

Environmental Forensics: Advanced Techniques
Hilton Santa Fe, New Mexico, USA
September 23-24, 2002

DAY ONE

- 7:30-8:00 **Registration**
Coffee & Continental Breakfast
- 8:00-8:15 **Welcome and Introduction**
Robert D. Morrison, Ph.D., R. Morrison & Associates, Escondido, CA; Paul T. Kosteki, Ph.D., AEHS, Amherst, MA
- 8:15-9:15 **Overview of Advanced Techniques for Petroleum Hydrocarbon Pattern Recognition**
Allen D. Uhler, Ph.D., Battelle, Duxbury, MA
- 9:15-10:15 **Special Cases: Interesting Techniques for Estimating the Age of Regular and Mid-Grade Gasoline Released Since the 1970s**
Gene W. Schmidt, R.G., GW/S Environmental Consulting, Tulsa, OK
- 10:15-10:30 Break
- 10:30-11:15 **Application of Isotope Ratios in Forensic Geochemistry**
Alan Jeffrey, PhD, Zymax Forensics, San Luis Obispo, CA
- 11:15-12:15 **Forensic Techniques for Age Dating and Source Identification of Chlorinated Solvents**
Brian L. Murphy, Ph.D., Brian Murphy & Associates, Sarasota, FL
- 12:15-1:15 Lunch
- 1:15-2:30 **Application of Soil Gas Investigations in Detecting Leaks in UST, AGST's and Continental Pipelines**
Randy Golding, Ph.D., Tracer Research Corporation, Tucson, AZ
- 2:30-2:45 Break
- 2:45-3:45 **Principal Components Analysis and Receptor Models in Environmental Forensics: Techniques and Case Studies**
Glenn W. Johnson, Ph.D., The University of Utah, Center for Industrial Imaging, Salt Lake City, UT
- 3:45-4:30 **Overview and Application of Inverse Groundwater Models for Contaminant Source Identification**
Ross C. Bagtzoglou, Ph.D., Departments of Civil Engineering and Engineering Mechanics and Earth and Environmental Engineering, Columbia University, New York, NY
- 4:30-5:30 **Principles and Case Studies of Cost Allocation Cost for Petroleum Contaminated Soil and Groundwater**
Daniel B. Stephens, R.G., Ph.D., Daniel B. Stephens and Associates, Albuquerque, NM

5:30 Adjourn

DAY TWO

8:00 **Introduction**
Moderator: Brian L. Murphy, Ph.D., Brian Murphy and Associates, Sarasota, FL

8:15-9:15 **Sampling Considerations and On-Site Analysis for Explosives Residues in Soil**
Thomas F. Jenkins, Ph.D., US Army Cold Regions Research & Engineering Laboratory, Hanover, NH

9:15-10:15 **Investigating Explosive Compounds and their Degradation Products in the Subsurface: A Developing Practice**
Mark A. Franson, P.E., LEP, President, Charter Oak Environmental Services, Inc., Salt Lake City, UT

10:15-10:30 Break

10:30-11:15 **Impact of Chemical Diffusion, Volatilization and Biodegradation on the Interpretation of Analytical Data used for Contaminant Source Identification and Age Dating: Case Studies and Lessons Learned**
James Dragun, Ph.D., The Dragun Corporation, Farmington, Hills, MI

11:15-12:15 **Atomic Spectrochemical Tools for Environmental Forensics**
Raymond M. Barns, Ph.D. University Research Institute for Analytical Chemistry, Amherst, MA

12:15-1:15 Lunch

1:15-2:15 **Use of Computer Controlled SEM Techniques for Speciation of Soil and Airborne Particulate**
Stephen K. Kennedy, Ph.D., P.G., Microanalytical & Educational Services, RJ LeeGroup, Inc., Monroeville, PA

2:15-2:30 Break

2:30-3:30 **Direct Push Video Imaging System for In-Situ Characterization of Contaminant Distribution and Hydrogeological Conditions**
Stephen H. Lieberman, Ph.D., Space and Naval Warfare Systems Center, San Diego, CA

3:30-4:30 **Environmental Forensic Investigation of Methane Gas Occurrences**
Paul D. Lundegard, Ph.D., R.G., Unocal, Brea, CA

5:00 Adjourn