November 16th meeting,
IN PERSON at BOAL HALL or via ZOOM:

Magnetism and Minerals
by Andrew A. Sicree, PhD

Our November meeting will be held Wednesday the 16th in Boal Hall (Boalsburg Fire Hall), 113 East Pine St., Boalsburg, PA 16827. Maps can be found on our web site.

7:15 to 7:45 p.m.: Social “hour.” We will serve some refreshments - snacks and a few beverages - or feel free to bring your own non-alcoholic beverage.

7:45 to 8:00 p.m.: Announcements, door prizes, sales about 8:00 p.m.: featured program

The event has free admission and free parking (lot just east of Fire Hall along East Pine St.), and is open to all; parents/guardians must provide supervision of minors. Bring your friends and share an interesting evening.

We hope you will join us in person, but if you can’t, the Zoom link will be e-mailed to all paid members who receive our e-mails. Others are welcome to request it by e-mailing <xidg@verizon.net>. We plan to record the presentation for later posting to our web site. -Editor

Magnetism – a “spooky interaction at a distance” – fascinates young and old alike. Whose refrigerator doesn’t have at least one magnet clinging to it? Today’s magnets are synthetic but magnetism was first discovered as a property of naturally-occurring “lodestones”. Lodestones are pieces of magnetite – an iron oxide mineral – that have magnetic fields strong enough to attract and hold small fragments of iron.

All magnetite is magnetic in the sense that a magnet will attract the mineral, but only a small fraction of magnetites are lodestones. Lodestones have a stronger, more organized magnetic field than other magnetite specimens. The stronger magnetic fields of the lodestones could be the result of electromagnetic pulses caused by lightning striking close to the lodestone and aligning the stone’s magnetic domains. Stones with aligned magnetic domains will have more lifting power than nonaligned stones.

A few pieces of magnetite can demonstrate especially strong magnetism and these lodestones were especially sought after in the not-so-distant past. A thousand years ago, the Chinese are reputed to have used lodestones as compasses and to magnetize steel needles.

Magnetism can be observed in a small number of minerals in addition to magnetite. These are iron-bearing minerals that include other iron oxides (hematite, magnesite), oxyhydroxides (goethite, ferrihydrite, lepidocrocite), and sulfides (pyrrhotite, greigite).

The magnetic properties of minerals make it possible to survey the Earth’s crust for local variations of magnetic fields. These geophysical magnetic surveys are used in prospecting for mineral deposits. And they are used to determine the movements of continents in the past eras – paleomagnetic measurements have provided powerful evidence in support of the theory of plate tectonics.

ATTENDING THE NOVEMBER MEETING?
Donations of one or two high quality, labeled door prize specimens are invited.
Larger quantities can go in a giveaway box. Bring a friend!

January 18, 2023: Updates on the Mars Rover, by Dr Chris House, Penn State
March 15, 2023: Geode Night! by Jeff Smith
March 25, 2023: Minerals Junior Education Day

Minerals Junior Education Day March 25

Minerals Junior Education Day is set to return on Saturday, March 25, 2023! We’ll need about eight stations where students in grades 1-8 learn about some aspect of minerals, earth sciences or lapidary, and get specimens to take home. It’s time to plan for what station you might present, or to volunteer to help at an existing station. Donations of minerals, books, etc., for the sales table are also welcomed - make arrangements in advance, so that we can get them organized and priced. Contact Frank Kowalczyk: frank.j.kowalczyk@gmail.com or 814-404-9854.
Annual Holiday Dinner December 21
Quaker Steak & Lube Restaurant

We hope that you will join us! On Wednesday, December 21, 6:00 p.m., rather than our usual meeting and program, we will have our Holiday Dinner at Quaker Steak & Lube Restaurant, 501 Benner Pike (across Benner Pike from the Nittany Mall), State College, PA 16801 in their "Corvette Room" at the back of the restaurant. The entire restaurant is decorated in automotive memorabilia making the place and our event a lot of fun. There actually is a real red Corvette suspended from the ceiling above part of the Corvette room.

NMS will pay for appetizer plates to be shared by all those present, then attendees can order and pay for their own dinners. We’ll have door prizes also. We will continue our past tradition where members can have space on a table at the dinner to sell minerals / rocks / fossils / carved gems / jewelry / rock crafts. Sellers need to collect PA sales tax. NMS will also have items for sale. If you are interested in selling, please contact Bob Altamura (raltamura@comcast.net or 814-234-5011) as soon as possible (definitely by November 30) to secure a table.

Annual Meeting held in October
by David Glick, NMS President

A brief annual meeting of the membership was held during the October 19th meeting. The incumbent officers were re-elected, as follows:

President        David Glick
Vice President   Bob Altamura
Treasurer         Stuart Bingham
Secretary         Barry Scheetz

David Glick presented an annual report of Nittany Mineralogical Society activities (see page 6).

