



# THE OHIO GEOLOGICAL SOCIETY



The Newsletter of the Ohio Geological Society

November 2005

*An Affiliate (1963) of the American Association of Petroleum Geologists (AAPG)*

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## IT'S DUES TIME...

It's time to renew your OGS dues for the 2006 season. Please return the membership form on page 2 with your dues by January 31<sup>st</sup>, 2006. Timely renewal helps your officers plan meetings and events for the upcoming year and is the best way to ensure there will be no interruptions in receiving your newsletter.

**Ohio Geological Society**  
**P.O. Box 14304 • Columbus, OH 43214**  
<http://www.ohgeosoc.org/>



# OHIO GEOLOGICAL SOCIETY

P.O. Box 14304

COLUMBUS, OHIO 43214

## 2006 APPLICATION FORM

**PLEASE CHECK WHICH EMAIL ADDRESS YOU WANT YOUR NEWSLETTER SENT**

LAST NAME	FIRST	M.I.
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<b>BUSINESS EMAIL</b> <input type="checkbox"/>	<table style="width:100%; border-collapse: collapse;"> <tr><td style="width:20%;">COMPANY NAME</td><td></td></tr> <tr><td>TITLE</td><td></td></tr> <tr><td>ADDRESS</td><td></td></tr> <tr><td>P.O. BOX</td><td></td></tr> <tr><td>CITY</td><td></td></tr> <tr><td>STATE</td><td></td></tr> <tr><td>ZIP</td><td></td></tr> <tr><td>PHONE</td><td></td></tr> <tr><td>E-MAIL</td><td></td></tr> </table>	COMPANY NAME		TITLE		ADDRESS		P.O. BOX		CITY		STATE		ZIP		PHONE		E-MAIL	
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EDUCATION			
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	OTHER:						

<b>MEMBERSHIP DUES</b>				
(CHECK ONE)	<input type="checkbox"/> NEW	<input type="checkbox"/> RENEWAL		
(CHECK ONE)	<input type="checkbox"/> ACTIVE \$20/YR.	<input type="checkbox"/> ASSOCIATE \$20/YR.	<input type="checkbox"/> STUDENT \$5/YR.	<input type="checkbox"/> HONORARY \$0/YR.

For Society use only				
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**Lifelong Learning**

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Athens, OH 45701

**Conference Highlights**

**Conference Keynote**

*Ohio University's Consortium  
for Energy, Economics and the  
Environment: What it Offers Ohio*

Delivered by Dennis Irwin, Ph.D.  
Dean of the Russ College of  
Engineering and Technology,  
Ohio University



**5th Annual Applied Research Conference  
December 7-8, 2005**



**Sponsored by:**  
**Ohio Department of Natural Resources, Division of Mineral Resources Management**

# Ohio DMRM Applied Research Conference 2005: Mineral Resource Extraction and Restoration Innovations

## CONFERENCE OVERVIEW

The fifth annual Ohio DMRM Applied Research Conference 2005 – scheduled for December 7-8, 2005 at Ohio University in Athens – provides mineral resources professionals with an opportunity to discuss current issues and new research and technologies related to mineral resource extraction throughout the Ohio Valley. The focus of the conference will be on mineral resource extraction, including coal, industrial minerals, oil and gas; plus innovations in land and water restoration techniques. The conference is viewed as a valuable resource for state and federal reclamation and environmental protection specialists; regulatory agency personnel, university researchers, mineral extraction and reclamation professionals; policy decision-makers; and local watershed restoration groups.

All sessions are held at Margaret M. Walter Hall, Athens, Ohio

### PROGRAM — Wednesday, December 7 (Day #1)

- 9:00-12:00**    **Registration and Coffee** – Walter Hall lobby
- 9:45-10:00**    **Welcome** – Walter Hall 135  
Mike Sponsler, Chief, Ohio Department of Natural Resources, Division of Mineral Resources Management
- 10:00-10:30**    **Keynote Speaker** – Walter Hall 135  
*Consortium for Energy, Economics, and the Environment* – Dennis Irwin, Ph.D., Dean of Russ College of Engineering and Technology, Ohio University
- 10:30-11:30**    **Plenary Session** – Walter Hall 135  
*Midwest Reclamation Practices: Challenges and Opportunities* – Jack Nawrot, Senior Scientist, Cooperative Wildlife Research Laboratory, Southern Illinois University  
  
*Overview of Ohio's Acid Mine Drainage Abatement Program* – Cheryl Socotch, Hydrologist, Ohio Department of Natural Resources, Division of Mineral Resources Management
- 11:45-1:15**    **4th Annual Awards Luncheon** – Walter Hall Rotunda  
Announcement and presentation of Ohio's fourth annual Division of Mineral Resources Management award winners.
- 1:30-3:30**    **Session 1A – Mine Drainage: Contemporary Treatment Strategies** – Walter Hall 145  
A distinguished group of experts will discuss innovative approaches to AMD treatment methodologies, and relevant issues to be considered under various mine drainage scenarios such as long-term viability, and operation and maintenance costs.  
  
