AIPG Ohio Section 2016 Autumn Meeting and Dinner Presentation

Bioremediation & Beneficial Reuse Process & Facility Presentation

Presenter: Chris Elliott, Ohio Soil Recycling, LLC

Date: Thursday, September 22, 2016

Location: La Scala Italian Bistro, 4199 West Dublin-Granville Road, Dublin, Ohio

Schedule: Social Hour at 5:00 pm; Dinner at 6:00 pm; Presentation at 7:00 pm

RSVP: aipgohio@gmail.com

Event Sponsored By: ALS Environmental and In-Situ

See Page 4 for event details

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Dear Fellow Members,

On behalf of the executive committee, we all hope that you have had a profitable and rewarding summer. We hope all of you have enjoyed the warm weather and along the way found some time to relax, have fun, as well as enjoy family and friends.

During May 2016, Dr. Carlton Brett, professor of Geology at the University of Cincinnati, lead a very informative, entertaining, and educational field trip to study the Ordovician Lexington-Point Pleasant and Kope Formations of southern Ohio and northern Kentucky. I have heard Dr. Brett speak on the depositional environment of the Ordovician on many occasions, each time I learn something new and amazing about that period. It is one thing to listen to the lectures, but it is completely different experience to observe the sediments in the field and collect the fossils from the rock. All true knowledge of the rocks is found in the field observing the depositional environment. Thank you Dr. Brett, your knowledge of the Ordovician sediments is truly amazing. Brent Smith and Bob Andrews also deserve a warm thank you for their time and effort in planning and making the field trip a great success.

In addition, for those of you that do not know, Tom Jenkins will receive the section leadership award from national. Tom will be the Ohio Section representative attending the national meeting in Santa Fe, New Mexico. I would like to congratulate him on receiving this award. Thank you Tom for all that you have done for the Ohio Section.

Our next regular meeting is on September 22, 2016, held at La Scala Restaurant and Bistro in Dublin, Ohio. We are pleased to announce that Christian Elliott, President and Owner of Ohio Soil Recycling LLC, will be speaking on Bioremediation and Beneficial Reuse Process and Facility Presentation. For those in the consulting profession, at some point, the need will arise when soils will need to be properly managed from “cradle to grave.” This presentation should prove to be interesting and insightful. A facility like this could be the answer that you have been looking forward to finding. We hope to see you at the presentation.

The Ohio Section annual meeting and award presentation will be held on Thursday, November 17, 2016 at La Scala, Dublin, Ohio. Dr. Lonnie Thompson, Professor of Geology, OSU will be our guest speaker. Details will be forth coming.

During 2017, the executive committee is planning a short course on indoor air sampling and regulations. The course will occur sometime during Autumn 2017. In addition, we are also planning to have a field trip and picnic at Serpent Mound State recreation area. We are hoping this will be a family friendly event. For those that are interested, we are planning to study the
archeology of Serpent Mound and field trip to see the structural features on the meteor crater. We are planning the field trip sometime during the summer of 2017. We will keep you informed through the newsletter. We could use your help and input. Please consider volunteering. As always, plan to follow the adventures of the Ohio Section on the website at www.aipg-ohio.org.

Curtis J. Coe, CPG 6240
2016 AIPG Ohio Section President

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### Calendar of Upcoming Events

