Fellows

Thirteen members of the American Phytopathological Society were elected Fellows of the Society at the 1983 Annual Meeting in Ames, Iowa. Election as a Fellow of the Society is a reflection of the high esteem in which a member is held by his colleagues. The award is given in recognition of outstanding contributions in extension, research, teaching, or other activity related to the science of plant pathology, to the profession, or to the Society.

George N. Agrios

George N. Agrios was born January 16, 1936, in Halkidiki, Greece. He received his B.S. degree in horticulture in 1957 at the University of Thessaloniki, Greece. While at the University of Thessaloniki, he was selected to participate in the 4-H sponsored International Farm Youth Program in which he spent three months in Georgia and three months in Iowa. He was the recipient of a Fulbright scholarship for graduate studies and received the Ph.D. degree from Iowa State University, Ames, IA, in 1960 where he majored in plant pathology and minored in genetics and plant physiology. After receiving his Ph.D., Dr. Agrios returned to Greece and served in the Greek army as a 2nd lieutenant in the Corps of Engineers. In January 1963 he joined the faculty as an assistant professor in the Department of Plant Pathology at the University of Massachusetts where he advanced to associate professor in 1969 and full professor in 1974.

Dr. Agrios' research has been in plant virology. His efforts have contributed to our understanding of the effects of viruses on graft union of peach on dwarfing understocks, revealed increased growth of some fungi (e.g., *Cytospora*) on extracts from virus-infected apple tissues, and improved our understanding of the histopathology of scar skin disease of apple. He and his students have studied physiological effects on respiration and levels of sugars, organic acids, and phenolic compounds of several virus and viruslike diseases of apple. He also demonstrated for the first time that tobacco mosaic virus not only infects but actually causes a mosaic disease on a forest tree, white ash. His research showed that ash witches' broom is a graft-transmitted disease and pointed to MLO as a probable cause. The feasibility of controlling apple mosaic symptoms through tree injections with antiviral compounds has also been reported by Dr. Agrios. While on sabbatical leave at the Plant Protection Research Institute in Thessaloniki, Greece, Dr. Agrios studied viruses of fruit trees and diagnosed and described the stem pitting diseases of grapevines and of stone fruits, pear decline, and a bacterial canker of peach.

He is presently working on the transmission of woody plant viruses via tissue culture techniques; purification and inoculation of potyviruses in protoplasts; mechanisms of corn resistance to maize dwarf mosaic virus; and the epidemiology and integrated management of viruses in peppers and potatoes.

Clearly the most outstanding contribution to plant pathology made to date is his book, "Plant Pathology," published by Academic Press. Since its publication it has been the standard text for thousands of plant pathology students, professionals, and growers. The book was first published in 1969, and has had 11 printings and a revised second edition in 1978. His text is used throughout the world and has been translated into several languages. Its disease cycle illustrations have been widely reproduced. This text serves our profession in a subtle, yet extremely positive way. It is probably the first comprehensive exposure that many students destined to become plant pathologists and others in related fields have to our profession. It doubtless has influenced many students to consider plant pathology as a profession and continuously serves agriculture as a concise source of fundamental information concerning plant disease.

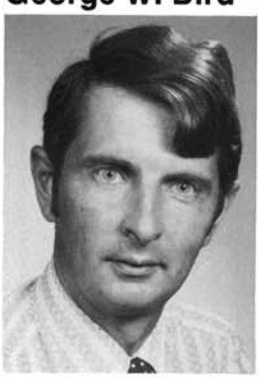
In addition, he has written chapters for the McGraw-Hill "Encyclopedia of Science," for "Plant Disease" edited by Horsfall and Cowling, and for "Vectors of Plant Pathogens" edited by Harris and Maramorosch. He regularly reviews manuscripts of books for publishers and has served as an associate editor for the APS journal, PLANT DISEASE.

Dr. Agrios is highly acclaimed as a dedicated teacher by both graduate and undergraduate students. His teaching responsibilities include courses in general plant pathology and plant virology, diseases in floral crops, and a plant pathology course for non-majors.

His contribution to the extension program at the University of Massachusetts includes diagnosing diseases in all crops, presenting information to grower groups, and training regional extension specialists.

Dr. Agrios has served on university committees including the Honors Colloquia, Faculty Senate, and Graduate Research Council. He has been active in our Society since 1963 as a member or chairman of the Teaching Committee, Monographs and Reviews, Books Committee, and the International Cooperation Committee. He was secretary-treasurer (1978), vice-president (1979), and president (1980) of the Northeastern Division of APS.

George W. Bird



George William Bird was born June 16, 1939, in Newton, MA. He earned a B.S. degree in horticulture from Rutgers University in 1961 and an M.S. degree in nematology-entomology in 1963. He was awarded a Ph.D. degree in plant pathology at Cornell University in 1966. His first job as a nematologist was in 1966–1968 with the Canada Department of Agriculture, Harrow Research Station. He joined the University of Georgia Plant Pathology Department in 1968 as an assistant professor. He moved to Michigan State University, Department of Entomology, as an associate professor in 1973, and was promoted to professor in 1976. Dr. Bird was a visiting professor in the Department of Nematology at the University of California at Riverside in 1980–1981. His assignments at Michigan State University have been numerous. He has served as an extension project leader, acting department head, and as an assistant to the director of the Michigan Agricultural Experiment Station. Currently, he is the coordinator of integrated pest management programs, College of Agriculture and Natural Resources, Michigan State University.

