

**MEMORIAL RESOLUTION OF THE FACULTY
OF THE UNIVERSITY OF WISCONSIN-MADISON**

ON THE DEATH OF PROFESSOR EMERITUS ROBERT L. METZENBERG

Robert L. Metzenberg, professor emeritus of biomolecular chemistry in the School of Medicine and Public Health, died on July 15, 2007 at the age of 77. The cause of death was complications from cancer. He joined the Department of Physiological Chemistry (subsequently renamed Biomolecular Chemistry) as an assistant professor in 1958 and retired in 1996. Upon retirement from the University of Wisconsin, he moved to Stanford where he continued to be active as a research professor.

Dr. Metzenberg received many academic honors, including being named John Bascom Professor by the UW Board of Regents in 1978 in honor of his undergraduate teaching, receiving a Guggenheim Fellowship in 1983, election to the National Academy of Sciences in 1997 and receiving the Wisconsin Medical Alumni Award in 1997. In 2005, he received the Genetics Society of America's prestigious Thomas Hunt Morgan Medal recognizing his lifetime contribution to the science of genetics.

From 1962 to 1993, he taught continuously in the biochemistry course for first year medical students and was director of the course for much of that time. He was honored by the Medical School Dean's Award for Teaching in 1994. He was also one of the visionary founders of the Biology Core Curriculum (Biocore) program for undergraduates and a member of the initial cell biology team. For Biocore, he designed and taught a very popular lab concerned with biochemical pathways in *Neurospora* and taught continuously in this program until his retirement from the University of Wisconsin. He was a co-author of a widely used undergraduate biology textbook, *Life on Earth*, which is now in its eighth edition, with the revised title of *Life: the Science of Biology*.

Professor Metzenberg's lectures were economical and lucid, and his quirky humor helped to make the content memorable. For example, in the Biocore course, he wanted to make the point that the various scientific disciplines were distinguished by the methods they used and the kinds of questions they asked. He told the students that a biochemist who wanted to understand a motor car would grind it up, reducing it to a pile of little chunks, and then would separate the chunks from one another, studying each chunk separately to try to figure out what it did and how it did it. An anatomist would get a huge band saw and slice the car like a salami. The anatomist would then study the slices individually and in sequence to try to figure out the contours of the individual parts and to determine which parts were connected to one another and how they are connected. A geneticist would work with the whole car, removing one bit at a time — a valve here, a gear there — and see how the removal of that one part affected the operation of the car. It was an immediately comprehensible and memorable analogy.

Dr. Metzenberg was completely at ease with all aspects of biochemistry. He majored in chemistry at Pomona College, with minors in physics and biology. As a graduate student in the laboratory of Herschel Mitchell at the California Institute of Technology, he went on to work on the biosynthesis of amino acids in *Neurospora*, and as a postdoctoral fellow with Philip Cohen at the University of Wisconsin, he studied enzymatic reactions involved in urea synthesis in mammals and amphibia. Early in his career as an assistant professor, he chose to work on regulation of carbon, sulfur and phosphorus utilization in fungi. He made pioneering advances in the field by identifying multiple regulatory mutants that were defective in phosphorus or sulfur utilization and demonstrating that the underlying genes exist in a hierarchy to turn on a family of unlinked structural genes. These studies foreshadowed the discovery of similar regulatory systems in higher eukaryotes, including humans.

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More recently, he played key roles in establishing the existence of several basic mechanisms used by cells to ensure the integrity of their genomes. In this work, he discovered an unusual organization of ribosomal RNA genes in *Neurospora* and that the numbers of copies of these genes actually increase during certain sexual phases of development. He also helped determine how cells use a special RNA polymerase to silence genes that are present in inappropriate numbers and made key discoveries in the genetics of fungal mating type control. His abilities and love of research led to his being an author or co-author of over 120 papers published in peer-reviewed journals. In addition, he contributed greatly to his field by serving on the Genetics Study Section of NIH for four years, the editorial boards of numerous scientific journals, and in 1990, as president of the Genetics Society of America.

Because he was a natural tinkerer, Dr. Metzberg made many important technological as well as conceptual discoveries. His research contributions have been broad, and they continued long after he retired from the University of Wisconsin. He took great pleasure in carrying out experiments with his own hands and managed to stay at the bench even when it required converting the spare bedroom in his retirement home in Northridge, California, into a small laboratory. Even on the day he died he went into his laboratory and started an experiment.

Bob Metzberg's quick sense of humor was enhanced by his ability to recall facts and events that allowed him to view events in unusual ways. Both within and outside of the laboratory and classroom he was well known for his encyclopedic knowledge of tastes and smells. These latter abilities made him a very popular expert at wine-tasting gatherings. He was a co-founder and an active member of a tasting group that still meets regularly, and his wry comments kept the group from becoming too serious about itself. He was a person who enjoyed all aspects of life.

Robert Metzberg is survived by his wife Helene, two sons Stan and Howard, a daughter-in-law Aida and two grandchildren.

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