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
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<tbody>
<tr>
<td>SEPTEMBER 8</td>
<td>Ohio Geological Society Golf Outing at the Chapel Hill Golf Course, Mount Vernon, Ohio; <a href="http://www.ohgeosoc.org">www.ohgeosoc.org</a></td>
</tr>
<tr>
<td>SEPTEMBER 10 – 13</td>
<td>AIPG 2016 National Conference at Drury Plaza Hotel, Santa Fe, New Mexico; <a href="http://www.aipg.org">www.aipg.org</a></td>
</tr>
<tr>
<td>SEPTEMBER 22</td>
<td>AIPG Ohio Section Autumn 2016 Meeting and Dinner Presentation at La Scala Italian Bistro; <em>Bioremediation and Beneficial Reuse Process and Facility Presentation</em> by Chris Elliott, Ohio Soil Recycling, <a href="http://www.aipg-ohio.org">www.aipg-ohio.org</a>. (See page 4 of this Newsletter)</td>
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<tr>
<td>OCTOBER 8</td>
<td>Wright State University Student Chapter of AIPG Hike through Glen Helen and Clifton Gorge (see page 17 of this Newsletter)</td>
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<tr>
<td>OCTOBER 20</td>
<td>Ohio Geological Society Meeting at Holiday Inn – Worthington; <em>Low Oil Prices and Big Data Analytics – What’s the Synergy?</em> By Dr. Srikanta Mishra, Batelle Memorial Institute; <a href="http://www.ohgeosoc.org">www.ohgeosoc.org</a></td>
</tr>
<tr>
<td>NOVEMBER 10</td>
<td>Ohio Geological Society Meeting at Holiday Inn – Worthington; <em>Upper Devonian Burket/Geneseo Shale – Appalachia’s Little Brother to the Marcellus</em> by Gregory Wrightstone, Wrightstone Energy Consulting; <a href="http://www.ohgeosoc.org">www.ohgeosoc.org</a></td>
</tr>
<tr>
<td>NOVEMBER 17</td>
<td>AIPG Ohio Section AIPG Annual Meeting and Dinner Presentation at La Scala Italian Bistro; <em>additional details to be announced</em>. Speaker will be Dr. Lonnie Thompson, The Ohio State University. <a href="http://www.aipg-ohio.org">www.aipg-ohio.org</a>.</td>
</tr>
<tr>
<td>AUTUMN 2017</td>
<td>AIPG Ohio Section in conjunction with Cox-Colvin &amp; Associates, Inc. present Vapor Intrusion Short Course in central Ohio area, details to be announced; <a href="http://www.aipg-ohio.org">www.aipg-ohio.org</a>. (See page 7 of this Newsletter)</td>
</tr>
</tbody>
</table>
You are cordially invited to the AIPG Ohio Section’s Autumn Meeting and Dinner presentation, which will take place on Thursday, September 22, 2016 at La Scala Italian Bistro at 4199 West Dublin-Granville Road in Dublin, Ohio. The Section is pleased to host Mr. Chris Elliot of Ohio Soil Recycling, LLC, who will be presenting: *Bioremediation & Beneficial Reuse Process & Facility Presentation*.

The event begins at 5:00 pm with social hour, followed by dinner at 6:00, and the feature presentation at 7:00. Please RSVP to aipgohio@gmail.com if you plan to attend. The Ohio Section’s Autumn Meeting and Dinner Presentation will be sponsored by In Situ and ALS Global.

**Bioremediation & Beneficial Reuse Process & Facility Presentation**

*by Chris Elliot, Ohio Soil Recycling, LLC*

**ABSTRACT**

Founded in 2000, Ohio Soil Recycling, LLC (OSR) is an Ohio-based business that specializes in the removal of non-hazardous contaminants from soil and earthen material. Since their inception, OSR has remediated over 500,000 tons of non-hazardous contaminated material. OSR utilizes a combination of enhanced bioremediation and mechanically induced volatilization to reduce non-hazardous contaminants in soils. The process uses 100 percent naturally occurring organisms and creates no byproducts other than carbon dioxide, water and bio-mass. This presentation provides a detailed overview of the facility and remedial process. See more information at [http://www.soilrecycling.com/](http://www.soilrecycling.com/).
PRESENTER
Chris Elliot graduated from Denison University with a B.S. in Geology and Environmental Studies in 1995. After working as a consultant for seven years at various companies, Chris founded Ohio Soil Recycling, LLC in 2000 in order to provide Central Ohio with a facility that specializes in the treatment and disposal of non-hazardous contaminated soil. Chris later obtained his MBA from Capital University in 2006.

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Total Solution. | Easy Integration. | Full Support.
The AIPG Ohio Section in conjunction with Cox Colvin are planning a vapor intrusion short course for Autumn 2017 in the greater Columbus area for the event. Preliminary plans are for a day-and-a-half to two days of topics relating to vapor intrusion, including a field demonstration. Continuing education credits can be earned for the course. A Planning Committee composed of Ohio Section Executive Committee members and Cox Colvin personnel are in the process of finalizing a list of presenters. If you are interested in receiving updated information on the short course as it becomes available, please send your email address to aipgohio@gmail.com with a AIPG VI Short Course as the subject. Additional details on this timely seminar will be announced soon!
The AIPG Ohio Section field trip to study the Ordovician Lexington-Point Pleasant and Kope formations of southern Ohio and northern Kentucky, which took place on Saturday, May 21, 2016, was a great success. The event was led by Dr. Carlton Brett, a professor of geology at the University of Cincinnati (UC), who along with Dr. David Meyer, also of UC, delivered the keynote presentation *The Sea Without Fish: Life in the Ordovician Sea of the Cincinnati Region* at the Ohio Section’s 2015 Annual Meeting. Those who attended last year’s annual meeting would not be surprised to hear that Dr. Brett treated field trip attendees to not only enlightening but entertaining discussions throughout the event.

