



## **Eugene Lewis Madsen**

February 24, 1953 – August 9, 2017

Professor Eugene Lewis Madsen, age 64, brilliant environmental microbiologist, devoted husband and father, creative teacher, inspirational mentor, accomplished gymnast, good friend—was born on February 24, 1953 in Oakland, California, and died in a tragic accident at his home in Ithaca on August 9, 2017.

Eugene was the son of Donald and Margaret Lewis Madsen, the husband of Jane Walker '78, and the devoted father of their two children, Cecelia Madsen '12 and Sidney Madsen '13. He is survived by his brother, Peter Rentz, and sister, Jane Madsen. Eugene is missed by all the members of his extended family, and many friends, collaborators and students at Cornell and around the world.

Eugene first came to Cornell in 1979 after earning a B.A. in chemistry at University of California, Santa Cruz (1975) and a B.S. in Soil Science at Oregon State University (1978). At Cornell, he matriculated as a graduate student with intent to study environmental microbiology in the laboratory of the renowned soil microbiologist, Professor Martin Alexander, in the Department of Agronomy (now the section of Soil and Crop Sciences in the School of Integrative Plant Science). Under Professor Alexander, he earned both Master of Science (1981) and Doctor of Philosophy (1985) degrees. After graduation, Eugene worked briefly in the New Jersey Pine Barrens at Rutgers University's Division of Pinelands Research, then he moved to a post-doctoral position with Professor Jean-Marc Bollag at Pennsylvania State University, where he did pioneering studies on microbial life in deep subterranean and groundwater environments. In 1989, after a one-year stint as senior microbiologist at MSI Detoxification, Inc., a private environmental science consulting company in Bozeman, Montana, he returned to Cornell as a Research Scientist in the laboratory of Professor William Ghiorse, who was the new chair of the recently-formed Department of Microbiology in the College of Agriculture and Life Sciences. Eugene was promoted to the position of Research Assistant Professor in 1992. By 1999, he had established himself as an independent research scientist capable of funding his own laboratory and he was granted a tenure-track Assistant Professor position in the Department. He was

promoted to Associate Professor with tenure in 2002 and to Full Professor in 2009.

Eugene was an unusually gifted environmental microbiologist whose research career spanned four decades. His research focused primarily on the understanding of fundamental microbial activities in natural environments. In his own words this included: “documenting the ‘who’, ‘what’, ‘how’, ‘where’, ‘when’, and ‘why’ of microbiological processes in soil, water, sediments, and ground water.” He was, perhaps, best-known for his long-term, in-depth, basic research studies of a coal tar waste disposal site in upstate New York where he applied powerful molecular techniques and innovative field-oriented methods to understand the underlying microbial ecology affecting the bioremediation processes occurring at the site. During these studies he trained and mentored numerous graduate and post-doctoral students, and he collaborated freely with scientists at Cornell and many other institutions. He published over 150 influential primary research papers and review articles in a variety of top-flight, cross-disciplinary scientific journals and was frequently invited to give lectures around the world. Eugene was an exacting scientist with many of his most highly cited publications setting the gold standard for working in complex environmental systems. He is perhaps best known outside of Cornell for his widely used textbook, *Environmental Microbiology: From Genomes to Biogeochemistry*, now in its second edition, which was published in 2016. The book is based on a course he taught for many years in the Department of Microbiology.

Eugene was a talented and creative teacher. Starting in 1995, he taught both undergraduate and graduate level courses in Environmental Microbiology. From 1997 to 2002, he co-taught that course with Professor Ghiorse, and he took over the course as its sole instructor in 2003. In 2005, he began co-teaching a new course for freshmen—Introduction to the Science and Management of Environmental and Natural Resources—with James Lassoie and Timothy Fahey from the Department of Natural Resources. That course transitioned into the introductory course—Introduction to Environmental Science and Sustainability—for a new multi-departmental Environmental and Sustainability Sciences major in 2013, co-taught with Clifford Kraft. Eugene’s enthusiasm for students was always evident in the classroom and in his lectures, in which his lively nature and engaging personality were constant.

Eugene was a member of the graduate fields of Microbiology and Environmental Toxicology at Cornell, and active in professional societies including the American Society for Microbiology, the American Chemical Society, the Society for Environmental Toxicology and Chemistry, and the American Association for the Advancement of Science.

Eugene loved his research and teaching, but he loved his life beyond work even more. He was enthusiastic about every aspect of his life. He was devoted to his family and his students, especially to his wife and two daughters, to his trumpet playing, and to his gymnastics activities. Eugene mentored many undergraduate, graduate, and post-doctoral students, who are now faculty members and researchers at universities around the world; but his daughters are the students he valued the most. He taught them all by example, with unconditional love and total respect.

Eugene was an accomplished trumpet player. He played in the Ithaca Concert Band, and with friends in Friday night quartets. He even played for students in his classes, and he often played at

the opening ceremonies at Cornell's gymnastic meets as well as at many family functions.

Eugene was an active person who was often seen riding a bike—not a fancy bike—as he went from place to place on campus. His most regular destination was a daily visit to Teagle Hall where he swam, did gymnastics and was notable for being unusually fit and athletic. At the time of his death at age 64, he was still in top physical condition. He would often arrive around noon for open pool hours, where Eugene developed friendships with many fellow swimmers who enjoyed his enthusiasm and friendliness. Then, after swimming, he would often appear in the locker room with bandaged hands covered in gymnast's chalk. Remarkable for his age, he was still a practicing gymnast able to make difficult routines on the high bar look easy. One of his most impressive accomplishments in the months prior to his death was performing a “giant” on the high bar—a very impressive complete circle, fully extended, around the bar. He was a faculty advisor to the Cornell Gymnastics club from 2002 until his untimely death in 2017.

Eugene was curious about every aspect of the world, and nothing was too trivial to attract his attention. He was extremely self-disciplined and quite proud of his frugal demeanor and the lack of waste in his life. He never wasted anything. However, he was humble and modest about his academic accomplishments, including his widely used text book mentioned above. Looking ahead, it is sad to realize that students and colleagues reading the latest edition of his book will no longer have the opportunity to appreciate his dynamic, insightful lectures and their very energetic delivery that often included a trumpet solo for emphasis.

Beyond his outstanding research and teaching contributions, Eugene had a particularly penetrating sense of humor. This is best seen in his 2014 self-published collection of unique annual cartoon cards, titled: “Parade of Unconventional Voices: Cartoons of Art, Humor, and Philosophy”. The main characters in the cartoons are often set in remote, vast western landscapes where gnome-like specks of sand or dust, evoke voices in the wilderness, having imaginative conversations at an International Conference or a Global Summit Meeting. The 2017 edition was the “International Conference on Pithy Statements”. The recurring theme in all of these cards is a deep, reflective, but irreverent, conversation that usually ends with a pun. He created them each year to send his best wishes for a Happy New Year to all.

We sorely miss Eugene, especially his annual messages of unique art, humor, and philosophy; but most of all we miss his collegial warmth and enduring friendship.

*Written by William C. Ghiorse (chair), Esther R. Angert and Clifford E. Kraft  
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