Annual Meeting and Dinner Presentation

Geologic Drilling in Antarctica: Drilling Back to the Future

by Dr. Larry Krissek, The Ohio State University

Date: November 20, 2014

Location: The Faculty Club at The Ohio State University
181 South Oval Drive, Columbus

Schedule:
Social Hour at 5:00 pm
Dinner at 6:15 pm
Presentation at 7:30 pm

RSVP: President-Elect Tom Jenkins, tjenkins@eagon.cc

See Page 5 for event details, including 50/50 drawing and door prizes!

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Calendar of Upcoming Events

News from The Ohio State University Student Chapter of AIPG

News from Wright State University Student Chapter of AIPG

Ohio Section September Meeting and Dinner Presentation Revisited, contributed by Colin Flaherty, CPG-11465

AIPG Field Trip Photographs of the Grand Canyon, Contributed by Curtis J. Coe, CPG-06240

AIPG Field Trip Photographs of the Jerome Gold and Silver Mine, Contributed by Curtis J. Coe, CPG-06240

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Message from the President

Curtis J. Coe, CPG-06240

The AIPG Ohio Section has had a very productive 2014. During the year the executive committee has achieved many goals and objectives. Personally, I started the year with the goal to reshape the organization into a more unified active voice for professional geologists in Ohio. Some on the goals achieved during 2014 are as follows:

1. The Ohio Section worked with AIPG National headquarters to set up the Second Marcellus, Utica, and Point Pleasant Shale conference, which occurred in Columbus on April 16 and 17. It was a treat to listen to a wide variety of papers on the geology and development of the shale gas play in Ohio. Especially noteworthy was the insightful talk given by Peter Mackenzie, CPG-10698, on the economics related to the drilling, developing, and production of Utica shale gas wells in Ohio.

2. AIPG Ohio Section members went on a field trip to the Rosebud Coal Company’s Vail Deep Mine in Belmont County on July 25 to observe the newly discovered tetrapod trackways in the roof sediments above the Freeport No. 7 Coal Seam. The field trip allowed all that attended to a deeper insight into coal exploration and development in eastern Ohio.

3. The executive committee participated in four productive meetings. One major task of the committee was the finalization of the new Ohio Section Bylaws, which were approved during the August 21, 2014 meeting. The Ohio Section membership officially voted to approve the Bylaws on October 8, 2014.

4. The Ohio State University (OSU) student AIPG chapter was re-instated in 2014 and is once again active. On September 25, 2014, the Ohio Section held its first dinner meeting and presentation with the student chapter at Orton Hall on the OSU campus. It is always a treat to tour the Orton Hall Museum and bell tower. Along with the student chapter of Wright State University (WSU), there are now two active student sections in Ohio.

5. AIPG Ohio Section Website Webmaster Carol Swinehart’s efforts have resulted in a significantly improved Ohio Section website. Thanks to Carol, the website is now able to communicate much more effectively with the membership, students, and the general public. Website features includes an active blog and social media networking.

6. The Ohio Section organized and hosted a “Night out with the Clippers” on August 23, 2013. It was an enjoyable evening to share camaraderie and get to know our fellow members and their families better over some baseball, hot dogs, and cold beverages.

7. The Ohio Section donated $275 to sponsor the Great Lakes Section of the Society of Economic Paleontologist and Mineralogist (GLS-SEPM) Devonian Shale Field Trip in Northeastern Ohio held on October 5, 2014. The field trip was sponsored in conjunction with the Ohio Geological Society, Appalachian Geological Society, and the Cleveland Museum of Natural History.
8. Finally, the Ohio Section sent a letter to Ms. Laura Finney to congratulate her on receiving the AGI Award for Teaching Excellence in K8 through 12 Earth Science Education.

At this time, I would like to thank each member of the executive committee for all of your contributions toward keeping section business activities running smoothly. It has truly been a pleasure to work with such a fine group of people. I have made many friends over the year and look forward to continuing work with each one in the future.

