

## Ronald W. Davis – Scientific Genius

Dr. Ronald W. Davis ('64) has been selected to receive the 2011 Gruber Genetics Prize for his pioneering work in developing biotechnologies that have significantly advanced the fields of molecular genetics and genomics. The prize, which consists of \$500,000 along with a gold medal, will be presented in Montreal in October of this year.



Dr. Davis, the son of Lester and Gerzella Davis, was born in Maroa, IL in 1941. Shortly thereafter his family moved to Charleston, IL and established Davis Flooring Company.



Davis attended Charleston schools but his abilities were not immediately recognized because he struggled academically due to a form of dyslexia. In fact, a high school counselor told him he had little chance of succeeding in science and that it would be best if he took shop courses. He did enroll in a shop class but, despite the counselor's advice, also plunged headlong into math and science. Among his teachers was Mary Hoffman, an inspirational chemistry instructor who launched a number of students into highly successful careers in science. Dr. Melvin Foreman, an EIU chemistry professor and neighbor of the Davis family, also provided encouragement and, in addition, loaned Davis scientific equipment to help with his high school and home experiments.

After graduating from Charleston High School in 1960, Davis enrolled at EIU and selected chemistry as his major. He was quickly recognized by his science professors as someone with exceptional ability. However, his dyslexia continued to create problems with humanities courses so, to keep his grade point average up, he took as many science and math courses as he could manage while also holding several part-time jobs. The result was that, along with his major in chemistry, he completed enough credits in physics, math, and botany that he qualified for majors in those fields as well.

While at EIU, Davis did research with Professor George Cunningham and wrote a substantial senior thesis on "The Effects of Different Variables on Auxin Induced Growth of the Soybean Hypocotyls." Although all of his EIU chemistry professors are now deceased, they passed along many stories about Davis to younger faculty members. One of the more amusing ones involved the chemistry stockroom manager, Charles Tucker ('37). Davis was so skilled at identifying the elements present in the samples he was assigned in a laboratory course that Tucker was determined to stump him. Thinking he had come up with the perfect scheme, he gave Davis a portion of floor sweepings from the stockroom as his next sample. Much to Tucker's surprise a few days later, Davis correctly reported that the sample was "floor sweepings" based on his analysis showing it contained trace amounts of everything on the list of possibilities.

When Davis was about to graduate from EIU, the head of the Chemistry Department, Dr. Harris Phipps, called him into his office and handed him a form. Davis asked what it was and Phipps replied that it was an application for graduate school at the California Institute of Technology (Caltech). Although Davis protested, Phipps convinced him to complete the application. Because of his high test scores and strong recommendations, he was accepted.

At Caltech, Davis chose to specialize in biochemistry. Just as at EIU, his accomplishments there were exceptional. His dissertation research led to a breakthrough in the field and, for many years after he completed his degree, his thesis was among the ten most cited publications in molecular biology. After earning his Ph.D. in 1970, Davis completed further postdoctoral training in molecular biology and genetics at Harvard University. In 1972 he joined the faculty of Stanford University where he is now a professor of both Biochemistry and Genetics as well as Director of the Genome Technology Center.

The Gruber Prize citation calls Davis “a pioneer in the development and application of recombinant-DNA techniques.” It goes on to highlight some of his scientific achievements and ends with “Throughout his career—by training students, communicating openly with colleagues, and leading through the example of his own research—Davis has profoundly influenced the way scientists study the molecular basis of life.”

Davis has earned numerous additional professional accolades. At the very young age of 42, he was elected to the National Academy of Sciences. Other honors include the Dickson Prize in Medicine from the University of Pittsburgh (2005), the Lifetime Achievement Award from the Genetics Society of America (2004), and a Distinguished Alumnus Award from the California Institute of Technology (2007). EIU honored Davis with a Distinguished Alumnus Award in 1984 and an Honorary Degree in 1995.

EIU is proud to have played a small part in the development of this world-class scientist.

Richard L. Keiter  
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