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### General Information

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Can you identify this picture?  
See page 11 for more info.

## this issue

In Support of Water Well Construction Stds **P.2**

Obtaining Your GIT Certification **P.6**

Scholarship Essay Contest Winners **P.7**

Member Spotlight: URS Corporation **P.8**

Annual Meeting Recap **P.10**

## Message from the President

**Let me show you the way, and I'll let you try on my hats**

Hello from your new PCPG president! In keeping with PCPG's vision, to be *"the premier organization for the advancement of the ethical and professional practice of geology and the allied sciences,"* one of my goals as PCPG's President is to find new ways for our organization to move forward and continue to do what it has done for the last 24 years: Advance the profession of geology for the benefit of society and our membership. I've been asked many times, "Geology? How did you get into that?" In response I typically reply that my mother would never let me play in the dirt as a child, and this is my own form of rebellion (Ha, Ha Mom! Look at me now!).



While this is the truth, it's not the whole answer. The answer includes a great high school earth science teacher who was very passionate about geology. She got me excited about the projects we completed in class and quite simply, I was hooked. When I went to college, I declared my major from the outset and was lucky enough to be involved in a tremendous geosciences department at SUNY Geneseo. (Yes...this is a shameless plug and a shout out to a department I am very proud of, and grateful to still be involved with today.)

As prepared as I was upon entering the post-Geneseo world, I did not have the benefit of experience. A degree in geology will teach you the fundamental principles, but it doesn't necessarily give you any idea of what the working world will be like. This is similar to my karate training; once you have learned the basics and pass a test (let's call it the GREs of karate), you are promoted to first degree black belt. In Japanese, this is the rank of *Shodan*, which translates to "show me the way." That is, once you are a black belt, the real education begins, and you are now a serious student of the art. This is analogous to earning a degree and finding a job and then learning what the real world is like. But most students have no idea about what they are getting into...I know I didn't.

(continued on Page 5)

## In Support of Water Well Construction Standards

-- Donald R. Wagner, P.G., PCPG Government Affairs Chairperson

PCPG has long recognized the need for uniform statewide private water well construction standards to protect human health and safety and Pennsylvania's valuable water resources. The Government Affairs Committee is therefore pleased to announce that Representative Ron Miller (R – York), Republican Chair of the House Environmental Resources and Energy Committee has reintroduced a bill (House Bill 343) that would require the promulgation of statewide water well construction and decommissioning standards. [House Bill 343](#) was referred to the House Environmental Resources and Energy Committee on January 24, 2013 and is similar to former House Bill 1855 introduced in the 2011-2012 legislative session which also had PCPG's strong support.

More than 3 million rural and suburban Pennsylvania residents rely on a private well for drinking water and about 20,000 new wells are drilled each year in the Commonwealth.<sup>1</sup> Among our sister states, only Michigan has a larger population served by private water wells. Yet Pennsylvania is one of only two states (the other being Alaska) that do not have regulations concerning private well location, construction, testing and/or treatment.

Poorly constructed water wells pose a human health and safety risk not only to those persons that rely on them for water supply, but also to others. Poorly constructed wells can affect others because they also pose a risk to the Commonwealth's valuable water resources as they can be pathways for the introduction and spread of contaminants, such as but not limited to, nitrates and coliform bacteria, to the subsurface and local aquifers.

Past studies show that the lack of statewide water well construction standards adversely affects Pennsylvanians. A January 2009 study funded by the Center for Rural Pennsylvania found that of approximately 622 homeowner wells studied:

- Only 16% had a sanitary well cap to prevent the introduction of surface contaminants;
- Roughly 9% of the wells had missing well caps or miscellaneous types of caps (such as coffee cans, cement, or ceramic caps);
- Only 18% were found to have cement or grout around the casing to prevent the introduction of surface contaminants;
- Of the five commonly recommended well construction features, 54% were found to have two or fewer of the recommended features; and
- Roughly 41% of the wells tested failed to meet at least one of the health-based drinking water standard; coliform bacteria being the most frequently detected drinking water contaminant.

A more recent study funded by the Center for Rural Pennsylvania found similar results.<sup>2</sup> Of the 233 homeowner wells evaluated in the 2011 study:

- Only 20% of the wells had a sanitary well cap;
- 13% percent had no visible casing above ground;
- Only 8% had an obvious grout seal; and
- Approximately 40% had at least one pre-existing water quality problem, most frequently the presence of coliform bacteria.

