

Gene R. Williams

Gene Williams joined the Department of Botany in 1965 following postdoctoral work in the Biology Division of Oak Ridge National Laboratory. He had earned all three of his college degrees at the University of California in Davis. Gene brought to the then classically oriented department much-needed teaching and research expertise in the areas of plant biochemistry and plant molecular biology. These skills helped bring the department into the modern era.

Gene's teaching contributions have benefited not just plant science majors, and not just biology majors, but in one regard students all across this country and around the world. These accomplishments can be seen in four major areas.

Gene has been a key member of the group teaching the course that presents the unifying principles of biology for science majors. As a teacher of this course he is known for being clear, rigorous, and fair. He has played an important role in the evolution of this course over time, and he has been instrumental in developing many of the truly experimental introductory laboratory exercises that accompany it.

One of Gene's major contributions was his valuable graduate course in plant biochemistry. Taught over many years, this course was kept entirely up-to-date, and it evolved in format as the needs of the graduate students changed. It was sometimes linked to a seminar course to provide more opportunities for genuine student involvement in dealing with the pertinent primary literature. Again the words clarity and rigor come to mind to describe it, with much meticulous attention paid to detail.

Gene also developed and taught for many years the "all-day-Saturday-and-then-some" graduate laboratory course in biochemical and molecular biology

techniques. Always filled to capacity, this course provided incoming graduate students from many different backgrounds with the skills needed to function effectively in a range of research labs. All-consuming though it was at the time, this lab experience was lauded by directors of research groups in Jordan Hall and much appreciated in retrospect by the students who had taken it.

Gene played a role in developing the first undergraduate cell physiology course offered by the Division of Biological Sciences, and he was *the* key person to shape the cell biology course that resulted when the former course was split into two separate courses, the other being a molecular biology course.

For the new cell biology course Gene tried to use nascent HyperCard computer software to provide a course supplement, beginning in 1989. This effort proved successful beyond expectation for his own students, and before many semesters had passed, Gene proceeded to market HyperCELL worldwide. In 1991 his work on HyperCELL led to his receipt of the Joe Wyatt Success Award, a national competitive award for software development.

The HyperCELL program is now marketed commercially and is being used by institutions all over the world. It is clearly having a significant impact on students near and far engaged in learning cell biology. With meticulous care, Gene updates the program annually—which is much more work than revising a text occasionally—and he has recently developed a version that is available for CD-ROM.

Many testimonials to the quality of Gene's work can be cited; here is one example: "HyperCELL is a wonderful example of what hypermedia publication can be—a shared electronic document

that responds to individual students' needs and directions while offering a well-ordered presentation of complex subject matter. Gene Williams has done an innovative job of integrating text, graphics, and animations to complement the strengths of traditional textbook presentation."

Because of his skills and accomplishments in the use of computers for teaching, Gene has served on a number of campuswide committees that develop policies for improving the computer environment at IU, especially policies related to the use of computers for teaching purposes.

Gene has had an active research lab working on several aspects of plant development, especially the developmental responses of cells to light, using the tools of plant biochemistry and plant molecular biology. This work pioneered the use of modern molecular techniques in plant biology at Indiana University. Gene brought care and precision to his work, and he expected the same approach from his students. This meticulousness made his work highly believable and respected. After becoming deeply involved in the writing and upgrading of HyperCELL, an enormous time commitment, he essentially closed his research lab.

Healthy and vigorous, Gene and his wife, Alice, will return upon retirement to Gene's home state of California. They will continue to update HyperCELL for the immediate future, a project that has clearly become a joint effort, but they have lots of other plans for what they hope will be abundant free time.

Albert Ruesink