Award of Distinction

Through its Award of Distinction, The American Phytopathological Society formally recognizes exceptional productivity in research, inspiring leadership, and effective application of plant pathology for the benefit of humanity. This rarely bestowed honor has been presented seven times previously in the history of the Society—in 1967 to E. C. Stakman, in 1969 to J. C. Walker, in 1972 to J. G. Horsfall, in 1980 to Harold H. Flor, in 1983 to Arthur Kelman and George A. Zentmyer, and in 1987 to Raymond G. Grogan.

Myron K. Brakke

Myron Kendall Brakke, born on October 23, 1921, in Fillmore County, MN, grew up on a farm in the southeastern part of the state. He attended Rochester Junior College from 1939 to 1940 before enrolling at the University of Minnesota where he obtained a B.S. degree in biochemistry in 1943 and a Ph.D. degree in agricultural biochemistry in 1947. He began his career as a research associate, working on plant viruses with Dr. Lindsay Black at the Brooklyn Botanic Garden from 1947 to 1952 and at the University of Illinois from 1952 to 1955. He subsequently accepted a USDA position at the University of Nebraska where he remained for the rest of his career.

Dr. Brakke is best known for his landmark achievement of inventing density gradient centrifugation, the principal tool that led to the development of modern virology and molecular biology. Protein chemistry, virology, and separation techniques were all in their infancy in 1947 when Dr. Brakke initiated his research on viruses. Tedious work, many failures, dead ends, and false leads, all accompanied by Brakke's patient analytical approach, preceded the intuitive sparks of creativity that culminated in his invention in 1950 of density gradient centrifugation as a separation technique to purify potato yellow dwarf virus. The application of the technique grew slowly at first, but as investigators from a variey of fields recognized its potential to resolve and purify macromolecules, viruses, and organelles, use of the technique proliferated. Many advances in biology and the allied biomedical sciences could not have been made without density gradient techniques. Thus, Dr. Brakke's contributions to science have extended beyond the discipline of phytopathology to influence research in all areas of biology and biochemistry.

Dr. Brakke was eminent in developing purification, stabilization, and assay methods for viruses with diverse physical and chemical properties. These included potato yellow dwarf, wound tumor, tomato spotted wilt, and several cereal viruses. Each of these viruses presented unique problems that required considerable ingenuity and persistence to surmount.

Dr. Brakke was also instrumental in demonstrating the multiplication of clover wound tumor virus in its insect vector. His diversified approach to solving problems in plant pathology is further illustrated by his demonstration that soilborne wheat mosaic virus is transmitted by a fungus and that barley stripe mosaic virus and soilborne wheat mosaic virus have divided genomes that vary considerably in complexity between strains. His genetic studies explain the virus-induced phenomenon called "aberrant ratio," which had eluded numerous geneticists and pathologists.

Dr. Brakke's creative and original research accomplishments have been recognized by many awards and honors, including fellowships in APS and the American Association for the Advancement of Science, and membership in the National Academy of Sciences. He also received the APS Ruth Allen Award and the USDA Certificate of Merit, and has twice been awarded the USDA Superior Service Award. In 1987, he was named a member of the Agricultural Research Service Science Hall of Fame. Academic honors include the Outstanding Achievement Award presented by the Board of Regents of the University of Minnesota in recognition of a former student who attained distinction and honor in his field, and several honors conferred by the University of Nebraska. These honors include being named Regents Professor of Plant Pathology and receiving the University of Nebraska Certificate of Recognition and its Award for Oustanding Research and Creative Activity. These awards testify that Dr. Brakke's contributions are widely recognized and signify that he has brought unusual honor and prestige to plant pathology.

As an individual Dr. Brakke possess the rare combination of an ingenious, thorough, analytical, and conceptual mind, yet his modest personality is always most evident. His thoughtful and courteous manner has gained the respect and admiration of those who have been closely associated with him, and his achievements have accelerated research in almost every facet of biology.