Fellows

Six members of the American Phytopathological Society are honored as fellows of the Society at the 2000 APS Annual Meeting in New Orleans, Louisiana. Election as a fellow is a reflection of the high esteem in which a member is held by his or her 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. Publication no. P-2000-1113-01O

Margaret E. Daub

Margaret E. Daub was born in Tokyo, Japan in 1952, but moved with her family to the United States at an early age. She received a B.A. in biology, with honors, from the College of Wooster, Wooster, OH in 1974. She completed the Ph.D. degree in plant pathology at the University of Wisconsin under the direction of D. J. Hagedorn in 1979, where she worked on bacterial blight of bean. Upon completion of her Ph.D., Dr. Daub worked as a postdoctoral researcher with P. Carlson at Michigan State University. It was here that she began to make her many significant contributions to science on the role of the phototoxin cercosporin in plant disease, and on the mechanisms by which the toxin-producing *Cercospora* spp. resist toxicity.

Dr. Daub joined the Department of Plant Pathology at North Carolina State University as an assistant professor in 1983, and rose through the ranks to professor in 1993. Currently, in addition to maintaining her research and other professional commitments, she is serving as interim head of the botany department at NCSU.

Dr. Daub has consistently been in the forefront of physiological and molecular research on *Cercospora* spp. and, with a primary focus on resistance to photosensitizing fungal toxins, her exciting findings reach beyond our discipline. The phototoxin cercosporin is produced by many *Cercospora* spp. and appears to play a critical role in the ability of these fungi to parasitize plants. Dr. Daub was the first researcher to uncover evidence that photosensitizing toxins are involved in plant disease, and that the production of singlet oxygen by these toxins is responsible for host plant cell death. Using ESR spectroscopy and fatty acid analysis she determined the mechanism of action of cercosporin on plant cell membranes. She has documented a correlation between the ability of fungi to resist cercosporin and their production of similar toxins and, through comprehensive research studies, shown that previously described defense mechanisms against active oxygen toxicity in other organisms differ from those in *Cercospora* spp.

Through effective integration of cellular, chemical, and microbiological techniques, Dr. Daub showed that *Cercospora* resistance to cercosporin is strongly correlated with chemical reduction of the cercosporin molecule. Although *C. nicotianae* is difficult to manipulate in genetic studies, Dr. Daub's lab produced cercosporin-sensitive mutants and used them to isolate genes involved in resistance. This genetic work led to two unanticipated discoveries of fundamental importance. First, one of the genes involved in resistance was a gene in a previously undescribed pathway for vitamin B_6 synthesis. This finding demonstrated that eukaryotes, archaebacteria, and some eubacteria synthesize vitamin B_6 by a pathway distinct from the well-characterized pathway in *Escherichia coli*. Second, this pivotal discovery showed vitamin B_6 to be a highly efficient quencher of singlet oxygen, a fact previously unrecognized despite extensive surveys of singlet oxygen quenchers. This finding has important implications for human and animal as well as plant health. Presently, Dr. Daub is interfacing her unique discoveries on the molecular biology and genetics of fungal active oxygen resistance with a number of scientists from diverse disciplines.

Dr. Daub also has had an active research program in the more applied field of crop improvement, using varied technologies to improve disease resistance in crop plants. She explored the utility of somaclonal variation to enhance resistance of high-quality tobacco to Granville wilt, and used protoplast fusion technology to transfer *Tobacco mosaic virus* and root knot nematode resistance from one *Nicotiana* spp. to another. She also succeeded in producing transgenic lines of tobacco and chrysanthemum resistant to *Tomato spotted wilt virus* by the introduction of the virus coat protein gene. Professor Daub has done pioneering work in the generation of transformation systems for economically important floral crops such as chrysanthemum and New Guinea impatiens. This work has led to development of a unique chrysanthemum transformation protocol that can be used effectively for multiple cultivars.

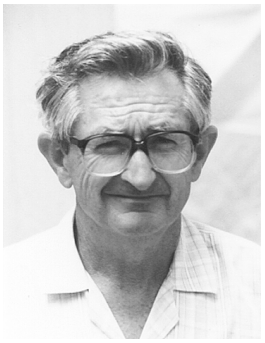
Dr. Daub excels in the classroom at both the undergraduate and graduate levels, consistently being rated as a superb instructor. She currently teaches a graduate course on fungi and their interactions with plants and coteaches Fungal Genetics and Physiology, a course cross-listed in four departments. Dr. Daub works closely in mentoring students and has served as graduate advisor for 12 students. She served as coprincipal investigator and codirector of a USDA National Needs Fellowship on Molecular Crop Protection. She is also a participant in a USDA/DOE/USDA training grant centered on epigenetic events and disease resistance in transgenic plants.

In addition to her scholarly research and educational contributions, Dr. Daub has contributed extensively through her editorial appointments, and by her membership and leadership in local and national committees and panels. She has served APS as associate editor, senior editor, and editor-in-chief of *Phytopathology*, as well as chair of the APS Publications Board and a member of APS Council. Dr. Daub has served on grants panels for the NSF cell biology program, and served as both a member and panel manager (1998 to 1999) of the USDA-NRI Plant Pathology Panel. She also has worked with CSREES in reviewing a number of plant pathology departments and other research units.

Dr. Daub has been consistently available to high school, junior high, and grade school students interested in conducting research projects in her laboratory. In addition, she has organized and participated in workshops and presentations at local schools to introduce young people to the disciplines of plant pathology, microbiology, and botany.

The significance and quality of Dr. Daub's research and overall contributions are widely recognized throughout the scientific community. In 1991 she received the APS Ciba-Geigy Award in recognition of her outstanding research. She has been an invited speaker at symposia organized by diverse scientific societies, including the American Chemical Society, the American Society for Photobiology, the Society for In Vitro Biology, as well as APS and other agricultural societies. She participated in the national ESCOP/ACOP leadership course in 1994 to 1995. Dr. Daub was a founding member of the Phi Beta Kappa chapter at NCSU and remains active in campus honor societies.

Robert Alexander McIntosh



Robert Alexander McIntosh was born in Gloucester, New South Wales, Australia, and grew up on a dairy farm. He was educated at the University of Sydney, where he received his B.S. Agr. (1960), M.S. Agr. (1963), and Ph.D. (1969). His Ph.D. focused on the genetics and cytogenetics of flag smut resistance in wheat. He has spent his entire professional career at the University of Sydney, as a professional officer from 1960 to 1963, research fellow from 1963 to 1973, and senior research fellow from 1973 to 1980. He was appointed director of rust research (level of associate professor) in 1980, and in 1993 he was promoted to a personal professorship of cereal genetics and cytogenetics.

Dr. McIntosh has a very distinguished career and is recognized for his international reputation in research on rust diseases of cereals. Some of his major achievements include contributions to the collection of aneuploid stocks of Chinese Spring wheat, chromosome location and genetic linkage studies in wheat, the naming of seven genes for resistance to leaf rust, 14 genes for resistance to stem rust, and three genes for resistance to stripe rust. Since 1968, he has coordinated and published the internationally accepted catalogue of genetic nomenclature of wheat. He introduced the method of using monotelodisomic heterozygotes as female or selfed parents for telocentric mapping. He also designed and conducted appropriate mutational analyses that demonstrated that one gene conferred resistance to pathogens that incited two different diseases. From his genetic studies, he developed white-seeded derivatives from red-seeded alien translocation stocks enabling the commercial exploitation of the *Lr24* and *Sr24* resistance alleles in Australian white-seeded wheat cultivars. Earlier derivatives carried a gene for red seededness in the alien chromosome segment. His research also led to the identification of the initial pathotype of *Puccinia striiformis* f. sp. *tritici* following its introduction into Australia in 1979, and the identification of the pathotypes of *P. graminis* f. sp. *tritici* that attack triticale in Australia. He showed that the latter pathotypes were of no immediate threat to wheat cultivars. His studies have produced approximately 130 publications.

