Biography: Maria K. Burka

Maria K. Burka received B.S. and M.S. degrees from the Massachusetts Institute of Technology in Chemical Engineering and M.A. and Ph.D. degrees (also in Chemical Engineering) from Princeton University. Retired since January, 2016, she was, in reverse chronological order: director of the Process Systems, Reaction Engineering and Molecular Thermodynamics program at the National Science Foundation (NSF), a senior scientist at the U.S. Environmental Protection Agency (EPA), on the faculty of the University of Maryland - College Park, and a process design engineer at the Scientific Design Company in New York City. Her publications have been in the areas of chemical process design, control and in systems technology.

Her latest program portfolio at NSF spanned a broad range of research areas including chemical reaction engineering, chemical process design and control, reactive polymer processing, and molecular architecture and thermodynamics. Previously it also included biochemical engineering. Her NSF responsibilities primarily involved the support of academic research projects in these areas as well as identification and support of emerging research areas of both technological importance and societal benefit. She was the acting division director of the Chemical, Bioengineering, Environmental, and Transport Systems Division in 2008. At the EPA she was involved with research and development projects aimed at decreasing SOx and NOx pollutants from coal fired power generation facilities. At the University of Maryland, in addition to her teaching responsibilities, she supervised student research projects focused on developing algorithms for more efficient process design and control of chemical plants and pharmacokinetic modeling of various pollutants in the human body, the latter in conjunction with the National Institutes of Health. At Scientific Design she worked on the design of a number of processes such as those for manufacturing maleic anhydride.

Dr. Burka has been an active member of the American Institute of Chemical Engineers (AIChE) since 1970. She has served on numerous committees, and was elected to leadership positions in two of its divisions, the Catalysis and Reaction Engineering Division (CRE) and the Computing & Systems Technology Division (CAST), including Director and Chair of CRE and Director and Secretary/Treasurer of CAST. Similarly, she has been active and was elected chair of the local AIChE section, the National Capital Section. She was elected to the Board of Directors of AIChE in 2002 and was elected AIChE President for 2011. Since then she has chaired its Public Affairs and Information Committee in 2014 and 2015, is presently the chair of the Awards Committee and has been actively promoting AIChE in the international arena. In addition to AIChE she was active in the Society of Women Engineers (SWE), the American Association for the Advancement of Science (AAAS), the American Chemical Society(ACS) and the American Association of University Women (AAUW).