During September, it was a privilege to represent the Ohio Section at the AIPG national conference in Prescott, Arizona. The executive committee meetings were informative. The national board approved the new Ohio Section Bylaws. At this point, the new Bylaws will be official once we have the signatures of the national board representatives. The process is expected to be finalized during the early part of 2015.

While at the meeting, it was exciting to visit the Grand Canyon and the Jerome Precambrian gold and silver mine. After attending these field trips I feel like I know more about the geology of Arizona than I ever thought possible. The Grand Canyon geological walk through time is very special and provides an insight into the geological setting of the Grand Canyon for professionals as well as the public. It was very exciting to learn about the economic geology and depositional environment for the gold and silver deposits of the Southwest.

Finally, on Thursday November 20, 2014 the AIPG Ohio Section will host the Annual Meeting at the Faculty Club located on OSU’s main campus. The speaker will be Larry Krissek, OSU School of Earth Sciences and Byrd Polar Research Center. He will speak on “Geologic Drilling in Antarctica: Drilling Back into the Future”. Please plan to attend. I hope to see many of you turn out for the opportunity to network with old friends, make new friends, and generally enjoy good food and drink. I would like to be the first to wish every member a Happy Thanksgiving, Merry Christmas, and Happy New Year in 2015.
Hello Ohio Section of AIPG Member

It is that time of year again to vote for Ohio Section Executive Committee Members for terms beginning in 2015. Our current president, Curtis Coe, has volunteered to run for president again. His term will consist of three years of Executive Committee duties, including President-Elect (2015), President (2016), and Past-President (2017). Robert Andrews and Colin Flaherty have once again volunteered to serve as Members-at-Large for 2015, and will be joined by Karen Royce. Current Secretary Shavonne Gordon and Treasurer Brent Smith have each agreed to volunteer for additional 2-year terms.

Please vote by clicking on the following link:

https://aipg-ohio.org/memberonly/index.php

You will be prompted for a username and password to vote. The username and password was provided to the membership on October 27, 2014 via an e-mail from ohioapignewsletter@gmail.com.

Please vote by **November 14, 2014** and thank you for your participation!

**The Ohio Section of AIPG Executive Committee**

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**AIPG 2015 National Conference**

September 19-22, 2015
Anchorage, Alaska
Hilton Anchorage Hotel
500 West Third Avenue, Anchorage, AK 99501
Hotel: 1-800-HILTONS – Room Rate: $137

[www.hiltonanchorage.com](http://www.hiltonanchorage.com)
Hosted by AIPG National.
Co-hosted by AIPG Alaska Section
You are cordially invited to the AIPG Ohio Section’s Annual Meeting and Dinner presentation, which will take place at the Faculty Club on the campus of The Ohio State University on Thursday, November 20th. The Section is pleased to host Dr. Larry Krissek of The Ohio State University who will present, *Geologic Drilling in Antarctica: Drilling Back to the Future*. Dr. Krissek has won the very prestigious OSU alumni teaching award and is an excellent speaker.

The event begins at 5:00 pm with social hour, followed by dinner at 6:15, and the feature presentation at 7:30. The festivities will include a 50/50 raffle and door prizes! Please RSVP to President-Elect Tom Jenkins at tjenkins@eagon.cc. The buffet dinner will include dessert, and will be $35 for Section members and $20 for students. We will also be accepting pre-payment for the Annual meeting using PayPal. Please see the events page on our website at [www.aipg-ohio.org/eventdetails.php](http://www.aipg-ohio.org/eventdetails.php) for more details.

**Geologic Drilling in Antarctica: Drilling Back to the Future**

*by Dr. Larry Krissek*

**ABSTRACT**

Sediments in marine basins around the perimeter of Antarctica preserve records of climatic and environmental changes on Antarctica during the past several tens of millions of years; these changes include the development, expansion, and contraction of large ice sheets. Equivalent records of these changes are not preserved on the continent itself, because most of the sediments deposited on the continent during this time subsequently were eroded by those ice sheets during times of glacial expansion.