Research undertaken and supervised by Dr. McIntosh has had continuous support from the Grains Research and Development Corporation of Australia. In addition to the studies of genetics and cytogenetics of rust resistance, projects under his direction or involvement have included cereal rust pathogenicity surveys conducted as part of Australian National Cereal Rust Control Program, international collaborative wheat rust projects with India and Pakistan, a global surveillance of the wheat stripe rust pathogen in collaboration with CIMMYT and ICARDA, and recently, development of a component of an Australian collaborative project on wheat breeding in Sichuan, China.

Dr. McIntosh has presented invited papers and delivered keynote addresses at approximately 25 international congresses and meetings in numerous countries in Europe, Asia, North America, and Australia. He has served as advisor and consultant for research programs at institutions in the United States and South Africa, and he has been invited as a guest lecturer at universities and research institutes in the United States, China, and Mexico. He currently serves on the editorial panels of *Plant Breeding* (Germany), *Euphytica* (the Netherlands), *Cereal Research Communications* (Hungary), and *Wheat Information Service* (Japan). A long-standing member of APS, he organized and chaired a symposium on the genetic control of disease resistance at the Sixth International Congress of Plant Pathology, Kyoto, Japan.

Dr. McIntosh has supervised six graduate students and is currently an advisor of five students. He has occasionally lectured to students in agronomy, plant breeding, and plant pathology. He has received several awards for his contributions to agricultural science including the Farrer Memorial Medal, which commemorates the work of pioneer wheat breeder William Farrer, in 1976, the Medal of the Australian Institute of Agricultural Science in 1987, and was elected a fellow of the Australian Institute of Agricultural Sciences in 1988 and fellow of the Australian Academy of Science in 1993.

Robert D. Riggs

Robert D. Riggs was born 15 June 1932 in Pocahontas, AR. He received his B.S.A. and M.S. degrees from the University of Arkansas and received a Ph.D. in 1958 from North Carolina State College. He immediately assumed a position at the University of Arkansas and was appointed a professor in 1967. His entire professional career has been focused on efforts to find economical and environmentally safe methods to control soybean cyst nematode (SCN), one of the most serious pests of soybeans in the United States. In order to develop control measures for SCN, Riggs extensively studied the genetic variability of both the nematode and the soybean. With D. Schmitt, he defined 16 possible races of SCN using differential soybean varieties and encouraged development of standardized methods to determine races. With his students, Dr. Riggs further defined races using serology as well as isozyme and DNA analyses. Collaborative work with C. E. Caviness worked to determine the genetics of resistance to SCN and has resulted in the release of six disease resistant cultivars. Further studies have identified specific ultrastructural differences in the response of susceptible and resistant soybeans.

Dr. Riggs has also conducted research into the combined use of crop rotation and resistant soybean cultivars for the control of SCN. From studies of host range, genetic variability of the nematode, and race shifts in SCN resulting from prolonged use of resistance genes, Dr. Riggs developed a 3-year-rotation schedule that consists of a susceptible soybean cultivar, a resistant soybean cultivar, and a nonhost such as grain sorghum. The rotation schedule, which reduces SCN population levels and slows race shifts, is designed to enhance durability of resistant cultivars. It is the current SCN control strategy recommended by the Arkansas Cooperative Extension Service and is used by growers throughout the South.

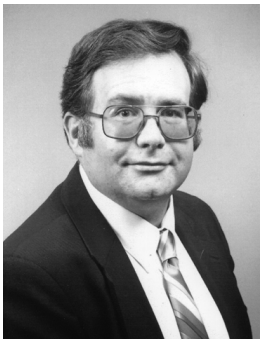
Currently, Dr. Riggs is exploring the effectiveness of a fungus for the biological control of SCN. While investigating the reason for an unexpected decline in the SCN population level in a field, a student of Dr. Riggs discovered a fungus-infecting cysts and eggs. In both greenhouse and field tests, the isolated fungus has reduced SCN population levels. Further research has demonstrated at least four strains of the fungus, which differ in the stage of the nematode that is most easily parasitized. Work with industry is focused on producing formulations that will be effective and efficient for field application. Possible application for control of reniform and root-knot nematodes is also under study.

Dr. Riggs has provided leadership in the testing of soybean cultivars for resistance to SCN that led to development of resistant cultivars and better variety selection for growers. In 1981, he was the leader of the United States Germ Plasm and Biological Control Team to China.

Dr. Riggs teaches a core graduate course in nematology and has provided dedicated service on many important committees at the University of Arkansas. He is a charter member of the Society of Nematology, where he served as editor-in-chief of the *Journal of*

Nematology from 1987 to 1990, and was president from 1993 to 1994. Dr. Riggs has received the Distinguished Service Award from the Southern Soybean Disease Workers, the Distinguished Faculty Achievement Award for Research from the University of Arkansas Alumni Association, the Outstanding Researcher of the Year Award from the Arkansas Association of Cooperative Extension Specialists, the USDA Honor Award in Environmental Protection, the Outstanding Plant Pathologist Award of the Southern Division of APS, and is a fellow of the Society of Nematology.

Charles Lee Campbell



Charles Lee Campbell was born in Denver, CO on 5 July 1953. He earned both B.S. and M.S. degrees in plant pathology at Colorado State University in 1974 and 1976, respectively, the latter under the direction of J. Altman. After receiving his Ph.D. degree from Pennsylvania State University in 1978, under the direction of S. P. Pennypacker, Dr. Campbell became an assistant professor of plant pathology at North Carolina State University in 1979. He was promoted to associate professor in 1985 and to full professor in 1991.

Dr. Campbell was, first and foremost, a pioneer leader in the quantitative epidemiology of plant diseases, particularly root diseases. Through his innovative research, including extensive collaborative projects, he introduced new and rigorous approaches for ecological studies of soilborne and foliage pathogens and the epidemiology of related diseases. These contributions focused on statistical and predictive models for characterizing pathogen spatial patterns, pathogen dispersal patterns, and a range of factors that affect pattern ontogeny during the development of disease epidemics. He was a pioneer in using electronic data collection and management devices, and guided development of software for statistical description and analysis of spatial and temporal patterns of epidemic development. He also documented the effects of environment as well as host genotype and pathogen variant on the shape of disease progress curves and the rate of disease progress. His contributions to our understanding the nature of spatial patterns of soilborne pathogens, including a range of nematode species and fungi, provided fundamental information that is employed worldwide to improve population assessment technologies so essential to precision agriculture.

