JOHN JOSEPH ARNISH

Radiological Engineering Section
Environmental Science Division
Argonne National Laboratory

Education:

M.S.	University of Tennessee, Nuclear Engineering, 1994
B.S.	Southern Illinois University, Physics, 1992

Professional Experience:

2000-Present	Computational Scientist, Environmental Systems
1997-2000	Assistant Scientific Systems Developer
	Environmental Science Division
	Argonne National Laboratory

Responsible for performing radiological impact and human health risk assessments for radioactive or hazardous waste processing or environmental remedial actions. Other responsibilities include data analyst for the U.S. Department of Energy Highly Enriched Uranium Transparency Program (HEU-TP), which monitors the conversion and blending of HEU to low enriched uranium (LEU) at several Russian nuclear facilities; and principal instructor for the RESRAD, RESRAD-Build, and RESRAD-Recycle user training workshops for the U.S. Department of Energy and U.S. Nuclear Regulatory Commission.

Computer software and development activities include the development of risk assessment software such as the RESRAD, RESRAD-Build, RESRAD-Recycle, RESRAD-Biota, TSD-DOSE, and P2Pro(RSM) computer codes; the development of relational databases for use in radiological risk assessment codes as well as other data analysis activities; and the development of software required for successful installation and execution of the risk assessment software, including all required peripheral components, such as relational databases, dynamic link libraries, and database engines across all Windows® operating systems.

Summary of Previous Experience:

1994-1997	Engineering Specialist
	Environmental Assessment Division
	Argonne National Laboratory

Responsible for performing radiological impact and human health risk assessments for the transportation of nuclear materials, radioactive or hazardous waste processing, or for

environmental remedial actions. Co-authored radiological impact sections for U.S. Department of Energy environmental impact statements and environmental reports. Co-developed radiological risk assessment software (TSD-DOSE) for the U.S. Department of Energy.

1992-1994	University of Tennessee
	Knoxville, Tennessee

Developed a probabilistic mathematical model that provided estimates for lung tumor induction, mammary tumor induction, and total mortality rates in BALB/c female mice. Applied Bayesian statistical techniques to quantify the effect of radiation dose rate on BALB/c female mice in terms of a probability distribution. This was the first time Bayesian statistical techniques were used to quantify the effect of dose-rate effect on fatal tumor induction.

Research Interest:

Modeling the uncertainty associated with pathway analysis models.
Developing databases and computer applications to assist in data analysis.

Honors, Awards:

Argonne National Laboratory Pacesetter Award, 2000
William C. Ballowe Senior Memorial Award in Physics, 1991

Publications:

Author or co-author of 50+ journal, report, and conference publications and presentations.