The La Quinta Inn & Suites in Florence, Kentucky was not only the departure point for the field trip, it was also the venue for a Friday evening lecture by Dr. Brett for those who could attend. His presentation on the depositional environment of the Ordovician sediments using plate tectonics set the stage for Saturday’s field trip. Those in attendance were well prepared to study the outcrops and were able to more fully appreciate the tectonic history and depositional environment of the Ordovician sediments.

The field trip embarked Saturday morning at approximately 8:30 am. Prior to leaving, each attendee received a copy of the following guidebooks:


The trip consisted of six separate stops and began by examining the contact between the Point Pleasant and Kope Formations along U.S. 52 in Cincinnati. At each successive locale, the group moved up section until we reached the contact between the Kope and Fairview formations at our final stop along Kentucky Route 11 near Maysville.

Along the way, Dr. Brett discussed the cyclical nature of the carbonate shale sequences of the Kope Formation. He explained that the carbonates containing the Ordovician fossils represent the longest period-of-time with no sediment deposition. During this time, the water would have been clear with plenty of sunlight to support life in the shallow sea. The shale sequences, on the other hand, represent periods of tectonic activity with deposition over the shortest period-of-time. As a result, the life in the shallow seas were covered and well preserved by the shale. Dr. Brett also pointed out that up to six cyclic sequences of carbonate and shale deposition have been in the Kope Formation.

During the trip, Dr. Brett pointed-out several seismic events that have been mapped in the sediments, which he referred to as “seismites.” These seismic events produced “ball and
“pillow” deposits from the liquefaction of the sediments during the tectonic events. The trip provided ample opportunity to examine the outcrops and collect specimens to take back home. In some cases, lucky attendees found fossil remains of trilobites.

The AIPG Ohio Section would like to thank Dr. Carlton Brett for leading the May 2016 field trip and enlightening the attendees’ understanding and appreciation of the Point Pleasant and Kope formations of the Cincinnati/Northern Kentucky Region. The trip proved to be a memorable event and I look forward to the section’s next field trip.

At the first stop along U.S. 52 in Cincinnati, OH, Dr. Brett gives the group an overview of the depositional history of the Point Pleasant and Kope formations.
Participants studying the contact of Point Pleasant and Kope formation along River Road near the junction of KY Route 8 in Fort Thomas, KY.

During our stop along AA Highway in Foster, KY, Dr. Brett encouraged participants to individually examine the road cut for specimens with “interesting depositional features.” Here Dr. Brett reviews individual specimens with the group.
Dr. Brett describes a seismite deposit in upper part of the Kope Formation along KY Route 1159 in Brooksville, KY.

Field trip participants with the big shale sequences of the upper Kope Formation in the background along U.S. 62 near KY Route 8 northeast of Maysville, KY.
Dr. Brett discusses the formation of the seismites in the upper portion of the Fairview Formation along KY Route 11 just south of Maysville, KY.
AIPG Ohio Section 2016 Spring Meeting and Dinner Presentation was held at the Faculty Club on the Columbus campus of The Ohio State University Faculty Club on Monday, April 11, 2016. The Ohio Section of AIPG was pleased to host Ty Ferré, Ph.D., a professor in the University of Arizona’s Department of Hydrology and Water Resources. Dr. Ferré presented his lecture: *Seeing Things Differently: Rethinking the Relationship between Data and Models*. Dr. Ferré was selected as the 2016 Henry Darcy Distinguished Lecturer by the National Ground Water Research and Educational Foundation. The Henry Darcy Distinguished Lecture Series in Groundwater Science was established in 1986 to foster interest and excellence in groundwater science and technology. The series honors Henry Darcy of France for his 1856 investigations that established the physical basis upon which groundwater hydrogeology has been studied ever since. Dr. Ferré was on his 37th lecture of about 100 stops on the series and you can view his progress on his blog [here](#). The Spring Meeting and Dinner presentation was sponsored by ALS Environmental.

The event was attended by 20 professionals and eight students. The students traveled from the AIPG Student Chapter at Wright State University, so special thanks to them for going out of their way to travel to Columbus on a rainy day. Current AIPG Ohio Section President Curt Coe addressed the room prior to dinner and announced the upcoming Ohio Section field trip to view the Kope Formation in northern Kentucky, which was conducted on May 21st (See page x of this *Newsletter*). Attendees enjoyed a social hour followed by a buffet-style meal and dessert.

