

Additional Course Details

This is a 8 hour CEU short course for the Environmental Professional. You will receive detailed exposure to tested advanced strategies for employing specific methods, processes and technologies for the assessment and remediation of acute environmental impacts stemming from the release of oxygenated motor fuels. If you require additional information regarding course curriculum, contact Joseph Haas at 631-673-9544.

Interested in The Course?

If you are interested in this course please let us know by contacting us at the numbers listed above or send e-mail to aihydro@aol.com or svasa@globalhydroserv.com.

Questions About Solutions via Applied Science Associates?

Contact J. E. Haas at (631) 673-9544 or jehaas@globalhydroserv.com or visit our web site: www.globalhydroserv.com

Who are Solutions via Applied Science Associates?

Formed in 2004, as a division of Global Hydrologic Services, Inc., Solutions via Applied Science Associates (SVASA) is comprised of a consortium of environmental professionals, interdisciplinary researchers and academics. The mission of SVASA is to provide technical training resources to disseminate both cutting edge and tested best practice methods for addressing complex issues in environmental management and hydrology.



What is Global Hydrologic Services?

Global Hydrologic Services, Inc. is a professional services corporation dedicated to providing, and advancing, industry standards to solve the most vexing technical and regulatory problems facing the hydrologic and environmental communities the world over.



Solutions via Applied Science Associates

Supporters of the MTBE & TBA Class:

The American Institute of Hydrology
North Carolina State University
Long Island Groundwater Research Institute
Global Hydrologic Services, Inc.

MTBE & OFO CLASSROOM TRAINING

MTBE & Other Fuel Oxygenates:

Characterization & Remediation Seminar

Course Preliminary Announcement



**AIH 25th Anniversary
Meeting**
Annual Meeting & International
Conference
May 21-24, 2006
Baton Rouge, Louisiana

Course Outline

<u>Start</u>	<u>Topic</u>
7:30	Registration
8:00	Welcome and Introduction
8:05	- History of Fuel Oxygenates - Physical Properties - Sampling and Analytical Methods
9:05	Sources, Plume Formation and Site Conceptualization
9:45	Site Characterization Tools
10:30	(Break)
10:45	Principles of Fuel Oxygenate Biodegradation
11:30	Groundwater Pump and Treat
11:55	Lunch
12:55	Groundwater Pump and Treat
1:20	Pump & Treat Case Study: "Smart Pump & Treat for MTBE"
1:45	Ex-Situ Treatment
2:25	Ex-Situ Bioremediation
3:00	Combined Air Stripping – BioGAC vs HiPox: Ex-situ treatment case studies
3:30	(Break)
3:45	In-Situ Bioremediation Alternatives
4:20	Air Sparging / In Situ Bioremediation
4:55	ISCO
5:10	ISCO Case Study
5:25	Q&A
5:30	Adjourn

Groundwater contamination from fossil-derived fuels is widespread throughout the United States. While there is a wealth of scientific information and conventional technology available for treating fuel hydrocarbons like benzene, toluene, ethyl benzene, and xylenes, substantially less is known about fuel constituents such as methyl-tert-butyl ether (MTBE) and fuel other oxygenates (FO's) that are often blended in gasoline to increase octane ratings and reduce harmful, air-polluting combustion byproducts.

Solutions via Applied Science Associates has designed this full-day training course to enhance your professional awareness of all technical issues related to acute impacts of MTBE and FO's. A balanced program offering both theoretical and tested field based examples covering site characterization, remediation, and technology implementation. This course has been approved by several state boards of engineering and geology in fulfillment of 8 continuing education units (CEUs).

Course Instructors

Joe Haas

Joe has 15 years experience working as a state regulator managing a remedial section. He holds both Engineering Geologist and Hydrogeologist specialty licenses. He graduated with a B.S. in Geology from SUNY, Plattsburgh in 1988. He received a M.S. from SUNY, Stony Brook in Hydrogeology in 1997 where he researched the speciation of iron and manganese in ground water contaminated by petroleum. Joe has been collaborating with SUNY Stony Brook's Long Island Groundwater Research Institute to provide technical assistance and training to technical and regulatory groups inside and outside of his home state of New York. Joe has been involved in research with representatives of the United States Environmental Protection Agency and the United States Geological Survey. These research efforts have been credited as having made significant contributions to the understanding of the characteristics of MTBE in the sub-surface environment and having influenced the national debate on the use of MTBE in gasoline. The Office of Research and Development acknowledged his contributions, in 2002, in the form of an award for Exceptional Support to ORD.

Michael Hyman

Dr. Mike Hyman is currently an Associate Professor in the Department of Microbiology at North Carolina State University, Raleigh. Mike has 20 years experience in the characterizing microbial biodegradation processes and the isolation and characterization of novel bacterial strains. Mike holds a B.Sc. from University College, London (UK), a Ph.D. from Bristol University (UK) and an M.B.A. from Oregon State University. Mike has published 50 papers in peer-reviewed journals and has served as PI or CoPI on over \$3 million of grant funds. His research experience includes studies on microorganisms active in the nitrogen cycle (nitrifying and nitrogen-fixing bacteria) as well as microorganisms involved in the degradation of chlorinated solvents, fumigants, polyaromatic hydrocarbons, ethers and gasoline components. His current research focuses on the biodegradation of MTBE, TBA and other ethers and the role of cometabolism in hydrocarbon biodegradation processes. Mike has extensive experience in interacting with the environmental engineering community and USEPA and has served as a classroom trainer with the ITRC "MTBE and Other Fuel Oxygenates team" for over 2 years.

Eric Nichols

Eric is a Principal Engineer with LFR/Levine-Fricke. Eric is a groundwater hydrologist with over seventeen years of experience interpreting ground water flow and contaminant transport for remedial design, risk assessment, regulatory compliance, and litigation support. He is a co-author of "Strategies for Characterizing Releases of Gasoline Containing MTBE" published by the American Petroleum Institute (www.api.org/mtbe), and currently provides technical oversight on several MTBE and TBA site characterization and remediation projects. Eric is an active consultant and educator, and has served on several technical advisory panels on subjects including risk-based decision making, natural attenuation, vapor pathway assessments, MTBE releases, state cleanup policies, and groundwater management issues.