

## **EDMUND A.C. CROUCH, Ph.D.**

### **EDUCATION:**

1975. Ph.D., High Energy Physics. University of Cambridge, England.  
1972. B.A., Theoretical Physics. University of Cambridge, England.

### **PROFESSIONAL EXPERIENCE:**

- 1989–Present. Senior Scientist, Cambridge Environmental Inc., Cambridge, MA.  
1987–Present. Associate of the Department of Physics, Harvard University, Cambridge, MA.  
1992–1993. Lecturer, Department of Epidemiology, Harvard School of Public Health, Boston, MA.  
1990–1992. Assistant Professor of Community Health, Tufts School of Medicine, Medford, MA.  
1987–1989. Senior Scientist, Environmental Health and Toxicology Group, Meta Systems Inc., Cambridge, MA.

### **SELECTED PROJECT EXPERIENCE:**

- Managed and wrote several site risk assessments for Massachusetts, Federal Superfund sites, and Waste-to-Energy plants.
- Designed the theory and implemented in computer code a site assessment tool (called RISK-ON-SITE™) that uses Voronoi diagrams to assist in estimating risks from soil and groundwater on a site. Provided suitable color displays to allow rapid evaluation of the available data on a site. Extended the methodology to give risk-based estimates of required clean-up levels.
- Performed statistically correct comparisons of metals concentrations in groundwater upgradient and downgradient of a Superfund landfill site, and showed that the entire apparent difference in mean concentrations was accounted for by the skewness of the distribution and the larger number of samples taken downgradient.
- Derived and used in risk assessments and in support of various litigations many quantitative exposure assessments involving transport and fate of chemicals in the natural (for example: air, soil, groundwater, surface water) and man-made (for example: indoor and outdoor air) environment.
- Wrote and maintain a software package (MSTAGE) to evaluate the results of carcinogenesis bioassays in laboratory animals. This package is flexible enough to incorporate the standard EPA methodologies, but may also be used with more advanced methodologies incorporating uncertainty correctly.
- Performed full uncertainty analyses of cancer risk assessments for several chemicals and in several situations, incorporating all the known uncertainties in a consistent fashion.
- Provided expert technical comments on proposed EPA rules in such areas as exposure assessment (for example: for landfill leachate and landfill gas), and risk assessment methodology (for example, as applied to the Hazard Ranking System).

### **PUBLICATIONS AND REPORTS:**

A list of publications and reports will be provided upon request, and is also available at our web site ([www.cambridgeenvironmental.com](http://www.cambridgeenvironmental.com)).