

- Biological Treatment of Contaminated Soils Using Redox Control
- *Margaret Kupferle, Tiehong Huang, Yonggui Shan, Maoyu Wang, Guanrong You, Gregory Sayles

Metals

- Development of a Sulfate-Reducing Bioprocess to Remove Heavy Metals from Contaminated Water and Soil
- Makram Suidan, Munish Gupta, Gregory Sayles, Carolyn Acheson
- Development of Technique for *In Situ* Bioremediation of Chromium Contaminated Soil and Groundwater: Phase I Laboratory Evaluation
- *Michael McInerney, Nydia Leon, Frank Caccavo, Jr., Veronica Worrell, John Coates,

PROCESS RESEARCH

Petroleum Hydrocarbons

- Monitoring Crude Oil Mineralization in Salt Marshes: Use of Stable Carbon Isotope Ratios
- John Pardue, *Andrew Jackson

POSTER SESSION

- 5:00PM-6:00PM
- Posters of projects from EPA's Biosystems Technology Development Program and from EPA's Hazardous Substance Research Centers will be on display. Authors will be present to discuss their projects.

DAY THREE —

Thursday, August 10, 1995 8:00AM-12:30PM

PROCESS RESEARCH (CONTINUED)

Metals

- Predicting Heavy Metal Inhibition of the *In Situ* Reductive Dechlorination of Organics at the Petro Processor's, Inc. Superfund Site
- *John Pardue
- Mercury and Arsenic Biotransformation
- *Ronald Oremland

PAHs

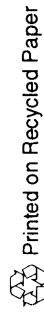
- Monod Degradation Kinetics of Quinoline in Natural and Microbially Enriched Microcosms
- *E. Michael Godsy, Ean Warren, Barbara Bekins, Donald Gederlitz

Chlorinated Organics

- Stimulating the Biotransformation of PCBs
- *John Quensen, Ili, Jim Tiedje, Steve Boyd
- Bioaugmentation for *In Situ* Cometabolic Biodegradation of TCE in Groundwater
- Perry McCarty, *Junko Munakata
- Biodegradation of Chlorinated Solvents
- *Larry Wackett, Lisa Newman, Sergey Seifonov, Peter Chapman, Michael Shelton
- Biological and Nutritional Factors Affecting Reductive Dechlorination of Chlorinated Organic Chemicals
- *Dingyi Ye, W. Jack Jones

Munitions

- Effect of Primary Substrate on the Reduction of 2,4-DNT
- *Jiayang Cheng, Makram Suidan, Albert Venosa



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REGISTRATION FORM

SYMPOSIUM ON BIOREMEDIATION OF HAZARDOUS WASTES: RESEARCH, DEVELOPMENT, AND FIELD EVALUATIONS

The Rye Town Hilton, Rye Brook, New York,
August 8-10, 1995

Please print clearly (or attach a business card if mailing in an envelope)

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EPA Bioremediation of Hazardous Wastes: Research, Development, and Field Evaluations Symposium

The Rye Town Hilton
Rye Brook, New York
August 8-10, 1995

INTRODUCTION

The symposium is sponsored by the U.S. Environmental Protection Agency's (EPA's) Biosystems Technology Development Program, which coordinates EPA's research, development, and evaluation of full-scale bioremediation activities. The Biosystems Technology Development Program strives to balance research on degradation processes with engineering activities that contribute to environmental cleanups.

PURPOSE

The purpose of this symposium is to present and discuss the research, development, and field evaluations of bioremediation projects undertaken in 1994 and 1995 by EPA's Biosystems Technology Development Program. Bioremediation projects conducted by EPA's Hazardous Substance Research Centers also will be presented. Topics to be discussed cover the *in situ* treatment of the surface and subsurface and the *ex situ* treatment of aqueous and gaseous phases and soils. Presentations and poster sessions of ongoing and completed projects include the following:

- Bioremediation Field Initiative
- Field Research
- Performance Evaluation
- Pilot-Scale Research
- Process Research

AUDIENCE

The presentations will be beneficial to leading researchers and field personnel in bioremediation from federal, state, and local agencies; industry; vendors; contractors; and academia.

EPA STEERING COMMITTEE MEMBERS

Fran Kremer, Symposium Chairperson, NRMRL, Cincinnati, OH
 Dolloff F. Bishop, NRMRL, Cincinnati, OH
 Peter Chapman, NHEERL, Gulf Breeze, FL
 Larry Claxton, NHEERL, Research Triangle Park, NC
 John Glaser, NRMRL, Cincinnati, OH
 Robert Menzer, NHEERL, Gulf Breeze, FL
 P. Hap Pritchard, NHEERL, Gulf Breeze, FL
 John Rogers, NHEERL, Athens, GA
 Albert Venosa, NRMRL, Cincinnati, OH
 John Wilson, NRMRL, Ada, OK

SYMPOSIUM REGISTRATION

There is no registration fee to attend the symposium. Space is available on a first-come, first-served basis. We encourage you to register early, but **no later than July 28, 1995**, by completing the attached registration form and mailing it to the address printed on the back or faxing it to 617-674-2906.

Within two weeks of submitting the registration form, you will receive a confirmation package, which includes a detailed agenda and logistical information. If you have questions regarding the registration process, please call 617-674-7374.

