

Marco Kaltofen, PhD, PE (Civil, MA), C. NSE  
2 Summer Street, Suite 14  
Natick, MA 01760  
kaltofen@wpi.edu | (508) 259-6717

**Experience:** President, (1988 to present) Boston Chemical Data Corp., Natick, MA, Environmental fate and transport investigations including nuclear forensic examinations, petroleum spill fingerprinting, and advanced forensic microscopy. Extensive onsite field sampling and investigations in the US and Internationally, focussing on radiological and forensic investigations. Large-scale petroleum spill investigations and mapping. Modeling via computerized chemical, geographical and engineering information systems, including 3-D groundwater, air transport and fire dynamics plume models. Use of micro- and nano- scale analyses for isotope tracking and hot particle isolation and detection. International clients in Russia, Kuwait, Sweden, The Netherlands, Mexico, and Japan. (U.S. citizen, with permanent European Union work permit)

Research Engineer, (2016 to present) affiliated, Dept. of Physics, Worcester Polytechnic Institute

Laboratory Director, (1988 - 1993) Citizens' Environmental Laboratory, Boston, MA

Project Coordinator, (1984 - 1988) Greenpeace International, London, UK and Amsterdam, NL; Responsible for environmental program research, field programs, and supervision of staff.

Manager, (1982 - 1984) Cambridge Analytical Associates, Trace Inorganics Laboratory manager, Boston, MA - Responsible for atomic absorption, infrared, and polymer analyses.

Chemist, (1981) New England Aquarium, Boston, MA - US Dept. of Energy grant, chemist responsible for testing of environmental fate of petroleum drilling wastes in oceans.

**Education:** 2015 Worcester Polytechnic Institute, Dept. of Civil and Environmental Engineering, Doctor of Philosophy degree in civil engineering, with nuclear science and engineering minor, GPA 4.0. Dissertation title: *Assessing Human Exposure to Contaminants in House Dust*. Coursework and research in environmental fate and transport of radioactive materials, atomic force microscopy, particulate transport, and dynamic modeling and numerical analysis. Additional research on the fate of petroleum residues in the Gulf of Mexico. Research on depleted uranium supported by grants from Jeff Ubois and the John D. and Catherine T. MacArthur Foundation. Research on particle releases from Fukushima and the Hanford Nuclear Reservation supported by the George and Ellen Merrill Foundation.

2014 Graduate certificate in Nuclear Science and Engineering, WPI

2010 Master of Science degree in Environmental Engineering, Worcester Polytechnic Institute, Dept. of Civil and Environmental Engineering. Masters thesis, Microanalysis of Heterogeneous Radiation in Particulate Matter as an Aid to Nuclear Source Identification.

1981 Boston University Bachelor of Science degree in General Engineering with an American Chemical Society accredited concentration in Chemistry.

**Memberships:** American Society of Civil Engineers, Boston Society of Civil Engineers Section/ASCE, Committee on National Accreditation of Environmental Laboratories, American Chemical Society, National and Northeastern section, (25 years); Coasts, Oceans, Ports and Rivers Institute

### Recent Publications:

- Tracking legacy radionuclides in St. Louis, Missouri, via unsupported  $^{210}\text{Pb}$ , J. Env., Rad., 3/2016
- Assessing human exposure to contaminants in house dust, PhD dissertation, 3/12/2015, WPI
- Tracking radioactive dust in northern Japan, WPI, March 2012
- Tracking radiological plumes from the Fukushima Daiichi accident  
Oct. 31, 2011 presentation at 139th annual meeting of the APHA, Washington, DC
- Persistence of DWH n-alkanes and PAHs, Bay Jimmy marshes, Barataria Bay, LA: Year 1, D, Deocampo, principal author, collaborators, W. Crawford Elliott, Kuki Chin, V. Ryan Perry, Gary Hastings, Bob Rosenbauer, Marco Kaltfen, USF Conference presentation, October, 2011
- 2010 BP oil spill in the Gulf of Mexico  
Corexit dispersants/BP Crude mix increases polynuclear aromatics levels in water & marine life in the Gulf of Mexico
- *Microanalysis of Workplace Dusts from the Mixed Waste Tank Farm of the Hanford Nuclear Reservation*, J. Environmental Engineering Science, published February 2010.
- Master's Research Report, Worcester Polytechnic Institute, August 2009. Microanalysis of Heterogeneous Radiation in Particulate Matter.

### Recent Invited Lectures:

- Massachusetts Institute of Technology, Media Laboratory, *Field Sampling for Radiation Detection*, scheduled for Sept. 2015
- Tufts School of Medicine, *Radiation exposure to the people of northern Japan*, 11/2014
- Update on radioactive dust from reactor accidents at Fukushima, Japan, 142nd meeting of the APHA, New Orleans, 11/2014
- Dartmouth College, Thayer School of Engineering, *Transport of radiation from the Fukushima Daiichi accidents*, 2/2012
- Tufts School of Medicine, *Oil & dispersants from the Gulf oil spill*, 11/2011
- University of Washington, *Radiation transport by hot particles*, 10/2011
- Worcester Polytechnic Institute, *Fingerprinting of crude oil in the Gulf Of Mexico oil spill*, 2/2012
- Loyola University, *Dispersants and their effects on Polynuclear Aromatic Hydrocarbon concentrations in seawater*, 10/2010
- Chelyabinsk School of Law, Chelyabinsk Oblast, Russia, *International trade in radioactive wastes*, 10/2007

### Professional Service

- US Army Restoration Advisory Board Chairman, (18 years), Biological and Chemical Command, Soldier Systems Center, Natick, Massachusetts
- Boston University College of Engineering Alumni Assoc., Distinguished Alumni Award
- US National Park Service - volunteer historic interpreter
- US Army Science, Math and Technology Student Competitions 2008 to 2010, Judge
- Task force for the development of sewer use regulations for the Massachusetts Water Resources Authority.