental studies. This effort resulted in the formation of an Institute for Environmental Studies at the University of Washington in which he held a faculty appointment. He was responsible for the establishment and administration of undergraduate interdisciplinary degree programs in the College of Engineering, which permitted undergraduate students to orient their undergraduate study toward nondepartmental areas of faculty interest, such as ocean engineering, environmental engineering, computer sciences, bioengineering and nuclear engineering.

In September 1973, Dr. Christman joined the faculty of the University of North Carolina at Chapel Hill. The department of environmental sciences

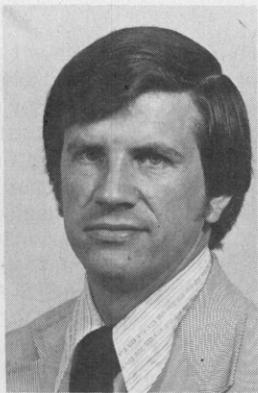
and engineering, which he administers, is one of the largest graduate programs in environmental studies in the U.S., offering M.S. and Ph.D. programs in radiological hygiene, water and air resources, air and industrial hygiene, environmental management and protection, and environmental chemistry and biology.

Throughout his university career, he served as consultant to industry, municipal, state, federal and international agencies. He has been particularly interested in the problems of water quality monitoring and aquatic geochemical phenomena. In 1969, he helped establish a water quality surveillance program in Poland, under the auspices of the World Health Organization and the Polish National Academy of Sciences. He has also served as a member of the Water Supply Panel of the National Academy of Sciences, which authored the 1974 edition of the Federal Water Quality Criteria. He has organized workshops and seminars for industrial associations and federal agencies dealing with general environmental problems and environmental impact assessment. In recent years Dr. Christman has broadened his environmental interests to include issues of environmental management strategies and innovative approaches to environmental education. In conjunction with the KING TV (NBC) Studios in Seattle, he recently produced a series of twenty television shows on the problems of man and his environment, for syndication on the educational television network.

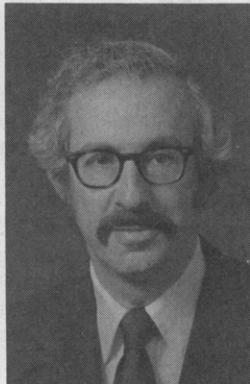
Professor Christman is Editor of *Environmental Science & Technology*, has authored numerous research papers



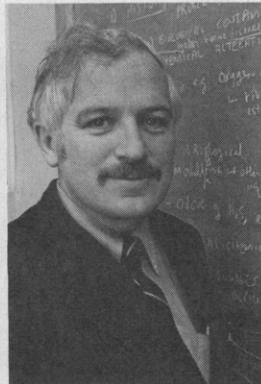
Bufalini



Brezonik



Levin



Morgan

and books contributions in the field of environmental studies, and is principal author of the textbook 'The Natural Environment: Wastes and Control.'

Dr. Christman is a member of the EPA National Drinking Water Advisory Council to advise and consult with the Administrator of the EPA on Agency policy and other matters under the Safe Drinking Water Act, P.L. 93-523.

Dr. Charles R. O'Melia is professor of environmental sciences and engineering at the University of North Carolina, Chapel Hill. He received his B.C.E. (1955) at Manhattan College and his M.S.E. (1956) and Ph.D. (1963) in sanitary engineering from the University of Michigan in Ann Arbor. He was employed by Hazen and Sawyer, Engineers, in 1956-57. From 1961-64, he served as assistant professor of sanitary engineering at the Georgia Institute of Technology. In 1964-66 he was a post-doctoral fellow and lecturer in water chemistry at Harvard University. He joined the University of North Carolina in 1966 as associate professor and became professor in 1970. In 1973-74 he was visiting professor of environmental engineering science at the California Institute of Technology while on sabbatical leave from UNC.

