



GEOLOGICAL ASSOCIATION OF NEW JERSEY

FALL NEWSLETTER
2011

GANJ XXVIII ENVIRONMENTAL GEOLOGY OF CENTRAL NEW JERSEY ANNUAL CONFERENCE AND FIELD TRIP

October 14th and 15th, 2011

Middlesex County College – Edison, New Jersey
College Center - The Corral

As announced in the spring, the 28th Annual Geological Association of New Jersey (GANJ) conference and field trip will focus on environmental geology of Central New Jersey. There will be a significant emphasis on real-world applications of geologic knowledge in solving environmental problems during the Friday conference and Saturday field trip.

The scheduled speakers are experts in research and environmental consulting in New Jersey. The presentations will include talks on the results of geologic research that has been applied to solve water supply and other Coastal Plain environmental issues, the use of innovative methods to characterize sites subject to environmental investigation and cleanup, and the influence of site geologic conditions on the distribution of contaminants and remedial alternatives. Some of the methods to be discussed are the use of borehole video in the Passaic Formation that shows evidence of flow between different fractures, geophysical and other field investigation screening tools, and various modeling techniques.

For those working in the environmental field, this should be an opportunity to see some new techniques, see successful application of technologies you were considering, and network with others in the field. For geology, environmental engineering, and environmental science students, it will be an opportunity to learn about an area of geology that will be employment opportunity for many; it should also be an opportunity to meet leaders in the field. Teachers should see aspects of environmental geology that could be used to generate student interest in related science classes. In addition, the teachers' workshop will discuss classroom activities that deal with common misconceptions in earth and environmental science. To close out the Friday conference, before the annual dinner and business meeting with the election of GANJ officers for 2011-2012, our keynote speaker will be Jeffrey L. Hoffman, Research Scientist from the New Jersey Geological Survey, speaking on Northern Coastal Plain water supply issues. The Saturday field trip will include the Passaic Formation, Coastal Plain sand and clay deposits, a salt marsh with evidence of sea level rise.

Information on the meeting and field trip is also available on the web at www.ganj.org. Please note that you may register for the meeting online at <http://shop.ganj.org>. Directions to Middlesex County College and the College Center and information on parking are on Page 7. Information on accommodations in the area is on Page 2.

PROFESSIONAL DEVELOPMENT/CONTINUING EDUCATION CREDITS

If attendance at the GANJ annual meeting is considered by your school or other organization as an acceptable professional development activity, GANJ will provide annual meeting certificates of attendance. Four (4) hours will be credited for the Friday presentations and six (6) hours for Saturday's field trip. If you will need a certificate of attendance, note this with your registration form.

MEETING SPONSORSHIP

GANJ invites support of the annual meeting through sponsorship (\$250.00). Sponsors receive recognition in the proceedings volume and on the GANJ web site for a year. More important is the opportunity to support geologic education in New Jersey. If interested, please contact a board member. Thank you again to our 2010-2011 sponsors:

Environmental Compliance, Inc.	www.eci-nj.com
GEI Consultants	www.geiconsultants.com
Langan Engineering & Environmental Services	www.langan.com
Matrix New World Engineering, Inc.	www.matrixnewworld.com
New Jersey City University	www.njcu.edu
Rutgers-Newark-Earth & Environmental Sciences	http://geology.newark.rutgers.com
U.S. Geological Survey-NJ Water Science Center	http://nn.usgs.gov

ADVERTISEMENTS

In order to help defray meeting costs, GANJ is also accepting advertisements from geologically-oriented entities (e.g., universities, environmental consulting firms and laboratories, well drilling firms, etc.). For \$15.00, a copy of your business card will be included in the annual meeting proceedings volume. If interested, please contact a board member.

REGISTER AND PURCHASE GUIDEBOOKS BY CREDIT CARD ONLINE

In addition to registration, you may also purchase guidebooks from the GANJ web site. See <http://shop.ganj.org>. A list of currently available publications is on Page 8.

