



## **EBC New Hampshire Chapter Program Contaminants of Emerging Concern**

Friday, February 12, 2016

Eversource Energy  
Manchester, New Hampshire

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### **AGENDA**

- 8:00 a.m. Welcome: Robert Hasevlat, EBC New Hampshire Chapter Chair**  
Business Development Manager, Normandeau Associates, Inc.
- 8:10 a.m. Introduction to Program on Emerging Contaminants**
- Peter M. King, P.E., LSP, LEP, Program Co-Chair and Moderator  
Associate, Geosyntec Consultants, Inc.
  - Muriel S. Robinette, PG, Program Co-Chair  
Senior Environmental Hydrogeologist / Senior Principal, Terracon, Inc.
- 8:30 a.m. Overview of Emerging Contaminant Issues**
- Ellen E. Moyer, Ph.D., P.E., Principal, Greenenvironment, LLC
- 8:50 a.m. Regulation and Management of Emerging Contaminants**
- Brandon Kernen, Drinking Water Source Protection Program  
NH Department of Environmental Services
- 9:10 a.m. Pharmaceuticals in the Aquatic Environment**
- Jerome Cura, Ph.D., Senior Scientist, Woods Hole Group
- 9:30 a.m. Networking Break**
- 10:00 a.m. Trends in PFC Occurrence and Remediation**
- Eric Nichols, P.E., Principal, Substrata, LLC

**10:20 a.m. Remediation of Perfluorinated Hydrocarbons Using OxyZone Processes**

- Raymond Ball, Ph.D., P.E., LSP, President and Principal Engineer  
EnChem Engineering, Inc.

**10:40 a.m. 1,4-Dioxane Treatment Options**

- Michael Marley, President and Co-Founder, XDD Environmental

**11:00 a.m. Panel Discussion**

Moderator: Pete King, Geosyntec Consultants

Panel Members:

- Raymond Ball, EnChem Engineering, Inc.
- Jerome Cura, Woods Hole Group
- Brandon Kernan, NH DES
- Michael Marley, XDD Environmental
- Ellen Moyer, Greenenvironment, LLC
- Eric Nichols, Substrata, LLC

**12:00 p.m. Adjourn**

**PROGRAM CO-CHAIRS**

**Peter M. King, P.E., LSP, LEP**, Associate

Geosyntec Consultants, Inc.

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Pete King P.E., LSP, LEP, is a Principal Engineer in Geosyntec's Bedford, New Hampshire office. His career evolved from running oil tanker propulsion systems to building water treatment plants to remediating complex industrial sites. He currently focuses on the integration of environmental regulations and policies with his clients' industrial, institutional, and commercial business objectives, sometimes balancing the competing interests of a wide range of project stakeholders. He has over 30 years of engineering experience with expertise in water supply and treatment, site assessment, and remediation of soil and groundwater. Pete is a past President of the New Hampshire Society of Professional Engineers, a current Director for the New Hampshire Chapter of the American Council of Engineering Companies and a member of the EBC New Hampshire leadership team.

**Muriel S. Robinette, PG**, Senior Environmental Hydrogeologist / Senior Principal

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Muriel S. Robinette, P.G. is a Sr. Principal and Sr. Environmental Hydrogeologist with Terracon Consultants. She holds a B.S. in Geology from UNH and M.S from Washington State Univ, as well as Ph.D. studies at the Univ of Idaho in mining engineering. She is a registered geologist in New Hampshire and Maine. Muriel is responsible for technical strategy development and management of projects relating to hazardous waste and Brownfields redevelopment. She has served as a consultant to many PRP groups and as a testifying expert for numerous cases involving contaminant source determination, cost allocation and site remediation.

## SPEAKERS

**Raymond Ball, Ph.D., P.E., LSP**, President and Principal Engineer

EnChem Engineering, Inc.

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Raymond Ball, Ph.D., P.E., L.S.P. is President and Principal Engineer at EnChem Engineering, Inc. in Newton, Massachusetts. He has 35 years of consulting experience in the environmental industry that includes management and design services for hazardous waste site remediation projects including U.S. EPA National Priority List sites, military bases, and many commercial and industrial release sites. In addition, he has served as Principal Investigator or Co-Principal Investigator on four federally funded research and development projects related to improving in-situ treatment technology, and an author of several peer reviewed papers. He has commercialized two patented technologies marketed under the trade name of OxyZone®. His current focus is the design and implementation the OxyZone technologies for treatment of emerging contaminants. He obtained a Ph.D. in Environmental (Chemical) Engineering from Northeastern University, a M.S. in Environmental Engineering, from the University of Michigan, and B.S. in Civil & Environmental Engineering from the University of Cincinnati.

