

American Institute of Professional Geologists (Kentucky Section)



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*Is Offering a
Professional Development Conference
on*



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Karst Hydrology

This two-day professional development program, *“Karst Hydrology,”* will be led by Ralph O. Ewers, Ph.D., P.G., Eastern Kentucky University emeritus, and Peter J. Idstein, M.S., University of Kentucky.

Wednesday, October 19, 2011: Lecture on state-of-the-art methods for characterization and monitoring of carbonate bedrock systems. It will be held on Wednesday, October 19 at the Kentucky Geological Survey, Well Sample and Core Library, 2500 Research Park Drive, Lexington, Kentucky.

Thursday, October 20, 2011 (optional): Field exercise held at Sinking Valley karst site in Pulaski County. Demonstrations of tracer methods and observations of karst geology and geomorphology.

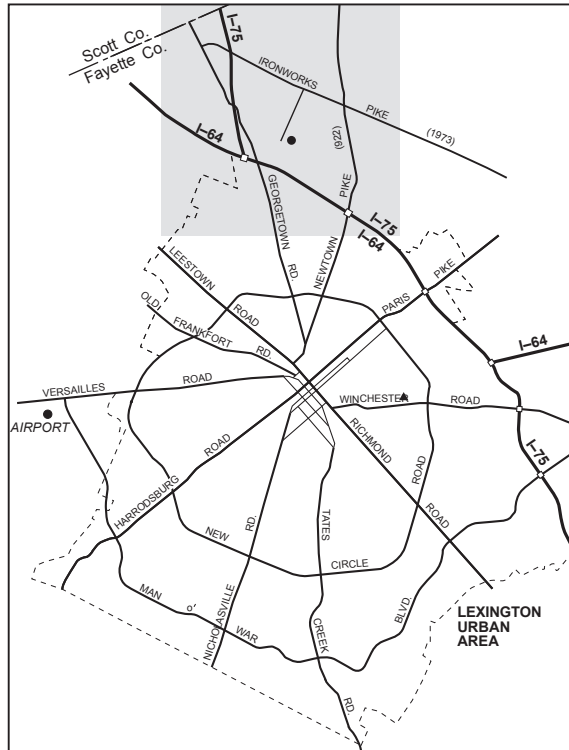
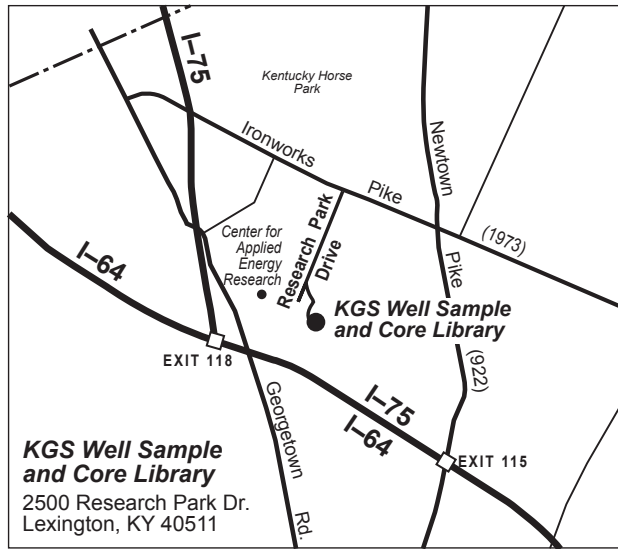
Eight professional development hours will be awarded for each day attended.

Detailed information on the conference topics can be obtained at the KY-AIPG website, ky.aipg.org/Announcements.htm.

Fees for the KY-AIPG workshops are designed to cover the basic expenses.

The professional development program of the American Institute of Professional Geologists-Kentucky Section is to enhance the knowledge and skills of the practicing members of the geologic profession. The topics and the character of presentation of the sessions are designed to be acceptable for professional development credits for those who desire them.

For any questions, please call Dr. James Howard at 270.925.6636 or e-mail jfhoward89@hotmail.com



KGS Well Sample and Core Library location map.

Karst Hydrology Course Highlights

Recent work by karst geomorphologists and hydrogeologists has improved our understanding and conceptualization of karst aquifer systems. Environmental sites in carbonate bedrock terranes have been traditionally perceived as so inherently complex that unmanageable uncertainty remained even after investigations were complete. Today, we are gaining insight into hydrogeological relationships and taking steps to further characterize the fate and transport of contaminants in carbonate bedrock. Karst aquifers are clearly different from more familiar granular and fractured aquifers, but they are understandable and manageable.

The course will integrate tracer testing methods that emphasize practicality and efficiency. The course also offers an optional field component with access to a superb local karst site where tracer methods can be demonstrated and karst geology and geomorphology can be readily observed. This intensive course is applicable to a wide variety of contamination issues that are prevalent in carbonate terranes. This course discusses and demonstrates state-of-the-art methods for characterization and monitoring of carbonate bedrock systems.