Brent Means, Hydrogeologist, US Dept. of Interior, Office of Surface Mining; Song Jin, Lead Scientist, Western Research Institute, Laramie, WY; Paul Ziemkiewicz, Director, West Virginia Water Research Institute, West Virginia University
- 1:30-3:30**    **Session 1B – Geologic Tools/Oil and Gas Regulatory Issues** – Walter Hall 135  
*New Ohio Map Series Depicts Major Unconsolidated-Material Units from the Surface Down to Bedrock* – Mac Swinford, Supervisor, Geologic Mapping Group, Ohio Department of Natural Resources, Division of Geological Survey  
  
*Availability of Data and GIS Files on Ohio's Geology and Mineral Resources at the Division of Geological Survey* – Joseph G. Wells, Spatial Data Administrator, Energy Resources Group, Ohio Department of Natural Resources, Division of Geological Survey  
  
*Drilling in Urbanized Areas - New Rules for Drilling Oil and Gas Wells in Municipal Corporations and Townships with an Unincorporated Population in Excess of 5000* – Mike McCormac, Ohio Department of Natural Resources, Division of Mineral Resources Management  
  
*Spill Prevention Control and Counter Measures - Draft Rules for Secondary Containment of Oil and Brine at Oil/Gas Well Sites* – Tom Tugend, Deputy Chief, Ohio Department of Natural Resources, Division of Mineral Resources Management
- 3:30-4:00**    **Break**
- 4:00-5:30**    **Session 2A: Acid Mine Drainage: Case Studies** – Walter Hall 145  
*Assessment and Restoration of Biofouling at the Simmon's Run Wetland* – Guy Riefler, Ben Stuart, Jeremy Krohn, Department of Civil Engineering, Ohio University; Mary Stoertz, Department of Geologic Sciences, Ohio University; Cheryl Socotch, Ohio Department of Natural Resources, Division of Mineral Resources Management  
  
*AMD Elimination and Prevention through Slurry Wall Installation: A Case Study of Misco West Reclamation Project, Perry County, Ohio* – Douglas Leed, Ohio Department of Natural Resources, Division of Mineral Resources Management  
  
*Performance of the Buckeye Furnace Reclamation Project Over Time* – Ben McCament, Institute for Local Government and Regional Development, Ohio University; Brett Laverty, Vinton County Soil and Water Conservation District; Mitchell Farley, Ohio Department of Natural Resources, Division of Mineral Resources Management
- 4:00-5:30**    **Session 2B: Advances in Energy Utilization and Environmental Mitigation** – Walter Hall 135  
*Fueling Fighter Jets with Ohio Coal* – Mark Shanahan, Executive Director, Ohio Air Quality Development Authority  
  
*An Update on Ohio's Geologic CO<sub>2</sub> Sequestration Potential and Projects* – Larry Wickstrom, Supervisor, Energy Resources Group, Ohio Department of Natural Resources, Division of Geological Survey  
  
*Enhanced Practical Photosynthetic CO<sub>2</sub> Mitigation* – David J. Bayless, Gregory Kremer, Morgan Vis, Ben Stuart, Michael Prudich, Ohio Coal Research Center, Ohio University; Keith Cooksey, Department of Microbiology, Montana State University  
Duncan Earl, Division of Photonics and Fiber Optics, Oak Ridge National Laboratory

**4:00-5:30 Session 2C: Regulatory Status and Requirements for Activities Impacting Streams and Wetlands**  
DMRM regulates active oil and gas drilling operations, industrial minerals mining operations, and surface and underground coal mining operations. In addition DMRM restores abandoned mine sites and plugs idle and orphaned oil & gas wells. All of these activities may be affected by current regulations under 404 and 401 Permitting Requirements. Implications of current and proposed regulations will be discussed during this session.  
Mark Taylor, U. S. Army Corps of Engineers, Huntington District; Randy Bournique, Ohio EPA, Division of Surface Water

**5:30-7:00 Poster Session and Reception – Walter Hall Rotunda**  
Hors d'oeuvres and beverage reception with cash bar (beer and wine available), featuring poster exhibits highlighting mineral extraction projects and sponsor displays.