HOTEL INFORMATION

A block of rooms is reserved at the Rye Town Hilton until **July 17, 1995**. After this date, reservations will be accepted on a space- and rate-available basis only. Please make your reservations directly with the hotel. Reference "EPA's Biosymposium" to receive the special group rate of \$95/ single or double occupancy (plus 9.75% tax). Government employees must present a tax exempt certificate upon check-in to be eligible for tax exemption. To receive the group rate at the hotel, make your room reservations now by using the phone numbers listed below.

SYMPOSIUM LOCATION

The Rye Town Hilton, 699 Westchester Avenue, Rye Brook, NY 10573
 Tel: 800-445-8667 (to make reservations)
 Tel: 914-939-6300 (to call the hotel directly)
 Fax: 914-939-5328

AGENDA (*indicates presenter)

Monday, August 7, 1995
7:00PM-9:00PM
Registration/check-in

DAY ONE —

Tuesday, August 8, 1995
8:00AM-5:30PM
7:00AM-8:00AM
Registration/check-in

BIOREMEDIATION FIELD INITIATIVE

- Intrinsic Bioremediation of TCE at St. Joseph, Michigan:
A Role for Sulfate and Iron Reduction
**Peter Adriaens, Jack Lendvay*
- Modeling Intrinsic Remediation as Groundwater Discharges to a Lake: The TCE Plume at St. Joseph, Michigan
*Nikolas Katopodes, *Sean Dean*
- Bioventing of Jet Fuel Spills: Design and Field Applications
**Gregory Sayles*

FIELD RESEARCH

Solvents

- A Review of Intrinsic Bioremediation of TCE in Groundwater at Picatinny Arsenal, New Jersey, and St. Joseph, Michigan
**John Wilson, Don Kampbell, Barbara Wilson, Tom Imbrigiotta, Ted Ehlike*

Petroleum Hydrocarbons

- Intrinsic Bioremediation of a Dissolved Gasoline Plume: Comparison of Field and Laboratory Results
**Morton Barlaz, Melody Hunt, Sreenivas Kota, Robert Borben*
- Modeling Sequential Anaerobic Degradation Reactions in Two Contaminated Aquifers
**Barbara Bekins*
- A Multiphase, Multicomponent Numerical Model of Bioventing with Non-Equilibrium Mass Exchange
**Linda Abriola, John Lang, Klaus Rathfelder*
- Aromatic Hydrocarbon Biotransformation Under Mixed Oxygen/Nitrate Electron Acceptor Conditions
**Edward Bouwer, Liza Wilson, Peter D'Adamo*

• Nutrient Transport in a Sandy Beach

**Brian Wrenn, Makram Suidan, Loye Eberhardt, Gregory Wilson, Kevin Strohmaier, Albert Venosa*

• Bioremediation of Crude Oil Intentionally Released on the Shoreline of Fowler Beach, Delaware

**Albert Venosa, John Haines, Makram Suidan, Brian Wrenn, Kevin Strohmaier*

• Toxicity of Water-Soluble Products of Oil Biodegradation

**Peter Chapman, Michael Shelton, Semen Akkerman*

• Dynamics of Oil Degradation in Coastal Environments: Effect of Bioremediation Products and Some Environmental Parameters

**Marisa Molina, Rochelle Araujo*

• EVENING POSTER SESSION AND CASH BAR

5:30PM-7:30PM
Posters of projects from EPA's Biosystems Technology Development Program and from EPA's Hazardous Substance Research Centers will be on display. Authors will be present to discuss their projects.

DAY TWO —

Wednesday, August 9, 1995

8:00AM-5:00PM

PERFORMANCE EVALUATION

- Detoxification of Model Compounds and Complex Waste Using Indigenous and Enriched Microbial Cultures
**K.C. Donnelly, Henry Hueoner, Jeannine Capizzi, Ling Yu He*
- Assessing the Genotoxicity of Complex Waste Mixtures
**Larry Claxton*

PILOT-SCALE RESEARCH

Solvents

- *In Situ* Bioremediation of TCE with Burkholderia cepacia PR1: Analysis of Parameters for Estimating Aquifer Treatment Zone
**Richard Snyder, James Hendry, John Lawrence*
- Studies of Trichloroethylene Biodegradation in Aerobic Biofilters
**Alec Breen, Todd Ward, Ginger Reinemeyer, John Loper, Rakesh Govind, John Haines*
- Anaerobic/Aerobic Degradation of Aliphatic Chlorinated Hydrocarbons in an Encapsulated Biomass Biofilter
**Rakesh Govind, P.S.R.V. Prasad, Dolloff F. Bishop*
- Operation and Optimization of Granular Air Biofilters
*Makram Suidan, *Francis Lee Smith, George Sorial, Richard Brenner*

Wood-Preserving Wastes

- Abiotic Fate Mechanisms in Soil Bioslurry Reactors
**John Glaser, Paul McCauley, Majid Dosani, Jennifer Platt, E. Radha Krishnan*
- In-Vessel Compost Treatment of PAH-Contaminated Soil
**John Glaser, Carl Potter, Majid Dosani, Jirivias Krishnan, E. Radha Krishnan*
- Integrated Systems to Remediate Soil Contaminated with Wood Treating Wastes
*Makram Suidan, Amid Khodadoust, Gregory Wilson, Karen Miller, *Carolyn Acheson, Richard Brenner*

(continued on back page)