*continued on page 3*



*continued from page 2*

According to the referenced 2011 study “Most of the private water wells in this study lacked recommended construction standards, presumably reflective of the lack of statewide water well construction regulations, which likely contribute to impairments of certain water quality standards.” PCPG recognizes that proper well construction standards cannot guarantee that drinking water quality will not be impaired. Rather, proper well construction standards are intended to reduce the likelihood of impairment from common, preventable conditions.

PCPG is not alone in recognizing the problems caused by the lack of statewide private well construction standards. In December 2008, the Statewide Water Resources Committee listed first among its recommended legislative priorities for implementing the State Water Plan: “Enact legislation...to establish statewide private water well construction standards.” Additionally, the July 2011 Marcellus Shale Advisory Commission report (unanimously adopted) recommended, among its comprehensive strategic proposals for the responsible and environmentally sound development of unconventional shale gas resources: “The Commonwealth should enact legislation establishing construction standards for new private water wells to ensure the delivery of safe drinking water to its residents.”

PCPG understands that House Bill 343 is intended to provide the Department of Environmental Protection with the authority to develop, and the Environmental Quality Board with the authority to adopt, rules and regulations to establish statewide private water well construction and decommissioning standards to be met by water well drillers and water well owners. PCPG recommends that such rules and regulations be generally consistent with water well construction standards established or recommended by the National Ground Water Association (“NGWA”). Additionally, consistent with Section 3118(b)(f) of Act 220 of 2002, known as the Water Resources Planning Act, which section prohibits DEP or the EQB from requiring the metering of homeowner wells, House Bill 343 does not authorize any metering of homeowner wells, rather, it’s scope is appropriately limited to development of construction and decommissioning standards for private water wells.

Given the important human health and safety and water resource protection considerations, PCPG encourages each of our members to write to their local House representative and express their strong support for House Bill 343.

#### References:

<sup>1</sup> *Drinking Water Quality in Rural Pennsylvania and the Effect of Management Practices*, Bryan R. Swistock, M.S., Stephanie Clemens, M.S. and William E. Sharpe, Ph.D., School of Forest Resources and Institutes of Energy and the Environment, Pennsylvania State University, sponsored by a grant from the Center for Rural Pennsylvania, a legislative agency of the Pennsylvania General Assembly (January 2009).

<sup>2</sup> *The Impact of Marcellus Gas Drilling on Rural Drinking Water Supplies*, by Elizabeth W. Boyer, Ph.D., Bryan R. Swistock, M.S., James Clark, M.A., Mark Madden, B.S., and Dana E. Rizzo, M.S., Pennsylvania State University, funded by a grant from the Center for Rural Pennsylvania (October 2011).





## Pennsylvania Geological Survey and Pennsylvania Council of Professional Geologists Complete Technical Rebuttal to *Ground Water* Article

-- Louis F. Vittorio, Jr., P.G., PCPG Immediate Past-President

The Pennsylvania Geological Survey (PAGS) and the Pennsylvania Council of Professional Geologists (PCPG) have collaborated to prepare a detailed technical rebuttal to *Potential Contaminant Pathways from Hydraulically Fractured Shale to Aquifers* by Tom Myers (*Ground Water* Vol. 50, Issue 6, Nov-Dec 2012). The rebuttal was initiated based upon comments from our peers indicating that the Myers' article was not grounded in scientific objectivity, and that the article's conclusions would be used to further advance misinformation that is circulated regarding the shale gas industry. Upon further examination, we found the article to be not only based on an uncalibrated and unrealistic groundwater model simulation but also lacking in several technical areas. The resulting white paper identifies and addresses the weaknesses of Myers' modeling efforts, using scientifically vetted studies and peer-reviewed papers that directly tackle the articles' presented conclusions.

The joint PAGS/PCPG rebuttal can be downloaded from PCPG's shale gas page:

<http://www.pcp.org/ShaleGas>.