Persons interested in exhibiting posters at the reception should submit a summary/abstract by Oct. 30 to Guy Riefler at [riefler@ohio.edu](mailto:riefler@ohio.edu) or 740-593-1471.  
Organizations interested in having a display at the reception should contact Pat Davidson by November 10, at [davidson@ohio.edu](mailto:davidson@ohio.edu) or 740-593-1767.

### Thursday, December 8 (Day 2)

**7:30-8:30 Breakfast and Registration – Walter Hall lobby**

**8:30-10:30 Session 3A: Mineland Investigations and Reforestation – Walter Hall 145**

*Sediment Transport in Little Leading Creek* – Guy Riefler, Ben Stuart, Tiao Chang, Yanhui Fang, Department of Civil Engineering, Ohio University; Barbara Flowers, Ohio Department of Natural Resources, Division of Mineral Resources; Jennifer Chapman-Kleski, Environmental Studies Program, Ohio University;

*Investigations for Drilling and Grouting Projects* – Tim Jackson, Abandoned Mine Lands, Ohio Department of Natural Resources, Division of Mineral Resources

*Chestnut Reforestation Study and Reforestation Program on Abandoned Mine Lands* – John C Sprouse, Abandoned Mine Lands, Ohio Department of Natural Resources, Division of Mineral Resources

*Mine Soil Properties and Suitability for Reforestation* – Carl E. Zipper, Associate Professor, Crop & Soil Environmental Science and Director, Powell River Project; Virginia Polytechnic Institute & State University

**8:30-10:30 Session 3B: Monitoring, Biology and Habitat Assessments – Walter Hall 135**

*Monitoring Hydrologic Changes Due to Mining under Dysart Woods* – Peter C. Schillig, Mary W. Stoertz, Dept. of Geological Sciences, Ohio University; David Bartsch, The Ohio Valley Coal Company

*Using Biology to Determine Stream Flows at Longwall Mining Operations in Ohio* – Max Luehrs, USDO, Office of Surface Mining Reclamation and Enforcement

*Tiered Designated Uses in Water Quality Standards: Why They Matter to Water Resource Management* – Chris O. Yoder, Midwest Biodiversity Institute and Center for Applied Bioassessment and Biocriteria

*Comparison of Biological Assemblages and Habitat Among Streams of the Federal Creek, Moxahala Creek, and Leading Creek Watersheds in the Western Allegheny Plateau Ecoregion of Ohio* – Rankin, Edward T., Morman, Tracy, and Tony Minamy, Midwest Biodiversity Institute and Center for Applied Bioassessment and Biocriteria

**10:30-11:00 Break**

**11:00-12:30 Session 4A: Beneficial Use of Resource Extraction By-Products – Walter Hall 145**

*Foundry Sand and Compost Applications for Use in Construction and Reclamation* – Joe Alexander, Kurtz Bros., Inc.

*Beneficial Use of Lime Mining Wastes - New Rules Under 1501:14* – Tom Tugend, Deputy Chief, Ohio Department of Natural Resources, Division of Mineral Resources

*New Hydropower Potential from Mine Drainage Outfalls* – Roger Bason, President, Natural Currents, LLC  
Igor Yatskar, Technology Development, E3, Inc.

**11:00-12:30 Session 4B: Watershed Characterization, Plans and Partnerships – Walter Hall 135**

*Status of Acid Mine Drainage Abatement and Treatment (AMDAT) Plans in Ohio* – Jennifer Bowman, Voinovich Center, Ohio University; Mary Ann Borch, Ohio Department of Natural Resources, Division of Mineral Resources

*Partnerships Lead to Effective Restoration in the Raccoon Creek Watershed* – Jerry Iles, Ohio State University Extension

*Mineland Site Characterization via University Service-Learning Classes*; Mary Stoertz, Associate Professor, Dept. of Geological Sciences, Ohio University; Ben McCament, Research Associate, Voinovich Center, Ohio University; Mitch Farley, Project Officer, ODNR Div. of Mineral Resources Management

**1:00-4:00 Tour of Raccoon Creek Treatment Sites** (reservation required) Transportation and box lunches for tour participants will be provided.

