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OBITUARY

Look for the Unusual

In Memory of Professor John E. Casida (1929-2018)



John Casida moderating the summary session of the International Conference on Agri-Environmental Chemistry and Toxicology (September 22, 2011, Budapest, Hungary)

In the present obituary, I would like to pay last honors to Dr. John E. Casida, toxicologist, a distinguished professor of the University of California, Berkeley, member of United States National Academy of Sciences (1991) and the London-based Royal Society (1998), founding director of the Environmental Chemistry and Toxicology Laboratory (ECTL). He has received numerous awards for his scientific achievements, including the Spencer Prize for the American Chemistry Society for Agricultural and Food Chemistry Research (1978), the Founders Award from the Society of Environmental Toxicology and Chemistry (1994), the Koro-Sho Prize from the Pesticide Science Society of Japan (1995), and the Wolf Foundation Prize for Agriculture in 1993 (Chet, 2009), which recognized "Professor Casida's unique contributions to basic science and to the development of safer pesticides for agricultural use".

John Casida was one of the most influential natural scientists of the University of California, Berkeley: a giant in his field and acknowledged as such among a wide spectrum of disciplines and professions. On his shoulders, hundreds of scholars (students and followers) stood over the years. Although above certain levels of scientific accomplishments, numbers do not mean much, still, it is worth mentioning that John Casida's [Google Scholar profile](#) lists more than 40000 citations for his nearly 1000 publications (ca. one paper published in a leading journal each and every month during his scientific career).

John Casida was born in Tempe, Arizona in 1929, in the time of the great depression. When teaching and research positions became available for his father (Lester Earl Casida, who later became Professor of Reproductive Physiology at the University of Wisconsin, Madison) his family moved to Madison, Wisconsin. He was schooled in

his hometown and even obtained his PhD degree there (entomology, biochemistry, and plant physiology; UW, Madison; 1954). In 1956 he married Katherine Faustine Monson (Kati Casida, artist, sculptor). For nine years he worked as Professor of Entomology at Madison (full professor in 1961) and in 1964 he became Professor of Entomology and Toxicology at the University of California, Berkeley. Here he taught courses and conducted research for more than half a century: he had completed the grading of a course examination just a few weeks before his untimely death.

Toxicology is a highly complex, multidisciplinary area of science that requires deep knowledge in different subfields of several independent disciplines, such as chemistry, biochemistry, and (molecular) biology. John Casida became interested in pesticidal natural compounds synthesized by plants as a high-school student and continued his investigations during his university years. He obtained his PhD for his work on the metabolic activation of organophosphorus insecticides. His later research was focused on studying natural and synthetic pesticides (mostly insecticides) with the goal of understanding how they affect their target pests, humans, and the environment. During his professional career, overall hundreds of researchers worked in his laboratory: graduate and PhD students, postdoctoral fellows, and guest scientists from all corners of the world conducting research on a very wide range of subjects (usually a dozen or more). He was a great, respected and dedicated lecturer and teacher. Also, a superb mentor, who followed closely the work of every member of his research team, paying special attention to the progress students made - many of whom went on to be international leaders in toxicology and environmental science. He put emphasis on awakening their curiosity and critical thinking in science, and warned about the importance of unexpected results in research as a key for discovery: "look for the unusual" was his often-heard advice. His role in cultivating environmental toxicology talent among hundreds of researchers and students is a major part of his legacy.

According to John Casida's [Google Scholar profile](#), two of his most cited publication (>1000 and >720; Tomizawa and Casida, 2005 and 2003), describe the mechanisms of the selective toxic action of neonicotinoid insecticides. His other high-impact papers (cited more than 400 times) involve reviews on insecticide research (Casida and Quistad, 1998 and Casida et al., 1983), the discovery of a bicyclic phosphorothionate radioligand for probing the molecular environment of the GABA-gated chloride channel (the site of action of organochlorine insecticides), the secondary (non-acetylcholinesterase) targets of organophosphate chemicals (Casida and Quistad, 2004), and the roles mixed-function oxygenases play in the biological action of insecticide synergists (Casida, 1970).

The [database of the US Patent and Trademark Office](#) (currently searchable only for patents granted after 1976) lists John Casida as an inventor of 14 US patents.

This obituary cannot give a fair overview of the scientific achievements of John Casida. I would like to refer the readers to excellent reviews on his work written by Chet (2009), Hammock and Casida (1998), Johnston and Ruzo (2011), Nomura (2018), and Quistad (2000).

Although John Casida worked with great energy, commitment, dedication, and enthusiasm in his office, in the laboratory, and on the professor's pulpit, he still enjoyed life to the fullest as a passionate photographer, a collector of internationally renowned pre-Columbian pottery, and a skillful performer of Greek and Cypriot folk dances (he practiced this art with his wife Kati once a week in a club of traditional dances). The home of the Casidas in the Berkeley Hills has been an international meeting point for scientist, artists, and journalists: on the wooden floor of Kati's atelier, there are many hundreds of signatures of visitors of the house. These names would reveal fascinating details for a social scientist studying the life of the Berkeley intelligentsia of the past half-century.

John Casida will be sadly missed by his friends, students, and former colleagues worldwide, who all wish to pass on condolences to his wife Kati and their sons Mark Earl and Eric Gerhard.

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