Dr. Bird's research in the areas of biology and management of nematodes, and the interaction of mycorrhizal fungi with nematodes, has served as a means of developing basic information essential to the Michigan IPM program. This research has included studies on the basic etiology of problems involving nematodes, nematode taxonomy (including the description of new species), basic nematode population dynamics, and the interactions of concomitant nematode communities, and nematode-fungus interaction. Recently, Dr. Bird and associates have concentrated their research efforts in developing research and simulation models of the complex interactions of selected nematode-host-environment combinations.

Dr. Bird has made major impacts on the professions of plant pathology, nematology, and entomology through his development of a statewide integrated pest management program in which

modern computer technology is utilized. Michigan has served as a model for all applied plant protection scientists, agricultural extension agents, hundreds of research and extension plots throughout the state, and is certainly one of the most outstanding educational, research, and extension delivery pest management programs in this country. The acquisition of computers and environmental monitoring equipment at the county level has made it possible to gather and computerize information from research and extension plots throughout the State of Michigan. Dr. Bird's cooperation with systems scientists, data management specialists, and agricultural extension agents as well as growers, has made the development of this pilot IPM program possible.

In addition to Dr. Bird's very significant contributions in extension, research, and education, he has served his professional societies with distinction. Offices held in the Society of Nematologists include secretary, vice-president, and president. He has chaired four committees in this organization. His service in The American Phytopathological Society includes associate editor for PHYTOPATHOLOGY; Editor, Nematology Section, Fungicide-Nematicide test results; and currently is a member of the Plant Disease Advisory Board. Dr. Bird has given equal time to the Intersociety Consortium for Plant Protection, having served as secretary and chairman. In addition, he was the manager of a major ISCPP-EPA-IPM project and served on various review committees.

Dr. Bird's imposing contributions in extension, research, and teaching have been acknowledged at many levels. In 1971, he received the "Faculty Distinguished Service Award," University of Georgia, as well as the "Outstanding Teacher" award from that institution. He received one of the "Ten Best Teacher" awards from the University of Georgia in 1972 and in 1973. Dr. Bird was presented the "Outstanding Extension Specialist" award from Michigan State University in 1982. He is a member of various honorary societies and has been invited to participate in numerous national and international symposia.

Dr. Bird in his role in extension, research, and education is indeed a master of the art and science of plant pathology and nematology. He combines his abilities as research scientist, extension specialist, educator, and public relations facilitator to carry research findings to effective extension pest management delivery systems. His unique capacity for interdisciplinary research, extension, and communication through grower groups, radio, TV, and numerous publications has earned the respect of farmers, extension specialists, and research scientists, as well as associates in industry. Dr. Bird is a major driving force, one of those responsible for a considerable amount of the recent progress in nematology, plant pathology, and integrated pest management.

Julio Bird-Pinero

Julio Bird-Pinero was born in Santurce, Puerto Rico, November 6, 1923. He served in the United States Army during World War II and received a B.Sc. degree in biology in 1948 from the University of Puerto Rico in Rio Piedras. In the same year, he began working as an employee of the University of Puerto Rico Agricultural Experiment Station.

He took two leaves from the University of Puerto Rico to continue his education at the University of Minnesota. Studying under the guidance of Dr. E. C. Stakman and Thomas H. King, he received his M.Sc. degree in 1951. After completion of his M.S. degree he became interested in viral diseases of plants, virus-vector relationships, and weed hosts of insect-vectored plant viruses. He again entered the University of Minnesota, where he earned his Ph.D. degree in 1956. He returned as an associate professor at the University of Puerto Rico in Rio Riedras, and was appointed head of the Department of Plant Pathology and Botany, Agricultural Experiment Station, University of Puerto Rico, in 1964. From 1978 to 1980, he was associate director of the Experiment Station. In 1981 he was appointed coordinator (Puerto Rico) for the Tropical Agricultural Research Program. On June 30, 1982, Dr. Julio Bird-Pinero retired from the University of Puerto Rico after 34 years of service.

Dr. Bird has had a distinguished career as a research scientist. He is most famous for his work on whitefly-transmitted viruses. He discovered three new and unrelated rugaceous viruses in Puerto Rico, two of which cause severe diseases on important crops. Physiological races of whiteflies (*Bemisia tabaci*) were described. Physiological specialization of *B. tabaci* was based on differential survival on host plants. Through collaborative works with Dr. R. M. Goodman of the University of Illinois, rugaceous viruses were discovered to contain single-stranded DNA.

Although Julio Bird-Pinero is most known for his work on whitefly-transmitted viruses, his expertise is not limited to this area. His wide scope of investigative efforts have included: the first evidence of the soil transmission of chlorotic streak of sugarcane, identification of efficient aphid vectors of virus diseases of plantain and banana and other crops in Puerto Rico, and work on the effects of temperature on the expression of viral diseases. Dr. Bird was also interested in diseases of legumes and much of his research was incorporated in a book entitled "Tropical Diseases of Legumes."

Since 1950, Julio Bird-Pinero has been actively engaged in the American Phytopathological Society. He has served on the Membership, the International Cooperation, and the Plant Virology Committees. Since 1965 he has been actively involved in the Caribbean Division. In addition to APS activities, Dr. Bird has been active in the Puerto Rican Academy of Arts and Sciences, Gamma Sigma Delta, and the International Society of Sugarcane Technologists. In 1961 he received the Commonwealth of Puerto Rico's "Manuel A. Perez" award for the discovery of several new rugaceous viruses and for determining the mode of spread of the chlorotic streak virus of sugarcane. In 1980 the Society of Microbiologists of the University of Puerto Rico awarded him the first annual Distinguished Scientist Award.