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(PRESIDENT'S MESSAGE -- continued from Page 1)

A central part of my post-college real-life training was realizing that a geologist wears many hats, and along the way is a Shodan in a variety of practices. Whether you work in environmental consulting, exploration and production of natural resources, government, or academia, chances are your responsibilities include more than looking at colored maps, identifying rocks, and writing about them. Often, a geologist has to be not only a scientist, but also a financial manager, a sales person, a human resources manager, a project manager... the list goes on and on. Recently, PCPG Director Gary Kribbs and I went to Lock Haven University and gave a presentation on careers in geology. The students in the geosciences department were very attentive and eager to ask questions. They also took great pride in showing us the projects they had been working on. We did our best to show them the types of jobs they could secure in the geological profession, and we answered their questions as completely as possible. However, until they get out there and get a job, they won't really know how it all works or what they'll actually be doing every day. But why is the working world such a mystery to recent grads and how can we change this?

I have some good friends and colleagues in the industry that have worked with their alma maters to develop internship programs for students. Such programs allow geology students the opportunity to apply the fundamental concepts they learn in the classroom to the real world workplace. In the process they gain valuable experience to better make informed decisions on their career paths and the hats they want to wear in the future. In addition, internships support the geology department and the university by providing a tool to attract future students, and support the host company by creating and vetting potential high quality employees.

I challenge you to take a student under your wing, teach them the ways of your business, and give them the tools to be successful. Most of all, share with them the passion you have for geology. I believe this is one way we can all help advance the practice of professional geology.

I welcome your feedback and comments on this subject or other topics. Please feel free to send me an email ([jen o'reilly email](mailto:jen.o'reilly@pcpg.org)).

Very Truly Yours,



Jennifer L. O'Reilly, P.G.  
PCPG President



## Obtaining Geologist-in-Training Certification

-- Theodore Tesler, P.G., State Registration Board for Professional Engineers, Land Surveyors & Geologists

With the Governor's endorsement of Act 25 of 2010, Geologist-in-Training (GIT) certification became available to students and prospective licensees with the first GIT certificate issued in June 2011. GIT certification gives geology students and recent college graduates the ability to sit for the National Association of State Boards of Geology (ASBOG®) Fundamentals of Geology (FG) examination without first obtaining five years of professional experience necessary to qualify for the Practice of Geology (PG) examination.

As Professional Geologists, we are often asked by students and junior staff about how to obtain GIT Certification. The GIT application is available from the Bureau of Professional and Occupational Affairs (BPOA) website at:

[http://www.portal.state.pa.us/portal/server.pt/gateway/PTARGS\\_0\\_185581\\_1208159\\_0\\_0\\_18/Eng%20FG%20Exam%20application.pdf](http://www.portal.state.pa.us/portal/server.pt/gateway/PTARGS_0_185581_1208159_0_0_18/Eng%20FG%20Exam%20application.pdf)

Eligibility for the GIT certificate mirrors the same educational requirements needed for a professional geologist license but without the five years of professional experience and the professional reference components. The educational requirements for certification and licensure are dictated by the language in the Registration Law. Applicants must have a properly titled degree in geology, geophysics, geochemistry, or engineering geology to include a minimum of 30-semester hours or 45-quarter hours of geologic coursework. Because many colleges and universities have re-titled their undergraduate degree programs, a "geology" degree may not be available from the institution the applicant attended. However, the applicant may still qualify by completing at least 24-semester credit hours in third and fourth year (300-400 level) geology courses. The educational curriculum should minimally include coursework typical of classical geology curricula and, in particular, structural geology/tectonics and field methods/mapping. Generally speaking, Bachelors of Science programs have a better chance of meeting these thresholds than Bachelors of Arts programs, although each transcript will be reviewed individually relative to these requirements.

A GIT certificate applicant must provide the State Registration Board<sup>(1)</sup> with their degree program information (directly from their college or university) and meet the coursework requirements before being approved to sit for the FG examination. The GIT certificate is issued by BPOA upon passing the FG examination (70%) for recent graduates. Students passing the examination will be issued their GIT certificate upon demonstrating completion of their degree program.

By splitting the FG and PG examinations, recent graduates are in a position to better perform on the FG examination which is based on a diverse knowledge of geologic terms and concepts learned during their undergraduate education. Then, GITs need only demonstrate five years of appropriate and progressive work experience and provide the required professional references to qualify to take the PG examination. Once a candidate is approved to sit for and passes the PG exam, the BPOA will automatically issue the Professional Geologist license.