Dr. Campbell collaborated on numerous pathosystems in both temperate and tropical climates that ranged from Phytophthora root rot and leaf blights, tobacco blue mold, charcoal rot, papaya ringspot, *Cercospora* on clover, and *Cylindrocladium* on peanut and a variety of nematode species. Dr. Campbell knew no boundaries of nationality, gender, ethnicity, or age. He worked with international scientists and students from countries as diverse as Mexico, the Netherlands, Angola, Nepal, Egypt, Peru, Scotland, and a variety of Asian countries. He participated in regular instruction of introductory epidemiology in Mexico and in an epidemiology project of classified status in South America.

In 1989, he accepted a leadership position in the agricultural lands component of the Environmental Monitoring and Assessment Program. This provided an opportunity to extend principles of epidemiology on a regional scale toward development of a paradigm of environmental health. His involvement with this program led to research in investigation of effects of global climate change on crop production, use of nematode communities as bioindicators of soil quality, and development and evaluation of numerous other indicators of use in monitoring agroecosystem health in related fields of entomology, landscape ecology, soil science, and agronomy.

Dr. Campbell was a scholar in the finest sense of the word. In addition to his world-class reputation as a plant pathologist, he had a desire to understand and support research in other disciplines that would enrich his own. He had a passionate desire to understand the complex historical forces that shaped plant pathology and continue to influence the science today. His last book, *The Formative Years of Plant Pathology in the United States*, underscores the central role that plant pathology played in formative conceptual and institutional developments within biology and the agricultural sciences generally. This book has received glowing reviews from both the scientific and historical communities.

Dr. Campbell was superb in working with graduate and undergraduate students. This included outstanding teaching of courses on botanical epidemiology, diseases of field crops, and the history of plant pathology. He also served as an advisor or co-adviser on thesis research projects because of his exceptional expertise in statistics, epidemiology, and related modeling. His insight, knowledge, and even temperament, as well as his highly productive programs, attracted graduate and undergraduate students. This is documented through his working in an advisory capacity with more than 100 students at both levels.

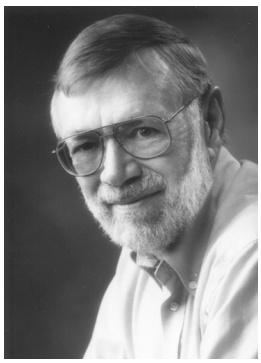
Dr. Campbell also sought out involvement in committees and councils specifically aimed at identifying and shepherding outstanding students. Approximately 50% of his time commitment for 1994 to 1997 was devoted to his being director of the University Honors Council. He held similar appointments on the University Scholars Program Advisory Board (1994 to 1996), the Park Scholarship Committee (1996), and as chair of the Parks Scholars Faculty Advisory Committee at NCSU since 1997.

Dedicated service to plant pathology and to APS was the essence of Dr. Campbell's professional life. While managing widely recognized research and academic programs, he always was deeply devoted to APS. This is reflected in his work on many committees and service as an officer. Dr. Campbell also was president and secretary-treasurer of the Southern Division of APS. He completed a term as editor-in-chief of *Phytopathology News*, and served as president of APS.

Professional honors and awards for Dr. Campbell include his membership in Sigma Xi, Gamma Sigma Delta, and Phi Beta Kappa, and the Commendation for Meritorious Service by North Carolina State University. He was elected a fellow of the American Association for the Advancement of Science in 1997.

The combination of Dr. Campbell's research and other scholarly publications resulted in enviable achievement. His national and international recognition was reflected by frequent guest lectures, seminars, and other invited presentations, totaling approximately 55 talks. In addition to 77 refereed research articles, 30 book chapters, and seven textbooks, he had more than 100 other publications. Clearly, his epidemiology and history of plant pathology textbooks are unmatched contributions to our science.

Laveran W. (Pete) Timmer



Laveran W. (Pete) Timmer was born in West Olive, MI. He received his B.S. in botany and plant pathology from Michigan State University, and completed studies for his Ph.D. at the University of California, Riverside, in 1969. Midway through his graduate program, in which he worked on the genetics and physiology of *Phytophthora capsici* and *P. drechsleri* under professors D. C. Erwin and G. A. Zentmyer, he spent 2 years as a Purdue Fellow in Latin America. His experiences in citrus diseases in Concordia, Argentina, plus development of a fluent command of Spanish, initiated his career in citrus

pathology and involvement in fungal, viral, and bacterial diseases affecting citrus throughout North and South America. Dr. Timmer is now considered the leading citrus pathologist in the Americas and is known worldwide for his pathology and citricultural expertise.

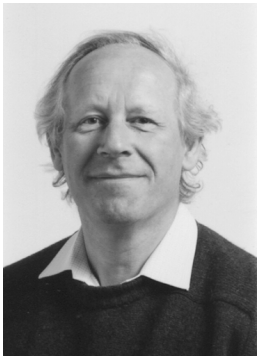
Dr. Timmer began his academic career in 1970 as an assistant professor at Texas A&I University, with research, extension, and teaching responsibilities in citrus pathology for the Rio Grande Valley. During his 8-year tenure in Texas, Dr. Timmer made a substantial contribution in the crop loss assessment and management of *Phytophthora*, nematodes, and fungal diseases of citrus. However, his most far-reaching discovery was the similarities between the ringspot symptoms of grapefruit leaves in Texas and a form of citrus psorosis in Argentina. He demonstrated that the *Texas ringspot virus* was mechanically transmissible from citrus to citrus as well as to many other herbaceous plants. Further collaboration with S. M. Garnsey, USDA, Orlando, confirmed that mechanically transmitted isolates of ringspot virus caused typical psorosis bark scaling. This finding led to its purification through joint research efforts with K. S. Derrick and proposal of a new group of viruses, the *Ophioviruses*. Rapid detection techniques are now available for diagnosis in the field and for budwood certification programs. In 1978, Dr. Timmer was recruited as an associate professor of plant pathology to the University of Florida, Citrus Research and Education Center (CREC), at Lake Alfred. In 1983, he was promoted to professor. In Florida he expanded the programs on root health and tree declines he initiated in Texas. He was one of the first to develop methods for evaluation of systemic fungicides for control of Phytophthora foot rot and root rot of citrus. Dr. Timmer identified *P. palmivora* as a new major species attacking citrus in Florida and established quantitative assay procedures that allowed *Phytophthora* management by commercial laboratories.

His greatest efforts have been in the studies of the etiology, epidemiology, and control of fungal and bacterial diseases of citrus fruits and foliage. His foremost contribution in foliar diseases of citrus occurred when postbloom fruit drop (PFD) disease caused by *Colletotrichum acutatum* was discovered in Florida in the mid-1980s. Dr. Timmer, along with his students, developed an effective program to address this localized but increasingly serious problem to the citrus industries of the Americas. The mechanism of over-seasoning of the PFD was demonstrated, and the disease cycle was defined. A model, developed to predict disease severity, resulted in yield increases up to 500%. It reduced fungicide applications during the bloom period and has been widely adopted by Florida growers. In 1996, Dr. Timmer was awarded the Lee M. Hutchins Award by APS for his series of publications in *Phytopathology* and *Plant Disease* on this disease. Through collaborations in Australia and Argentina, he has clarified the etiology of scab diseases and the epidemiology of citrus canker bacterium. He has advised USDA-APHIS on the status of several exotic foliar pathogens as disease threats to U.S. citrus production.

