

RESUME

Margaret Burke Emmett

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EDUCATION:

Warrenton High School, Warrenton, VA - Valedictorian of Class
Tennessee Tech University, Cookeville, TN
Bachelor of Science in Mathematics, with Highest Distinction

University of Tennessee, graduate work in Applied Mathematics
(Partial Differential Equations)

PROFESSIONAL EXPERIENCE:

As Group Leader for Nuclear Code Development, Ms Emmett manages a group of people who develop computer code systems for nuclear engineering applications. Ms Emmett has over 30 years experience in Monte Carlo calculations and code development. She has participated in development of the MORSE Monte Carlo code system beginning with the original version of 1970. She has primary responsibility for development and maintenance of all current Oak Ridge versions of MORSE, including CG, CGA, and SGC, the latter being part of the SCALE system, and the two SCALE shielding analysis systems, SAS3 and SAS4 that include the MORSE-SGC module. Ms Emmett also serves as the SCALE Configuration Coordinator and is involved in validation and verification of Monte Carlo computer codes on various computers and in writing configuration control plans. In addition she has developed and maintained auxiliary codes for the MORSE systems. These include DOMINO, a code which couples discrete ordinates to Monte Carlo; BREESE, an albedo code system; PICTURE, a 2-D plotting code to illustrate geometries either on a printer or in color on a computer screen. Ms Emmett has performed shielding calculations for many different reactor types, including FFTF, LMFBR, HTGR. These calculations helped determine the amounts and kinds of shielding required to protect persons located near the reactors. She has done calculations of numerous experiments and benchmarks using MORSE and performed radiation studies of buildings and people at Hiroshima and Nagasaki. She was instrumental in the development of MASH, an adjoint Monte Carlo code system that involves coupling discrete ordinates and Monte Carlo methods.

Ms Emmett also serves as Facility Manager of Building 6011 and as Work Force Diversity Representative for CPED.

Her professional activities include the American Nuclear Society (ANS). She has served as Chair of the Radiation Protection and Shielding Division and as Chair of the Oak Ridge/Knoxville Section of ANS.