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Environmental Strategies for the 21st Century & Beyond!
Brownfields & Sustainable Development
Webinar Series
As close as your laptop
Weekly from January 21—May 20, 2010
Thursdays 10—11 am Pacific Time

Please pass this information along to interested colleagues.

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**Environmental Strategies for the 21st Century
& Beyond!**
Brownfields & Sustainable Development
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Location: Your Computer

UCLA Southern California
Education and Research Center
UCIrvine *Continuing Education/Outreach*

The Southern California Education and
Research Center is a NIOSH ERC

Environmental Strategies for the 21st Century & Beyond!

**Brownfields & Sustainable Development
 Webinar Series**

Learning Segment I—Sustainable Environmental/Brownfields Site Management (January 21 to February 25—6 sessions)

Learning Segment II — Cutting Edge On-Site Soil & Groundwater Remediation Solutions (March 4 to April 15—7 sessions)

Learning Segment III—Beyond Compliance - Proactive Sustainable Development (April 22—May 20—5 sessions)

How It Works

Attend from the convenience of your own desk or laptop.

Prior to each session, you will receive a website link where you will log in to the session. For sound, you may use a headset or your computer's speakers. While there may be opportunities to speak, there is always a chat window available to type in questions and comments.

Accreditation

- ABIH— .5 Industrial Hygiene CM points per 3 hours/technical presentations by the American Board of Industrial Hygiene have been applied for
- BCSP and Continuing Education Units — Eligible for .1 Continuation of Certification Point/CEU for each one hour session.

Course Details Online

Registration Fee

(please see website for payment terms)

Standard:

Per session—\$79; per Learning Segment—\$349; Entire Series—\$849

Early Bird (before 12/1/09):

Per session—\$59; per Learning Segment—\$289; Entire Series—\$749

Paying by credit card: All major credit cards accepted. Complete credit card information online, on registration form or call 310/206-2304.

Paying by check: Payable to **University of California Regents**

Phone registration: Call 310/206-2304.

Online registration: www.ph.ucla.edu/erc/register.php.

Distinguished Workshop Instructors*

Richard T. Cartwright, PE, CHMM, CPIM – Course Director

Sr. Vice Pres. MEC^x, LP (Sustainable Devel. Workshop Facilitator, Past National Pres. AHMP, National EHMM Course Trainer)

Isaac Aboulafia, PE, Sr. Vice Pres., Chief Envir. Eng., MEC^x, LP (Sustainable Devel. Contrib. in North and South America, Chemical Oxidation/Stabilization Remediation Tech. Expert)

David Billo, LSP, LEED AP, Sr. Project Mgr., Sovereign Consulting (Brownfields Remediation and Sustainable Devel. Expert)

Greg Davis, Pres./CEO Microbial Insights, Inc. (Microbiology Expert)

Paul Favara, Technology Leader, CH2M HILL (Sustainable Devel. Expert)

Patrick Hicks, PhD, Vice Pres., Wavefront Energy & Envir. Services (Remediation and Site Characterization Expert)

Robbie Laird, P.Eng, Prin. Eng., C3 Envir. Ltd. (Waterloo Barrier® Expert)

Craig Nicholson, LSP, LEED AP, Sr. Project Mgr., Ajax Partners (Sustainable Devel. Expert)

Robert Pirkle, PhD, Pres./CEO Microseeps, Inc. (Chemistry, Microbiology and Monitored Natural Attenuation Remediation Technology Expert)

Richard Raymond, Jr., Pres./CEO TerraSystems, Inc. Sustainable Devel. Contributor in Europe, Asia, North America and South America; Member of Sustainable Remediation Forum (SURF); and Member of Source Area Bioremediation Research project (SABRE)

John Sohl, Pres./CEO Columbia Technologies, Inc. (Site Characterization Expert)

Elizabeth Wessling, Vice Pres., Chief Envir. Chem., MEC^x, LP (Chem. Data Valid. Expert)