President-Elect Brent Smith introduced the guest speaker, Dr. Ty Ferré for the evening's main event. Dr. Ferré began his lecture by presenting a summary of the history of the Darcy lecture series and background on Henry Darcy himself, noting that the basic hydrologic principles established by one man have shaped the backbone of the science many of us do today. This was an excellent starting point for the main lecture, which is best summarized by referencing the unique title: “Seeing Things Differently: Rethinking the Relationship between Data and Models”. Throughout this lecture, Dr. Ferré explored how the practice of hydrogeology is dependent upon computer models. These models are established based upon underlying presumptions and often are fueled by limited data and other external pressures. Ferré presented initially simplified examples of groundwater modeling of both of contaminants and groundwater usage that carried throughout the lecture to demonstrate increasingly complex principles. The lecture proceeded with the underlying truth that in any scientific situation we never have enough data, thus all modeling is incomplete. The underlying principle of groundwater modeling consists of calibrating the model based upon limited data by eliminating model designs that don’t work. So the big question is how well can a model recreate the data we collect? If it reproduces the data accurately, it is a success. Whereas if the model does not recreate the data, additional steps,
including additional data collection, are necessary. This situation is further complicated by the fact that when you change one function in a model, it becomes a new model. As the lecture title suggests, Dr. Ferré’s refined approach on modeling consisted of rethinking the approach by considering multiple models to assess the specific scenario. These models can then be further refined through an evaluation of probability, which in turn can assist in determining not only the more likely result, but identify when more data is needed. This approach is then carried forward to collect additional data for models that did not work in order to add information to the overall model collective and to gain a more thorough and holistic view of the hydrogeology as a whole.

Special thanks to all that attended and to Dr. Ferré for the informative and thought provoking lecture!
TOP - Dr. Ty Ferré at the Faculty Club, delivering his 37th of what will exceed 100 lecture on: Seeing Things Differently: Rethinking the Relationship between Data and Models. BOTTOM – President-Elect/Treasurer Brent Smith presenting Dr. Ferré with an engraved desktop item as appreciation for his thought provoking presentation.
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The Wright State University Student Chapter (WSU) of AIPG is organizing a hiking trip for Saturday October 8th. The group will meet at 10:00 AM at Glen Helen, and following a hike through Glen Helen, will drive to Clifton Gorge where the hike will continue. WSU students will present at several stops throughout the hike. The trip will conclude with lunch at Young’s Dairy. The outing is open to friends and family. Please RSVP at your earliest convenience to Dr. Stacey Hundley at Stacey.hundley@wright.edu. Hope to see you there!

The WSU Student Chapter of AIPG has provided the Newsletter with a listing of officers as well as a preliminary schedule of activities for the 2016-2017 academic year. The WSU Student Chapter is led by Dr. Stacey Hundley. The WSU Student Chapter of AIPG officers for the current academic year include the following:

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<tr>
<th>Wright State University Chapter of AIPG, 2016 – 2017</th>
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<tr>
<td>OFFICERS</td>
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<tr>
<td>ADVISOR</td>
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</table>

Please take a moment and welcome these WSU Student Chapter of AIPG officers and their fellow student members at a future AIPG event.
Graduate student Casey Saup was awarded a $1,000 scholarship from AIPG National by Ohio Section President Curt Coe on April 26, 2016 (see article on page 19).

**The Ohio State University’s (OSU’s) Student Chapter of AIPG has provided the Newsletter with a listing of officers as well as a preliminary schedule of activities for the 2015-2016 academic year.**

<table>
<thead>
<tr>
<th>The Ohio State University Chapter of AIPG, 2015 – 2016</th>
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<tbody>
<tr>
<td>OFFICERS</td>
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<tr>
<td>President</td>
</tr>
<tr>
<td>Vice President</td>
</tr>
<tr>
<td>Treasurer</td>
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<tr>
<td>Treasurer (incoming in January)</td>
</tr>
<tr>
<td>Shelby Brewster</td>
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<tr>
<td>Lucas Jasnowski Pascual</td>
</tr>
<tr>
<td>Alexander von Clausburg</td>
</tr>
<tr>
<td>Judith Straathof</td>
</tr>
<tr>
<td>ADVISOR</td>
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<tr>
<td>Karen Royce, Ph.D., Academic Counselor and Staff Assistant, College of Arts and Sciences, School of Earth Sciences, MEM-0330</td>
</tr>
</tbody>
</table>