Geologic drilling technologies have been used to recover sediment cores from these marine basins, but those technologies must be modified for use in the ice-dominated environment of Antarctica. Several successful drilling programs have been conducted in the past 40 years; this talk will consider ANDRILL, the most recent of these programs.

During drilling operations that lasted from October 2006 to January 2007, the ANDRILL McMurdo Ice Shelf (MIS) Project recovered a core ~1285 m long from beneath the present McMurdo Ice Shelf. The sediments recovered range in age from modern to ~12 million years old. Sediments deposited under the influence of glaciers dominate most of the core. The remainder of the core is composed of two rock types: 1) volcanically derived sediments and
volcanic rocks, which record a supply of sediment from nearby volcanoes; and 2) sediments dominated by the remains of planktonic marine algae, which record times of open-water conditions at the MIS site.

Repeated alternations between glacially influenced sediments and sediments deposited in open-water conditions indicate that the size of the McMurdo Ice Shelf has been much more variable than was known previously. Because the McMurdo Ice Shelf is fed by ice from the large ice sheets on Antarctica, the fluctuations in the extent of the McMurdo Ice Shelf indicate that the continental ice sheets also have experienced significant changes in volume during the past 12 million years. This dynamic past suggests that future changes in ice sheet volume are also quite likely.

PRESENTER

Larry Krissek is a Professor and Associate Director in the School of Earth Sciences at OSU, and also is affiliated with the Byrd Polar Research Center. He received a B.S. in Geological Oceanography from the University of Washington (1977) and a Ph.D. in Marine Geology from Oregon State University (1982). He joined the Department of Geology and Mineralogy at OSU in 1982, and had his first Antarctic field season in 1985. His research interests focus on interpreting past climates and environments from the mineral, chemical, and grain size characteristics of clastic sediments. He has participated in nine field seasons in Antarctica, and has sailed on nine cruises of the Deep Sea Drilling Project, Ocean Drilling Program, and Integrated Ocean Drilling Program.

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News from The Ohio State University
Student Chapter of AIPG

The recently reactivated student chapter from The Ohio State University (OSU) has provided the Newsletter with a listing of officers as well as a preliminary schedule of activities for the 2014-2015 academic year.

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<td>Treasurer-Elect (starting in December)</td>
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<td>ADVISOR</td>
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<td>Karen Royce, Ph.D., Academic Counselor and Staff Assistant, College of Arts and Sciences, School of Earth Sciences, MEM-0330</td>
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UPCOMING OSU STUDENT CHAPTER EVENTS

| November 15  | Day trip to Cincinnati Museum of Natural History |
| November 18  | Student Chapter Meeting                          |
| November 20  | Supporting the Ohio Section Annual Meeting at the Faculty Club |
| December 9   | Student Chapter Meeting                          |
| Spring 2015  | Overnight Field Trip to Kentucky (Red River Gorge or Mammoth Cave) |

Please take a moment and welcome these OSU Student Chapter of AIPG officers and their fellow student members at a future AIPG event.

FIELD TRIP ANNOUNCEMENT

Contributed by: Andrew Collins, OSU Chapter of AIPG President

AIPG Ohio Section Members,

You are invited to join the AIPG OSU Student Chapter for an afternoon at the Museum! On Saturday, November 15th, they are headed to the Cincinnati Museum of Natural History to peruse the exhibit halls and caves (yeah, caves – complete with a live bat colony)! The portion of the tour open to Ohio Section Members will start at approximately 12:00 noon.

