

# EVERERSON LECTURE IN BIOCHEMISTRY

Thursday, May 4th, 2000 1:30 PM  
Room B1118 Biochemistry, 420 Henry Mall

## Dr. Richard Jorgensen

Department of Plant Sciences,  
University of Arizona-Tucson

### Homology-Based Suppression of Gene Expression in Transgenic Plants



Richard (Rich) A. Jorgensen is one of the discoverers and leading experts on post-transcriptional gene silencing (the turning off of an endogenous gene as a result of the introduction of one or more copies of the same gene's coding sequences). Rich's discovery of post-transcriptional gene silencing is an excellent example of an accidental discovery - recognizing the importance of an unexpected result. Rich received his bachelor's degree at Northwestern University where he also pursued a masters degree in chemistry in Robert Letsinger's lab. In 1973 he joined the Biochemistry Ph.D. program at Wisconsin pursuing his thesis research primarily in Bill Reznikoff's laboratory. This was an era when transposable elements were first being determined to be the mobile genetic vehicles encoding antibiotic resistances in bacteria. Rich was the primary person leading to the structural analysis of two important transposons; Tn5 and Tn10. His work involved a great deal of collaboration primarily with the laboratory of Julian Davies but also including scientists from the Pasteur Institute in France and from Geneva, Switzerland. Rich's work as a graduate student was described in 11 publications. Rich then moved into the field of plant molecular biology with postdoctoral stays at Stanford University and at the University of California - Davis, where he studied molecular evolutionary genetics in plants. Key experiments in the control of plant transgene expression were performed by Rich after he joined DNA Plant Technology Corporation / Advanced Genetic Sciences, Inc. in Oakland. One important research area involved the modification of flower colour in ornamental plants. This research led to the discovery of gene silencing when an extra copy of a key gene yielded white rather than blue flowers. Following his work in the plant biotechnology industry, Rich moved back to academia first establishing a research program at the University of California - Davis. Currently Rich is an Associate Professor in the Department of Plant Sciences at the University of Arizona. His research interests involve epigenetic mechanisms of gene regulation especially in regards to the phenom of cosuppression and the functional analysis of chromatin genes.