Johannes Dekker

Johannes Dekker was born November 26, 1925 in Heerenhoek, the Netherlands. Following World War II he enrolled as a student at Wageningen University from which he received his IR degree in tropical agronomy in 1953 and a Ph.D. degree in plant pathology in 1957. Dr. Dekker has been very closely associated with the Agricultural University at Wageningen beginning with his student days, continuing into his graduate work, as a staff member of the Laboratory of Phytopathology, and finally since

1969, professor and department head of that University laboratory.

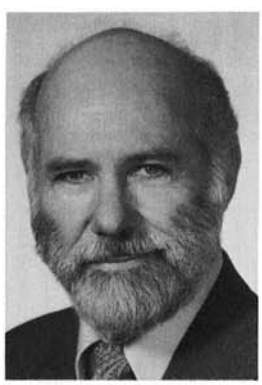
Dr. Dekker has distinguished himself in teaching, research, administration, and service to plant pathology on a worldwide basis. Although greatly involved in teaching three advanced courses, he still takes time to teach the introductory plant pathology course at the University. He has conducted a graduate research and teaching program of outstanding excellence, particularly in the field of fungus mechanisms and the genetics of fungicide resistance. His laboratory is internationally renowned in these areas. He has trained 16 Ph.D. degree students since 1970 who are now carrying on their professional research.

Dr. Dekker has done outstanding research on systemic activity and mode of action and biochemical basis of fungal resistance to 6-azauracil. His laboratory is also well known for studies on the genetics of resistance to benomyl fungicide and has identified the target site of the fungicide. His studies on chemical modification of host resistance have made important contributions in this area.

Professor Dekker has been and continues to be very active on the international scene as a guest lecturer, research fellow, and consultant in the United Kingdom, United States, Indonesia, Belgium, Denmark, South Africa, Kenya, Japan, Switzerland, West Germany, Australia, France, and Finland. He has made substantial contributions to our science as an organizer of International Symposia, Council Member of ISPP, teacher of plant protection courses for pathologists from developing countries, and membership on several APS Committees.

In addition to all these activities related to plant pathology he has contributed extensively to University administration at Wageningen as department chairman, member of the Faculty Board, member of the Committee of Deans, and service on short term committees. His most recent appointment in September 1982 was as Honorary Secretary of the Board of Deans of the Agricultural University, deputizing for the Rector Magnificus.

Charles J. Delp



Charles Joseph Delp was born May 9, 1927, in St. Louis, MO. He lived in Arkansas, Mississippi, Louisiana, and completed high school in Fort Collins, CO. It was summer work on his uncle's farm in Colorado that stimulated his interest in agriculture. Following a year in the navy in the Pacific, he entered Colorado State University, where he received his B.S. degree in 1950. At Colorado he was an honor student, editor of the yearbook, and laboratory instructor in botany. His graduate studies were with W. B. Hewitt, University of California at Davis, on grape diseases. He obtained his Ph.D. degee in 1953.

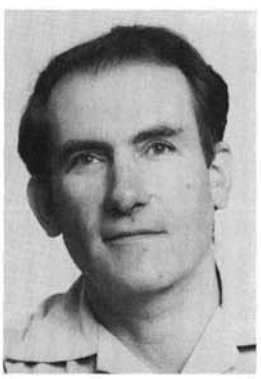
Since then, Dr. Delp has been a plant pathologist with the Research Division of the Biochemicals Department of E. I. du Pont de Nemours & Co. at Wilmington, DE. In conjunction with broad research on chemicals for plant disease control, he was associated with the discovery and development of Benlate® benomyl fungicide. He conducted some of the early laboratory and greenhouse tests which demonstrated its systemic and post-infection action, and was the first to demonstrate the practical field performance of benomyl. The characteristics of benomyl were reported in 1968 by Dr. Delp at the First International Congress of Plant Pathology and in the *Plant Disease Reporter*. The development of this benzimidazole fungicide introduced a new dimension in chemical control of plant diseases.

In 1968, Dr. Delp was appointed supervisor of plant pathology research at the Du Pont Experimental Station. His group of plant pathologists searched for new disease control agents and conducted studies on the mode of action and population dynamics of fungal strains resistant to benzimidazole fungicides. He led discussion sessions on these subjects at the Second International Congress of Plant Pathology, at the 1976 APS Symposium on Resistance of Plant Pathogens to Chemicals, the International Therapy of Plants Symposium in Wageningen, the Michigan State Horticultural Society Meeting, and at a United Nations FAO Panel in 1978. He taught a graduate course in economic plant pathology at the University of Delaware and wrote chapters in three texts.

During the past few years, Dr. Delp has consulted throughout the world on problems of fungicide resistance, a subject on which he is a leading authority. Through his leadership, the problems associated with the development of resistance to benzimidazole fungicide have been dealt with in an open and cooperative manner. He has organized industry representatives into a Fungicide Resistance Action Committee and Working Groups, with the objective of resolving fungicide resistance problems and maintaining fungicide effectiveness. He continues to serve as chairman of this international group of industrial scientists.

Dr. Delp has been active as a member of APS since 1950. He was a charter member of the Caribbean Division in 1961, and president of the Potomac Division in 1970. He has served on the Editorial Advisory Board of PLANT DISEASE and on the following APS Committees: Study of Phytopathology Publication Policies, Pesticide Nomenclature, New Fungicide and Nematicide Data, Placement and Sustaining Associates, and chairman of the Industry, Chemical Control, and Long-Range Planning Committees.

Richard I. B. Francki



Richard I. B. Francki was born in Warsaw, Poland, on September 10, 1930. At the outbreak of war in 1939, he escaped to England with his family, where he completed his schooling. After migrating to New Zealand, he completed a B.S. degree in 1955, the M.Sc. degree in 1958, and the Ph.D. degree in 1961, all at Auckland University College. He was appointed lecturer in the Department of Plant Pathology of the Waite Institute, The University of Adelaide, in 1961. He has been continuously employed there, and was promoted to senior lecturer in 1967 and to reader in 1972.