One of the greatest challenges of his career in Florida has been citrus blight, a serious decline disease of unknown etiology believed by many to be a nutritional problem. Although it has baffled citrus pathologists for over 100 years, Dr. Timmer, with colleagues at CREC, helped to characterize citrus blight, and developed useful diagnostic tests. He provided leadership to studies that demonstrated transmissibility of citrus blight by root grats. This focused efforts on graft transmissible, systemic pathogens as causal agents.

As an internationally known expert on citrus diseases, Dr. Timmer has received many invitations to participate in workshops, symposia, and consultations. He is author or co-author on more than 145 journal papers, book chapters, and review articles, as well as numerous technical reports. He has trained several students and colleagues from South America and the Mediterranean. He was an assistant director of CREC from 1991 to 1993. Dr. Timmer was associate and senior editor of *Phytopathology* from 1992 to 1996. He is the senior editor of and major contributor to the Compendium of Citrus Diseases and the Citrus Health Management Guides, the leading publications on citrus pathology from APS Press. He received the International Organization of Citrus Virologists Special Award for Exceptional Research in 1989 and the Citrus Research and Educational Scientist of the Year Award in 1995. Pete is an avid bird watcher and a member of the Audubon Society. He has identified over 570 species in North America and 2,200 species in his world travels. He always looks forward to extending those lists.

Robert Hull



Roger Hull was born on 11 April 1937 Hackthorn, Lincoln, England. His interest in plant virology developed early because his father, also a plant virologist, had a laboratory in the house and the glasshouse was behind it. After receiving his B.A. in botany from Cambridge University, he obtained a staff position as a demonstrator at Wye College, the Agricultural College of London University, where he studied the epidemiology of viruses of sweet peas for his Ph.D. He then traveled to Makerere University, Kampala, Uganda, to assist in teaching agricultural botany and conduct epidemiological studies on the spread of *Groundnut rosette virus* by sitting in the field and watching aphids land on the plants. This led to the concept of the "edge effect" resulting from aphid vectors that are attracted by the contrast between plants and the soil.

Soon after returning to England, Hull joined R. Markham's Virus Research Unit in Cambridge. Hull moved to the John Innes Center in Norwich in 1968 when R. Markham was appointed director. His research focused in a new direction on the physical structure and composition of viruses. This is exemplified by the year-long sabbatical Dr. Hull spent in the laboratory of R. J. Shepherd at the University of California, Davis. During this time Hull began work to characterize *Cauliflower mosaic virus* (CaMV). Because of its DNA genome, CaMV was particularly attractive for molecular biological studies that began in the late 1970s. He and his colleagues were leaders in dissecting the molecular biology of this virus and were the first to recognize that its replication involved reverse transcription.

Dr. Hull has significant interests directed toward virus taxonomy and application of molecular approaches to conferring resistance to plant viruses. Several of his projects involve tropical crops and include a comprehensive investigation of rice tungro disease in Southeast Asia, rice hoja blanca in Central and South America, *Banana streak virus* in Nigeria, viruses of yam and taro worldwide, and, in collaboration with colleagues in China, making vectors noncompetent for transmission of *Rice stripe virus*.

Dr. Hull, while focusing on a desire for basic knowledge of the interactions that viruses have with plants and their insect vectors, has major interest in using such knowledge for designing resistance in plants to virus infection. He has studied the detailed interactions involved in cell-to-cell movement of viruses with model systems and developed information on the molecular biology of economically important viruses, especially from tropical countries. Using information gained from model systems, Hull has coupled investigations of new approaches to making plants resistant to viruses with assessment of possible risks accruing from field release of plants transformed with viral nucleic acid species.

His blending of basic, applied, and international studies is exemplified by an intercontinental collaboration that discovered the very unique finding that the DNA-containing *Banana streak virus*,

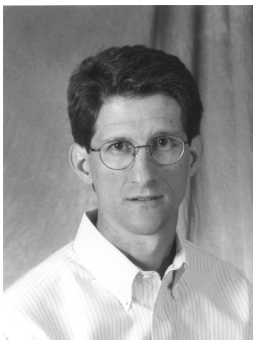
affecting bananas and plantains, was integrated into the genomes of some cultivars. This was discovered when banana lines were tissue cultured for commercial production. Activation of viral integrants in certain cultivars could cause problems in tissue culture and breeding programs. Collaborative efforts devised a polymerase chain reaction-based system to detect germ plasm containing the integrated genomes. Work is under way to investigate methods to suppress activation in cultivars that are widely grown.

After statutory retirement from the John Innes Center in 1997, Dr. Hull was granted the first Emeritus Research Fellowship given by that institution. This has enabled him to continue several projects. Among these is the writing of the fourth edition of the seminal text in his field, *Plant Virology* (first authored by R. E. F. Matthews). Hull continues to be a highly prolific author. His over 220 publications are consistently characterized by their high quality and significant impact on plant virology.

Ruth Allen Award

The Ruth Allen Memorial Fund was established in 1965 by gifts from the estate of Dr. Ruth Allen through the generosity of her heirs: Sam Emsweller, Mabel Nebel, Hally Sax, and Evangeline Yarwood. The award, consisting of a certificate and income from the invested fund, is given for outstanding contributions to the science of plant pathology.

James C. Carrington



James C. Carrington was born on 28 September 1960 in Redondo Beach, CA. He obtained a B.S. in plant sciences from the University of California-Riverside in 1982 and conducted undergraduate research with Bill Dawson. Dr. Carrington enrolled in graduate school at the University of California-Berkeley, where he received his M.S. in 1984 and Ph.D. in 1986 under the tutelage of Jack Morris. Upon graduation, he obtained a postdoctoral fellowship from NIH for research in Bill Dougherty's lab in the Plant Pathology Department at North Carolina State University. In 1987, he moved with Dr. Dougherty to the Department of Microbiology at Oregon State University. After appointment as assistant professor at Texas A&M University in 1988, he rose through the ranks to professor in 1996 before moving to the Institute of Biological Chemistry at Washington State University in 1997.

Dr. Carrington has made several major discoveries that are described in more than 64 published papers. These findings center around the cell biology, biochemistry, genetics, and virus–host interactions involving potyviruses. They have provided a general model for the events involved in the replication, movement, and pathogenesis of a large number of viruses in this group. As a postdoctoral fellow with Bill Dougherty, Dr. Carrington carried out a series of innovative investigations that provided the first systematic analysis of proteolytic processing of the polyprotein translation product of the potyviruses. In these and subsequent studies, he developed novel approaches by in vitro and transgenic plant expression methods to identify the three proteolytic enzymes encoded by potyviruses. He also employed extensive genetic approaches with engineered strains of *Tobacco etch virus* (TEV) to assign multiple functions to TEV-proteins in genome replication, cell-to-cell movement, and long-distance movement.

Other findings of general significance for virology and plant biotechnology include identification and application of translational enhancers, identification of some of the first recognized nuclear localization signals in plants, and development of potyvirus-based expression vectors for delivery of foreign genes to plants. Over the past several years, Dr. Carrington has increasingly focused on host functions that contribute to virus susceptibility or nonsusceptibility. While advocating genetic and genomic approaches to virus–host interactions in model systems, he developed novel genetic screens to identify and clone several genes contributing to these phenotypes. Among his most recent findings are that HCPro, a potyviral gene product, functions as a suppressor of posttranscriptional gene silencing (ptgs). This finding provided evidence that ptgs, a process studied extensively with transgenes, naturally functions as an adaptive antiviral response in plants. It led to a model describing the role of ptgs suppression during systemic infection by viruses.