ACCOMMODATIONS

Each conference attendee is responsible for his/her own lodging. Due to the large number of facilities in the area, special arrangements/group discounts have not been established. Nearby Edison hotels include:

Crowne Plaza Edison, 2055 Lincoln Highway - www.cpedison.com - 732-287-3500

Hotel Classique, 21 Cortland Street - www.hotelclassiquenj.com - 732-548-7000 - 1 mile from college

Sheraton Edison Hotel Raritan Center, 125 Raritan Center Parkway - www.starwoodhotels.com/corporate/directory/hotels/all/list - 732-225-8300 - 3 miles from college

Fairfield Inn & Suites Edison-South Plainfield, 875 New Durham Road - www.marriott.com/hotels/travel/ewrfi-fairfield-inn-and-suites-edison-south-plainfield - 732-650-0011

Red Roof Inn, 860 New Durham Road - www.redroof.com - 732-248-9300 – 2.5 miles from college

Hilton Garden Inn Edison/Raritan Center, 50 Raritan Center Parkway - www.hiltongardeninn.com
732-225-0900

Days Inn Edison, 610 U.S. Route 1 North - www.daysinnedison.net/ - 732-985-2666

ENVIRONMENTAL GEOLOGY OF CENTRAL NEW JERSEY

Friday, October 14th – College Center - The Corral, Middlesex County College, Edison, NJ

11:00-4:00 Registration

- 11:30-12:30 Teacher Workshop – Challenging Common Misconceptions in Earth and Environmental Science - Jane Alexander, College of Staten Island/CUNY, and GANJ President-Elect
- 1:00-1:20 Welcoming Remarks/Conference Overview – Alan H. Uminski, GANJ President
- 1:20-1:40 How Laterally Extensive are Major Conductive Fractures in the Passaic Formation? – Richard Britton, The Whitman Companies, and Andrew Michalski, Ph.D., Michalski and Associates
- 1:40-2:00 Hydraulic Diffusivity-Based Methodologies for Characterization of Fractured Rock Hydrogeologic Regimes: Examples from the Passaic Formation, New Jersey - Robert D. Mutch, Jr., P.Hg., P.E. Mutch Associates, LLC
- 2:00-2:20 Characterization of a Previously Unmapped Subsurface Fault Zone in Central New Jersey – Robert Bond, P.G., Langan Engineering & Environmental Services
- 2:20-2:40 Earthquake Loss Estimation for Middlesex and Monmouth Counties, New Jersey – Scott Stanford, New Jersey Geological Survey.
- 2:40-3:00 Break
- 3:00-3:20 Direct-Sensing Tools for the Evaluation of Overburden Geology and Formation Hydraulic Properties in Unconsolidated Sedimentary Deposits of New Jersey - Jason C. Ruf and Matthew Ruf, S2C2, Inc.
- 3:00-3:20 Stratigraphy and Hydrogeology of the Cretaceous-Age Raritan and Magothy Formations in the Sayreville-Parlin Area, Middlesex County, New Jersey – John W. Jengo, P.G., MWH Americas, Inc.
- 3:20-3:40 Ground Water/Surface Water Interaction at an EPA Superfund Site on the Coastline of New Jersey - John Dougherty, CDM, Inc.
- 3:40-4:00 Correlation of Outcrop to Subsurface Magothy Formation Sequences and Members - Peter Sugarman, Ph.D., New Jersey Geological Survey
- 4:30-5:30 Keynote Speaker – Jeffrey L. Hoffman, New Jersey Geological Survey - Critical Area 1 - A Success Story
- 6:00 Dinner and Business Meeting

Saturday, October 15th - Meet at Parking Lot 2, Middlesex County College, Edison NJ

Field Trip: **8:00 am** - 5:00 pm.

The Saturday field trip will include the Passaic Formation, Coastal Plain sand and clay deposits, a salt marsh with evidence of sea level rise.

2011 GANJ ANNUAL MEETING AND 2011-2012 GANJ MEMBERSHIP

Register online at <http://shop.ganj.org> or complete and mail this form to the address listed below.

Online or mail registrations due by Oct. 7. After Oct. 7 you may register on-site the day of the meeting if space is available. No refunds after Oct. 7. Register early: Field trip space is limited to 2 buses. No private vehicles.

Last Name: _____ First Name: _____ Title: _____

Mailing Address: _____ e-mail: _____

_____ Affiliation: _____

Note: I wish to receive GANJ newsletters by email only by mail only by email and mail

Registration Options:

I will be attending the annual meeting of Friday (includes 2012 membership, proceedings volume, and field trip)

Professional Registration: \$55 (received by Oct. 7) \$65 (after Oct. 7)

Student Registration*: \$25 (received by Oct. 7) \$35 (after Oct. 7)

Additional GANJ XXVIII Guidebooks (\$20 each) Quantity: _____ **SUBTOTAL: \$ _____**

I will be attending the field trip on Saturday*. **I will not be attending the field trip on Saturday.**

Friday Dinner and/or Saturday Field Trip Lunch (optional):

Friday Dinner and Saturday box lunch orders are due to the vendor by October 1. For meals, please ensure your registration is received by this date. There will be no opportunity to buy lunch on the trip, so make your lunch arrangements ahead of time, either through GANJ or by bringing your own.