The following topics will be covered:

- ✿ Practical field techniques for characterizing conduit networks and ground water movement
- ✿ Solution porosity control of groundwater flow and contaminant transport in karst aquifers
- ✿ Tracer testing with fluorescent dyes
- ✿ Recent advances in geophysics applicable to karst
- ✿ Design and execution of tracer tests
- ✿ Pitfalls of potentiometric surface and water table maps in carbonate terranes
- ✿ The latest analytical methods for tracer dyes
- ✿ The do's and don'ts of ground water flow and transport modeling of karst systems
- ✿ Integration of rock stratigraphy into conceptual models and appropriate ground water models

Instructors:

Ralph O. Ewers, Ph.D., P.G.: Eastern Kentucky University, Emeritus

Peter J. Idstein, M.S.: University of Kentucky

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Wednesday, October 19, 2011

KARST HYDROGEOLOGY AND CONTAMINATED SITE ASSESSMENT REMEDIATION

Presenters:

Ralph O. Ewers, Ph.D., P.G.; Eastern Kentucky University, Emeritus
Peter J. Idstein, M.S.; University of Kentucky

Location: Kentucky Geological Survey Well Sample and Core Library

7:30 a.m. Registration - Coffee and rolls

8:00 a.m. Opening session: Introductions and Purpose of Session

8:15 a.m. Session 1a :Two Case Histories -or- “How to Bungle a Karst Investigation”

Session 1b: Karst Hydrogeology - Some Basic Principles

10:00 a.m. Break

10:20 a.m. Session 2: Fundamentals of Dye Tracing

Noon Lunch (will be provided)

12:45 p.m. Session 3a: Contaminant Movement in Karst

Session 3b: Wells in Karst—What They Can and Cannot Do

2:15 p.m. Break

2:35 p.m. Session 4a: Geophysics That Work in Karst and “Bugs”

Session 4b: A Little Applied Geochemistry and Some Useful Physical Principles

4:15 p.m. Question and Answer Session

5:00 p.m. Adjournment

(Optional field exercise for October 20 will meet at the KGS Well Sample and Core Library parking lot at 7 a.m.)

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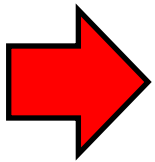
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Thursday, October 20, 2011

KARST HYDROGEOLOGY, GEOMORPHOLOGY, AND TRACER DEMONSTRATION

Field Trip Leaders:

Ralph O. Ewers, Ph.D., P.G.; Eastern Kentucky University, Emeritus
Peter J. Idstein, M.S.; University of Kentucky



The field trip will be handled with private vehicles. We encourage carpooling to avoid congestion and contributions to the vehicle owner to defray costs. Some of the roads are narrow and curvy; please maintain safe distances and drive carefully.

Meet: Kentucky Geological Survey, Well Sample and Core Library
2500 Research Park Drive, Lexington, Kentucky

7:00 a.m. Registration - Coffee and rolls

7:30 a.m. Introductions and general information - Field trip maps and guidebooks for the route will be distributed

7:45 a.m. Departure for Pulaski County field site on I-75 south

9:15 a.m. Arrival at exit 62 (Renfro Valley) off of I-75 for a brief pitstop and start of field trip (if you are late at the KGS Well Sample and Core Library call 859.229.0406 and then meet us here. We will leave from this location at 9:30 a.m.)

9:30 a.m. Departure along Ky. 461 to field trip/exercise area for 18 miles. At Ky. 80, the caravan will turn east and follow backroads.

Noon Lunch Break – At Short Creek (will be provided)
Restroom facilities are available at the nearby volunteer fire department

12:45 p.m. Field trip departs for afternoon activities

5:00 p.m. Adjournment - return to the KGS Well Sample and Core Library (if necessary to pick up vehicles)



Bring hard hats and flashlights (LED headband lamps are ideal) for the two places where we will briefly go into the subsurface. We will have some hardhats and gasoline lanterns.



**American Institute of Professional Geologists
(Kentucky Section)
Two-Day Professional Development Conference
“Karst Hydrology”**

SCHEDULE: Wednesday, October 19, 2011: 7:30 a.m. – 5:00 p.m.

Thursday, October 20, 2011 (optional): 7:00 a.m. – 5:00 p.m.

LOCATION: October 19: Kentucky Geological Survey, Well Sample and Core Library
2500 Research Park Drive
Lexington, Kentucky

October 20 (**Optional**): Sinking Valley, Pulaski County, meet in the parking lot
of the KGS Well Sample and Core Library

Detailed information on the conference can be found at: ky.aipg.org/Announcements.htm



**Attendees can earn eight professional development hours of continuing
education credits for each day of attendance**

Check here if you are requesting a PDH certificate for October 19

Check here if you are requesting a PDH certificate for October 20

Name: _____

AIPG MEMBER # _____ or AIPG CPG # _____

Employer: _____

Address: _____

City/State/Zip: _____

Telephone: (____) _____ Fax: (____) _____ E-Mail: _____

REGISTRATION FEES:

October 19: **NONMEMBERS \$125 AIPG MEMBERS & GOVERNMENT EMPLOYEES \$75**

October 20: **NONMEMBERS \$75 AIPG MEMBERS & GOVERNMENT EMPLOYEES \$50**

After October 1, 2011, add \$25 to all registration fees.

PAYMENT ONLY BY CHECK:

Personal Check #: _____ Company Check #: _____

Make checks payable to: AIPG Kentucky Section

Mail checks to: Professional Development- Program Event 2

Kentucky Section-AIPG

P.O. Box 24690

Lexington, KY 40524

REFUNDS AND CANCELLATIONS:

All cancellations must be received in writing (not by phone) and sent to AIPG-Kentucky Section by mail or e-mail Donnie Lumm donnie.lumm@mma1.com. All cancellations postmarked by October 1, 2011, will receive a refund minus a 25 percent administrative fee. After October 1, 2011, registrants are no longer eligible for refunds; however, substitutions are welcomed (e-mail Donnie Lumm).

No refunds for registrants who fail to attend.