Dr. O'Melia received the 1965 publication award from the American Water Works Association, the 1969 award of the American Society of Civil Engineers for the application of research to practice, the 1972 distinguished faculty award and the 1975 environmental science award of the Association of Environmental Engineering Professors. He is a member of ACS, ASCE, AWWA, WPCF, ASLO, AEEP, Chi Epsilon, and Sigma Xi. Dr. O'Melia's research interests are in aquatic chemistry, water and wastewater treatment, and predictive modeling of natural waters.

Dr. J. J. Bufalini is chief of the gas kinetics and photochemistry branch, environmental sciences research laboratory, Environmental Protection Agency, Research Triangle Park, North Carolina. He received his B.S. (1952) at Siena College, New York, and his M.S. (1958) and Ph.D. (1961) from the University of Arkansas.

From 1961 to present, Dr. Bufalini has been involved in various aspects of air pollution research. These include investigating mechanisms and rates of chemical reactions of gaseous air pollutants, identifying origins of pollutants and noting the transformations and removal processes of air pollutants.

Dr. Patrick L. Brezonik, associate professor of environmental engineering sciences at the University of Florida (Gainesville), received his B.S. (1963) in chemistry from Marquette University and his M.S. (1965) and Ph.D. (1968) in water chemistry from the University of Wisconsin (Madison). He joined the University of Florida faculty in 1966 and was appointed to his present position 1970. Dr. Brezonik was awarded an NSF Science Faculty Fellowship in 1971 and spent a year at the Swiss Federal Institute for Water Resources and Water Pollution Control in Dubendorf, Switzerland.

Dr. Brezonik's major areas of scientific interest involve nutrient chemistry, eutrophication management, and trace heavy metal cycles. He is the author of some 35 technical papers and reports and is a member of ACS, American Society for Limnology and Oceanography, WPCF, and AAAS.

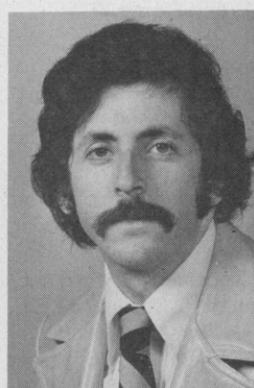
Dr. Arthur A. Levin is the coordinator for environmental programs at the Battelle Memorial Institute, Washington, D.C., operations. He received his B.C.E.



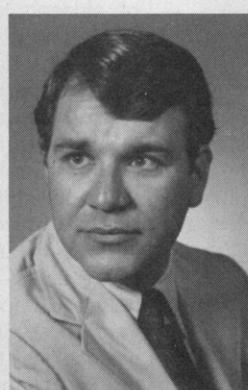
Orem



Sebastian



Seinfeld



Touhill



Tuesday

(1957), his M.S. (1964), and Ph.D. (1967) in environmental engineering from Rensselaer Polytechnic Institute. In 1957-58 he held an AEC Radiological Physics Fellowship at the University of Rochester and from 1963-67 he continued his studies at RPI under a U.S. Public Health Service predoctoral fellowship.

From 1958-60, Dr. Levin was employed by the Combustion Engineering Nuclear Division and from 1960-63 at the Bettis Atomic Power Laboratory of the Westinghouse Electric Company at Pittsburgh, Pa. He was responsible for health and safety aspects of the nuclear power programs for both of these companies. Earlier, he was a sanitary engineer for the New York State Department of Health. In this capacity, he was involved in all facets of the state government public health organization.

From 1967 to the present, Dr. Levin has been employed by Battelle Memorial Institute. He participated extensively as a senior environmental engineer, in the broad range of environmental research studies conducted by Battelle's Columbus Laboratories. In 1971, Dr. Levin transferred to the Battelle Washington, D.C., operations where he now has the corporate responsibility for coordinating the environmental program activities for all the U.S. components of Battelle Memorial Institute.

He is a certified health physicist and a member of the Health Physics Society, AIHA, AWRA, and Sigma Xi.

Dr. James J. Morgan is professor of environmental engineering science at Caltech, where he has been a faculty member since 1965. He served as dean of students at Caltech from 1972 to 1975, and is currently academic officer for the environmental engineering science program.