(1) *State Registration Board for Professional Engineers, Land Surveyors and Geologists*





## UPCOMING EVENTS

June 14, 2013

### Pennsylvania Ground

#### Water Association

Summer Field Conference

State College, PA

June 25, 2013

### Structural & Hydro-

#### Structural Geology

Theory and Application for the

Practicing Professional

Malvern, PA

July 23, 2013

### Soil Science:

Basic and Practical Field

Methodologies

Reading, PA

September 26 - 28, 2013

### Field Conference of

#### Pennsylvania Geologists

Nippenose Valley & US 15

Williamsport, PA

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Don't forget to check the  
"Courses & Events" link on  
PCPG's [home page](#)  
frequently for up to date  
information on upcoming  
educational opportunities.

## Winners of 2012 Scholarship Essay Contest Announced

-- Jeffrey Leberfinger, PG (Terranear PMC)

Winners of PCPG's 2<sup>nd</sup> Annual Student Scholarship Essay Contest received their awards at PCPG's Annual Meeting, held January 15, 2013 in Harrisburg, PA. The Student Scholarship Essay Contest was established to foster and support students pursuing geology or related earth resource degrees. PCPG awarded two scholarships, with the first place recipient receiving a \$1,000 scholarship and the second place recipient receiving a \$400 scholarship. In addition, the top 10 ranked essay recipients will be receiving two copies of the book "The Geology of Pennsylvania," the first copy is for the students' use and the second will go to the student's college geology or earth science department. The scholarship award recipients were determined based on an essay written by the student applicant. The essays were required to be a maximum of 500 words addressing the topic of "How does Geology apply to the citizenry of the Commonwealth of Pennsylvania in 2012 and beyond." The applicants also had to maintain an active student membership in PCPG and be a resident of Pennsylvania or attending a college or university in Pennsylvania.

After thorough consideration, PCPG awarded the PCPG 1<sup>st</sup> place Scholarship to Dea Musa of Kutztown University. The 2<sup>nd</sup> place award went to Derek Lichtner of Temple University. Both Dea and Derek attended the PCPG annual meeting where they read their essays and were presented with the scholarship awards.



*Photograph Above: 1<sup>st</sup> Place  
Essay Winner Dea Musa*

Dea is from Catasauqua, PA and currently attends Kutztown University as a junior with a major in Geology with minors in Chemistry and Physics. After completing her undergraduate degree, Dea will be looking for a career related to either the fields of geochemistry or geophysics. She enjoys being able to relate all parts of the natural sciences (geology, physics, chemistry, etc.) to get the full picture.

Derek lives in Philadelphia, PA and dual-majored in Geology and Physics at Temple University. He graduated this past May, and beginning in August he will be attending the University of Illinois Urbana-Champaign, where he plans to research fluvial processes and hydrology using near-surface geophysics and other quantitative methods.

PCPG wishes to thank all the students who provided essays and looks forward to supporting the student membership in the future.



*Photograph Above: 2<sup>nd</sup> Place  
Essay Winner Derek Lichtner*



## Member Spotlight: URS Corporation

URS Corporation (URS) might be one of the larger companies you've never heard of. But these days, URS is becoming increasingly recognized as one of this country's leading engineering and construction firms, locally, regionally and globally. Today, URS has more than 57,000 employees in a network of offices that are located in nearly 50 countries worldwide. Headquartered in San Francisco, URS' business is focused on four key market sectors: Federal, Infrastructure, Power, and Industrial & Commercial. Its clients include the U.S. federal government, national governments of other countries, state and local government agencies in the United States and internationally, and most FORTUNE 500 companies and other multinational corporations.

### **So...how did URS gain this status?**

URS Corporation's oldest predecessor company was founded in 1904. URS was established in 1951, and incorporated in 1957 as Broadview Research—a research group active in the area of physical and engineering sciences. In 1967, management developed a growth strategy focused on building a multidisciplinary professional services firm. In 1968, Broadview Research acquired United Research Incorporated of Cambridge, Massachusetts. During this period, the name Broadview Research was changed to United Research Services and later shortened to URS.

