

Central New York Association of Professional Geologists
Isotopic Geochemistry Symposium
April 28, 2005

The CNYAPG Spring 2005 Symposium celebrates 12 years of making a difference in Central New York. CNYAPG has a reputation for providing informative and timely one-day conferences and short courses on topical geologic issues. This year we have assembled a fascinating mix of speakers into one great symposium. The day covers the broad spectrum of isotopic geochemistry. Presentations by speakers who are leaders in the field of isotopic geochemistry will cover the use of isotopes in ground water flow investigations, contaminant forensics, and biodegradation. We finish the day with a Poster session. This is one program you will not want to miss.

- Featured Topics -

- Introduction to isotopic geochemistry.
- The use of isotopes for contaminant source identification and forensics.
- The use of isotopes to evaluate the degradation of organic contaminants.
- The use of tracers to date ground water.
- The use of isotopes to determine climate history.

Date: Thursday - April 28, 2005
7:45 AM - 6:00 PM

Location: The Lodge
4355 State Street Road
Skaneateles Falls, NY
315 291-3700

Registration fee includes symposium proceedings, coffee and snacks at breaks, and luncheon.

Due to space and meal limitations, attendance is limited to the first 90 registrants. To secure your attendance, return the enclosed registration form by Friday, April 1, 2005.

For more information, contact Dave Lay at 315 446-9120 (dwl@bbl-inc.com) or Guy Swenson at 315 437-6100 (swensoga@obg.com), or visit our web site: www.cnyapg.org

- Program Details -

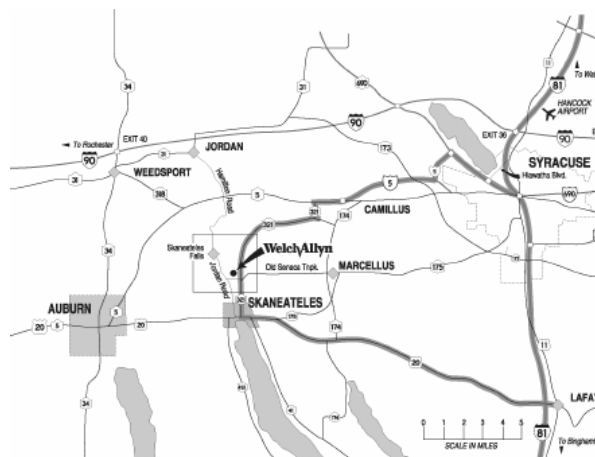
- 7:45 **Registration Begins**
- 8:00 - 9:30 **Poster Session & Vendor Exhibit**
- 9:30 - 11:30 **Short Course:**
Dr. Don Siegel (Syracuse University)
"Introduction to Isotopic Geochemistry"

Dr. Julie Sueker (Blasland, Bouck & Lee)
"Isotope Applications for Contaminant Source Identification and Allocation"
- 11:30 - 1:00 **Lunch**
- 1:00 - 5:00 **Invited Speakers**
- 1:00 - 3:00 **Dr. Sherwood Lollar** (University of Toronto)
"Use of Isotopes to Evaluate Contaminant Degradation"

Dr. Greg Slater (McMaster University) "Stable Isotope Forensics - When Isotopes Work"
- 3:00 - 3:30 **Break**
- 3:30 - 5:00 **Dr. Connie Weyhenmeyer** (Syracuse University)
"Determination of Climate History using Isotopes"

Todd Miller (USGS) "Using Environmental Tracers to Date Young Ground Water"

Dick Yager (USGS) "Origin of Halite Brine in a Glacial Aquifer Underlying Onondaga Lake"
- 5:00 - 6:00 **Poster Sessions**



<http://thelodge.welchallyn.com/index.html>

- Short Course Summary -

Introduction to Isotope Hydrology

By Dr. Don Siegel

In isotope of an element is one that has the usual number of protons but more neutrons than the most common form. Although all isotopes of elements chemically behave the same way in water-rock chemical reactions, the very small differences in atomic mass lead to physical and biochemical processes that "sort" the heavier elemental atoms from the lighter more common ones. This sorting process, called "isotopic fractionation," makes elemental isotopes outstanding tracers that useful to track natural recharge and anthropogenic contamination, fingerprint contamination sources, identify biochemical processes, and directly measure the age of ground water. In this part of the course, I will introduce the major environmental isotopes used in hydrology; H, O, S, C, N, Pb, and Sr and the theoretical basics governing isotopic fractionation.