Dinner, Friday \$25 omnivore vegetarian

Box Lunch, Saturday \$12 ham turkey vegetarian

roast beef tuna (all with drink and a snack)

SUBTOTAL: \$ _____

I request a CE certificate of attendance for 2011.

I will not attend the meeting but I want to be a member:

Membership only (10/14/2011 through the day before GANJ 2012) Professional \$15 Student* \$7.50

GANJ XXVIII (2011) Field Guide and Proceedings Volume only - \$20 **SUBTOTAL: \$ _____**

(Check/money order payable to GANJ)

GRAND TOTAL: \$ _____

***Students (full or part-time) MUST submit a completed verification form (next page). All field trip participants MUST sign a release form (next page). If registering online, the form(s) may be mailed or brought to the meeting. Register online or mail this form, the release form, student verification form (if applicable), and check or money order, payable to GANJ, to:**

Emma C. Rainforth, Ph.D., School of Theoretical and Applied Science, Ramapo College of New Jersey, 505 Ramapo Valley Road, Mahwah, NJ 07430 Attn: GANJ XXVIII Annual Meeting.

**THE GEOLOGICAL ASSOCIATION OF NEW JERSEY
RELEASE AND HOLD HARMLESS WAIVER**

I, the undersigned, having been fully advised as to the nature and possible dangers of the conference and field trip, "Environmental Geology of Central New Jersey" on October 14th and 15th, 2011, which is sponsored by THE GEOLOGICAL ASSOCIATION OF NEW JERSEY, do hereby assume any and all risks involved in connection with the trip, and do hereby save and hold harmless MIDDLESEX COUNTY COLLEGE; THE GEOLOGICAL ASSOCIATION OF NEW JERSEY, ITS OFFICERS, REPRESENTATIVES, AGENTS, OR MEMBERS; and the OWNERS of the properties and their AGENTS, from all claims, losses and damages (including attorney's fees and any costs involved because of said claim), on account of injury, death, property damage, inconvenience or loss of money due to delays that arise, by reason of my participation in the field trip. I understand that my use of alcohol or drugs would impair my judgment and coordination, and will hold the above stated organizations and individuals harmless from claims arising from the use of either. I understand that I am solely responsible for carrying my own life and health insurance. I grant THE GEOLOGICAL ASSOCIATION OF NEW JERSEY permission to use my image (photo) in their publications, web page, and other promotional materials.

SIGNATURE: _____

PRINT NAME: _____

DATE: _____

STUDENT VERIFICATION FORM

The student registration rate is for full or part-time students at any level. The following form must be signed by an appropriate faculty, teacher, or administrator from the school you are attending.

This is to certify that: _____

Is a student at: _____

Certifier's Name: _____

Position: _____

Institution: _____

NOMINATIONS FOR THE GANJ 2011-2012 EXECUTIVE BOARD

Nominees for the GANJ executive board were solicited from the GANJ membership in the Spring Newsletter. Nominees are all individuals who had been contacted by the person nominating them and had agreed to serve. The board presents the following list of candidates and will seek election of the entire slate by voice vote at the annual meeting. If anyone would like to make a nomination for future service, including a self-nomination, please contact any existing board member. Current board members can also answer questions regarding specific duties of the various positions. Please consider volunteering your time and energy to serve. We meet about once every four (4) to six (6) weeks. Members are also invited to suggest ideas for future meeting themes, locations, and presenters.

The board would like to thank Pierre Lacombe, U.S. Geological Survey, as he completes his three (3) year term as President.

PRESIDENT-ELECT: ALAN I. BENIMOFF, COLLEGE OF STATEN ISLAND/CUNY

Responsibilities: A three (3) year position (as President-Elect, President and Past-President) where during the first year one learns the responsibilities of the President, the second year is responsible for organizing the annual meeting and field trip, and the third year assists the President by sharing past experiences.

TREASURER: EMMA RAINFORTH, RAMAPO COLLEGE OF NEW JERSEY

Responsibilities: A one (1) year position (with the understanding of serving multiple years) keeping track of the organization's finances.

MEMBERSHIP SECRETARY: SUZANNE MACAOAY FERGUSON, SADAT ASSOCIATES

Responsibilities: A one (1) year position (with the understanding of serving multiple years) maintaining the membership database.

