



GEOLOGICAL ASSOCIATION OF NEW JERSEY

**FALL NEWSLETTER
2014**

GANJ XXXI

GLOBAL ENVIRONMENTAL ISSUES & LOCAL CONSEQUENCES: EARTH SURFACE PROCESSES & URBAN ENVIRONMENTAL QUALITY

ANNUAL CONFERENCE AND FIELD TRIP

October 3rd and 4th, 2014

The Richard Stockton College of New Jersey

Campus Center – Board of Trustees Room

Pomona, Galloway Township, Atlantic County, NJ

Two (2) years after Hurricane Sandy, rebuilding, infrastructure repair, and beach replenishment and related work continue. Other impacts being investigated and addressed, especially since the storm made landfall in a highly developed area, include environmental pollutant impacts, such as where waste processing facilities were flooded, petroleum storage sites were damaged, and contaminated sites were eroded. The 31st annual conference and field trip of the Geological Association of New Jersey (GANJ) will discuss the coastal processes and urban impacts from Hurricane Sandy and other such storms.

There will be a poster session at this year's meeting, with awards for best undergraduate and graduate student posters. The teachers' workshop will be a hands-on demonstration of the use of portable x-ray fluorescence (XRF) instruments. These instruments provide non-destructive, in-situ chemical analysis; they are used in environmental, mineral exploration, and health (e.g., lead paint) applications. There will be a discussion on how to integrate instrument data into classroom activities.

Speakers for this year, from academic institutions in New Jersey and New York, are experts on coastal processes and urban environmental quality. Our keynote speaker is Nicholas K. Coch, Ph.D., of Queens College/CUNY. Dr. Coch's published research has included work on hurricanes and their patterns of damage, including storms that have made landfall at more northern latitudes. Particularly noteworthy in this regard is his research on potential impacts to the New York City Area several years before Hurricane Sandy. Dr. Coch will talk about the impacts of Hurricane Irene (2011) and Sandy (2012).

Following Dr. Coch's presentation will be GANJ's annual dinner and business meeting with the election of GANJ officers for 2014-2015.

Saturday's field is being organized by Stewart C. Farrell, Ph.D., Director and Founder of the Coastal Research Center of the Richard Stockton College of New Jersey. Dr. Farrell is a renowned expert on coastal processes and features along the New Jersey coast. The trip will traverse Long Beach Island, from Barnegat Inlet to Holgate. The current condition of the shore will be compared to pictures of the damage right after the storm.

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 the Richard Stockton College of New Jersey and the Campus Center, information on parking, and information on accommodations in the area are on Page 7.

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. Note that professional development credits will only be issued for professional registrations.

GANJ XXXII - 2015

The neotectonics (e.g., younger structures imprinting older rocks and tectonic features) of the New York Recess is being discussed as the theme for GANJ XXXII in 2015. If you are interested in contributing or have suggestions for presentations or field trip stops, please contact Greg Herman of the NJGS and GANJ President-Elect at Greg.Herman@dep.nj.us.

MEETING SPONSORSHIP

GANJ invites support of the annual meeting through sponsorship (\$250.00 to \$500.00). Sponsors receive recognition in the proceedings volume (1/2 page, \$250.00; full page, \$500.00) 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.

ADVERTISEMENTS

GANJ also accepts 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. If interested, please contact a GANJ 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 available publications is on Page 8.

GLOBAL ENVIRONMENTAL ISSUES AND LOCAL CONSEQUENCES: EARTH SURFACE PROCESSES AND URBAN ENVIRONMENTAL QUALITY

Friday, October 3rd – The Richard Stockton College of New Jersey – Campus Center – Board of Trustees Room