URS operated as a multidisciplinary professional services firm through the 1950s and 1960s. Throughout the 1970s and 1980s, URS continued to expand its engineering, architectural and environmental services. Mergers and acquisitions in the 1990s and 2000s, which included Greiner Engineering, the Woodward-Clyde Group, the Dames & Moore Group and EG&G Technical Services, served to expand their environmental services, widen their international presence and geographic base, strengthen program and construction management expertise and broaden their presence in the transportation market. In 2002, URS became one of the leading U.S. federal services contractors.

During the past decade, URS has steadily grown both domestically and internationally when Washington Group International, the Scott Wilson Group, and Flint Energy Services joined the firm. These additions added to URS' ability to provide integrated engineering and construction services throughout the project life cycle—from planning, design and engineering through construction to operations and maintenance, and decommissioning and closure. This includes capabilities in the power and nuclear management markets, as well as in transportation, mining, defense, and industrial infrastructure and process. They also provide production, construction and maintenance services to the oil and gas industry. Globally, URS features an integrated design and engineering consultancy in the United Kingdom, continental Europe, the Middle East, China, India, Australia and New Zealand.

Closer to home in Pennsylvania, URS employs about 1,800 persons including engineers and hydrologists, geologists and archaeologists, scientists, planners and architects, and technical specialists. Their long established operations are based in the metropolitan areas of Philadelphia, Pittsburgh, Harrisburg and Williamsport, which together provide services in all their key market sectors.

It may not be known to many, but URS has had a key role in designing and building many major infrastructure projects in Pennsylvania, including stadiums, power stations, major office buildings, refineries and pipelines, and highways. Over many years, URS has provided civil, structural, geotechnical and environmental engineering design, permitting, cultural resources and construction phase services for PennDOT and the Turnpike Commission on many state roads and highways. Currently URS is involved in major projects in the greater Philadelphia region on the Turnpike Northeast Extension (see photo) and Interstate 95 through Philadelphia.

*continued on page 9*





continued from page 8



**Photograph above (left):** View of aesthetically sculpted finish to a wall designed by URS reinforced by soil nails and rock anchors along the PA Turnpike Extension between Plymouth Meeting and Lansdale.

**Photograph above (right):** URS-designed and constructed shale gas well pad in operation mode.

A recent area of exponential growth for URS has been in the Marcellus Shale and Utica Shale plays in Pennsylvania, Ohio and West Virginia. URS currently serves over 30 exploration and production (E&P) and midstream pipeline companies in the Appalachian Basin. The firm is unique because not only do they engineer the gas infrastructure we also build it; including well pads, access roads, roadways, water infrastructure including impoundments, water intake structures, water distribution systems, gas pipelines including gathering systems, midstream pipelines, compressor stations, gas processing, and natural gas liquids facilities. They are even performing close logistical support to drilling operations by moving the huge gas drilling rigs between drill sites. You can visit their corporate website at: <http://www.urscorp.com/>



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## PCPG Annual Meeting Recap

-- Barbara Dunst P.G., PCPG Board of Directors

PCPG's Annual Membership Meeting and networking event held at the Harrisburg East Holiday Inn on January 15, 2013 was an overwhelming success with 102 members and guests attending... a new record! The day was filled with informative presentations, awards, scholarship essays, and lots of memories. A networking reception sponsored by ALS Group with live entertainment provided by Jazz Assassins capped off the day.

PCPG is excited to welcome PCPG's new and first women President, Jennifer O'Reilly, P.G. (Groundwater & Environmental Services, Inc.) in her new executive role, and are pleased to announce the election of Bill Gough, P.G. (Moody & Associates, Inc.), Barbara Dunst, P.G. (EQT Production Company), and outgoing President, Louis Vittorio, P.G. to the Board of Directors. Re-elected to the Board were incumbents Dan Billman, P.G. (Billman Geologic Consultants) and Valerie Holliday, P.G. (GeoLogos, LLC)

PCPG sincerely thanks out-going President Lou Vittorio, P.G. (EarthRes Group, Inc.) for his service and dedication during a very strong year for the organization and look forward to his continued service as Immediate Past-President. We also offer our thanks to outgoing Immediate Past-President Jeff Leberfinger, P.G. (Terranear PMC) for his service over the past year. In addition, PCPG offers its sincere gratitude for the service and commitment provided to the organization by outgoing board members Roger Moose, P.G. (SAIC), Larry Roach, P.G. (Groundwater Sciences Corporation) and Jim Young, P.G. (EA Engineering Science and Technology, Inc). We would also like to thank Ethan Prout, P.G. (Watermark Environmental) for his service to the Board; he submitted his resignation to the Board of Directors shortly after the annual meeting. Per the PCPG bylaws, vacancies are filled by a majority vote of the remaining Directors, who elected Bryan McConnell, P.G. (Tenaska, Inc).