Dr. Carrington has established an international reputation. His contributions have been recognized in a variety of formats including an NIH Individual National Research Service Award and an NSF Presidential Young Investigator Award. Dr. Carrington has made numerous seminar and colloquia presentations, including an address at the Milton Harris symposium in honor of Bill Dougherty, the keynote address at an annual retreat for CEPRAP at the National Science Foundation Research Center at the University of California, Davis, a state-of-the-art lecture and a major symposium address at the American Society of Virology meeting, a colloquium address to the International Congress of Plant Pathology in 1998, and a plenary lecture at the 1999 International Congress of Virology.

Dr. Carrington has provided substantial service to plant virology and to the plant sciences community during his career. In an editorial capacity, he is a co-editor of *Plant Cell*, on the editorial board of *Virology*, and participates in ad hoc reviews for a number of other journals. Dr. Carrington also participated in the virology study section for NIH, was a panel member for the USDA Competitive Grants Initiative, and is an advisory council member for The Sainsbury Laboratory at The John Innes Center.

William G. Dougherty

William G. Dougherty was born in Washington D.C. on 10 March 1952. He obtained a B.S. in biology from Rutgers University in 1974; thereafter, he enrolled at the University of Florida for graduate studies. Dr. Doughery received an M.S. in botany and a Ph.D. in microbiology and cell science (with a minor in plant pathology) in 1979 under the direction of Dr. Ernest Hiebert. During his Ph.D. program, Dr. Dougherty developed his career-long interest in potyviruses, a large and destructive group of plant viral pathogens found worldwide. After graduation he did postdoctoral research with Dr. Paul Kaesberg in the biophysics department at the University of Wisconsin as an NIH fellow studying the gene expression strategies of *Turnip crinkle virus*. He then moved to the Department of Plant Pathology at North

Carolina State University as an assistant professor in 1980, where he subsequently established an active research program focusing on structure and expression of potyvirus genomes. In the spring of 1987, Dr. Dougherty moved to the Department of Microbiology, Oregon State University. He continued his research interests in potyviruses and attained the rank of full professor in 1990. After his seminal research into the mechanisms of pathogen-derived resistance, Dr. Dougherty retired to pursue other interests in 1996.

Dr. Dougherty achieved many milestones in plant virology in his career, including the cloning and sequencing of the *Tobacco etch virus* (TEV) genome. Analysis of this information conclusively demonstrated that potyvirus genomes are translated initially as a single, large polyprotein that is then cleaved to form the smaller functional products. After the TEV sequence was complete, research in Dr. Dougherty's lab focused on the function of potyvirus proteins. Although the amino acid sequence of the encoded proteins could be deduced from the nucleotide sequence, experimental demonstration of protein functions during the infection cycle was lacking. To provide more definitive information in this area, Dr. Dougherty initiated a major thrust to understand how proteolytic processing of the polyprotein was initiated. Along with Jim Carrington, he identified two of the potyvirus-encoded proteinases that catalyze polyprotein processing. Using molecular genetic approaches, they found that these proteinases autoproteolytically excise from the polyprotein. Importantly, these studies led him to propose that differential processing characteristics of the potyviral cleavage sites serve as a regulatory mechanism to activate or deactivate certain proteins at specific times during the infection cycle. This series of detailed experiments solved many of the outstanding problems associated with potyvirus gene expression.

In 1992, Dr. Dougherty extended his research to begin a series of experiments to deduce the mechanisms whereby plants containing viral transgenes exhibit resistance to viruses. In the process, John Lindbo and Dr. Dougherty made the astounding discovery that transgenic plants expressing nontranslated forms of coat protein messenger RNA developed extreme resistance or immunity to infection by TEV and *Potato virus Y*. In a series of insightful experiments, Dr. Dougherty demonstrated that posttranscriptional gene silencing was at the core of the resistance. In a very short time, his findings developed into a highly competitive field of research involving dozens of labs. Dramatic recent progress in the field of gene silencing in plants, fungi, nematodes, fruit flies, and mammals can be traced back to Dr. Dougherty's pioneering work. These collective endeavors have exciting fundamental and practical potential with widespread implications for resolving plant and animal health problems as well as contemporary issues in gene regulation.

Throughout his career, Dr. Dougherty's research was supported by competitive grants from the NSF, the USDA, and the Department of Energy. His commendable record of service to science in general, and to APS in particular, provided substantial contributions to the scientific community. Among other activities, he served several years as an associate editor for *Virology* and *Molecular Plant-Microbe Interactions*. Dr. Dougherty was on the advisory committee for establishment of MPMI and he worked unselfishly to help guide the development of the journal and to ensure the high quality of papers published. Dr. Dougherty was also an influential participant in the peer review process of grant proposals submitted to several federal agencies including the USDA, NIH, NSF, and DOE.

Excellence in Extension Award

This award, established in 1988 by APS Council, is in recognition of excellence in extension plant pathology. The award is presented to those involved in formal plant pathology extension with recognized superior contributions in creating, developing, or implementing extension-related programs or materials, or those who have provided significant leadership in an area of extension plant pathology.

Mike Ellis

Mike Ellis received his B.S. degree in education and M.S. degree in botany from Eastern Illinois University in 1971 and 1973, respectively. He then attended the University of Illinois, receiving his Ph.D. in plant pathology in 1976 and during that period spent 1 year at CIAT in Cali, Columbia, conducting research on seedborne fungi of dry bean. He then joined the faculty at the University of Puerto Rico, Mayaguez, as assistant professor to conduct research on seedborne fungi of tropical grain legumes and to teach tropical plant pathology. In 1979, Dr. Ellis joined the faculty of The Ohio State University at Wooster as assistant professor with responsibility for fruit crop diseases. He was promoted to associate professor in 1983 and professor in 1988. His current appointment is 55% research and 45% extension.

Dr. Ellis has established a nationally respected and innovative extension program on management of fruit crop diseases. He emphasizes the integrated use of disease resistance, biological and cultural control, disease epidemiology, and targeted fungicide use in disease management programs. His program is an excellent example of how an extension research appointment should function, in that he conducts problem-solving research that is directly useful to the fruit industry. His extension efforts have significantly increased the use of integrated disease management strategies by fruit growers in Ohio and throughout the Midwest. He developed and published disease management guidelines for apple, strawberry, brambles, and grapes. These have been distributed (by the North American Strawberry Growers Association and The North American Bramble Growers Association) to strawberry and bramble growers in Ohio and throughout the north central and other production regions. In recognition of this work, he received awards of appreciation from the Ohio Fruit Growers Society and The North American Strawberry Growers Association. His research on the management of strawberry fruit rot diseases is internationally recognized. In recognition of his excellence in research, he received the APS Ciba-Geigy Agricultural Achievement Award in 1988.

Dr. Ellis is known as a great communicator within the fruit crop community and uses a wide variety of traditional and innovative processes to disseminate information. Since 1994, he has worked closely with the communications section of OSU Extension to place all extension fact sheets and bulletins of the Department of Plant Pathology on the web. This has resulted in wide dissemination of disease management information through the Internet and has greatly facilitated the use of color figures for describing disease symptoms. Dr. Ellis's educational programs have also emphasized a personal interaction with clients that include countless

homeowners as well as commercial fruit growers. He is well known for his clear, organized, and uncluttered explanations on all aspects of fruit disease biology and control. He has made over 475 presentations at fruit schools, IPM workshops, county agent in-service training sessions, and master gardener training sessions within Ohio, and has presented over 85 invited presentations at extension programs across the United States and in other countries. He has authored over 500 papers in trade journals, fact sheets, extension bulletins, published proceedings, and technical reports. He has also produced numerous VHS tapes and slide sets, and contributes regularly to newsletters for tree fruit, small fruit, and grapes. In addition to these publications, he somehow has found time to write or cowrite 90 refereed journal articles.