- 11:00-4:30 Registration
- 11:30-12:30 Teachers' Workshop
Experiential, Hands-On Learning: Applications of Portable X-Ray Fluorescence (XRF)
Nurdan S. Duzgoren-Aydin, Ph.D., New Jersey City University and GANJ President
- 1:00-1:20 Welcoming Remarks
Nurdan S. Duzgoren-Aydin, Ph.D., New Jersey City University and GANJ President
Michael J. Hozik, Ph.D., The Richard Stockton College of New Jersey
- 1:20-1:45 Exploring New Jersey Climate Variability and Change
David A. Robinson, Ph.D., Rutgers University and New Jersey State Climatologist
- 1:45-2:10 GIS (Geographic Information System) Studies of Superstorm Sandy on Staten Island
Alan I. Benimoff, Ph.D., William J. Fritz, Ph.D., and Michael Kress, Ph.D.
College of Staten Island/CUNY
- 2:10-2:35 Urban Sprawl and 'Green' Remediation of Arsenic in Residential Soils
Dibyendu Sarkar, Ph.D., Montclair State University
- 2:35-3:00 Impact of Hurricane Sandy on Urban Environment Quality in Jersey City
Nurdan S. Duzgoren-Aydin, Ph.D., New Jersey City University
- 3:00-3:45 Break and Poster Review Session
- 3:45-4:10 USGS-Hurricane Sandy Science Plan: Safer Coastal Communities and Sustainable Resources
Pierre Lacombe, U.S. Geological Survey
- 4:10-4:35 Special Cost of Environmental Metrics: Representation and Challenges
Melissa Harclerode, Montclair State University and CDM Smith, Inc.
Michael E. Miller, Ph.D., CDM Smith, Inc.
Pankaj Lal, Ph.D., Montclair State University
- 4:35-5:00 Beach-Dune Recovery at New Jersey Beach Profile Network Sites Following Hurricane Sandy
Kimberly K. McKenna, The Richard Stockton College of New Jersey
Stewart C. Farrell, Ph.D., Coastal Research Center-The Richard Stockton College of New Jersey
- 5:00-6:00 Keynote Speaker – Nicholas K. Coch, Ph.D., Queens College/CUNY
The Damage Potential of a Hurricane Landfall in the NY-NJ Metropolitan Region:
Lessons Learned from Hurricanes Irene (2011) and Sandy (2012)
- 6:00-6:20 Closing Remarks and Poster Award Announcements
Nurdan S. Duzgoren-Aydin, Ph.D., New Jersey City University and GANJ President
Michael J. Hozik, Ph.D., The Richard Stockton College of New Jersey
- 6:30-8:30 Dinner and Business Meeting

Saturday, October 4th - The Richard Stockton College of New Jersey – Campus Center

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

The field trip will traverse Long Beach Island, with four (4) to five (5) stops, from Barnegat Inlet to Holgate. The current condition of the shore will be compared to pictures of the damage right after the storm.

2014 GANJ ANNUAL MEETING AND 2014-2015 GANJ MEMBERSHIP

Register online at <http://shop.ganj.org> or complete and mail this form to the address listed below. Mailed registrations and registrations with lunch and/or dinner due Sept 25th. Online registrations that do not include lunch and/or dinner accepted until Oct. 1st. After Oct. 1st, register on-site the day of the meeting if space is available. No refunds after Sept. 25th. 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 2014-2015 membership, proceedings volume, and field trip)

Professional Registration: \$70 (received by 9/25) \$80 (after Sept. 25)

Student Registration*: \$35 (received by 9/25) \$45 (after Sept. 25)

Additional GANJ XXXI 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 Sept. 25. 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 \$30 omnivore vegetarian

Box Lunch, Saturday \$10 ham/Swiss turkey/American cheese

grilled veggie roast beef/cheddar

SUBTOTAL: \$ _____

I request a CE certificate of attendance for 2014 for Friday Saturday (check both if applicable).

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

Membership only (10/3/2014 through the day before GANJ 2015) Professional \$15 Student* \$7.50

GANJ XXXI (2014) 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 XXXI 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, "Global Environmental Issues and Local Consequences: Earth Surface Processes and Urban Environmental Quality," on October 3rd and 4th, 2014, 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 THE RICHARD STOCKTON COLLEGE OF NEW JERSEY; 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 2014-2015 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 Alan Benimoff as he completes his three (3) year term as President.

PRESIDENT-ELECT: OPEN POSITION

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):

ALAN UMINSKI, ENVIRONMENTAL RESTORATION, LLC

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:

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

JANE ALEXANDER, COLLEGE OF STATEN ISLAND/CUNY

OPEN POSITION

CURRENTLY ELECTED OFFICERS:

PRESIDENT: GREG HERMAN, NEW JERSEY GEOLOGICAL SURVEY

PAST PRESIDENT: NURDAN S. DUZGOREN-AYDIN, NEW JERSEY CITY UNIVERSITY

DIRECTIONS

THE RICHARD STOCKTON COLLEGE OF NEW JERSEY **CAMPUS CENTER**

www.stockton.edu

From the North

Travel south on the Garden State Parkway to Exit 44. At the stop sign at the end of the ramp, turn right onto South Pomona Road (County Road 575). Travel ½ mile. At the entrance sign for Stockton College, turn left onto Vera King Farris Drive. Take Vera King Ferris Drive approximately ½ mile to Parking Lot 2 or 3 on the right. The Campus Center is the large building across the parking lots.

From the West

Travel east on the Atlantic City Expressway to Exit 12. At the stop sign at the end of the ramp, turn left onto Wrangleboro Road (County Road 575). Proceed straight through the traffic lights at Tilton Road (County Road 563) and White Horse Pike (U.S. Route 30). At the next traffic light, West Jimmie Leads Road, turn right. Travel 1 mile on West Jimmie Leeds Road. At the entrance sign for Stockton College, turn left onto Vera King Farris Drive. Take Vera King Ferris Drive approximately 1 ½ miles to Parking Lot 2 or 3 on the left. The Campus Center is the large building across the parking lots.

