



## International Society of Environmental Forensics

### Environmental Forensics: Using Science to Reconstruct Contamination Events and Determine Liability

September 9-10, 2003  
Virginia Beach Resort Hotel and Conference Center  
Virginia Beach, VA

#### Day One: September 9, 2003

##### Overview Session:

- 7:30-8:00     **Registration** (coffee)
- 8:00-8:10     **Welcome and Workshop Orientation**  
Paul T. KostECKi, Ph.D., ISEF, Amherst, MA
- 8:10-8:20     **History and Evolution of Environmental Forensics**  
Paul T. KostECKi, Ph.D., ISEF, Amherst, MA
- 8:20-9:00     **Overview of Data Analysis and Interpretation:  
Tracers and Surrogates, Associations, Ratio Evaluations  
Spatial and Temporal Relationships, Transport and Fate  
Modeling, and Mass Balance Methods**  
Brian L. Murphy, Ph.D., Exponent, Tampa, FL
- 9:00-9:40     **Overview of Historical Environmental Forensic Techniques:  
Aerial Photography, Artifact Sampling, Chemical Usage  
History, Commercial Formulations and Ratios, Scanning  
Electron Microscope, Microbiological/DNA**  
Robert D. Morrison, Ph.D., DPRA, Escondido, CA
- 9:40-9:55     **Break**
- 9:55-10:35    **PAH Data As Forensic Source Identification Tools: The  
Good, the Bad, and the Ugly!**  
Robert I. Haddad, Ph.D., Applied Geochemical Strategies, Inc., San  
Luis Obispo, CA
- 10:35-11:15   **Overview of Forensic Applications of Statistical Methods in  
Environmental Forensic Investigations**  
Shahrokh Rouhani, Ph.D., P.E., NewFields, Inc., Atlanta, GA

11:15-11:35 **Environmental Forensics Applications at DOD Sites**  
Fred E. Goetz, Ph.D., US Navy, Port Hueneme, CA

11:35-12:00 **Questions and Answers of the Environmental Forensics Overview Panel**  
Paul T. KostECKI, Ph.D., ISEF, Amherst, MA

12:00-12:45 **Lunch**

### **Focused Presentations:**

12:45-1:00 **Introduction to Focused Presentations**  
Brian L. Murphy, Ph.D., Exponent, Tampa, FL

1:00-1:45 **Isotope Applications for Contaminant Source Identification and Allocation: Theory to Practice**  
Julie Sueker, Ph.D., P.H., P.E., Blasland, Bouck and Lee, Golden, CO

1:45-2:30 **Application and Challenges in Groundwater Modeling for Environmental Forensic Investigations**  
Brendan M. Harley, Ph.D., CDM International Inc., Cambridge, MA

2:30-3:15 **Mono-Aromatics and PAHs in Forensic Source Identification/ Differentiation of Hydrocarbon Contamination**  
Ted C. Sauer, Ph.D., BBL, Inc., New Bedford, MA

3:15-4:00 **Break**

4:00-4:45 **Assessing the Timing of Historical Mercury Releases from Residential Gas Regulators**  
Jay A. Vandeven, ENVIRON Corp., Arlington, VA

4:45 – 5:00 **Discussion**

5:00 **Adjourn**

### **Day Two: September 10, 2003**

8:15-8:30 **Review and Introduction to the Morning Session**  
Brian L. Murphy, Ph.D., Exponent, Tampa, FL

- 8:30-9:15 **Strategic Positioning in Litigation: Development and Presentation of Field Data Supporting Cost Recovery Associated with Faulty Design of a Landfill Gas Recovery System that Impacted Residential Dwellings: A Case Study**  
Michael J. Pierdinock, LSP, CHMM, Lightship Engineering, Plymouth, MA
- 9:15-9:30 **Break**
- 9:30-10:15 **Investigating the Sources and Fates of Petroleum Hydrocarbons on the Molecular Level: Recent Developments with Comprehensive Two-Dimensional Gas Chromatography**  
Christopher M. Reddy, Ph.D., Woods Hole Oceanographic Institute, Woods Hole, MA
- 10:15-11:00 **Practical Groundwater Forensics**  
Michael Gregory Sklash, Ph.D., The Dragun Corporation, Farmington Hills, MI
- 11:00-11:45 **A Canary in the Kitchen: Determining Whether Contaminated Groundwater Represents an Indoor Air Health Hazard**  
Robert J. Flatley and William A. Duvel, Jr., Ph.D., P.E., ENSR, Westford, MA
- 11:45-1:00 **Lunch**
- 1:00-1:15 **Review and Introduction to the Afternoon Session**  
Brian L. Murphy, Ph.D., Exponent, Tampa, FL
- 1:15-2:00 **Identifying the Source and Timing of Gasoline Spills: Forensic Analysis of the Gasoline Additives MTBE and TBA**  
James M. Davidson, P.G., Exponent, Boulder, CO
- 2:00-2:45 **The Use of Stable Carbon Isotopes to Differentiate MTBE Plumes Impacting Groundwater**  
Gil Oudijk, Triassic Technology, Princeton, NJ
- 2:45-3:00 **Break**
- 3:00-3:45 **Integration of Real Time, Continuous Data Streams into Groundwater Modeling and Neural Network Technologies**  
John E. Dustman, Summit Envirosolutions, St. Paul, MN
- 3:45-4:30 **Forensic Evaluation of Aircraft Deicing Fluids and Jet Fuel Components in Soil, Water and Air Compartments with**

**Implications for Remediation or Surface Water and  
Groundwater Protection**

Eric Cherry, Hull & Associates, Dublin, OH

4:30-4:45

**Discussion & Closing Remarks**

Brian L. Murphy, Ph.D., Exponent, Tampa, FL

4:45

**Adjourn**