Dr. Ellis maintains a strong commitment to multidisciplinary and regional cooperation in extension programs. In 1990, he worked closely with extension specialists in plant pathology, entomology, and horticulture in the Midwest Fruit Specialists Working Group to develop regional spray guides for commercial tree fruit and small fruit growers. These spray guides are revised annually, and Dr. Ellis continues to coordinate revision of the pathology sections. He also organized the development of the Midwest Small Fruit Pest Management Handbook, published in 1996, and co-edited the Midwest Tree Fruit Handbook, published in 1993. These publications complement the spray guides and are revised every 3 to 4 years. Together, these publications serve as the main sources of information on disease, insect, and weed management for fruit growers in 10 states across the Midwest. They are excellent examples of the multidisciplinary regional cooperation at which Dr. Ellis excels. The great importance of the Midwest Small Fruit Pest Management Handbook was recognized by the American Society of Horticultural Sciences, which awarded the authors the 1998 Extension Division Education Materials Award for Commercial Fruit, Vegetable, and Herb Production.

Extension specialists around the United States clearly consider Dr. Ellis as a major authority on fruit disease management and extension education. In the last few years he has expanded his geographic interests by serving as one of the leaders in the USAID-funded Integrated Pest Management Project in Ecuador. Here he contributes his knowledge to the improved management of fruit crop diseases in this country. His contributions were recently recognized at The Ohio State University when he received the Gamma Sigma Delta Award of Merit for Excellence in Extension. This award is given to only one person annually in the college.

Dr. Ellis has an outstanding record of service to his department and APS. He currently serves as extension coordinator for the department at Ohio State. Within APS, he is currently serving a second term on the Extension Committee and is a very active board member for the Office of Public Affairs and Education, representing the interests of extension. He has also served on the seed pathology, chemical control, and the new fungicide and nematicide data committees. He served as the small fruit and stone fruit section editor of *Fungicide and Nematicide Tests*, senior editor of the scientific journal *Plant Disease*, and was the organizing editor and one of the major writers for the *Compendium of Raspberry and Blackberry Diseases and Insects*.

Dr. Ellis is an exceptional colleague and extension specialist whose good humor, enthusiasm, and commitment are emblematic of our society and the Excellence in Extension Award.

Lee M. Hutchins Award

The Lee M. Hutchins Fund was established in 1979 by gifts from the estate of Dr. Lee M. Hutchins. The award, consisting of a certificate and income from the invested fund, is made for the best contribution to basic or applied research on diseases of perennial fruit plants (tree fruits, tree nuts, small fruits and grapes, including tropical fruits but excluding vegetables). The results of the research must have been published in an official journal of the Society.

Gareth Hughes

Gareth Hughes grew up in Manchester, in northern England, and attended the University of York, where he received both a B.A. in biology in 1972, and a Ph.D. in population genetics and ecology in 1978. He was a lecturer in biometrics at the University of the West Indies, Trinidad, from 1977 to 1981. He returned to the U.K. in 1981 to an appointment as an agricultural systems analyst in the Crop Production Advisory and Development Department of the East of Scotland College of Agriculture, Edinburgh. In 1983, he accepted a position as a lecturer at the University of Edinburgh in the Department of Agriculture, where he has taught quantitative biology, biometrics, and crop science. In 1996, he was promoted to senior lecturer in the University's Institute of Ecology and Resource Management. An active member of APS, Dr. Hughes has served as chair of the Plant Disease Losses Committee and organized the 1997 APS/ESA symposium on sampling. He is a frequently invited speaker at U.S. and international meetings.

Dr. Hughes's early career focused on crop ecology, with an emphasis on the determinants of crop yield. His research led to the realization that the spatial pattern of crop plants, and their pests and diseases, were key determinants of yield loss. In a series of pioneering studies, he established the fundamental relationships between crop yield and the spatial heterogeneity of pests using integrated crop physiological and ecological principles and innovative linear and nonlinear statistical modeling. His first contribution to the plant pathology literature was a hallmark paper that demonstrated the importance of patterns of disease in determining crop yield.

In the 1980s, Dr. Hughes realized that existing descriptions of spatial patterns of plant diseases were inadequate both for understanding the spatio-temporal mechanisms of disease progress and for predicting crop loss in relation to disease intensity. The methodology used for quantifying spatial patterns of disease at that time was essentially borrowed from other disciplines such as ecology and entomology, and often had little relevance to the statistical properties of plant disease incidence and severity. For the past decade, Dr. Hughes has committed a major portion of his research effort toward developing the methodology for quantifying patterns of disease incidence, and applying this methodology in basic and applied studies of diseases of fruit crops, especially grapes, pineapple, and citrus.

In collaboration with Dr. Larry Madden, he first showed that the pattern of disease incidence is characterized by a binary power law model, consistent with the use of the beta-binomial probability distribution to describe observed patterns of disease incidence. Then, in a recent series of key papers related to the problem of sampling for disease, Dr. Hughes and colleagues showed that the

spatial pattern of disease is fundamental for the determination of the proportion of sampling units that are diseased. They showed that the mean disease incidence and degree of aggregation present at one level in a spatial hierarchy could be used to predict the proportion of sampling units that are diseased at another level, without need for curve-fitting. This relationship was demonstrated empirically for grape downy mildew disease, citrus tristeza, and citrus scab. The great significance of the work is in its integration of quantitative ecology and statistics to show both how aggregation of disease affects epidemic rates across hierarchical scales, and how to predict disease incidence at the lower level in a spatial hierarchy based on observations of disease incidence determined solely at the upper level. The latter point has immense implications for efficient sampling of large areas for disease incidence.

Dr. Hughes and colleagues coined the term "hierarchical sampling" to describe the field implementation of these methods in a cost-efficient approach to determine the incidence of citrus tristeza. This used immunological detection methods and bulked sample analysis to identify focal areas of infection in large citrus groves. This work linked together methodology pertaining to group-sampling and statistical ecology, and Dr. Hughes's innovative theoretical work on spatial pattern analysis and cluster sampling, to achieve real-world advances in the efficient management of a serious disease problem. This new sampling approach is now standard for *Citrus tristeza virus* screening in California and elsewhere.

To adapt the hierarchical sampling method to deal with aggregated patterns of disease, Dr. Hughes and Dr. Tim Gottwald developed methods to characterize the effects of aggregation on the relationship between disease incidence at two levels in a spatial hierarchy. The approach links generalized linear modeling and group-sampling theory to provide an empirical disease prediction method based on samples of groups of trees. He recently also worked with Madden to develop an alternative and more general method of prediction of the effects of patterns of disease in hierarchical sampling based on calculation of a new type of effective sample size that is appropriate whenever the beta-binomial distribution describes patterns of disease incidence, but does not require any parameter estimation based on observed data.