*subject the modification

Brownfields Mgmt/Sustainable Development Webinar

Registration Form

Name: _____

Job Title: _____ Department: _____

Company/Agency: _____

Address _____

City: _____ State: _____ Zip: _____

Daytime phone: _____ E-mail: _____

____ Series Learning Segment: ____ I ____ II ____ III

Sessions (list) _____

Payment Amt \$ _____ Method of Payment: ____ Check ____ Credit Card

Name as it appears on card: _____ Type of Credit Card: _____

Credit Card Number: _____ Exp. Date _____

Billing Address: _____

City: _____ State: _____ Zip: _____

Reasons to Attend

Lifelong Learning Professional Experience – This continuing education workshop will be taught by Chief Executive Officers, Corporate Presidents, Senior Environmental Consultants, Professional Engineers and LEED Accredited Professionals. Continuing education units are potentially applicable for CIH, CSP, CHMM certification maintenance points and PE license professional development hours.

Revolutionary Interdisciplinary Workshop – University courses are typically taught within individual (separate) vertical subject matter disciplines (silos) such as geology, chemistry, engineering, sociology, and political science. The integrated subject matter for this webinar will be taught within a matrix of both horizontal and vertical disciplines. While several distinguished presenters have advanced graduate degrees, they were selected to participate based upon a revolutionary criteria of internationally recognized practitioner contributions and a proven track record of pedagogical motivational platform presentation skills. Presenters have contributed to sustainable environmental development solutions in Asia, Australia, Europe, North America, and South America.

Innovative Site Characterization – Learn about the new available state of the art site investigation and assessment techniques. Site characterization has been around for several decades. Unfortunately, in too many cases the site characterization information currently available is sub-standard and inadequate for pay for remediation performance evaluation.

There is No Remediation “Silver Bullet” – There is no single technology that can cost-effectively solve remediation problems at every single site. Remediation sites are typically heterogeneous not homogeneous. Some technologies are better used in the contaminant source and others are better utilized within the contaminant plume. Similar to wastewater treatment, a treatment train of multiple treatment technologies can be beneficial. Sometimes, the “Record of Decision” (ROD) regarding which applicable treatment technology to use is out dated (decisions were based upon technology that was only available in the last century). Based upon new sustainable development criteria, it can be appropriate to break the “Record of Decision” and replace it with a sustainable technology solution.

What is the benefit of going beyond environmental compliance? – Learn how to justify an Environmental Management System that goes beyond environmental compliance. What are the sustainable development metrics? What are the future professional career options within sustainable environmental management?

Convenient and economical? — No time or money spent on travel. As close as your laptop.

Brownfields & Sustainable Development Webinar Series

A revolutionary interdisciplinary 18-session webinar has been developed that offers a unique opportunity to learn both the theory and practice of sustainable environmental management. An interactive “hands-on” case history practitioner training approach will be utilized to cover the engineering, scientific, legal, political, and ethical dimensions of environmental sustainability. An internationally recognized team of chief executive officers, senior environmental consultants, professional engineers, and LEED accredited professionals will lead participants through the body of knowledge needed to practice in the 21st century and beyond as sustainable environmental development program managers.

Who Should Attend

Senior management executives, environmental consultants, governmental agency regulators, not for profit environmental decision makers, professional engineers, environmental project managers and technical staff.

Learning Segment I

Sustainable Environmental/Brownfields Site Management

Overview Sustainable development includes the proper use of limited resources to meet current human needs while preserving the environment so that these needs can be met not only in the present, but also in the indefinite future. A rigorous analysis of scientific, legal, political and ethical issues will be conducted. Definitions and trade-offs between Brownfields and Greenfields development will be discussed. Innovative geo-chemical and geo-physical site investigation tools are now available to optimize the selective application of targeted remedial remedies in contaminant source areas. Principles of chemistry data validation will be reviewed.