Dues are Overdue

Our membership year ended on October 31. For NMS members who have not yet renewed, a dues form is included with this issue, either on paper or electronically. The form is also available on our web site at <http://www.nittanymineral.org/mem.htm>. You can bring your dues and form to the November meeting, or send them in. Your dues are used for programs and speakers, refreshments, educational activities, Bulletins, and mailing expenses. We look forward to your continuing membership! -Editor

FEDERATION NEWS

Nittany Mineralogical Society, Inc., is a member of EFMLS, the Eastern Federation of Mineralogical and Lapidary Societies, and therefore an affiliate of AFMS, the American Federation of Mineralogical Societies. The AFMS News is linked from our web site, <http://www.nittanymineral.org>, found at <http://www.amfed.org/afms_news.htm>. The Eastern Federation now has the November Newsletter on its web site (use Chrome if Firefox does not work), and we hope that they will add back issues soon. EFMLS back issues have been removed from the NMS web site to avoid publicizing private contact information; if you want to see a recent back issue, contact David Glick.

The AFMS November Newsletter was not yet available at the time of this writing.

The Eastern Federation’s November Newsletter is available on the EFMLS site. The November issue includes a message from newly elected president Bill Stephens, containing lots of news and plans. A new member club of EFMLS, Friends of Mineralogy - Pennsylvania Chapter, is introduced. The Chapter is over 50 years old, and is holding its annual symposium and field trip November 12-13. A memorial to long-time EFMLS leader Barbara Sky, best known as Uniform Rules Committee Chair, is presented by past president Ellery Borow. The 2023 EFMLS Convention is scheduled for July 7-9 in Syracuse, NY. It’s noted that the Wildacres Workshops turn 50 in 2023; there will be only one session, May 15-21, and the Speaker-in-Residence will be jewelry artist Helen Serras-Herman. Finally, Editor Dan Imel introduces himself; although new to the EFMLS Newsletter, he has years of experience editing for his local club, for SCRIBE (editors’ society), and as past EFMLS webmaster. -Editor

Northern Alleghenies Geological Society

After a long hiatus the Northern Alleghenies Geological Society is back! We have missed you all and we hope you have been doing well!!! Please consider joining us for our first meeting back next week! Dr. Chris Coughenour of the University of Pittsburgh at Johnstown will be speaking about: Watershed Modelling of the Little Conemaugh River. The talk will be held Tuesday evening Nov. 15th, 2022 at 5:30 PM (talk begins at 7PM) at La Fiesta in Ebensburg, PA. If you are planning to attend, please RSVP by Monday Nov. 14th.

https://www.facebook.com/people/Northern-Alleghenies-Geological-Society/100069113495667/
Daniel E. Bontempo
1959-2022

by
Bob Altamura
and David Glick

Sadly, we must report that active and enthusiastic former Nittany Mineralogical Society (NMS) member Daniel Bontempo passed away in Lubbock, Texas, on September 28. Born July 2, 1959, in New Orleans, Louisiana, he came to graduate school at Penn State to conduct research in statistics of human activities, especially the elderly. After earning his PhD in 2006, he was employed at Penn State, and later at Oregon State, University of Kansas, and Texas Tech. He is survived by his father, a brother and a sister and their families, to whom we extend our deepest sympathies. The energy that Daniel devoted to sharing his interests and knowledge in our hobby was remarkable, and he will be deeply missed.

Daniel had an avid interest in lapidary, and joined NMS during his years here to share and expand upon that interest. Collecting lapidary material led him to investigate mineralogy and the geosciences. He contributed his energies to the mission of NMS, volunteering in many ways. At our early mineral shows in 2006 and 2007, he led children’s activities, silent auctions, and a lapidary demonstration station, and set up a display case on the local oolitic chert which later moved to the Penn State Mineral Museum. Along with John Passaneau he presented a meeting program on digital photography. He organized field trips to Flint Ridge, Ohio, and to collect oolitic chert from the stockpile of local jeweler the late John Mason.

After leaving State College, he was active in his local clubs, on rocktumblinghobby.com and facebook, sold lapidary material photography on Fineartamerica.com, and kept in touch with NMS. He generously presented three programs during our pandemic Zoom meetings: Spherical structures in Rhyolite in December 2020; Gembone: Gem Dinosaur Bone in March 2021; and Tuxedo Agate & Fischer Stones: A nod to George W. Fischer in November 2021 (all available on our web site at <http://www.nittanymineral.org/programs.htm>).

Daniel put a great deal of thought into laying out his planned lapidary piece among the patterns of a slab. He was very keen on the patterns in petrified Indonesian palm root which he envisioned as similar to the comedy and tragedy masks from theater. He was also fond of stones which resembled scenic landscapes. Two finished bolo tie stones from his Whimsical Lapidary page on facebook are included here.

