

**MEMORIAL RESOLUTION OF THE FACULTY  
OF THE UNIVERSITY OF WISCONSIN-MADISON**

**ON THE DEATH OF PROFESSOR EMERITUS JAMES F. CROW**

Professor Emeritus James Franklin Crow died on January 4, 2012 just short of his 96th birthday. He was known and revered as much for inspiring generations of students and colleagues as for his numerous original contributions to genetics, especially population genetics. He has received nearly every honor and award possible in this field.

Throughout his 64 years at the University of Wisconsin and eight years before that at Dartmouth College, Jim made an indelible impression on thousands of students who heard his lectures. He spiced these lectures with enough humor to keep the attention of even the most jaded students while presenting complex concepts with dazzling clarity. He had a knack for including wonderful anecdotes about the architects of population genetics based on his personal relationships with Sewall Wright and R.A. Fisher. His students were so rapt that he could hold a silence in front of a large class while he thought through a problem. Jim always tried to learn the names of his students, which entailed taking a photo of each on the first day of the semester.

Jim's lecture notes for general genetics were published under the title *Genetics Notes: An Introduction to Genetics* but were fondly known as "Crow's Notes" by generations of students. Crow's Notes eventually went through eight editions and was translated into many languages. The examples and diagrams from Crow's Notes have become so ubiquitous in the teaching of genetics that many of us use them automatically without being conscious of their source.

An author of more than 250 papers on a wide range of genetical topics, Jim is especially known for his work in theoretical population genetics. His classic textbook, *An Introduction to Population Genetics Theory*, written with his former student Motoo Kimura, defined the field during the critical decades between the foundation of population genetics in the early 1900s and the modern era. Jim helped develop the infinite-alleles neutral model in which a mutation rate,  $\mu$ , in a population of effective size  $N$  results in an equilibrium in which a fraction  $1/(4N\mu + 1)$  of the individuals is homozygous. He refined the concept of genetic load to measure how the average fitness of a population can decline owing to factors such as mutation and selection in favor of heterozygotes. Jim's theoretical work also addressed the role of sexual reproduction in evolution, the effects of meiotic drive, the genetic consequences of inbreeding, the detection of inbreeding in humans by name identity and the stochastic theory of genetics in finite populations. Jim was always actively engaged in ongoing discussions about evolution. His contributions to evolutionary theory were recognized in 2009 by the establishment of the J. F. Crow Institute for the Study of Evolution.

Jim's experimental contributions began with his PhD work on *Drosophila* at the University of Texas at Austin and continued at the University of Wisconsin. He was particularly interested in the accumulated effects of minor deleterious mutations. His work in this area informs our current view of how mutation rates affect human genetic health.

Jim often declined authorship of work done under his supervision. Kimura, while a graduate student of Jim, developed mathematical ideas which later formed the foundation of what would become Kimura's Neutral Theory of Evolution. The discovery of segregation distorter in *Drosophila* and much of the early work on P transposable elements was also performed under Jim's supervision.

Throughout his long career, Jim was sought after for administrative and public service tasks. He usually accepted. He was one of the key players in a series of National Academy efforts to define the effects of radiation on human health. He worked on these committees, often as chair, from the 1950s through the 1980s. This work resulted in concepts now commonly used in the field. In 1998, the National Institute of Justice called on Jim to head up the science report committee to study the use of DNA in forensics. Jim's ability to rise above acrimony and defuse tense situations with humor served him well on these committees.

Jim has been president of the Genetics Society of America and of the American Society of Human Genetics. He has chaired various National Institutes of Health and National Academy of Science committees and served on the Board of Scientific Overseers for the Jackson Laboratory for 17 years. He chaired the genetics department for eight years and was acting dean of the Medical School for two. In the 1940s and 1950s, he served as faculty advisor to the NAACP. In the 1960s, Jim chaired a university committee on student conduct, which has influenced academic policy on a national level.

The list of Jim's graduate students and postdocs is long and star-studded. Jim was widely known for his ability to get along with graduate students whose personalities or beliefs might make them difficult to deal with. In at least one case, a particularly brilliant but obstreperous student was specifically steered toward Jim's guidance because it was thought that no one else would be able to handle him. Jim had a special gift for coaxing graduate students to work toward perfection. His gentle and effective manner of mentoring brought out the best in students and led to close intellectual and personal relationships filled with a great deal of mutual admiration and fondness.

Jim was nominally retired in 1986, but his work continued unabated until his death. One of the most appreciated tasks he performed in his later years was to co-edit the monthly "Perspectives" column in the journal *Genetics*. For more than twenty years, Jim and his colleague William Dove produced these widely-read pieces on the history of genetics. Jim himself wrote 45 of the 296 articles to appear during this period. Some of these, such as the opening article on Sewall Wright, Jim wrote because the topic was of special interest to him. Others, however, he wrote out of necessity because the designated author could not make the deadline. When that happened, Jim would simply take a couple of days off from his other tasks and write up an always excellent piece for the column.

Jim was also well known as a musician. He was an accomplished violist. He played in the Madison Symphony Orchestra for 45 years and served as president of that organization and of the Madison Civic Music Organization. While soft spoken, Jim was a showman. He often performed viola for parties and charmed every crowd with his flair and class. It was through music that Jim met his wife of 60 years, Ann (Crockett) Crow who died in 2001. They have three children, Frank, Laura and Catherine, six grandchildren and two great-grandchildren.

Jim was certainly a man of rare intellectual gifts. Rarer still is the combination of that intellect with enough energy and longevity to use it to its fullest. He lived and worked with an effortless sense of balance. Like a tripod which owes its stability to the simple principle of three equally strong legs, Jim had his science, his family and his music. We are thankful to have had him as a colleague.

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