Dr. Morgan received the B.C.E. (1954) from Manhattan College, M.S.E. (1956) from the University of Michigan, and A.M. (1962) and Ph.D. (1964) from Harvard University. He served as an instructor in sanitary engineering at the University of Illinois from 1956-60, and held a Danforth Teacher grant at Harvard in 1960-61. He was a faculty member in the water chemistry program at the University of Florida, Gainesville, from 1963 through 1965.

Among his professional activities, he has served as editor of *Environmental Science & Technology* (1966-74), as a member of the ACS committee on environmental improvement (chairman of the panel on water for the 1969 volume, "Cleaning the Environment,") and chairman of the 1970 Gordon Research Conference on Environmental Sciences: Water.

His research interests are in the field of aquatic chemistry, with particular in-

terests in stability of natural water systems, surface phenomena, speciation of metals in natural waters, elemental cycles, and coagulation processes.

Mr. Sidney R. Orem is technical director of the Industrial Gas Cleaning Institute (IGCI), a trade association representing member companies that design and build air pollution control equipment. Mr. Orem received his B.S.E.E. from The Johns Hopkins University and completed studies in industrial engineering at the University of Pittsburgh and business administration at Case Western Reserve University.

Before the IGCI position, he served as vice-president of the Air Correction Division, UOP, Greenwich, Conn. (1946-66); vice-president of Cushing & Nevel Design Associates (environmental consultants), New York, N.Y. (1966-68); and as vice-president of air pollution controls for the Air Systems Division of Zurn Industries, Inc., Birmingham, Alabama (1968-72). Other experience was with Westinghouse Electric Corp. (1937-43) and military service with the U.S. Navy in communications intelligence (1943-46).

In addition, Mr. Orem has served two terms as chairman of the IEEE electrostatic processes committee and one term each as chairman of the IGCI electrostatic precipitator division and IGCI mechanical collector division. He is active in ASME, IEEE, and APCA.

Mr. Frank P. Sebastian is senior vice president of Envirotech Corp., which supplies engineered equipment and technology for municipal and industrial water and wastewater treatment, continuous industrial processes, industrial air quality and emission control, and tunneling and underground mining. He is a former president of the BSP Division of the corporation.

Mr. Sebastian has directed four U.S. foreign trade missions on advanced waste treatment in Japan, Europe, Australia, and New Zealand. In 1971 he participated in U.S. environmental seminars in London, Rotterdam, Dusseldorf, and Tokyo. He was among the first U.S. businessmen to attend the Chinese Export Commodities Fair in Canton, the People's Republic of China, in May 1972, where he gave briefings on air and water treatment technology. In June 1972 he was a member of the symposium on "Uniting for Biosurvival" held in conjunction with the UN Conference on Human Environment in Stockholm, and reported on environmental developments in China. He was a member of the first Executive Level trade mission to Moscow in November 1973, is a member of the Working Group for Pollution Prevention from Municipal and Industrial Sources under the US/USSR Environmental Agreement, in connec-

tion with which he participated in a Moscow-held joint symposium on sludge disposal in May of 1975.

Mr. Sebastian has been a member of the District Export Council (DEC) and its predecessor organization of the U.S. Department of Commerce since 1970 and currently serves the DEC as vice chairman. He served as a panelist on the National Forum on "Growth with Environmental Quality?" held in Tulsa, Oklahoma, in September of 1973. He is a director of the California Council for International Trade, and vice chairman of the board of directors of the Educational Development Corporation. He is a director and first vice president of the Water and Wastewater Equipment Manufacturers Association (WWEMA), head of that organization's Oversight Committee on the Clean Water Act, and chairman of the WWEMA Liaison Committee with the EPA on cash flow to equipment manufacturers. He is a member of the EPA Construction Grants Advisory Group, also, of the Water Pollution Control Federation and the American Institute of Chemical Engineers.

