Workshops and Courses

The following course is scheduled in conjunction with the Specialty Conference Second International Greenhouse Gas Measurement Symposium and Workshop, to be held September 8–10 in Washington, DC.

SEPTEMBER 7 (8:00 a.m.–5:00 p.m.)
AIR-130: Emission Measurement Techniques for Greenhouse Gases from Area and Fugitive Sources
Instructors: Ram A. Hashmonay, Ph.D., ENVIRON; and Eric Crosson, Ph.D., Picarro

This course will review in detail open-path and point monitoring instrumentation capable of detecting greenhouse gases (GHGs), such as carbon dioxide, methane, nitrous oxide, sulfur hexafluoride, hydro fluorocarbons, and chlorofluorocarbons. Among the techniques described are open-path Fourier transform infrared (OP-FTIR), open-path tunable diode laser absorption spectroscopy (OP-TDLAS), and cavity ring-down (CRD). This course will also discuss various measurement configurations for measuring emission fluxes of GHGs from area and fugitive sources.

The following four courses are scheduled in conjunction with the 15th International Union of Air Pollution Prevention and Environmental Protection Associations’ (IUAPPA) World Clean Air Congress, to be held September 12–16 in Vancouver, British Columbia, Canada.

SEPTEMBER 12 (8:00 a.m.–5:00 p.m.)
Greenhouse Gas Emissions Management
Instructors: Ram Ramanan, Ph.D., P.E., Fellow/Director, ICF International; and Katherine N. Blue, Principal, Climate Change Services, Trinity Consultants

Learn the latest on this timely topic, including significant U.S. and international policy developments related to climate change and methods of effective greenhouse gas (GHG) emissions management. This course provides a firm understanding on preparation of an effective and verifiable GHG inventory for voluntary and mandatory reporting purposes. Real-world case studies and exercises demonstrate how to prepare effective GHG inventories according to standard protocols. The course will also address development of a comprehensive carbon management strategy specific to your organization, including a focus on organizational GHG accounting and how to practically mitigate carbon risk and plan for GHG emissions reductions and energy management integration.

SEPTEMBER 12 (8:00 a.m.–5:00 p.m.)
Exposure Assessment and Risk Management
Instructors: David P. Harlos, Private Consultant, Advantek Consulting Inc.

This course gives an overview of modern exposure assessment methods and a review of risk management approaches. Air pollution exposure types, magnitudes, extents, and impacts are reviewed as a function of human energy use rates, beginning with Paleolithic human habitations. Assessment tools, including modern measurement systems applied in similar cultural settings, along with archaeological inference, modeling, and climatic evidence are examined. Modern risk management strategies examined include risk evaluation and the precautionary principle.

SEPTEMBER 12 (8:00 a.m.–5:00 p.m.)
Receptor Modeling Processes and Measurements for Air Quality Management
Instructors: Judy C. Chow, Research Professor, Desert Research Institute; and John G. Watson, Research Professor, Desert Research Institute

The Chemical Mass Balance (CMB) receptor model is applied to chemically speciated particulate matter (PM) and volatile organic compound (VOC) measurements taken in source emissions at ambient monitors to estimate contributions from different source types and their uncertainties. Effective Variance (EV), Positive Matrix Factorization (PMF), and UNMIX solutions are the most commonly applied solutions to the CMB equations. New developments in source testing, ambient sampling, and laboratory analysis have lowered the cost and complexity of obtaining receptor model input data. Course topics include theoretical and empirical basis of the CMB and its solution methods; new methods for source profiles and ambient concentrations; utility existing source and receptor databases; applications and validation protocol; and examples of problem-solving using the CMB. EV-CMB and PMF-CMB software installation, data preparation, operation, and transfer of output files to other data analysis software are demonstrated. A CD will be provided to each attendee that contains the presentation, modeling software, sample data sets, an extensive bibliography of receptor model applications, and example reports from previous studies.

SEPTEMBER 12 (8:00 a.m.–5:00 p.m.)
Introduction to Modeling with CALPUFF
Instructor: Jeff Lundgren, RWDI AIR Inc.

This is an introductory course being offered for participants to be introduced to the basics of the CALPUFF modeling system.

For more information about the events on these pages, go to www.awma.org/events.
A scientific or engineering background is recommended. Some experience in air quality modeling would be useful. Participants are required to bring a Windows laptop with wireless Internet capability.

The following four courses are scheduled in conjunction with the Specialty Conference Vapor Intrusion 2010, to be held September 29–30 in Chicago, IL.

SEPTEMBER 28 (8:00 a.m.–12:00 p.m.)
AIR-206: Sampling and Analysis Methods for Vapor Intrusion
Instructors: Gina Plantz, Senior Scientist, Haley & Aldrich, Inc.; and Bart Eklund, Principal Scientist, URS Corp.

Field studies of vapor intrusion may involve a wide variety of different sampling and analytical approaches. This course provides attendees with a basic working knowledge of approaches for measuring gas-phase concentrations and gas transport. Such measurements may be performed outside the building (e.g., soil gas, ambient air) or inside the building (e.g., sub-slab soil gas, indoor air, pressure differential, building ventilation rate). The course should prove useful for persons with responsibility for developing or reviewing test plans for vapor intrusion studies.

SEPTEMBER 28 (8:00 a.m.–12:00 p.m.)
AIR-274: Vapor Intrusion Pathway Modeling: Development and Application
Instructor: Robert Ettinger, Associate, Geosyntec Consultants

Modeling is frequently a key step in the evaluation of the vapor intrusion pathway for chemical release sites. This course provides attendees with an understanding of the development and use of models to evaluate this pathway. The fundamental fate and transport mechanisms included in common vapor intrusion models will be described and evaluation of critical model inputs will be discussed. Additionally, the course will include an overview of available models and provide examples of model application. No prerequisites are required. A scientific or engineering background would be beneficial.

SEPTEMBER 28 (1:00–5:00 p.m.)
AIR-268: Data Evaluation for Vapor Intrusion Studies
Instructor: Bart Eklund, Principal Scientist, URS Corp.

This course introduces various data analysis procedures for evaluating vapor intrusion data sets that include indoor air data, with an emphasis on identifying background volatile organic compound (VOC) concentrations and taking any such background into account in the decision-making process. The data analysis methods can be used to determine whether or not various compounds exhibit similar behavior to one another. This information can then be used to ascertain whether the measured concentrations in indoor air for a given VOC are the result solely of vapor intrusion, background sources, or a combination of vapor intrusion and background sources. No specific prerequisites are required, but attendees should be familiar with the U.S. Environmental Protection Agency’s guidance for vapor intrusion.

SEPTEMBER 28 (1:00–5:00 p.m.)
AIR-207: Design Considerations for the Mitigation of Vapor Intrusion
Instructor: Matthew Traister, Senior Managing Engineer, O’Brien & Gere

This course provides attendees with an understanding of the various techniques, both active and passive, that can be applied in order to mitigate the vapor intrusion pathway. Site remedies, institutional controls, and building control options are addressed, with the latter technique discussed in detail. Advantages and disadvantages for the various building control options are reviewed and discussed, and conceptual unit cost estimates are provided. Special design considerations involving structure type and environmental factors are also presented. The course contents are then illustrated through a series of detailed case studies, where the application of the basic skills is applied.

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