**Photograph above:** Immediate Past President Lou Vittorio passes the official gavel to 2013 PCPG President Jennifer O'Reilly.

The meeting was chaired by President O'Reilly, while outgoing President Lou Vittorio gave an overview of 2012. Some of last year's accomplishments included hosting over 10 continuing education courses across the state, providing testimony in support of water well construction standards, a new PCPG booth first exhibited at the PA Brownfields Conference in Pittsburgh, continuation of the Shale Gas Seminar, and the college scholarship program. President O'Reilly then announced the election results introducing the new Board members and identifying the remaining Board of Directors. She also highlighted upcoming events for 2013 including a rebuttal, in conjunction with DCNR, to the NGWA paper on Ground Water Contamination from Hydraulic Fracturing and outlining the educational offerings for 2013 including Vibration Measurement & Analysis, Applied Resistivity, and a Soils course among others. Attendees were also

encouraged to conduct student outreach to promote the organizations goals of advocacy, education, and networking along with attending the AAPG Conference in Pittsburgh, May 19 - 22, where PCPG sponsored a booth.

Several awards were presented at the meeting. Dr. Grover Emrich, PhD., P.G. presented the Emrich Award to former State Geologist, Dr. Jay Parrish, PhD., P.G.; James LaRegina, P.G. presented Richard Wright, P.G.

*continued on page 13*





### Guess the Feature???

Where you able to guess the feature in the photograph on Page 1 of this Newsletter? It's the Union Furnace Quarry in Huntingdon County. In this view, the Black River Group limestones are dipping approximately 65 degrees toward the north-northwest in the Scotch Valley syncline. You can download a field trip guidebook to the Trenton and Black River carbonates in Blair and Huntingdon counties from the Pennsylvania Geological Survey website at this link:

<http://www.dcnr.state.pa.us/topogeo/field/vftrips/tbr/index.htm>

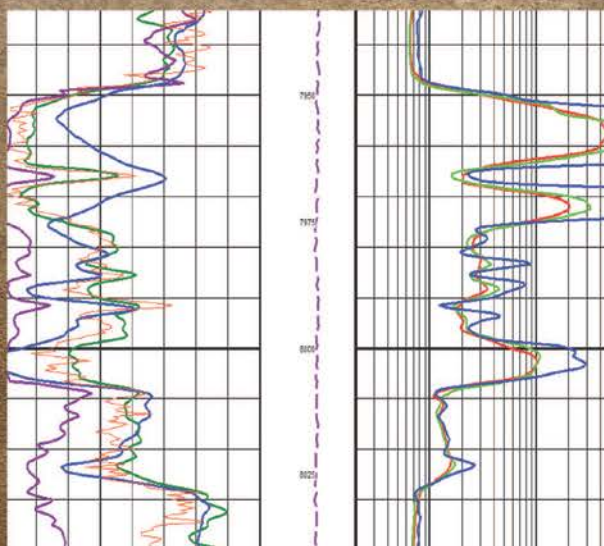
### 2013 Scholarship Essay Contest

If you read about our 2012 Scholarship Essay winners on Page 7, and are interested in learning more about our 2013 Scholarship Essay contest, then check out the Colleges and Students section of our website.

We expect to be posting the essay topic and opening up the submission portal sometime in August 2013.

<http://www.pcp.org/EssayScholarships>

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## PICTURES FROM OUR ANNUAL MEETING



**Photograph above:** Dr. Grover Emrich presents former State Geologist Dr. Jay Parrish with the Emrich Award



**Photograph above:** President Jen O'Reilly, P.G. presents board member Kelly Kinkaid, P.G. with the Distinguished Service Award



**Photographs above:** Past President Jeff Leberfinger, P.G. introduces 1<sup>st</sup> place scholarship recipient Dea Musa (left) and 2<sup>nd</sup> place scholarship recipient Derek Lichtner (right) to read their winning essays.



