Memorial Resolution of the Faculty of the University of Wisconsin-Madison
On the Death of Professor Emeritus William C. Boyle

Professor Emeritus William C. Boyle died April 1, 2020, at the age of 83. Boyle was born in Minneapolis in 1936. He is survived by his wife of 60 years, Nancy, and their four children: Elizabeth (Betsy), Michele, Jane, and Robert (Bob); and 10 grandchildren.

Bill attended high school in Fort Thomas, Kentucky and in 1954 held the Bausch & Lomb Honorary Science Award. Bill and Nancy were high school sweethearts. Nancy attended the College-Conservatory of Music and earned her BS degree from the University of Cincinnati. Boyle attended the University of Cincinnati received his civil engineering degree in 1959. Bill and Nancy were married in 1959. After earning his master’s degree from the University of Cincinnati in 1960, Bill earned his PhD in 1963 at the California Institute of Technology (Caltech) under the direction of Prof. Jack McKee. After graduating from Caltech, Bill, Nancy and their first child, Betsy, moved to Madison and Bill started his career at University of Wisconsin. Bill and Nancy’s children Michele, Jane, and Bob, were all born in Madison.

During his studies at the University of Cincinnati, Bill participated in the civil engineering co-op and worked at the Milwaukee Jones Island Wastewater Treatment Plant. The co-op experience was impactful on Boyle’s effort to integrate engineering practice with engineering education.

For more than 30 years, Bill Boyle served as a valued member of the UW–Madison’s Civil and Engineering Department and is credited with helping to build UW-Madison’s environmental engineering program into one of the nation’s best. He continued to serve the field of environmental engineering long after his retirement from UW-Madison in 1996. His UW-Madison tenure included service as CEE’s department chair from 1984-1986, and as Associate Chair from 1988-1996. Boyle’s prolific research resulted in over 140 publications and had profound impacts on the practice of environmental engineering.

In 1975-1976, Bill and his family spent the year at Stavanger, Norway, while Bill taught at Rogaland College. From 1988-1989, Boyle took a leave of absence serving as Principal Engineer for J.M. Montgomery Engineers; this opportunity helped translate his research and developments in engineering practice into everyday applications across the nation.

Starting in 1977, Boyle led a nation-wide effort under the American Society of Civil Engineers to develop standard methods for measuring the oxygen transfer capacity of aeration systems used in wastewater treatment. These efforts led to the U.S. Environmental Protection Agency (USEPA) Design Manual for Fine Pore Aeration Systems, and a book co-authored with Jim Mueller and Johannes Popel, Aeration: Principles and Practice. These publications transformed the design and operation of aeration systems in wastewater treatment facilities and still impact the field today.

Boyle researched a range of environmental engineering issues, including biological wastewater treatment, nitrogen removal processes for wastewater and oxygen transfer. His projects received funding from the National Science Foundation, Environmental Protection Agency, Wisconsin Department of Natural Resources, and the Madison Metropolitan Sewerage District. He contributed to a number of critical innovations at the Madison Metropolitan Sewage District including ultraviolet light disinfection, ammonia toxicity standards, fine pore aeration design and maintenance, and cold weather denitrification. These innovations were adopted at other facilities around the country that impacted industry standards wastewater treatment. His work led to more than $100 million in savings at the Madison Metropolitan Sewerage District through improvements to the district’s wastewater treatment operations.
Boyle was an inspired educator. Throughout his career, he taught the required civil engineering course in environmental engineering that introduced a generation of engineering students at UW-Madison to environmental engineering. This alone had a profound impact on the environmental engineering workforce and industry. Boyle went further, mentoring dozens of graduate students throughout his tenure at UW-Madison. He was known for teaching students through sound fundamental and applied research and for encouraging them to seek original, practical solutions to engineering challenges. He received numerous awards for his teaching. Ultimately, the Bill Boyle Outstanding Educator Award was established in his name in 2008 by the Central States Water Environment Association (CSWEA), a legacy continuing to honor him.

Boyle was very active in the environmental engineering professional societies including the American Society of Civil Engineers (ASCE), the American Academy of Environmental Engineers (AAEE), the Water Environment Federations (WEF), and the International Water Association (IWA). He served as Trustee-at-Large from 1993-1996 for AAEE and the president of AAEE from 1999-2000. He was very active in engineering education accreditation and served as the AAEE representative to the ABET Engineering Accreditation Commission from 1994-2000.

Boyle’s ability to apply engineering fundamentals when providing solutions and innovations in engineering practice was the hallmark in all of his outstanding achievements in research, education, mentoring and eventually his ability to have a transformative impact in engineering practice. Boyle’s contributions to the environmental engineering program at UW-Madison, along with Professor Gerard Rohlich, Larry Polkowski, Mac Berthouex, and Bob Ham, laid the foundation for environmental engineering at UW-Madison and have had a lasting impact on the success of a highly regarded Civil and Environmental Engineering Department at UW-Madison. Although Prof. Bill Boyle will be deeply missed, his legacy and impact is timeless.

Memorial Resolution Committee

Paul M Berthouex, Professor Emeritus
Tuncer B. Edil, Professor Emeritus
James J. Schauer, William C. Boyle Professor