Please take a moment and welcome these OSU Student Chapter of AIPG officers and their fellow student members at a future AIPG event.
Curtis Coe, Ohio Section President, surprised The Ohio State University (OSU) graduate student, Casey Saup on campus with the presentation of a $1,000 AIPG Scholarship from the Ohio Section of the organization on April 25, 2016. Ms. Saup is a first year Ph.D. student at OSU and she applied to the National AIPG Scholarship program. Her research interests are in biogeochemistry and geobiology. She has had opportunities in working on two projects this past year – one involving the Gold King Mine blowout into the Animas River in Colorado, where the geochemical changes in metal concentrations are being monitored. Another project she is involved in is “characterizing the diversity and distribution of microbial like in the Utica and Marcellus shale formations and their associated interfaces with the Appalachian Basin.” We will hear much more about this research as it progresses. Her advisor at OSU is Dr. Michael Wilkins. ●
Ohio Geology Advisory Council to Award Grants for Graduate Level Research

*Contributed by President Curtis Coe, CPG-06240*

The Ohio Geology Advisory Council (OAGC), a council to the Division of Geological Survey of the Ohio Department of Natural Resources, is awarding two $1,200 grants for the 2016-2017 academic year. The primary purpose of this program is the awarding of grants by the council to geology departments of colleges and universities located in the state of Ohio for graduate level research conducted at location of geological interest in Ohio. Grants will be determined by the OAGC, and shall be based upon the recommendation of a faculty member and the submittal by the student on the nature of the project and its relevancy to Ohio geology. Funding for the grants is based on contributions to the Bureau of Motor Vehicles by persons who obtain “Ohio Rocks!” license plates.

A link to the eligibility requirements and applications is provided here: [OGAC Grant](#). The application must be submitted as a Word or PDF document and be received by the [Ohio Division of Geological Survey](#) no later than October 17, 2016.

Send the completed application to:

Dr. Tom Serenko  
Division Chief and State Geologist  
Division of Geological Survey  
2045 Morse Rd. Bldg. C-1  
Columbus, OH 43229-6693  
thomas.serenko@dnr.state.oh.us

Good luck graduate students!
New Ohio Geological Survey Guidebook to Serpent Mound Impact Structure Published

By Newsletter Editor Tim E. Brown, CPG-11637

The Ohio Division of Geological Survey has recently released a new publication, Guide to the Serpent Mound Impact Structure, South-Central Ohio, by Dr. Keith A. Milam, of Ohio University. The publication, also known as Guidebook 22, was written for a wide audience, ranging from hikers to professional geologists.

Guidebook 22 offers accessible information on the Serpent Mound Impact Structure, which is one of Ohio's most interesting geologic features. Keith Milam begins with an examination of the history of Serpent Mound research and follows with an explanation of impact cratering processes. The field trip sites take you from outside the crater, where the regional geology is observed in its natural sequence, to the crater rim, and then inside the crater to observe the jumbled nature of the local strata as caused by the impact. Guidebook 22 is the first to be published in full-color by the Ohio Geological Survey and offers more than 30 photos, maps, and illustrations, as well as a very useful glossary to explain more complex terms. The 34-page guidebook is also spiral bound for ease of use during a field trip.

Guidebook 22 is available for purchase for $12.00 through the Ohio Geological Survey's website (ohiogeologystore.com).
Letters to the Editor and Editorial Submittal Guidelines

The Ohio Section welcomes and encourages membership discourse via the Section newsletter on relevant geopolitical and geological topics, in accordance with our chartered purpose. Contributing authors are requested to abide by the following guidelines to ensure civility and professionalism.

1. Scientific interpretations should include accurate and effective references.

2. Opinion pieces should be presented with reasoning. Fellow members may choose to comment or challenge a submittal with their own contribution.

3. Authors must abide by the AIPG Code of Ethics. Any author who violates this code will not be published. Authors must be respectful to fellow members, all political parties, officials and candidates.

4. Letters to the Editor should be under one page in 12 pt. Arial font.

5. Member authors should provide their name and certification number.

6. The Ohio Section also welcomes and will consider relevant articles from non-members, provided contributions abide by the above stated guidelines.

Contributions to the Ohio Section newsletter do not necessarily reflect the opinion of the Ohio Section or the editor. We reserve the right to edit for clarity and space considerations. Please send submittals to the editor at tbrown@gtenvironmental.com.