Further reading:
<https://www.facebook.com/WhimsicalLapidary/>,
<https://fineartamerica.com/profiles/daniel-bontempo>,
The Pioneers
Dr. Charles E. Miller, Jr.

The late David McCullough was an acclaimed author, twice winning the Pulitzer Prize and twice the National Book Award. He also received the Presidential Medal of Freedom, the nation’s highest civilian award. Some of his many books include "The Wright Brothers," "1776," "John Adams," "Truman," and "The Johnstown Flood." The author recently read McCullough’s "The Pioneers." It chronicles our first attempt to settle the Northwest Territory (which later became Ohio, Indiana, Illinois, Michigan, Wisconsin, and part of Minnesota; think of Northwestern University, in Illinois). In 1787, settlers began what would become Marietta, Ohio (Figure 1), at the confluence of the Muskingum and Ohio Rivers. Not only is it a good read, but it also includes a historical, geological account.

In mid-December 1811, Marietta was hit with a major earthquake. "As was soon to become known, what happened there on the Ohio was mild compared to the great earthquake that hit at the same time in Missouri territory. There huge riverbanks collapsed. Islands in the river disappeared, and great gaps burst open in the earth engulfing trees, rocks, and whatever else was on the surface." In February 1812, the settlement was hit again with a more powerful earthquake. Collectively, these are known as the New Madrid (pronounced "New Mad-rid") earthquakes (Figure 1). The earthquakes lasted for several months and were some of the most powerful in our country. The US Geological Survey estimates they were two to three times as large as the 1964 Good Friday Earthquake in Alaska and 10 times as large as the 1906 San Francisco earthquake. Because these predated seismographs, reported magnitudes are interpretations of historical accounts. Those accounts describe massive landslides along the Mississippi and Ohio River bluffs. Whole forests sank below their original levels. The more powerful 1812 earthquake temporarily changed the Mississippi River's flow direction for 10-24 hours. That happened when faulting created a scarp, blocking flow of the river.

The referenced earthquakes were part of the New Madrid Seismic Zone (NMSZ, Figure 1), also known as the Reelfoot Rift Seismic Zone. It is one of several intracontinental rifts in the conterminous United States. These rifts were sites of divergent plate motion during the geologic past. Each is an example of a failed arm (aulacogen) of a triple junction. A triple junction is where three tectonic plates meet. An example is the Red Sea, Gulf of Aden, and East African Rift junction (Figure 2). The Atlantic Ocean is the result of successful rifting of the supercontinent Pangaea during the Triassic and Jurassic Periods (~ 210-145 million years ago). Partial or failed rifting would have resulted in something analogous to the Red Sea. The NMSZ is associated with rifting of the supercontinent Rodinia about 750 million years ago. Had rifting at the NMSZ and the other intracontinental aulacogens not failed, our country's shape would now be quite different. Instead of 48 contiguous states, it is conceivable that inlets (seas) would connect to the ocean.
The NMSZ is one of the most active earthquake centers in our country. Each year, hundreds of small earthquakes occur there, most detected only with seismometers. These occur when existing faults periodically reactivate. For example, a 4.1-magnitude earthquake occurred in 1970 in western Tennessee, causing local damage (Figures 3 and 4) that included a "textbook" graben. An explanation and description of that damage is given in the author's article "Connections" in the August 2012 issue of the Nittany Mineralogical Bulletin.

Figure 3: Approximately 30-foot-deep graben in North-western Tennessee that occurred in 1970 earthquake. The landowner (white shirt) is standing at the right scarp of the graben and serves as a scale. Image by the author, 1971.

Figure 4: Tree split vertically. Image by the author.

FM-PA Chapter Symposium November 12: Registration on site in person is available, but will be by cash or check only, paper form only:

SYMPOSIUM & FIELD TRIP
Friends of Mineralogy - PA Chapter November 12-13, 2022 Lancaster, PA

Symposium for mineral enthusiasts on Saturday Nov. 12 Doors open 8:30 a.m.; Symposium 9:00 - 4:15
Sales by Select Dealers – Silent Auction – Give-away Table – Meet Fellow Collectors
Talks by knowledgeable speakers on Pennsylvania Mineralogy and Geology, and more:

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<th>William Kochanow, PG</th>
<th>Ronald A. Sloto, Ph.D.</th>
<th>Stephen R. Lindberg, Ph.D.</th>
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Registration form on website. Register online or by mail (or on-site, cash/check only).
Current members $15.00/person  Non-members $25.00  College Students free
Professional Geologists: Five Professional Development Hour credits available for full lecture attendance

Field Trip on Sunday Nov. 13 Mount Pleasant Mills, PA. Open only to symposium registrants. Register now!
Visit our website for details, registration form, changes and updates: www.rasloto.com/FM
Nittany Mineralogical Society  
President’s Annual Report  
11/2021 - 10/2022  
by David Glick

NMS returned to in-person meetings Aug 2021; most of them were presented in person; many thanks to all of those presenters. Most were Zoomed and posted on our web site. For those Zoom meetings, we owe a big thank you to John Dziak who provided expertise, effort and the account; since he left we’ve bought a license and I am attempting to be Zoom “master.” I could use some help, if there any experts out there. We’ve had specimens and tools for sale at meetings, but that has been very slow. In March, we had Geode Night for the first time since 2013, and it was well attended.