Isotope Applications for Contaminant Source Identification and Allocation: Theory to Practice

By Dr. Julie Sueker

Isotope applications are gaining acceptance for use in surface water and groundwater investigations, complementing traditional geochemistry and physical hydrology techniques. Recent developments in analytical methodologies and in the understanding of isotope dynamics now allow the use of isotopes to investigate sources and fate of common groundwater contaminants such as chlorinated solvents and petroleum hydrocarbons. Degradation of chlorinated solvents and petroleum hydrocarbons impart unique isotopic signatures on both the original contaminant and the degradation product or products that provide verification of degradation. Contaminants with unique isotopic signatures may facilitate determination of contaminant source(s) in complex plumes, especially with recent advances in compound-specific isotopic analyses. Inclusion of isotopic data in allocation models may contribute to the robustness and reliability of the allocation modeling process. This presentation will include theoretical and case study applications of isotopes for identifying contaminant source(s) and fate in the environment.

REGISTRATION FORM

(Please complete one form for each person attending)

Name: _____

Company: _____

Address: _____

Phone: _____

Email: _____

Conference Fee Schedule

- _____ CNYAPG Members @ \$125.00
_____ Non-Members @ \$150.00
_____ Student @ \$75.00
_____ CEU Certificate @ \$10.00

CNYAPG is applying to the American Institute of Professional Geologists (AIPG) for Continuing Education Credit (CEU) certification. If approved, AIPG certificates can be provided to attendees at a cost of \$10 per certificate. If you are interested in this certification please indicate such on your registration form (above) and include the additional \$10 fee.

Persons interested in taking advantage of the discount for members are encouraged to visit www.cnyapg.org for a membership application form to join CNYAPG.

Firms or organizations sending five or more people can deduct \$10.00 per person from their registration fee. For tracking purposes, you must attach a list of the other people attending this form.

Registration fee includes luncheon and proceedings.

E-mail confirmations with directions to the program will be sent to registrants.

Please return your completed form by Friday April 1, 2005. Prompt notification of your intention to attend will greatly facilitate our planning for this great event.

Your completed form and check (made out to CNYAPG) should be mailed to:

CNYAPG
PO Box 567
Dewitt, NY 13214

For CNYAPG use:

Paid: \$ _____ E-mail confirmation sent: _____

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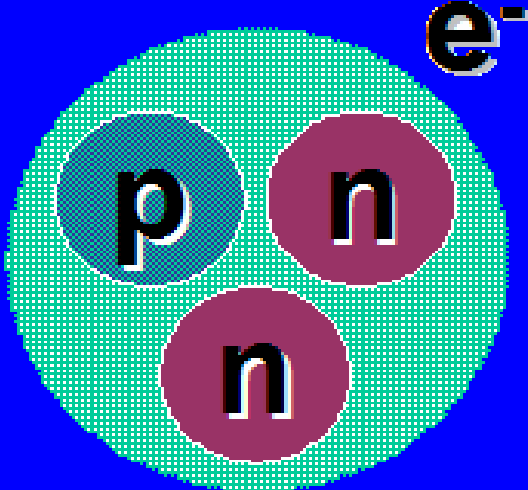
CNYAPG Symposium Isotopic Geochemistry

Presentations

- *Introduction to Isotopic Geochemistry*
- *Environmental Applications of Isotopes*
- *Isotope Forensics*
- *Isotopes and Contaminant Degradation*
- *Isotopes and Climate History*
- *Origin of Halite Brine under Onondaga Lake*

Posters

- *Assessing the impact of ethanol on MTBE and BTEX biodegradation using compound specific isotope analysis*
- *Elucidating Pathways of Benzene Biodegradation In Subsurface Environments Using Carbon and Hydrogen Isotope Analysis*



*Thursday April 28, 2005
The Lodge at Welch Allyn
Skaneateles Falls, New
York*