Learning Objectives—Upon completion of Segment I, the participant should be able to:

- Describe the relevant issues pertaining to sustainable development.
- Explain the cost/benefit trade-offs between Brownfields & Greenfields sites.
- Identify state-of-the art site investigation and assessment tools.
- Determine how clean is clean? Which questions to ask and not ask?
- Understand the need for a site information management plan and how chemistry data validation is achieved.

January 21	1. Sustainable Development Overview
January 28	2. Scientific, Legal, Political and Ethical Issues (How Clean is Clean?)
February 4	3. Contaminated Site Management Strategies (What is the risk?)
February 11	4. Environmental Sampling/Laboratory Procedures
February 18	5. Chemistry Data Validation
February 25	6. Innovative Site Investigation & Assessment Tools

Learning Segment II

Cutting Edge Soil & Groundwater Remediation Solutions

Overview For decades, environmental decision makers have evaluated site remediation projects solely by determining how much contaminant can be removed from soil and groundwater in the shortest possible time. Given what we now know about energy scarcity and global warming, it makes little sense, environmentally or economically, to emit tons of greenhouse gases into the air in order to remove pounds of contaminants from soil and water. Too many remediation projects essentially trade one form of pollution for another. This costs a lot of money, burns a lot of fuel, and does not result in a net environmental benefit. In the past, valuable remediation resources have been squandered hauling contaminated soil and debris from hazardous waste sites to landfills that have also become "Superfund" sites.

Sustainable remediation incorporates a judicious evaluation of limited resources when selecting and implementing remedies to maximize the net environmental, societal, and economic benefits of a cleanup action. The question today is how to include sustainability principles and practices into remedial decision making, remedy optimization, and remedy changes.

Learning Objectives—Upon completion of Segment II, the participant should be able to:

- Compare advantages/disadvantages of on-site versus off-site remedial solutions
- Identify cutting edge in-situ and ex-situ remediation solutions.
- Evaluate remedial pros and cons for the following technologies:
 - Biological treatment
 - Chemical oxidation/reduction
 - Thermal treatment
 - Stabilization/containment
- Describe benefits of an overall remediation treatment training approach

March 4	7. Innovative Regent Delivery Systems
March 11	8. Bioremediation Solutions
March 18	9. Microbial Insights
March 25	10. Monitored Natural Attenuation
April 1	11. Chemical Oxidation/Reduction
April 8	12. Contamination Containment
April 15	13. Sustainable Remediation/Treatment Train Selection

Learning Segment III

Beyond Compliance— Proactive Sustainable Development

Overview "Command and control" compliance regulations were popular in the early stages of U.S. environmental regulation in the 1970's. They were based on engineering approaches to specific pollution sources, such as those designated as significant by the Clean Air Act and the Clean Water Act. "Command and control" compliance regulations focus on preventing environmental problems by specifying how a company will manage a pollution-generating process. This approach generally relies on detailed regulations followed up by an ongoing inspection program.

"Performance oriented" regulation is an alternative whereby specific environmental performance goals, such as a reduction in the pollution associated with a process, is specified by the regulation and each facility determines the best method to achieve this goal. The concern with this approach is that it tends to be much more difficult to enforce because it requires an intimate understanding of the process and alternatives to the process. In general, the "performance oriented" approach requires the documentation of these and the environmental impacts associated with the process in a planning document, which can be reviewed by regulatory authorities. Proactive beyond compliance Sustainable Environmental Management Systems can form the basis for the format of such a plan.

Learning Objectives—Upon completion of Segment III, the participant should be able to:

- Recognize the need to go beyond minimal compliance.
- Understand the global climate challenge that we currently face.
- Calculate one's carbon footprint/natural resource depletion.
- Identify specific courses of action to reduce your carbon footprint.
- Evaluate an Environmental Management System based upon identification of sustainable development credits.

April 22	14. Source Area Bioremediation (SABRE) Update
April 29	15. Calculating Carbon Footprint/Off-sets & Financial Incentives
May 6	16. Sustainable Development Certification & Metrics
May 13	17. Sustainability in Remediation Forum (SURF) Update
May 20	18. Future of Sustainable Environmental Management



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