RECORDING SECRETARY: STEPHEN J. URBANIK, NJDEP

Responsibilities: A one (1) year position recording minutes at the executive board and annual meetings, preparing the bi-annual newsletters, and tracking correspondence.

COUNCILORS AT LARGE (THREE (3) POSITIONS):

NURDAN S. DUZGOREN-AYDIN, NEW JERSEY CITY UNIVERSITY

PIERRE LACOMBE, U.S. GEOLOGICAL SURVEY

WILLIAM MONTGOMERY, NEW JERSEY CITY UNIVERSITY

Responsibilities: A one (1) year position assisting other members of the board as needed and learning the organization's operations in order to possibly serve in another position of the executive board.

PUBLICATIONS COMMITTEE:

MATTHEW L. GORRING, MONTCLAIR STATE UNIVERSITY

GREGORY HERMAN, NEW JERSEY GEOLOGICAL SURVEY

MICHAEL J. HOZIK, THE RICHARD STOCKTON COLLEGE OF NEW JERSEY

CURRENTLY ELECTED OFFICERS:

PRESIDENT: JANE ALEXANDER, COLLEGE OF STATEN ISLAND/CUNY

PAST PRESIDENT: ALAN H. UMINSKI

DIRECTIONS

MIDDLESEX COUNTY COLLEGE – 2600 WOODBRIDGE AVENUE, EDISON, NJ

(directions and a campus map are also available at

<http://www2.middlesexcc.edu/about/locations/edison-center-main-campus.html>)

FROM U.S. HIGHWAY 1 NORTH

Use the Fords exit (first exit after Morris Goodkind Bridge) for Route 514 East (Woodbridge Avenue). On Route 514 East (Woodbridge Avenue), proceed approximately two (2) miles and turn right at 6th traffic light onto College Drive East.

FROM U.S. HIGHWAY 1 SOUTH

Take Bonhamtown exit for Route 531 South. Proceed to traffic light, turn right onto Route 514 West (Woodbridge Avenue). Proceed to 3rd traffic light and turn left onto College Drive East.

FROM GARDEN STATE PARKWAY NORTH

Use Exit 127 and follow signs for I-287 North. Proceed for approximately one-half (1/2) mile on I-287, staying in right lane, and follow signs/exit to turn onto Route 514 West (Woodbridge Avenue). Proceed approximately two and one-half (2 ½) miles to the 6th traffic light and turn left onto College Drive East.

FROM GARDEN STATE PARKWAY SOUTH

Take Exit 130 to U.S. Highway 1 South. Follow directions from U.S. Highway South

FROM NEW JERSEY TURNPIKE NORTH AND SOUTH

Take Exit 10. Follow signs for Highland Park to Route 514 West (Woodbridge Avenue). Follow Route 514 West (Woodbridge Avenue) to the 6th traffic light and turn left onto College Drive East.

FROM I-287 NORTH

Exit at Route 514 West (Woodbridge Avenue) and follow the directions for Garden State Parkway North.

FROM I-287 SOUTH

Exit at 1-B onto Route 531 and follow the directions for U.S Highway 1 South.

FROM ROUTE 35 NORTH OR SOUTH, WOODBRIDGE TOWNSHIP

From Route 35, turn left (from Route 35 North) or right (from Route 35 South) onto Main Street, which becomes Woodbridge Avenue (Route 514) in Edison. Proceed to the 10th traffic light and turn left onto College Drive East.

THE COLLEGE CENTER AND PARKING

Follow College Drive East to the south side of the campus; the College Center is located across from the Physical Education Center. Visitor parking is available in Lots 1 and 2; these are the two (2) large lots to the right and left at the end of College Drive East, just before it intersects Mill Road (Route 667). There may be limited parking, especially for those with accessibility needs, in Lot 3, adjacent to the College Center. For additional information, stop at the information window at the Gateway Building. This is the first building on the right on College Drive East as you enter the campus.

FIELD GUIDES & PROCEEDINGS OF PRIOR ANNUAL MEETINGS

Price: \$20.00 (includes shipping and handling for hard copies)
Order online from <http://shop.ganj.org> or by mail using this form.

Volumes Ordered: _____
TOTAL AMOUNT ENCLOSED: \$ _____

Mail to: Geological Association of New Jersey
P.O. Box 5145
Trenton, NJ 08638-0145
ATTN: Publications Order

*out of print; available for download only

First Annual Meeting - 1984

Puffer, John H., ed., 1984, *Igneous Rocks of the Newark Basin: Petrology, Mineralogy, and Ore Deposits, and Guide to Field Trip*.