**Jerome J. Cura, Ph.D.**, Senior Scientist

Woods Hole Group

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Dr. Cura is an ecological risk assessor, and a Licensed Site Professional in the Commonwealth of Massachusetts. He is an expert in the area of ecological risk analysis. He has conducted ecological risk analyses in various freshwater systems, in marine and estuarine habitats, and in terrestrial environments. He has developed guidance for conducting risk assessments at dredging sites for the United States Army Corps of Engineers and he chaired the International Navigation Association's (PIANC) workgroup that developed international guidance. Dr. Cura's experience includes conducting assessments at CERCLA and RCRA sites (industrial and government facilities), providing technical advice on the design and execution of human health and ecological risk assessments, and providing expert testimony for law firms. Industry and Government organizations frequently invite him to lead or participate in environmental conferences or symposia. Dr. Cura works as a member of The Science Collaborative, a resource network of senior environmental scientists from the consulting industry and academia. He was a founding partner of Cura Environmental and Menzie-Cura & Associates, Inc. Dr. Cura has published over 30 peerreviewed book Chapters, technical papers, journal articles, and conference proceedings in the areas of risk assessment, environmental decision making, marine ecology, and dredged material disposal evaluation methods. He is a frequent contributor to Scientific Symposia. Dr. Cura is currently an adjunct faculty member at Cape Cod Community College where he teaches a course in Fundamentals of Oceanography.

**Brandon Kernen**, Drinking Water Source Protection Program

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Brandon Kernen earned his BS in Hydrology and Water Resources from the University of Arizona and is MS in Civil and Environmental Engineering from Tufts. He has worked for the Arizona Department of Water Resources, a large municipal water utility, and an environmental consulting firm. He has worked for the NH Department of Environmental Services for over 16 years and is currently the supervisor of Hydrology and Conservation. He is currently responsible of groundwater withdrawals, groundwater discharges, well construction, water conservation, water use reporting, and emerging contaminants of concern.

**Michael Marley**, President and Co-Founder

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Mike is president and co-founder of XDD Environmental and has over 34 years of experience in environmental and civil engineering. Mr. Marley is a nationally-known expert who focuses on strategies for site closure, including the development and application of innovative remediation technologies for contaminated soils and ground water. He has been at the forefront of developing design and application protocols for soil vapor extraction, sparging and in-situ chemical oxidation (ISCO) technologies. He reviews articles for several remediation journals and has published numerous articles and written chapters in several monographs and books on remediation.

**Ellen E. Moyer, Ph.D., P.E.**, Principal

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Ellen Moyer is an environmental engineer with her own consulting practice in western Massachusetts since 2004. She has a B.A. in anthropology, M.S. in environmental engineering, and Ph.D. in civil engineering. As a registered professional engineer and U.S. Green Building Council LEED Accredited Professional with 30 years of experience, she works for public and private clients remediating soil and groundwater contamination and preventing new environmental problems. She co-presented more than 100 seminars in North America and Europe about remediating soil and groundwater contaminated by volatile organic compounds. Professional publications include more than 25 articles and two books, one about MTBE remediation and the other about water conservation. She writes about sustainability issues for The Huffington Post and is currently working on her third book, for a non-technical audience, about how to have fun creating a sustainable world.

**Eric Nichols, P.E.**, Principal

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Eric M. Nichols, PE, is a principal at Substrata LLC in Newfields, New Hampshire. He has characterized and remediated contaminated sites since 1985. Before founding Substrata in 2014, he was National Technical Manager for Remediation at ARCADIS. Eric serves as a technical strategist for site characterization, remediation, natural source zone depletion, vapor intrusion, and litigation support. Eric has taught short courses for several organizations, including the U.S. Environmental Protection Agency, the National Ground Water Association, the American Society for Testing and Materials, the New England Interstate Water Pollution Control Commission, the American Petroleum Institute, and the University of California Extension. Eric has contributed to ITRC documents and training since 1998 as a member and trainer for the Fuel Oxygenates, LNAPL, and Petroleum Vapor Intrusion Teams. Eric has received Industry Appreciation Awards for his service on ITRC teams. Eric earned a bachelor's degree in Civil Engineering from the University of California, Berkeley, in 1982 and a master's degree in Civil Engineering from the Massachusetts Institute of Technology in 1985. He is a licensed professional engineer in California.