Dr. John H. Seinfeld is professor and executive officer for chemical engineering at the California Institute of Technology, which he joined in 1967. Dr. Seinfeld received his B.S. (1964) from the University of Rochester and his Ph.D. (1967) from Princeton University. Both degrees are in chemical engineering. His research interests lie in fields of the atmospheric behavior of air pollutants and optimal control and estimation theory. He is the author of three books, including *Air Pollution: Physical and Chemical Fundamentals* (1975). In 1974 he served as a member of the National Academy of Sciences Panel on the Relationship of Emissions to Ambient Air Quality, and is currently a member of the Panel on Atmospheric Chemistry of the Climatic Impact Committee of the National Academy of Sciences, studying fluorocarbons and stratospheric ozone.

Dr. C. Joseph Touhill is vice president of environmental engineering for Green International, Inc., consulting engineers and planners in Sewickley, Pa. He earned his B.C.E. (1960) at Rensselaer Polytechnic Institute, his S.M. in sanitary engineering (1961) at the Massachusetts Institute of Technology, and returned to Rensselaer Polytechnic Institute where he earned a Ph.D. (1964) in environmental engineering. While at Rensselaer, he was awarded the Caird Prize and held a U.S. Public Health Service fellowship.

From 1964 to 1971, Dr. Touhill was with Battelle-Pacific Northwest Laboratories where he was manager of the water and land resources department. Prior to joining Green International, Inc.

recently, he was chairman and chief executive officer of Morris Knowles, Inc., consulting engineers.

Dr. Touhill's experience emphasizes advanced wastewater treatment, industrial waste management, and resources management and systems design. He is a member of ACS, AIChE, ASCE, WPCF, AWWA, Chi Epsilon, Tau Beta Pi, and Sigma Xi. In addition, he is a Diplomate of the American Academy of Environmental Engineers and serves on the Board of Trustees of the Academy. He is also vice chairman of the environmental division of the American Institute of Chemical Engineers.

A registered professional engineer in several states, he has authored over fifty reports and journal articles and was co-editor of the book, *Resource Management in the Great Lakes Basin*.

Dr. Charles S. Tuesday is a technical director of the General Motors Research Laboratories, Warren, Michigan, as well as acting head of the environmental science department. Dr. Tuesday received his A.B. (1951) from Hamilton College and his A.M. (1955) and Ph.D. (1955) in physical chemistry from Princeton University.

Dr. Tuesday was a research chemist with the Panelyte Division of the St. Regis Paper Corporation from 1950 to 1951 and a research assistant at Princeton University from 1951 to 1955 where he was also a McCay Fellow from 1953 to 1954.

In 1955, Dr. Tuesday joined the fuels and lubricants department of the General Motors Research Laboratories as a senior research chemist and advanced through various positions until he became head of that department in 1970. Dr. Tuesday became the head of the environmental science department as well as acting head of the physical chemistry department in 1972, at the time these new Research Laboratories Departments were formed.

In 1974, Dr. Tuesday assumed his present position in which he directs five Research Laboratories Departments: analytical chemistry, environmental science, metallurgy, physical chemistry, and polymers. Dr. Tuesday's own research has been in atmospheric chemistry, especially atmospheric photochemistry. He has authored numerous papers in this area and edited the book, "Chemical Reactions in Urban Atmospheres."

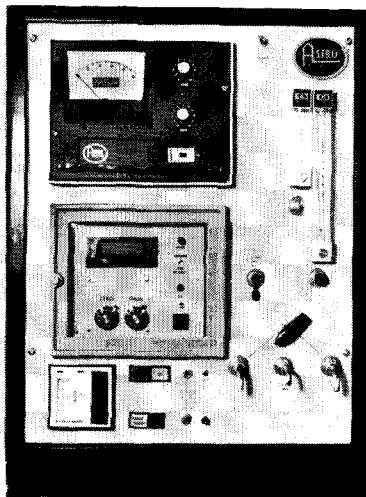
Dr. Tuesday is a member of the Air Pollution Research Advisory Committee of the Coordinating Research Council, a Consultant to the National Research Council Panel on Vapor-Phase Organic Air Pollutants, and an American Chemical Society Corporate Associate. He is also a member of Phi Beta Kappa, Sigma Xi, the ACS, the Society of Automotive Engineers, AAAS, and the ASTM.

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