During the past decade, Gareth Hughes has used real-world disease problems in fruit crops as model systems for the development of methodology for basic research in epidemiology and plant disease losses. The results of these basic studies have provided new innovative approaches for the management of diseases of citrus, pineapple, and grapevines. For these highly significant contributions, he is clearly deserving of the Lee M. Hutchins Award.

Novartis Award

Sponsored by Novartis Crop Protection, this award is given to individual plant pathologists who have made significant contributions to the advancement of knowledge of plant diseases or their control. The award consists of a trophy and an expense-paid trip to Basel, Switzerland.

Gary P. Munkvold

Gary P. Munkvold was born in Chicago, IL in 1964. He received his B.S. degree in forestry in 1986 and his M.S. degree in plant pathology in 1988 from the University of Illinois, Urbana-Champaign. In 1992 he received his Ph.D. degree in plant pathology from the University of California, Davis. Dr. Munkvold was appointed assistant professor of plant pathology at Iowa State University in 1993 and was promoted to associate professor in 1998. His appointment is 70% extension and 30% research .

Dr. Munkvold has developed an exemplary extension and research program, providing significant and necessary programs that are responsive to the crop producers of Iowa. He joined the faculty of Iowa State University in 1993, when flooding was severe in Iowa, and focused his extension efforts on the effects of excess moisture and flooding conditions on diseases of alfalfa, corn, and soybean. Numerous presentations, newsletter articles, and press releases were prepared to educate growers and agribusiness on the pertinent issues relating to field crop diseases and excess soil moisture.

Dr. Munkvold has worked cooperatively with extension field staff to assess the plant disease situation throughout Iowa and to develop educational materials and programs to address those needs. He has conducted surveys for serious alfalfa pathogens in conjunction with extension field crop specialists. He is currently working on developing predictive models for gray leaf spot of corn to improve management recommendations for this disease in Iowa.

A related, notable aspect of Dr. Munkvold's extension efforts at Iowa State University is his collaboration with individuals in other departments and units. Dr. Munkvold has worked on applied research and extension projects with other Iowa State University faculty and staff from the departments of agronomy, entomology, and plant pathology, the Seed Science Center, and the USDA National Animal Disease Center. The results of these efforts are extension publications concerning diseases of field crops based on research conducted in Iowa.

One of the strengths of Dr. Munkvold's extension program is the variety of quality extension publications developed. Many of these extension publications are used frequently for programs at various levels of the extension system throughout Iowa. Extension personnel in other Midwest states also utilize these publications. In addition to traditional printed bulletins, Dr. Munkvold has written numerous, timely articles about the identification and management of various field crop diseases that are published in the popular press. Dr. Munkvold has developed several slide sets on topics of disease identification and management. These slide sets are used extensively by agribusiness throughout the state and region to educate growers about the biology and management of alfalfa, corn, and soybean diseases.

Dr. Munkvold provides significant effort in accurately diagnosing and providing effective management recommendations for the corn samples submitted each year to the Iowa State University Plant Disease Clinic. Dr. Munkvold also answers hundreds of telephone and E-mail inquiries annually from growers and other members of agribusiness on the biology, identification, and management of corn diseases in the state and region. His training of county extension staff and extension field specialists has led to an increase in the number of samples diagnosed at the county extension office and fewer samples diagnosed at the campus level.

Dr. Munkvold has been a very active participant in short courses and hands-on clinics that are conducted by the Iowa State University Agribusiness Education Program. He is solely responsible for presenting information on disease diagnosis and management at numerous Field Extension Education Laboratory (FEEL) corn and soybean production clinics held for several weeks each summer. He initiated and annually coordinates the late-season field crop disease clinic at FEEL. Dr. Munkvold also initiated and continues to coordinate the Annual Disease Management Short Course taught for the Iowa State University Agribusiness Education Program each winter. He gives numerous presentations on biology and management of field crop diseases at the agricultural chemical dealer update sessions, private and commercial pesticide applicator training sessions, and numerous crop clinics held annually throughout Iowa. Dr. Munkvold reaches thousands of producers and agribusiness personnel each year with pathology information.

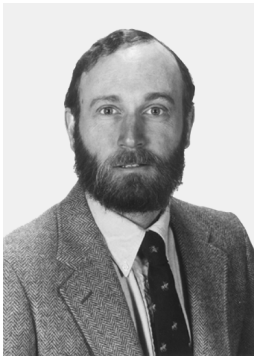
Dr. Munkvold has an active research program designed to answer pertinent questions concerning Iowa-specific field crop disease situations. He has focused on the epidemiology and management of ear rot diseases of corn. He is currently investigating the effects of Bt genes in corn on infection by ear rotting fungi. He has shown that corn plants with the Bt genes significantly reduce levels of the mycotoxin, fumonisin, in the grain. His research has also provided definitive evidence for the occurrence of systemic, symptomless infection of corn by *Fusarium moniliforme* and defined the relative importance of this as a pathway to kernel infection. He has shown how infected seed can be processed to reduce the incidence of infection by this fungus. In collaborative work with Dr. C. A. Martinson of Iowa State University, the benefits of using fungicides for managing foliar diseases of seed corn were clearly demonstrated. This work is estimated to have saved the seed corn industry $600 to $900 million annually.

Dr. Munkvold has served Iowa State University and his professional scientific societies extremely well, providing contributions to numerous committees. Within APS he has served as a member of the mycotoxin, standardization of common names, and extension committees, serving as chair of the Extension Committee in 1996.

International Service Award

This award, first given in 1998, was established by the APS Council in recognition of outstanding contributions to plant pathology by APS members for a country other than his or her own. Contributions may have been through collaborative projects, sabbaticals, short- and long-term assignments with educational or government agencies, or effective coordination of education programs. Beginning in 2000, the John and Ann Niederhauser Endowment Fund provides a cash prize to the recipient of the International Service Award and an additional amount for donation to an international program of their choice.

Christopher C. Mundt



Dr. Christopher C. Mundt was born in New Jersey on 30 March 1957. He received his B.S. in plant science with honors from Cornell University in 1979. In 1981, he completed his M.S. in plant pathology at Iowa State University, and in 1985, a Ph.D. in plant pathology at North Carolina State University. Dr. Mundt joined the Department of Botany and Plant Pathology at Oregon State University in 1985 and has risen through the ranks to professor in 1997. Since 1992, he has also been a visiting scientist at the International Rice Research Institute (IRRI), The Philippines, where he spends several weeks each year doing collaborative research with projects throughout Southeast Asia.

During his career, Dr. Mundt has developed an international reputation for his contributions to the understanding of genetics and host plant resistance. His research interests focus on the quantitative analysis of the effects of host plant resistance on the epidemiology of plant disease and the population genetics of plant pathogens. He is a world leader in experimentation to determine the ecological and evolutionary effects of crop mixtures on plant–pathogen interactions.

Dr. Mundt has shown how pathogens affect the evolution of the host and how the host influences the evolution of the pathogen. Moreover, he has shown how various management strategies, such as altering the diversity of the host population over either small or large scales, can affect disease dynamics and lead to improved disease control. He has provided a firm scientific foundation to achievement of disease control through use of cultivar mixtures, including intercropping, multilines, etc. From a methodological perspective, he has shown how to study co-evolution in a systematic and controlled manner. From a basic research perspective, he has demonstrated the complicated functional relationships that exist between the pathogen and host populations. From an applied perspective, he has shown how mixtures can be best used for disease control.