Second Annual Meeting - 1985*

Talkington, Raymond W., and Epstein, Claude M., eds., 1985, *Geological Investigations of the Coastal Plain of Southern New Jersey: Part 1 - Field Guide; Part 2A - Hydrology and Coastal Plain; Part 2B - Paleontologic Investigations (The set, Parts 1, 2A, 2B, priced as one volume)*.

Third Annual Meeting - 1986

Husch, Jonathan, M., and Goldstein, Fredric R., eds., 1986, *Geology of the New Jersey Highlands and Radon in New Jersey*.

Fourth Annual Meeting - 1987*

Gallagher, William B., ed., 1987, *Paleontology and Stratigraphy of the Lower Paleozoic Deposits of the Delaware Water Gap Area*.

Fifth Annual Meeting - 1988

Husch, Jonathan, M., and Hozik, Michael J., eds., 1988, *Geology of the Central Newark Basin*.

Sixth Annual Meeting - 1989*

Grossman, I. G., ed., 1989, *Paleozoic Geology of the Kittatinny Valley and Southwest Highlands N. J.*

Seventh Annual Meeting - 1990

Brown, James O., and Kroll, Richard L., eds., 1990, *Aspects of Groundwater in New Jersey*.

Eighth Annual Meeting - 1991

Crawford, Maria L., and Crawford, William A., eds., 1991, *Evolution and Assembly of the Pennsylvania - Delaware Piedmont*.

Ninth Annual Meeting - 1992

Ashley, Gail M., and Halsey, Susan D., eds., 1992, *Environmental Geology of the Raritan River Basin*.

Tenth Annual Meeting - 1993

Puffer, John H., ed., 1993, *Geologic Traverse Across the Precambrian Rocks of the New Jersey Highlands*.

Eleventh Annual Meeting - 1994

Benimoff, Alan I., ed., 1994, *Geology of Staten Island, New York*.

Twelfth Annual Meeting - 1995

Baker, John E. B., ed., 1995, *Contributions of the Paleontology of New Jersey*.

Thirteenth Annual Meeting - 1996

Dalton, Richard F., and Brown, James O., eds., 1996, *Karst Geology of New Jersey and Vicinity*.

Fourteenth Annual Meeting - 1997

Benimoff, Alan I., and Puffer, John H., 1997, *The Economic Geology of Northern New Jersey*.

Fifteenth Annual Meeting - 1998

Puffer, John H., ed., 1998, *The Economic Geology of Central New Jersey*.

Sixteenth Annual Meeting - 1999

Puffer, John H., ed., 1999, *New Jersey Beaches and Coastal Processes from a Geologic and Environmental Perspective*.

Seventeenth Annual Meeting - 2000

Harper, David P. and, Goldstein, Fredric L., eds., 2000, *Glacial Geology of New Jersey*.

Eighteenth Annual Meeting - 2001

Lacombe, Pierre, and Herman, Gregory, eds., 2001, *Geology in Service to Public Health*.

Nineteenth Annual Meeting - 2002

D'Amato, Dana, ed., 2002, *Geology of the Delaware Water Gap Area*.

Twentieth Annual Meeting - 2003

Hozik, Michael J., and Mihalasky, Mark J., eds., 2003, *Periglacial Features of Southern New Jersey*.

Twenty-first Annual Meeting - 2004

Puffer, John H., and Volkert, Richard A., eds., 2004, *Neoproterozoic, Paleozoic, and Mesozoic Intrusive Rocks of Northern New Jersey and Southeastern New York*.

Twenty-second Annual Meeting - 2005

Gates, Alexander E., ed., 2005, *Geology of the Central Newark Basin - The View From the 21st Century*.

Twenty-third Annual Meeting - 2006

Macaoay, Suzanne, and Montgomery, William, ed., *Environmental Geology of the Highlands*.

Twenty-fourth Annual Meeting - 2007

Rainforth, Emma C., ed., 2007, *Contributions to the Paleontology of New Jersey (II)*.

Twenty-fifth Annual Meeting - 2008

Gorring, Matthew L., ed., 2008, *Environmental and Engineering Geology of Northeastern New Jersey*.

Twenty-sixth Annual Meeting - 2009

Freile, Deborah, ed., 2009, *New Jersey Coastal Plain Stratigraphy and Coastal Processes*.

Twenty-seventh Annual Meeting - 2010

Lacombe, Pierre, ed., 2010, *Geology of the Greater Trenton Area and Its Impact on the Capitol City*

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