Museum tickets are $10.50 each and can be purchased at the entrance. Museum parking is $6. For more information on the museum and how to get there, please visit http://www.cincymuseum.org/visit. We look forward to seeing you there!
The **Wright State University (WSU)** Student Chapter of AIPG has provided the *Newsletter* with a listing of officers as well as a preliminary schedule of activities for the 2014-2015 academic year. The WSU chapter has exhibited a high level of activity in recent years, which has been highlighted by student-led field trips to Hocking Hills State Park (2013) and Caesar Creek (2014). According to the WSU student chapter schedule, it appears that plans are in the works for a field trip in the Spring of 2015 to Ohio Caverns.

### Wright State University Chapter of AIPG, 2014 – 2015

| OFFICERS |  |
|----------|  |
| President | John Christenson, SA-3107 |
| Vice President | John Ernst, SA-4819 |
| Secretary | Randy Mickle, SA-3171 |
| Treasurer | Francis Noone, SA-3688 |

| ADVISOR |  |
|---------|  |
| Stacey Hundley, Ph.D., Lecturer, Earth & Environmental Sciences Department, MEM-2546 |

| UPCOMING WSU STUDENT CHAPTER EVENTS |  |
|------------------------------------|  |
| November 15 | Private tour of the Orton Geological Museum Collection |
| November 20 | Ohio Section Annual Meeting at the Faculty Club |
| November 21 | Student Chapter Meeting at 1:30 pm in 171 Brehm Lab |
| February 14-15 | TechFest at Sinclair Community College |
| Spring 2015 | Ohio Caverns Field Trip with Student Members and CPGs |

Please take a moment and welcome these WSU Student Chapter of AIPG officers and their fellow student members at a future AIPG event. ●
Ohio Section September Meeting and Dinner Presentation Revisited

**Featured Topic:** Experience Orton Hall and the Orton Geological Museum at The Ohio State University, Columbus, Ohio

**Presented by:** Dale M. Gnidovec, Orton Hall Museum Curator

**Contributed by:** Colin Flaherty, CPG-11465

In conjunction with The Ohio State University (OSU) Student Chapter, the Ohio Section of AIPG held the third Section meeting of 2014 on September 25th at Orton Hall and the Orton Geological Museum on OSU’s Columbus campus. The Section was pleased to host the curator and collections manager of the Orton Geological Museum, Dale M. Gnidovec, who presented the history of Orton Hall including its geological significance, featuring the Orton Geological Museum.

**Presentation of Meeting Agenda and Opening Remarks**

Upon conclusion of a social period, Ohio Section President Curtis Coe called the meeting to order and welcomed fellow members, student members, and guests. From the floor of the museum, President Coe presented an update on Ohio Section activity, future plans, and noted the Section’s recent attendance at the AIPG National Meeting held in Prescott, Arizona September 13-16. President Coe remarked about the presentations and field trips that were a part of the National Meeting; however, he specifically noted the benefit of corresponding with representatives of other Sections and getting a pulse on activities across the country.

President Coe applauded the meeting venue on a university campus and stressed the importance of continued student involvement. He noted that AIPG and the Ohio Section can not only benefit students educationally, but professionally. President Coe thanked the recently reactivated OSU
Student Chapter for co-hosting the meeting and acknowledged the strong contingent of Wright State University student chapter representatives that traveled to Columbus to attend the event.

**Experience Orton Hall: Museum Tour, Orton Hall Tour, and Dinner Presentation**

Meeting attendees were able to tour the Orton Geological Museum, which features specimens of the geologic history of Ohio in addition to fossils and minerals from all over the world. Among the multitude of exhibits are actual mammoth and mastodon teeth, a full-size replica of *Tyrannosaurus Rex* skull, a skull of the *Dunkleosteus*, a fluorescent mineral booth, and meteorites. The centerpiece of the museum is *Megalonyx jeffersoni*, the mounted skeleton of a seven-foot-tall giant ground sloth (affectionately nicknamed “Jeff”). Attendees were also able to visit the museum store and purchase from the assortment of items including minerals, fossils, books, and much more.