Most recently this work has been applied in a cooperative project with the IRRI (with cooperators Dr. Tom Mew and Dr. Hei Leung) in China. The resultant increase in rice yields due to interplanting with diverse cultivars has been an astounding success and is being rapidly adapted. Dr. Mundt and his student, Dr. Karen Garrett, also worked cooperatively with Dr. Rebecca Nelson at the International Potato Center in Peru and Ecuador to investigate the relative importance of various components of disease management for late blight under a range of conditions in studies in those countries as well as in Oregon. This research has brought insights as to how cultivar mixtures may effect late blight occurrence.

Dr. Mundt has made an important contribution to international agriculture through his work with the APS Office of International Programs. While serving on that board, he authored a resolution on world population and hunger that was adopted by APS in 1996. His editorial in *Phytopathology News* in 1992 made a key contribution to convincing plant pathologists of the need to address world population growth to prevent hunger. He was an invited speaker in the APS symposium on population and world hunger in 1999. Dr. Mundt has been author or co-author of 45 referred journal papers and of 10 book chapters or reviews. He has been an invited speaker at many national and international meetings as well as asked to help organize sessions for these meetings. His research is funded by numerous sources that demonstrate his ability to attract funding from diverse agencies such as the Oregon Wheat Commission, NSF, and the USDA-NRI program. This speaks for the excellent balance between basic and applied research that he has developed in his program. Practical applications of his research by Oregon wheat growers have resulted in economic gains due to increased yields that result from reduction

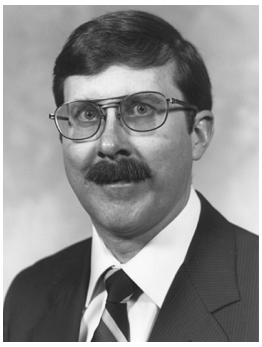
of disease without chemical applications. It is expected that his research at IRRI will similarly result in increased production as the result of better disease management in rice.

Recognition of the significance of his research is shown by the invitation to author a chapter for *Annual Review of Phytopathology*, to review models from plant pathology on the movement and fate of new genotypes of microorganisms in the environment. Another was his selection by IRRI as the international scientist best able to assist in identification, evaluation and dissemination of knowledge on gene deployment strategies against rice blast disease. Dr. Mundt has a reputation as an outstanding teacher and excellent mentor. He has made important contributions to the training of graduate students and postdoctoral scientists both at Oregon State University and at IRRI. He received the Oregon State University College of Agricultural Sciences International Service award in 1997.

Excellence in Teaching Award

This award, established in 1987 by the APS Council, is in recognition of excellence in teaching plant pathology. The award is presented to individuals with active responsibility for one or more courses in plant pathology and recognizes the individual's distinguished proficiency in teaching, as indicated by development and effectiveness of courses taught. In 1999, the Lucy Hastings de GutiÈrrez Fund was established to provide a cash prize to the recipient of the Excellence in Teaching Award. This fund was set up in honor and memory of Lucy by her family and friends.

Glen R. Stanosz



Glen R. Stanosz was born in Milwaukee, WI in 1954. He received his B.S. in forest biology from the State University of New York, College of Environmental Science and Forestry at Syracuse in 1976, his M.S. degree in plant pathology from the University of Wisconsin in 1983, and his Ph.D. in plant pathology from the University of Wisconsin in 1985, under the direction of R. F. Patton. After a brief period as a postdoctoral research associate in the Department of Plant Pathology at North Carolina State University, he joined the Pennsylvania Department of Environmental Resources, Bureau of Forestry, Division of Forest Pest Management, as forest pathologist in 1987. He joined the Department of Plant Pathology, University of Wisconsin, in 1992 as assistant professor with an 80% research, 20% instruction appointment. He was promoted to associate professor in 1998 and was awarded the title of Van Arsdel Professor of Tree Pathology in 1999. Though his academic career is young, Dr. Stanosz has distinguished himself as an extraordinary teacher of plant pathology to undergraduate, graduate, and continuing education students, and to the public at large.

Dr. Stanosz developed the course, Diseases of Landscape Trees and Shrubs, and arranged to teach it one evening weekly so that working professionals in the nursery and landscape industries could enroll. Typically one-third to one-half of the students are working professionals, some driving 2 to 3 hours (one way) to attend! These professionals most often have degrees in horticulture or landscape architecture and lack expertise in plant pathology and microbiology. Such students frequently report ignorance, fear, and loathing of the microbial world prior to taking the course. After taking the course, these attitudes are replaced by confidence rooted in knowledge. This knowledge includes not only facts about diseases and pathogens, but also the orderly process of scientific inquiry. In this way, factual information is applied to solve plant health problems. Dr. Stanosz elicits appreciation for plant diseases and an eagerness to diagnose them among students with little or no background in microbiology. These working professionals along with the undergraduate and graduate contingent, who will soon join them in the woody plant industries, have numerous ongoing contacts with the public. They are practitioners of "real-world" plant pathology and pest management. Thus, the course has a tremendous "multiplier" effect; a far larger number of people are educated about plant health than those that actually take the course. Dr. Stanosz's success is already resonating beyond the borders of Wisconsin. In 1999, the International Society of Arboriculture honored him with the Gold Leaf Award, presented in recognition and appreciation of the course, Diseases of Landscape Trees and Shrubs.

Dr. Stanosz teaches Insects and Diseases in Forest Management with Dr. Ken Raffa, an entomologist at the University of Wisconsin-Madison. Students have said that Dr. Stanosz has a remarkable knack for making lively what was expected to be a dry topic. Some have gone on to take in-depth microbiology courses, largely because Dr. Stanosz sparked their curiosity. In this course, Dr. Stanosz effectively incorporates findings from his research program. The role of site factors in disease development, such as water deficit, has implications for where pines and poplars should be grown commercially and how they should be managed. This practical knowledge is taken very seriously when it is developed in the research program of the instructor.

Dr. Stanosz has stated that his goal as a teacher is not merely to teach a subject, but to teach how to learn a subject. According to him, "if a student captures a glimpse of what is beyond course material, is stimulated to seek further, and is armed with the tools to critically begin their own inquiry, then progress is made." Dr. Stanosz also recognizes that identifying and solving plant health problems is rarely a sole venture. With this in mind, he fosters collaborative activities, including disease diagnoses with by the students. Students learn about the needs and capabilities of others, while contributing to a common solution. The ability to work productively as part of a team is a trait widely sought by employers, yet many instructors do nothing to cultivate this skill in students. Dr. Stanosz's students are indeed fortunate. As his students point out, "Dr. Stanosz is a teacher (not just a professor) and Professor Stanosz genuinely cares about getting the students to understand this material and to use it in the real world."

Dr. Stanosz is an active member of APS, especially in matters related to teaching. He co-organized a 1996 workshop on the use of computers in teaching, and volunteered his time and expertise in a short course, Pest Management of Evergreen Trees. He was a key player in developing the first subject matter-specific student paper competition, now an annual activity of the Forest Pathology Committee. Glen Stanosz consistently gives far more to teaching than would be expected at his 20% teaching appointment. His commitment to classroom and outreach education is extremely rare among faculty with majority research appointments at the UW-Madison. The UW Department of Plant Pathology feels privileged to have this superb teacher and dedicated scholar cultivating the future practitioners of our discipline.