Dr. Francki has undertaken research outside Australia several times. He worked with Dr. S. G. Wildman at U.C.L.A. in 1964–1965 and was awarded a Senior Fulbright Fellowship to work with Dr. M. Zaitlin and Dr. D. A. Siegel at the University of Arizona in 1971. In 1977 he was awarded a State Agricultural University Senior Research Fellowship to work with Dr. D. Peters for three months at the Agricultural University, Wageningen, The Netherlands.

Dr. Francki's research career has been outstanding both in its productivity and diversity. As a student of Professor R. E. F. Matthews, he studied the effects of base analogues as inhibitors of the replication of viruses. This work laid the foundation of his career as a plant virologist, for he has retained an active interest in the molecular biology of viruses as well as in problem-solving in virus pathology.

At the Waite Institute he was instrumental in obtaining outside funding for building facilities for plant virus studies to their present high standard. He has been responsible for purifying and characterizing a large number of viruses, ranging across many taxonomic groups, and mostly of economic importance in Australia. Diagnostic procedures have been developed in parallel with many of these studies. For example, he pioneered the use of antiserum to double stranded synthetic polynucleotides for detecting infection with phytoreoviruses such as the Fiji disease virus of sugar cane, which contain double stranded RNA. The sugar industry and other agricultural industries have benefited from the understanding of disease etiology and control measures emanating from such work.

Another virus studied, lettuce necrotic yellows, was the first plant virus shown to encapsidate an RNA-dependent RNA polymerase, able to transcribe a positive sense RNA from the negative strand viral RNA in vitro. In other work the satellite RNA of cucumber mosaic virus shown to be transferrable to other isolates of CMV and was shown to be able to survive in vivo for some days before "rescue" with satellite-free "helper" virus. CMV has since been used in Francki's laboratory for pseudorecombinant studies to determine the distribution of viral characters on the CMV-RNA components. These studies are complementary to the nucleotide sequencing of the CMV-RNA being done elsewhere and should eventually assist in relating primary structure to gene function in plant viruses. His early studies on satellite RNA have also led Francki to take an active interest in the newly characterized group of viruses which encapsidate a viroidlike circular RNA, recently dubbed "virusoids."

Francki purified and characterized the geminivirus causing chloris striate mosaic, a disease of economic importance in eastern Australia. Detailed electron microscopy showed that the geminate structure existed in situ in tissue; the architecture of the particle was determined, and the MW of the one single-stranded circular DNA present in each in geminate particle measured.

His publication record is prodigious, including well over 100 research papers and numerous reviews and book chapters. Attesting to its extent and importance is that some 40 of his papers are quoted in the second edition of Matthews' textbook "Plant Virology."

Francki is also active as a teacher. He has developed and taught undergraduate courses in plant virology for agricultural science undergraduates taking plant pathology and has supervised many graduate students and postdoctoral fellows in collaborative research projects at the Waite Institute. Most of these now work in Australia or elsewhere as virologists.

Dr. Francki has also undertaken many responsibilities outside the laboratory. He has served two three-year terms as chairman of the Plant Virus Subcommittee of the International Committee on Virus Taxonomy. He has been associate editor of the journal *Virology* since 1972, of the *Journal of General Virology* since 1981, has been an editor of *Intervirology*, and is currently an editor of the annual review series *Current Topics of Pathogen-Vector-Host Research*. He has contributed to several international conferences, and is currently coordinator of the Virology Section of the International Congress of Plant Pathology in Melbourne in 1983. He also serves on Australian national committees determining policy for research on recombinant DNA. He is a veteran member of a number of scientific societies, including the APS.

Yigal Henis

Yigal Henis was born in Tel Aviv, Israel, in 1926. He studied at the Hebrew University of Jerusalem from 1949 to 1955 where he was awarded a M.S. in bacteriology and biochemistry in 1955 and a Ph.D. degree in 1959. His academic teaching career began that year as lecturer in bacteriology on the Faculty of Agriculture in the University at Rehovot, he was later associate professor, and in 1969 was appointed head of the new Department of Plant Pathology and Microbiology at that University.

Dr. Henis was a pioneer in plant pathology in the developing state of Israel. In the 1960's he was responsible for an academic unit in the Hebrew University that trained a number of scientists who are now authorities in research and teaching positions in Israel. During that period he became a recognized authority in research on soilborne pathogens. Dr. Henis is known as a vigorous and creative scientist who has contributed much to the development of innovative techniques for studying soilborne plant pathogens; in proposing new concepts on soil suppressiveness imparted by *Trichoderma* and on integrated control of *Rhizoctonia solani*; to the role of oxalic acid in the pathogenic behavior of *Sclerotium rolfsii*; and to the understanding of many factors in the sclerotial development and germination in *S. rolfsii*.

Dr. Henis is known internationally as a research fellow, lecturer, and consultant in Brazil, the United Nations, Cornell and Colorado State Universities, and the U.S. Dept. of Agriculture in Beltsville, MD. He is a prolific author having published 130 articles on his research.

He has been chosen as an APS Fellow not only for these enumerated achievements but also because he is a dynamic catalyst who stimulates new thinking and new ideas in plant pathology and for his enthusiasm in promoting new concepts in the biological control of soilborne plant diseases.