Projects to be viewed in *Raccoon Creek*, Jackson County include:

*Mulga Run* – Installation of two large steel slag leach beds and wetland development to remediate a basin wide acid mine drainage problem. Third largest contributor of acidity to *Little Raccoon Creek*.

*Middleton Run* – Surface mine reclamation, elimination of mining impoundments and installation of open limestone channels to remediate acid mine drainage problems. Seasonally the largest contributor of acidity into *Little Raccoon Creek*.

*Flint Run / Lake Milton* – This expansive site, on ODNR owned land, contributes the largest amount of acidity from a single source into *Raccoon Creek*. The project involves down flow wetlands, slag leach beds, wetland ditches, horizontal limestone leach beds, surface reclamation and the interception and diversion or elimination of mine drainage from up-drainage surface mines and refuse piles.

## REGISTRATION - Ohio DMRM Applied Research Conference 2005

*Please duplicate for additional registrations*

Conference registration includes: All sessions, breakfast, lunch, breaks, reception with cash bar, and one CD-ROM containing Conference Proceedings.

First Name \_\_\_\_\_ Last Name \_\_\_\_\_

Title \_\_\_\_\_ Organization \_\_\_\_\_

Street Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Telephone (     ) \_\_\_\_\_ Fax (     ) \_\_\_\_\_

E-mail \_\_\_\_\_

\_\_\_\_\_ I will attend the site tour on Thursday afternoon

### Fees:

\_\_\_\_\_ Presenter (No fee)    \_\_\_\_\_ Professional/Industry **\$95.00**    \_\_\_\_\_ ODNR Staff (Direct Billed to ODNR)

\_\_\_\_\_ Student Registration **\$25.00** (with ID)

### Sponsor Registration:

\_\_\_\_\_ Bronze **\$100.00** Includes optional display table (6'x30') and listing in attendee packets. No Conference Registration.

\_\_\_\_\_ Silver **\$250.00** Includes optional display table, listing, and one conference registration.

\_\_\_\_\_ Gold **\$500.00** Includes optional display table, listing, and two conference registrations.

### 4 Ways to Register:

1. **Register online at [www.ohio.edu/noncredit/DMRM.htm](http://www.ohio.edu/noncredit/DMRM.htm)**
2. By mail: make checks payable to Ohio University, and return to ARC, Community and Professional Programs, 119 Haning Hall, Athens, OH 45701
3. Fax to: **740-593-9476**
4. Email: **[carnahan@ohio.edu](mailto:carnahan@ohio.edu)**

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Credit Card Payment    \_\_\_\_\_ VISA    \_\_\_\_\_ MasterCard

Card Number \_\_\_\_\_ Expiration Date \_\_\_\_\_

Name on Card \_\_\_\_\_

Signature \_\_\_\_\_

Directions to the campus and the meeting room will be sent with conference confirmation, or visit **[www.ohio.edu/noncredit/](http://www.ohio.edu/noncredit/)**

A limited number of hotel rooms are being held at the state rate. Deadline for reservations is **November 14**.

Contact: Amerihost Inn **740-594-3000** or Ohio University Inn **740-593-6661**.

Ohio University reserves the right to make changes in this program due to insufficient registration.

Refunds are limited to registration fees.

## CALENDAR

Information available for OGS meetings at: [www.ohgeosoc.org](http://www.ohgeosoc.org)  
or contact Don Jennings at [seismic@sprynet.com](mailto:seismic@sprynet.com), 740-788-8836.

- November 6-11      75<sup>th</sup> Annual SEG Meeting, George R. Brown Convention Center, Houston, TX.  
[http://seg.org/meetings/current\\_am/](http://seg.org/meetings/current_am/)
- December 5-9      AGU Fall Meeting, Moscone Center West, San Francisco, CA.  
[www.agu.org/meetings/fm05/?pageRequest=home](http://www.agu.org/meetings/fm05/?pageRequest=home) or 800-966-2481.
- December 7-8      2005 ARC Conference, Ohio University, Athens, OH.  
<http://www.ohiou.edu/noncredit/DMRM.htm> or 614-265-1076.
- January 20      8<sup>th</sup> Annual OGS Winter Gala, Midwest Hotel & Conference Center,  
Columbus, OH. [www.ohgeosoc.org/meetings.html](http://www.ohgeosoc.org/meetings.html) or 614-717-9262.

Check the OGS website at [www.ohgeosoc.org/otherevents.html](http://www.ohgeosoc.org/otherevents.html) or the PTTC website at  
<http://karl.nrcce.wvu.edu/calendar.htm> for other meetings and events.