

STANFORD UNIVERSITY  
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OFFICE OF THE PRESIDENT

**MEMORIAL RESOLUTION  
ARTHUR CHARLES GIESE  
(1904 - 1994)**

Arthur Giese served with distinction on the Stanford faculty for over 60 years and maintained a full-time schedule of scholarly activity right up until he died on January 1, 1994 at the age of 89. He was an extraordinarily talented and devoted teacher who will be remembered in grateful appreciation by thousands of students as well as by his faculty colleagues.

Born in Chicago, Illinois, December 19, 1904, Arthur Giese entered the University of Chicago in 1923 on a scholarship conferred as valedictorian of his high school class. He majored in zoology and botany, graduating with distinction and departmental honors in 1927. After a short period of graduate study at Chicago he transferred to the University of California, Berkeley, where he began with S. J. Brookes his illustrious career in teaching and research. He spent a summer with C. V. Taylor at the Hopkins Marine Station in 1929 and was immediately appointed an Acting Instructor at Stanford University. He was asked to continue on the Academic Staff when he completed his Ph.D. in zoology at Stanford in 1933. He served in the Department of Biological Sciences at Stanford, and he continued his work in that department well beyond his official retirement in 1970. He was promoted to Professor in 1947.

Giese became an internationally respected authority in marine invertebrate biology, cell physiology, protozoology, and photobiology. To be world-class in just one of these areas would have been a challenge for most ordinary scientists. His Ph.D. thesis was on the "Photolethal effects of ultraviolet light in Paramecium." He taught general biology as well as specialized courses in comparative physiology and photobiology. His stated aim in teaching was to encourage students to use the scientific method not only in biology but also for solving the general problems one encounters in life. His personal interest in his students and his devotion to teaching were quite remarkable. He learned the names and interviewed each of the nearly 200 students in his Cell Physiology course, preparing an index card with a photograph of each student and his evaluation, in preparation for eventual letters of support. Few Stanford faculty members have written as many recommendations to medical and graduate schools over the years as

Arthur Giese. He personally supervised individual laboratory projects for most of his students in that large Cell Physiology course.

His classic textbook *Cell Physiology*, first published in 1957, was based on the course he offered for 41 years; it became a persistent mainstay in the field, and was the predecessor to the more modern *Cell Biology*. His textbook has been translated into Spanish, Italian, Portuguese, Polish, and Russian. He prepared a *Laboratory Manual in Cell Physiology* to accompany his lecture course. In addition to his textbooks, he wrote a monograph on *Blepharisma: The Biology of a Light-Sensitive Protozoan*. He was the world authority on that improbably gorgeous pink protozoan. He also wrote, in 1976, *Living with Our Sun's Ultraviolet Rays*, which dealt with the role of ultraviolet light in causing cancer.

A well-known photobiologist, Arthur Giese was appointed to the National Committee on Photobiology of the National Research Council 1957-60 and the International Committee 1959-60. He was honorary editor of the journal *Photochemistry and Photobiology* 1964-70, and he edited an important review series in *Photophysiology*, with eight volumes from 1964 to 1974. He received a Certificate of Merit from the Office of Naval Research in 1945 and one from the American Society of Zoologists in 1975 for his studies on marine invertebrates. He served as President of the Western Society of Naturalists in 1950. Twice he won Guggenheim Fellowships, and he also was a Rockefeller Fellow at Princeton University.

In addition to his teaching on the Stanford Campus and regularly at the Hopkins Marine Station, Giese taught for interim periods at Cal Tech, Woods Hole, and the Cold Spring Harbor Laboratory. Each summer until just before his retirement, his popular course at Hopkins Marine Station was famous for the challenging pace he set for his much younger students, as he scrambled over the rocks through the intertidal zone. He stimulated his students to do excellent research in physiological ecology and reproductive biology. He developed an interest in echinoderms, and the field of echinoderm biology is strongly represented by his intellectual descendants.

His major research interest was in the physiological mechanisms by which organisms tolerate and adapt to environmental stress, both physical (light, temperature, pressure) and chemical (osmotic, ionic, nutrient levels, etc). His studies were performed at different levels of biological organization with emphasis on the organismal level in marine invertebrates. His photobiological studies extended from the earliest reports on the effects of ultraviolet light on DNA synthesis in bacteria to the problem of how to prevent Marines from getting sunburn on South Pacific beaches during world War II. His research publications numbered well over 200, and he trained over two dozen Ph.D. students. He and his students frequently carried out the pioneering work in an area, providing provocative results that then stimulated others to enter the field and develop it further.

Arthur Giese had very large, strong hands that seemed equally adept playing the cello or flute, manipulating cells under a microscope, or working in the garden of his campus home. The dulcet tones from his flute could sometimes be heard in the halls of Herrin Biology Laboratory in the very early morning, long before most of his colleagues arrived. He was an avid gardener, maintaining a vegetable garden and a modest orchard of well-pruned fruit trees. Each of his graduating students received a cutting from a jade plant in his garden. Thus did he think of his students even as he relaxed at home. Arthur and his supportive wife, Raina, incorporated his students into their family, frequently inviting them over for informal evenings. It was abundantly clear that his dedication and support for the people he taught extended far beyond the classroom.

Arthur Giese frequently captured his thoughts in poetry; he loved the world around him and he was eager to share his reflections with his associates. He was especially thrilled with the opportunity in 1986 to visit his family heritage in Poland. After that trip he prepared for his grandchildren and dearest friends a volume of his reflections in verse entitled, "On the trail of the white eagle." He concluded this impressive treatise with a poem (June 25, 1986) that expresses the way he lived – we quote parts of it...

*An eagle dies while flying  
Doing what it does best  
Not lying sick in its nest  
I wish to be so bless'd.*

*I hope that Fate allows me  
To go on working  
At what I like doing best--  
Like an eagle flying.*

. . .

*I hope that when my time comes,  
Not in bed lying,  
But like an eagle in the sky  
I shall be trying*

*To finish one more piece of work  
I had been writing  
Then, like an eagle flying,  
I fall to earth dying.*

Arthur Giese was enthusiastically completing the 7th edition of his text on Cell Physiology at the time of the heart failure that ended his life. He is survived by two sisters, Eleanor Giese of Park Ridge, Florida, and Irene Trzyna of South Pasadena, California; a son, Arthur T. Giese, M.D., of Chico, California; five granddaughters and one great grandson.

Arthur Giese was a wonderfully sensitive and thoughtful human being—unpretentious, and always ready to help others. He was a genius without an ego. We will always remember him for the unselfish kindness he deployed in the interest of his students and colleagues, as well as for his exemplary performance as a scientist.

Philip C. Hanawalt, Chair  
Donald Kennedy  
Kendric C. Smith