Kurt J. Leonard

Kurt John Leonard was born in Ida County, IA, December 6, 1939. He completed his B.S. degree in botany at Iowa State University in 1962. In 1968, he obtained a Ph.D. degree in plant pathology from Cornell University for work entitled "Multiline varieties and oat stem rust population dynamics" under the direction of phytopathologist Dr. G. C. Kent. He then joined the United States Department of Agriculture to pursue research on corn pathogens and diseases. He was named assistant professor of plant pathology at North Carolina State University in 1968, associate professor in 1973, and professor in 1978.

Dr. Leonard is an outstanding plant pathologist who has made significant and worthy contributions to the modeling and understanding of the genetics and population dynamics of fungal plant pathogens. His most distinguished contributions have been in the description of selection pressures and plant pathogens and in genetic interactions among populations of plants and their pathogens. He has also made noteworthy contributions in elucidating the mycology and epidemiology of pathogens such as *Cochliobolus carbonum, C. heterostrophus, Setosphaeria prolata,* and *Colletotrichum graminicola*. His research on the virulence and mating types of races of *Bipolaris maydis* stands as a landmark in the population genetics of plant pathogens. He has also critically examined essential aspects of the durability of general resistance and is currently conducting research of the genetics of host-pathogen interactions involving quantitative disease resistance in corn.

An outstanding attribute of Dr. Leonard's research program is that it embraces the very basic to the very applied. He has made significant contributions to the understanding and management of corn diseases and has been actively involved with vital research of

the aflatoxin problem in corn.

In championing the appropriate use of mathematical modeling to aid studies of plant disease epidemiology, Dr. Leonard has been involved in the construction of several mathematical models, which enhance the understanding of epidemiology, and which help clarify the relative importance of several disease management strategies. Some of these models have dealt with the question of stabilizing selection and optimum composition of multiline varieties: some have enhanced the efficiency of experimental research by focusing it on the most appropriate questions.

Dr. Leonard has a most unusual grasp of the science of plant pathology and is widely sought out by colleagues and students for advice. He has an excellent ability to challenge students and colleagues to critically examine research ideas and results. Dr. Leonard's list of nearly 50 publications reflects his commitment to the science of plant pathology and to the understanding of phytopathological systems. From the very basic to the very applied, excellence of quality is a constant attribute of his publications.

In addition to Dr. Leonard's excellence as a research scientist, he has also contributed to the continued development of plant pathology through his service to the American Phytopathological Society. He has served as a member of the Genetics Committee from 1975 through 1981 and served as chairman during 1979–1980. He has been associate editor (1977–1978) and senior editor (1979–1981) of PHYTOPATHOLOGY. Dr. Leonard is currently editor-in-chief of PHYTOPATHOLOGY (1982–1984). This confidence placed in him by his peers recognizes Dr. Leonard as a researcher and as a dedicated, meticulous scientist with a keen ability to analyze and interpret research. It also indicates his commitment to the continued excellence of PHYTOPATHOLOGY and the professional image of The American Phytopathological Society.

Dr. Leonard is a member of Phi Kappa Phi, Sigma Xi, and Gamma Sigma Delta. He is also a member of the Mycological Society of America and the Genetics Society of America.

Chester J. Mirocha

Chester J. Mirocha, professor of plant pathology at the University of Minnesota, was born in Cudahy, WI, on February 7, 1930. For three and one-half years, he served in the U.S. Marine Corps. He then entered Marquette University, Milwaukee, WI, where he majored in botany and zoology and graduated with a B.S. degree in 1955. He continued his education at the University of California at Davis where he worked as a laboratory technician and subsequently earned a Ph.D. degree in plant pathology in 1960 under the direction of Drs. E. E. Wilson and J. E. DeVay.

His professional employment began with Union Carbide Chemical Company, Agricultural Research Station, Clayton, SC, where he conducted research on fungicides, bactericides, and nematicides from 1960 to 1963. Dr. Mirocha was invited to join the staff of the Department of Plant Pathology at the University of Minnesota as an assistant professor in 1963, and was promoted to associate professor in 1966, and professor in 1972. As a faculty member in the Department of Plant Pathology and in the curriculum of plant physiology, he has taught courses in physiology of host-parasite relations and the physiology and biochemistry of fungi.

His earlier research was in the area of host-parasite relations, and the more recently he has focused his energies and analytical brilliance on studies of the *Fusarium* mycotoxins. He has developed procedures for the detection and identification of mycotoxins by gas chromatography and mass spectrometry. Dr. Mirocha has accomplished much of his research in cooperation with scientists in plant pathology, veterinary medicine, animal science, and chemistry. He has worked for more than a decade with Dr. C. M. Christensen on mycotoxins produced in stored grain. Dr. Mirocha's specific contributions to mycotoxin research include studies on the zearalenones and trichothecenes such as T-2 toxin, vomitoxins, and diacetoxyscirpenol. He and his colleagues reported the natural occurrence of zearalenone in many feeds and found that zearalenone and deoxynivalenol were the most frequently encountered mycotoxins in the field. He studied the metabolism of zearalenone and T-2 toxin in laboratory and farm animals and described numerous metabolic derivatives.

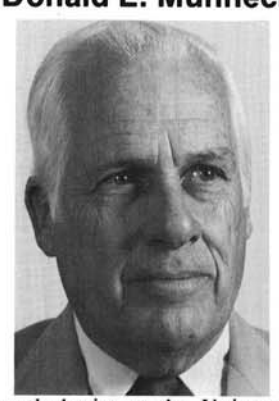
Dr. Mirocha's studies and those of his students and colleagues have been recorded in more than 100 scientific journal articles and in numerous chapters in books and special reports.