From the South

Travel north on the Garden State Parkway to the Atlantic City Service Plaza. Exit to the left into the service plaza and stay on the outer road. At the second stop sign, turn left. Just ahead, make the first right and continue to the traffic light at the end of the ramp. At the traffic light, turn left onto West Jimmie Leeds Road. Travel 1 mile to the entrance sign for Stockton College and turn right onto Vera King Farris Drive. Take Vera King Farris Drive approximately 1 ½ miles to Parking Lot 2 or 3 on the left. The Campus Center is the large building across the parking lots.

ACCOMMODATIONS

Each conference attendee is responsible for his/her own lodging; special arrangements/group discounts have not been established. There are numerous hotels in the area, especially along U.S. Route 30 on the way to Atlantic City.

FIELD GUIDES & PROCEEDINGS OF PRIOR ANNUAL MEETINGS

Order online from <http://shop.ganj.org>.

- GANJ I:** Puffer, John H., ed., 1984, *Igneous Rocks of the Newark Basin: Petrology, Mineralogy, and Ore Deposits, and Guide to Field Trip*.
- GANJ II:** 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)*.
- GANJ III:** Husch, Jonathan, M., and Goldstein, Fredric R., eds., 1986, *Geology of the New Jersey Highlands and Radon in New Jersey*.
- GANJ IV:** Gallagher, William B., ed., 1987, *Paleontology and Stratigraphy of the Lower Paleozoic Deposits of the Delaware Water Gap Area*.
- GANJ V:** Husch, Jonathan, M., and Hozik, Michael J., eds., 1988, *Geology of the Central Newark Basin*.
- GANJ VI:** Grossman, I. G., ed., 1989, *Paleozoic Geology of the Kittatinny Valley and Southwest Highlands N. J.*
- GANJ VII:** Brown, James O., and Kroll, Richard L., eds., 1990, *Aspects of Groundwater in New Jersey*.
- GANJ VIII:** Crawford, Maria L., and Crawford, William A., eds., 1991, *Evolution and Assembly of the Pennsylvania - Delaware Piedmont*.
- GANJ IX:** Ashley, Gail M., and Halsey, Susan D., eds., 1992, *Environmental Geology of the Raritan River Basin*.
- GANJ X:** Puffer, John H., ed., 1993, *Geologic Traverse Across the Precambrian Rocks of the New Jersey Highlands*.
- GANJ XI:** Benimoff, Alan I., ed., 1994, *Geology of Staten Island, New York*.
- GANJ XII:** Baker, John E. B., ed., 1995, *Contributions of the Paleontology of New Jersey*.
- GANJ XIII:** Dalton, Richard F., and Brown, James O., eds., 1996, *Karst Geology of New Jersey and Vicinity*.
- GANJ XIV:** Benimoff, Alan I., and Puffer, John H., 1997, *The Economic Geology of Northern New Jersey*.
- GANJ XV:** Puffer, John H., ed., 1998, *The Economic Geology of Central New Jersey*.
- GANJ XVI:** Puffer, John H., ed., 1999, *New Jersey Beaches and Coastal Processes from a Geologic and Environmental Perspective*.
- GANJ XVII:** Harper, David P. and, Goldstein, Fredric L., eds., 2000, *Glacial Geology of New Jersey*.
- GANJ XVIII:** Lacombe, Pierre, and Herman, Gregory, eds., 2001, *Geology in Service to Public Health*.
- GANJ XIX:** D'Amato, Dana, ed., 2002, *Geology of the Delaware Water Gap Area*.
- GANJ XX:** Hozik, Michael J., and Mihalasky, Mark J., eds., 2003, *Periglacial Features of Southern New Jersey*.
- GANJ XXI:** Puffer, John H., and Volkert, Richard A, eds., 2004, *Neoproterozoic, Paleozoic, and Mesozoic Intrusive Rocks of Northern New Jersey and Southeastern New York*.
- GANJ XXII:** Gates, Alexander E., ed., 2005, *Geology of the Central Newark Basin - The View From the 21st Century*.
- GANJ XXIII:** Macaoay, Suzanne, and Montgomery, William, eds., *Environmental Geology of the Highlands*.
- GANJ XXIV:** Rainforth, Emma C., ed., 2007, *Contributions to the Paleontology of New Jersey (II)*.
- GANJ XXV:** Gorring, Matthew L., ed., 2008, *Environmental and Engineering Geology of Northeastern New Jersey*.
- GANJ XXVI:** Freile, Deborah, ed., 2009, *New Jersey Coastal Plain Stratigraphy and Coastal Processes*.
- GANJ XXVII:** Lacombe, Pierre, ed., 2010, *Geology of the Greater Trenton Area and Its Impact on the Capitol City*.
- GANJ XXVIII:** Rainforth, Emma C., and Uminski, Alan, eds., 2011, *Environmental Geology of Central New Jersey*.
- GANJ XXIX:** Alexander, Jane, ed., 2012, *Geology and Public Lands*.
- GANJ XXX:** Benimoff, Alan I., ed., 2013, *Igneous Processes During the Assembly and Breakup of Pangaea: Northern New Jersey and New York City*.

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