Members of the Ohio Staters organization volunteered their time to lead several tours of Orton Hall. Tours started outside of the building and included a discussion of the history of Dr. Edward Orton Sr., who served as OSU’s first president from 1873 to 1881 and the third State Geologist of Ohio from 1882 to his death in 1899. Tour guides noted the multitude of unique architectural features of Orton Hall; perhaps the most notable features are the building stones, which were laid in stratigraphic sequence.
Tours migrated to the interior of Orton Hall and continued upward through several floors of the building, where numerous other geologically-related features were observed. As the tour entered the attic, attendees traversed a narrow wooden walkway leading to a small arched wooden door providing an entrance to the bell tower. Tour guides noted that the round, brick-lined room that houses the mechanical system for operating the bells, which are located two stories above, was formerly the personal office space for Dr. Orton. The guides noted several areas of black soot on the walls of the room which is believed to be remnants of oil lamps used by Dr. Orton.

From this room, the attendees were allowed to negotiate upward through the tower via two wooden ladders, and with a little contorting, ascend into the peak of the Orton Hall bell tower amongst the bells. The bell tower, which tolls every 15 minutes, is an OSU campus landmark and was added to the National Register of Historic Places in 1970.

Upon the completion of the tours, attendees assembled in a classroom where OSU Student Chapter President Andrew Collins introduced the evening’s speaker, Dale Gnidovec. He noted that Mr. Gnidovec has been the collections manager and curator of the Orton Geological Museum for over 25 years. When not at the museum, teaching Earth History, or at a speaking engagement, Dale is often overcome by his passion for paleontology and is off digging for dinosaurs all over the world.
Dale Gnidovec presented the history of Orton Hall and shared numerous historical photographs of the building, as well as Dr. Orton, and some of the collection of rocks, minerals, and fossils. As the collections manager of the museum, Mr. Gnidovec currently presides over 50,000 specimens, and was actually able to list the specific number of specimens! Dale’s upbeat attitude and wit added to the pleasantness of the experience, as he shared numerous stories of his tenure as curator and collection manager of the museum. He recounted several instances where people brought in specimens for him to identify (he gladly performs this service for the public); such individuals thought they possessed everything from gemstones to gold, or most commonly, meteorites! Mr. Gnidovec concluded his presentation with a cursory look of the forthcoming overhaul and expansion of the museum…stay tuned.

Dale Gnidovec presenting mastodon teeth to the attendees.

Dale Gnidovec presenting to the attendees.
The Ohio Section of AIPG greatly appreciates Mr. Dale Gnidovec and The Ohio State University allowing the Ohio Section and OSU Student Chapter to co-host an event at Orton Hall and the Orton Geological Museum. In particular, we want to thank Mr. Gnidovec for his great presentation and gracious hospitality!

The *Newsletter* would like to thank Curtis Coe, Robert Andrews, and Colin Flaherty for providing photographs of the event.
RIGHT – There was much for attendees to see in the Orton Hall Museum.

BOTTOM – No, it’s not a game of belltower hide-and-seek, attendees had to scale wooden ladders to ascend to the top of the bell tower to stand among the bells.
Brent Huntsman and Curt Coe enjoying themselves among the bells inside the Orton Hall belltower.
AIPG Field Trip Photographs of the Grand Canyon

Provided by: Ohio Section President Curtis J. Coe, CPG-06240
AIPG Field Trip Photographs of the Jerome Gold and Silver Mine

Provided by: Ohio Section President Curtis J. Coe, CPG-06240
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@hullinc.com.

Keynote speaker Dr. John Jansen presenting at the 2013 Ohio Section Annual Dinner Meeting at J.Liu Restaurant & Bar in Worthington.
Welcome to Pathways!

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Stay informed of upcoming AIPG events & get involved with your colleagues

Space in the Ohio Section newsletter may be purchased for $125 per year. The fee entitles you to a business-card size advertisement in the newsletter, the Annual Meeting program, and a hotlink on the Section website. Please contact Treasurer Brent Smith for details.