Dr. Mirocha was the genitor of the first U.S.-Japan Cooperative Science Program in physiological plant pathology and chaired the first and second of the seminars that followed in 1966 and 1970. He and I. Uritani edited the first proceedings of the seminar entitled "Dynamic Role of Molecular Constitutents in Plant-Parasite Interaction." He had been the principal speaker or led discussions on mycotoxin research at various hearings, conferences, workshops, and symposia both nationally and internationally. Most recently he has been involved in the sensitive geopolitical problem associated with the toxic substance in "yellow rain," alleged to be disseminated in biological warfare in southeast Asia. He reported identification of T-2 and HT-2 mycotoxins in these samples, obtained from victims in the Asian conflict, before the U.S. Congressional Committees on Foreign Affairs in the Senate (1981) and the House (1982).

His participation in international symposia is testimony to the high regard in which he is held by his peers. These include presentations on characterization of estrogenic substances in grains and feeds (Congress of Food Science and Technology, Poland, 1966); secondary metabolites of fungi and mycotoxins (International Congress of Plant Pathology, 1968, London); mycotoxins in *Fusarium* (Hungarian Academy of Sciences and Czechoslovakia Academy of Sciences, 1970); toxic metabolites from *Fusarium* (National Institute of Agronomic Research, France, 1970); mycotoxin control (International Union of Pure and Applied Chemistry, Sweden, 1972); biosynthesis of zearalenone (International Society of Microbiology, Japan, 1974); biologically active natural products of *Fusarium* (British Association of Cancer Research, London, 1981) and *Fusarium* toxins (British Mycological Society, London, 1982). He has taught workshops on mycotoxin analysis in Cairo, Egypt, in 1981 and 1983. The sessions were sponsored by the FDA and the Egyptian National Academy of Sciences.

Dr. Mirocha has served on the editorial boards of PHYTOPATHOLOGY, *Toxin Review*, and the *Journal of Environmental Control*, as well as having served as guest editor for *Annual Review of Phytopathology*. He was instrumental in preparation of the 1968 "Directory of Members for The American Phytopathological Society." He has served as consultant to the WHO on mycotoxins and is presently chairman of the Committee on Mycotoxins of the ISPP.

Donald E. Munnecke



Donald Edwin Munnecke was born in St. Paul, MN, May 30, 1920. After receiving his B.S. degree from the University of Minnesota in 1942, he served until 1946 in the U.S. Army, from which he was discharged with the rank of captain. He returned to the University of Minnesota to continue his graduate studies and received both his M.S. and Ph.D. degrees in plant pathology in 1949 and 1950, respectively. In 1951, Dr. Munnecke accepted a position as instructor of plant pathology and junior plant pathologist at the University of California at Los Angeles. He

advanced through the ranks and was promoted to professor and plant pathologist in the Experimental Station in 1965.

In 1957–1958, Dr. Munnecke spent a sabbatical leave in the laboratory of Dr. R. A. Ludwig, Science Service Laboratory, Canadian Department of Agriculture, London, Ontario, Canada. In 1961, he transferred to the Riverside campus of the University following termination of agricultural research on the Los Angeles campus. In 1965, Dr. Munnecke was awarded both Guggenheim and Fulbright fellowships and spent the year on sabbatical leave working with Professor W. H. Fuchs at Georg Augustus Universitat, Gottingen, Germany. In 1972–1973, he spent six months on sabbatical leave in the laboratory of Dr. S. D. Garrett at Cambridge University, Cambridge, England.

Dr. Munnecke's research has been many-faceted, original, and productive, and has focused on three primary areas: 1) distribution, persistence, efficacy, and fate of fungicides in soil; 2) biological interactions reducing the survival of *Armillaria mellea* in soil following the application of various sublethal debilitative treatments; and 3) diseases of commercially produced ornamental plants. Dr. Munnecke and his co-workers have made a number of outstanding and basic contributions to knowledge of soil fumigation, primarily with methyl bromide and chloropicrin, and methyl isothiocynate and to the knowledge of their persistence and breakdown in soil. Dr. Munnecke's imaginative research on *A. mellea* provided answers on how the fungus is killed in soil following sublethal treatments with fumigants, heat, or drying. He is one of the world's experts on diseases of vegetatively propagated ornamental plants.

Dr. Munnecke is recognized as an outstanding and innovative teacher, primarily because of his unique approach to the introductory course in plant pathology. Students regard the course as a total learning experience since they are required to perform research and submit reports in the format requested by PHYTOPATHOLOGY. Dr. Munnecke's active and productive research has attracted numerous graduate students and postdoctorates who have worked with him on a variety of basic and applied programs. Dr. Munnecke served as the departmental and graduate advisor from 1964 to 1969 and again from 1976 to 1982.

Professionally, Dr. Munnecke has served on numerous Society committees including Teaching, Chemical Control, Publications, Organizational Structure, and Public Responsibility. He has been a leader in the organization and development of the Pacific Coast Conference on Control of Soil Fungi since its inception in 1953 and was its chairman in 1981. He also served as associate editor of *Hilgardia* from 1975 to 1980.

Dr. Munnecke's outstanding career as a plant pathologist has resulted from his imaginative approach to teaching, from his original research on soil fungicides and diseases of ornamental plants, and from his sustained interest in helping growers overcome disease problems.

Daniel J. Samborski

Daniel James Samborski grew up on a farm near Hampton, Saskatchewan, Canada, where he was born on August 9, 1921. He served in the Royal Canadian Artillary during World War II and graduated with a B.S.A. from the University of Saskatchewan in 1949, and with an M.Sc. in plant pathology in 1951. He obtained his Ph.D. degree from MacDonald College of McGill University in 1955. He began his career at the University of Saskatchewan (1953–1955) as a research associate of Dr. M. Shaw and in August 1956, joined the staff of the Agricultural Canada Research Station at Winnipeg as the wheat leaf rust pathologist, a position he has held ever since.

