

Biographical Paragraph

Dr. Martin B. Dickman

Ph.D 1986, University of Hawaii

Joined Texas A&M, December 2005

Specialty: Plant-Microbe Interactions, Programmed Cell Death, Comparative Pathobiology, Biotechnology

Dr. Dickman is an internationally recognized and distinguished scientist specializing in the genetics and molecular biology of fungi and fungal-plant interactions. Dr. Dickman's primary emphasis is on programmed cell death regulation and the extent to which parallels exist between plant and animal systems. Dr. Dickman established that parallels exist between plant and animal systems diseases and infection strategies, and he developed the concept that cell death can be beneficial or helpful for a pathogen depending on context and pathogen lifestyle. Another widely held perception at this time was plants were incapable of PCD. Dr. Dickman's work conclusively demonstrated that plants do in fact broadly exploit PCD as a key component of their development, immunity and stress responses.

Dr. Dickman founded the field of comparative pathobiology and demonstrated that PCD is broadly conserved across phylogenetic kingdoms. Going against the current dogma he not only showed that genes that negatively regulate PCD in animals can be expressed in plants but remarkably such mammalian genes were fully functional in plants. These observations were game changing as previous studies between plants and animals indicated that plants lack DNA sequences encoding hallmark PCD genes. Dr. Dickman showed that these genes were similar at the structural level level Thus, predicted protein structure, independent of nucleotide or amino acid sequence, was needed to accurately predict biological function. Using this approach, his group identified the plant BAG gene family some members of which are being deployed in crop plants in Texas and around the world.

Dr. Dickman received the Distinguished Alumni Award from the University of Hawaii and the University of Nebraska Institute of Agriculture and Natural Resources Junior Faculty Recognition for Excellence in Research Award. At the University of Nebraska he was named the Charles Bessey Professor. At TAMU, he is currently the Christine Richardson Professor of Agriculture.

In 1993, Dr. Dickman was elected as a Fellow in the American Phytopathological Society. His work was described as "among the most thorough and significant contributions in plant pathology." In 2011 he was elected Fellow in the American Association for the Advancement of Science (AAAS). The AAAS is the world's largest general scientific

society. The award, cited Dr. Dickman's "excellence in research in the genetics and molecular biology of fungal-plant interactions." This past year, he was awarded Fellow of the American Academy of Microbiology (ASM) in recognition for "excellence, originality, and creativity in the microbiological sciences."

In 2011 he received the prestigious EC Stakman Award. Nobel prize winner Norman Borlaug was Dr. Stakman's first student and the first recipient of this award. I received this award for "Distinguished and exceptional contributions to plant-fungal interactions....for pioneering research in programmed cell death and for elucidating common mechanisms in pathogen infection and host responses...for creating a contagious excitement for science. Professor Dickman's dedication to scientific excellence and exceptional use of innovative approaches for advancing plant health embody the qualities and spirit of the Stakman award." In 2015, he was named University Distinguished Professor at Texas A&M.