

## CHARLEY YU

RESRAD Program Manager  
Environmental Science Division  
Argonne National Laboratory

### Education:

Ph.D.            Pennsylvania State University, Nuclear Engineering, 1984  
M.S.            National Tsing-Hua University, Health Physics, 1978  
B.S.            National Tsing-Hua University, Nuclear Engineering, 1976

### Professional Experience:

1993-Present    RESRAD Program Manager,  
                         Environmental Science Division  
                         Argonne National Laboratory

Manage and serve as the Principal Investigator for the RESRAD model development and risk assessment program funded by the U.S. Department of Energy (DOE) and the U.S. Nuclear Regulatory Commission (NRC). Focus on technical quality of deliverables, sponsor interaction, interdisciplinary communication, quality assurance of RESRAD codes, and program development. Developed the RESRAD family of codes, which is widely used by the Federal and State agencies and their contractors. Successfully released the RESRAD-RECYCLE, RESRAD-BUILD and RESRAD-BIOTA codes. Also provides guidance and consultation to Staff members on radiological modeling and risk assessment issues. Also managed the RDD Operational Guidelines Project and worked with multi-agencies and FRMAC people in comparison of methodologies and approaches. Managed and lead the Sewage Sludge Dose Modeling project and worked with Federal agencies (DOE, EPA, and NRC) in assessing disposal and application alternatives and scenarios.

### Summary of Previous Experience:

1988-1993       Environmental Assessment and Information Sciences Division  
                         Argonne National Laboratory

Managed and served as Principal Investigator for the development of the RESRAD, RESRAD-BUILD, RESRAD-CHEM, and other related computer codes and the preparation of supporting documents. Performed various analyses and technical reviews on health risk assessment, radiological dose calculations, soil cleanup criteria derivation, radionuclide transport modeling, and radionuclide leaching studies. Participated in the international efforts VAMP and BIOMOVs II to validate multiple pathways computer codes including RESRAD and conducted RESRAD training workshops for various Federal/State agencies and their contractors.

1984-1988      Energy and Environmental Systems Division  
                    Argonne National Laboratory

Provided and applied mathematical models, analytical methodology, computational tools, and database for radiological impact assessments. Conducted pathway analysis and dose calculations for the disposal and transportation of radioactive materials. Studied the effect of hydraulic conductivity on the performance of disposal cells. Developed a leaching model and applied to a three-dimensional solute transport model to study the migration of radioactive and chemical wastes. Contributed to the preparation of a Handbook for Greater Confinement Disposal of Low Level Wastes.

1980-1984      Research Assistant, Pennsylvania State University

Conducted research in various aspects of waste management and solute transport modeling. Developed a general nuclide transport model to predict radionuclide migration in geologic media under saturated/unsaturated and homogeneous/fractured conditions. Conducted tracer experiment using soil columns to study radionuclide migration in soils. Developed a nonlinear regression method to identify hydrogeologic parameters from tracer breakthrough data.

### **Research Interests:**

Multimedia contaminant transport modeling  
Probabilistic risk assessment  
Waste disposal facility performance assessment  
Radiological Dispersal Device dose assessment and operational guidelines development

### **Professional Activities:**

Alpha Nu Sigma (Nuclear Science and Engineering Honorary), 1983  
Phi Kappa Phi (All University Honorary), 1982  
Sigma Xi (Scientific Research Honorary), 1984  
Certified Health Physicist by the American Board of Health Physics (1990)  
Journal Reviewer: Nuclear Technology, Health Physics  
Organized and chaired sessions at national conferences and meetings

### **Honors and Awards**

Argonne National Laboratory Pacesetter Award, October 2000 and December 2004  
National Environmental Excellence Award, 2001

### **Publications:**

Author or co-author of more than 200 publications, including 22 journal articles, 3 book chapters, and more than 170 reports, NUREG/CR documents, conference papers and posters, plus oral presentations and legal testimony.