The scope of Dr. Samborski's outstanding research accomplishments is broad and includes significant contributions to the physiology of parasitism, the elucidation of the significance of the hypersensitive response in plant disease, and the description of the genetics of host resistance and parasite virulence.

His early works (late 1950s) identified several physiological disruptions incited by the wheat stem rust pathogen. Most notable were the elucidation of respiratory patterns in compatible and incompatible host-pathogen systems and the role of hormones and nitrogen metabolism in rust-infected wheat leaves. Dr. Samborski's pioneer work on respiration cycles that occur in diseases plants was the catalyst that stimulated many plant pathologists and plant physiologists to investigate the physiological nature of plant disease. He was truly an early pioneer in the modern era of the physiology of parasitism.

By the late 1960s, Dr. Samborski was a principal investigator in the study of the occurrence and role(s) of aromatic compounds in the wheat-stem rust interaction. He investigated the synthesis of aromatic amino acids and bound aromatic substances, beginning with precursors such as shikimate and quinate. He subsequently found that there is an accumulation of bound aromatics associated with the incompatible reaction in the host. He is a co-discoverer of 2-hydroxyputrescine amides, abnormal "stress" metabolites in wheat plants. His biochemical research shifted to the compounds involved in C_1 transfer, including the folic acids, a group of compounds about which very little was known in plant tissue and fungal cells. He demonstrated that the folate content of wheat leaves increases dramatically after infection with rust, and was the first to describe the folates of the stem rust organism, *Puccinia graminis tritici.*

In the mid 1970s Dr. Samborski shifted his attention to the cytology of host pathogen interactions. Using both fluorescent and electron microscopy, he discovered that various genes for resistance are expressed differently at the cellular level, and pointed out the generalizations about various interactions are not valid. While working with the nature of the necrotic reaction conditioned by the Sr_6 gene in wheat, he discovered the stage and locations in the host-pathogen interaction where incompatibility is first expressed. This important discovery led to a rational approach to the investigation of the biochemistry of the expression that conditions incompatibility.

In the late 1970s he directed his attention to an applied facet of plant pathology, namely the genetics of host resistance and of virulence in the pathogen in relation to breeding wheat resistant to leaf rust. The primary objective was to work with plant breeders to maximize the effectiveness of genes for resistance to leaf rust of wheat. His early work in this area indicated that multigenic resistance enhances the opportunity for enduring resistance. He also elucidated the inheritance of resistance to leaf rust and also the inheritance of virulence in the pathogen. His work contributed to the production of superior wheat cultivars with highly effective multigenic resistance to wheat leaf rust. These cultivars are widely grown in the wheat growing area of Western Canada.

One of Canada's leading scientists, he was elected to the prestigous Royal Society of Canada in 1977. He has made major contributions to international plant pathology. His international recognization is substantiated by graduate students from the United States, Western and Eastern Europe, Mexico, Africa, Egypt, Australia, and China that he has attracted to Canada. He also had numerous invitations to present his ideas at international meetings. A few of the most noteable of these include: an address to the J. C. Walker Conference on "Pathogenesis and Metabolism in Plants," Madison, WI, 1965; International Cereal Rust Conference, Prague, Czechoslovakia, 1972; International Symposium on "Bread," England, 1974; J. C. Arthur Memorial Lectures, Purdue, 1975; XIV International Congress on Genetics, Moscow, 1978.

E. L. Sharp

E. L. "Gene" Sharp was born in 1926 in Spokane, WA. In 1949 he received a B.S. degree in botany at the University of Idaho at Moscow. Sharp earned both a M.S. (1951) and a Ph.D. degree (1953) from Iowa State University where he majored in plant pathology with a minor in crop breeding. His thesis was entitled "Lyophilization and germ tube development of *Puccinia* species." From 1953 to 1957 he worked as a research plant pathologist at Fort Detrick, MD, first with the U.S. Army Chemical Corps and later as a civilian employee. In 1957 he joined the staff at Montana State University in Bozeman progressing from assistant professor, through associate professor in 1962, to professor in 1967, and department head from 1973 to the present.

Dr. Sharp has been a creative and productive cereal pathologist who has made major advances in our understanding of the environmental and host genetic factors controlling the development of various pathogens, particularly *Puccinia striiformis* (stripe rust) a major pathogen of wheat in the Pacific Northwest. Together with his students and colleagues he has provided basic information on the environmental factors affecting the germination and penetration of stripe rust urediospores. In some of his earliest work, he showed that the zinc ion was highly influential in affecting the production of appressoria and vesicles of *Puccinia coronata*.

In studying pre- and post-inoculation temperatures as they effect the disease reaction, Dr. Sharp determined that temperature sensitive factors were operating in wheat. These factors were found to be minor, additive, non-specific genes for resistance of the "horizontal" type. This pioneering work in understanding the genetics of durable resistance has been of fundamental importance.

An outcome of his research is the development of the winter wheat varieties Crest and Windridge which carry a number of genes of "minor effect" whose main value is their durability or "long life." They have subsequently been grown all over the world in the International Stripe Rust Nurseries where they have retained their resistance. Recently, Krupinsky and Sharp showed that minor effect genes can be found in many of our old susceptible varieties of wheat and that they can be "recovered" by selecting for resistance under environmental conditions which favor the expression of minor effect genes.