**Photographs above:** Dr. John Memmi (left image) presents PCPG Founding President Richard Wright, P.G. , with Senate Resolution 385 commemorating the 20th anniversary of the signing of the Act of December 16, 1992 known as the Engineer, Land Surveyor and Geologist Registration Law; and Jim LaRegina, P.G. presents our Founding president with an special award recognizing his service to the profession.



*continued from page 10*

with a special award honoring his distinguished service to the profession and recognizing the 20<sup>th</sup> Anniversary of Professional Geologist licensing in the Commonwealth; and President Jennifer O'Reilly presented PCPG's Distinguished Service Award to Board member Kelly Lee Kinkaid, P.G. (Liberty Environmental, Inc.). Attendees also heard the winning essays from the 2012 PCPG Scholarship Awards, first place winner, Dea Musa from Kutztown University, and second place winner, Derek T. Lichtner from Temple University.

The afternoon session started with a special guest, Dr. John Memmi, Policy Director of the PA Senate Republican Policy Development and Research Office, who presented PCPG Founding President Richard E. Wright, P.G. with Senate Resolution 385 commemorating the 20<sup>th</sup> anniversary of the signing of the act of December 16, 1992, known as the Engineer, Land Surveyor and Geologist Registration Law, that established the Professional Geologist licensure in PA, by then Governor Robert P. Casey. Mr. Wright then delivered the keynote address, which took a look back and shared several memories of the times and people involved in the journey toward licensure. He also reminded us of the initial struggle, hard work, and determination of this small group of geologists to enact the PG law.

Attendees next heard from George Love, State Geologist, who provided a list of current activities within DCNR's Topographic and Geologic Survey. Some of the important initiatives for 2013 for the Survey include continuation of the State Map Project, a carbon capture and utilization study, an investigation for determining the potential for brine storage within the state, the Great Lakes Geologic Mapping Coalition Initiative, and a rebuilding of the PA IRIS database. Then, Mr. William Kosmer, P.G. from the PA DEP Oil and Gas Management Program, gave an informative presentation on his investigations of the Occurrence, Investigation and Mitigation of Stray Gas as it relates to Shale Gas Exploration. He showed several examples of naturally occurring gas effervescing, surging, and bubbling in wetlands and stream areas but micro-fractures in the cementing of gas wells can also lead to similar gas migration. One method often used to determine the source is an isotopic methane analysis but it is not always conclusive. Some remediation techniques include re-cementing by various methods and venting the wells.

The final presentation of the day was a given by Rose-Anna Behr and Kristen Hand, both from the PA Topographic and Geologic Survey, discussing the Benefits of Core Supplemented Bedrock Mapping specifically from a project located in the Troy 7 ½ minute quadrangle, Bradford Co. The axis of the Blossburg Syncline which crosses the southern portion of the quad was only observed at one field location. A continuous core was drilled from the top of the Catskill formation through the basal contact with the Lock Haven Formation. The attitudes of the bedding and joint planes within the core were compared to the surface mapping to better understand the subsurface structural geology.

The day's events were very well received and member feedback has been very positive. Check out the photographs of our Annual Meeting on pages 12 of this newsletter. We look forward to seeing all of you, and hopefully some new faces, at an upcoming PCPG continuing education or networking event. There are still openings for our Structural and Hydro-Structural Geology course on June 25, 2013 in Malvern, and registration recently opened for our Soil Science course on July 23, 2013 in Reading. A post event mixer is scheduled to follow the Structural course at [The Office](#) in Malvern, so plan to come out and network with fellow geologists.

More information on these and other educational opportunities can be found on the PCPG website:

<http://www.pcpge.org/>



## ***Don't Forget to Contribute to the PA GEOPAC!***

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## ***DEADLINE FOR OUR NEXT NEWSLETTER IS AUGUST 5, 2013***

For more information, contact our PCPG Newsletter Editor and Communications Committee Chairperson,  
Kelly Lee Kinkaid, P.G., by [E-mail](#) or by telephone at 610-375-9301.

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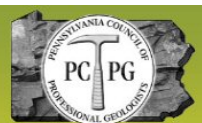
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