Among his professional contributions has been a unique piece of research relating to the effect of air ions on the germination of stripe rust urediospores. This research represents an important contribution to the state of Montana. Noticing that the urediospores would not germinate during short days with low external temperature and wind velocity during the Montana winter, he was unable to determine the factor influencing spore germination until he conducted experiments at the Naval Research facilities in Pt. Barrow, AK. Urediospores germinated well regardless of external environment, and Dr. Sharp determined that it was the presence of large air ions associated with air pollution which was the "factor" affecting urediospore germination. During periods of low temperature and low wind velocity in the winter, air inversions develop in the Bozeman area trapping air pollutants, including large air ions, which invade the laboratory, thus producing the conditions that adversely affect spore germination. Today in Montana, the quality of the air is designated each day based on a scale which is related to the germination potential of stripe rust urediospores.

Dr. Sharp's research efforts in recent years have been directed at a better understanding and utilization of non-specific resistance in both wheat and barley effective against a variety of pathogens, obligate parasites as well as facultative parasites. As principal investigator under a grant from the US-AID program, he has pioneered the use of male-sterile lines of barley in a recurrent selection scheme to develop germplasm with additive, non-specific resistance to diseases such as barley scald, net blotch, and leaf rust. Because of Dr. Sharp's work, cereal breeders can now easily use this system to produce germplasm with non-specific resistance to a number of pathogens.

Dr. Sharp has been active professionally in the American Phytopathological Society, serving on the Genetics Committee, the Epidemiology Committee, and as an associate editor of PHYTOPATHOLOGY; he has also served on the Advisory Board of the American Type Culture Collection.

His research reputation earned him a 1975 von Humboldt Senior Scientist Award allowing him to spend a year in Braunschweig, Germany, working with the late Dr. Eva Fuchs. He has previously been honored by Montana State University, receiving the 1970 Faculty Research Award from Sigma Xi.

As a highly productive cereal pathologist his work has been recognized internationally by CIMMYT and ICARDA, both part of the Consultative Group for International Agriculture Research. He has presented papers before several international Cereal Rust Conferences as well as the 1971 NATO International Epidemiology Symposium and the 1981 NATO Advanced Study Institute on disease resistance.

Anne K. Vidaver

Anne Kopecky Vidaver was born in Vienna, Austria, on March 29, 1938. Her family subsequently emigrated to the United States where Anne grew up in Poughkeepsie, NY. She received a B.A. degree with a major in biology from Russell Sage College in 1960 and a M.A. and Ph.D. degree in bacteriology from Indiana University at Bloomington in 1962 and 1965, respectively.

Few members of our society have started a professional career in stranger circumstances than Dr. Vidaver. She arrived at the University of Nebraska in 1966 with her husband, who had accepted a position on the Lincoln campus. Ann, however, had just received her Ph.D. degree in bacteriology from the University of Indiana-Bloomington under the tutelage of the eminent T. D. Brock. She was supposed to do postdoctoral work with a biochemist in Lincoln, but he decided to leave shortly before her arrival. So she needed a place to work.

With neither an academic home nor specific opportunity to pursue her profession, she systematically sought a place in which she might put her education and training to good purpose. To her good fortune and that of the Department of Plant Pathology, Myron Brakke recognized her special potential in that few in phytobacteriology had a bona fide background in classical bacteriology. He suggested that she represented a real opportunity for the department and chairman Mike Boosalis and phytobacteriologist Max Schuster agreed. Dr. Vidaver was thus urged to consider the opportunities in phytobacteriology.

Dr. Vidaver progressed rapidly from that time in 1966 as a volunteer research worker, to researcher supported on self-engendered research funds until 1972, when she became a tenured faculty member of the Department of Plant Pathology and a full professor in 1979.

Classical training in bacteriology provided Dr. Vidaver with particular viewpoints and laboratory skills. She helped introduce the study of bacteriocins into phytobacteriology and suggested their possibilities as antimicrobial agents in biological control of plant diseases. She literally reopened one area of bacteriophagy with all of its implications with her discovery of the chloroform-sensitive Ø6 phage. She and her colleagues determined that this is the only phage with a double-stranded RNA genome and a divided genome, as well as the only RNA phage with a lipid envelope. Such pioneer investigations resulted in her election as a Fellow of the American Association for the Advancement of Science.

Dr. Vidaver's specific research interests are varied and the spectrum is from applied to basic. With her students and postdoctoral fellows, she has identified a new *Corynebacterium*, *C. michiganense* subsp. *tessellarius*, that attacks wheat; added to our understanding of the epidemiology of corn pathogen, *C. michiganense* subsp. *nebraskense*; and isolated and characterized a number of plasmids from phytopathogenic species of *Pseudomonas* and *Corynebacterium*. Her contributions to our understanding of the taxonomy of the corynebacteria and their epidemiological nuances are related directly to her keen perception of problems and ability to focus bacteriological methodology on their solution. Her research has also included studies of bacterial pathogens in the genera of *Pseudomonas* and *Xanthomonas*, as well as the beneficial bacterium *Rhizobium japonicum*. Her training in bacteriology has also made her laboratory a site for sabbatic leaves for plant pathologists to learn some modern techniques. Thus, the resurgence of phytobacteriology in recent years has, to a significant degree, reflected the efforts of this talented woman, her students and associates.

Dr. Vidaver's research has earned her the respect of her peers and has engendered significant grant support. Her energies have not been limited to research, teaching, and extension, but have also been expended in the interests of our Society at the national and international level. She has been serving as the Society's secretary, has long been an active member and has chaired the Society's Bacteriology Committee. She is often a reviewer for Society publications and has been an associate editor for PHYTOPATHOLOGY. In Nebraska, she has earned recognition as a prominent "Woman in Agriculture" and she is a recent recipient of the Nebraska Agribusiness Club Award.