The editor produced ten Bulletins as usual; thank you to those providing material. We distributed membership cards and a membership directory for the first time in several years.

The Board of Directors consisted of David Glick, President; Bob Altamura, Vice president, Stuart Bingham, Treasurer; Barry Scheetz, Secretary; Duff Gold, Program Chair; Andrew Sicree, Junior Rockhounds Chair; and Dale Kephart, Field Trip Chair. Thanks are due to all of them for keeping the Society running. The Board held three meetings during the year, on February 8, March 22, and August 16. I represented the Society at the EFMLS Convention via Zoom in September. I’m pleased to report that, after two years of turmoil, EFMLS is back on track, with an enthusiastic president.

Treasurer Stuart Bingham has provided the following Financial Report as of September 30: Checking: $3725.62, Money Market (Passaneau bequest): $167,966.52. When our bank closed its local branch, we moved our accounts to Citizens Bank. We plan to put most of the Passaneau bequest in CDs. We investigated space to lease for a “home” for the Society but couldn’t afford it.

People cleaned their basements during the pandemic, and we received many donations: lapidary rough and machines from Betsy Suhey, agates from the EMS Museum, minerals from Shirley Fonda. The largest amount was Dr. Duff Gold’s mineral and rock specimens which were then identified, organized, cataloged, and donated to Bilger’s Rocks Education Center with our assistance.

Looking forward, we are looking for meeting programs; suggestions are welcome. We plan to have the usual December holiday dinner & sale. We hope that we can finally get back to holding Minerals Junior Education Day in early spring, so it’s time to start thinking about volunteering for that. We will plan to have some field trips. We’ll start thinking about the next museum exhibit, and we’d like to provide exhibits in schools, if there are opportunities. We have a huge amount of donated material in storage, and we plan to organize and categorize it, for teaching, exhibits, door prizes, giveaways, donations, and sales. A “garage sale” where both the Society and the members could sell would be very useful, if we can find a good venue for that.

I’ll conclude with our annual plea:

The Board truly needs additional volunteers to get involved with running the Society, providing new energy and fresh thinking and some new names on the ballot next time around. In many cases it would be useful to have newcomers spend some time on committees and attending Board meetings before stepping into elected office. All members: please consider volunteering!
**A HOBBY OF PASSION**  
by Ellery Borow  
from EFMLS News, May 2022

Have you noted the passion in this grand hobby of ours? There is a passion everywhere one looks in our clubs, shows, field trips, programs, and activities. The passion runs through every detail of what we do. The member providing the meeting refreshment offerings wants to bake and offer the very best of cupcakes for the enjoyment of meeting attendees.

The passions in clubs extend to being the best show chair, making sure the most people attend the show. Knowing the club’s program chair will try and select the best meeting programs. Trusting the field trip committee chair will do their best to arrange great field trips. The club’s members show their passions in the hobby with everything from cutting, grinding and polishing the best, most artful miniature works of art called cabochons, to their effort with helping at their club’s show.

Most of the clubs in the EFMLS are not specialized in being only for fossil collectors or only lapidary artists. Most clubs include members with many and varied interests -- fossils, micromounter, jewelry maker, gem cutter, specimen collector, pretty rock collector, mineral chemistry expert, and many, many more -- all in one club. The beauty of so many interests is having passionate members willing to share and teach others about their passions and interests.

Clubs afford opportunities for like-minded and open-minded people to share their passions, curiosities, desire to learn and teach, explore new ideas, and their friendship. Clubs do not necessarily focus on goals but journeys. Take the humble drive and walk to the dig site -- along the way there are likely to be interesting things to see and people to meet. There may be interesting rock formations, an unusual-to-the-area blue bird, different ferns or fungi on a stand of trees. The most straightforward of journeys will most always be filled with opportunities to see and experience new things. Clubs and the journeys to be experienced in them are wonderful assemblies of people to share one’s passions in our hobby.

A Federation is an assembly of clubs to help with the journey, with the communication, with the learning, with offering ideas, programs and experiences. The people in clubs do their best to help their members. The people in Federations do their best to help their member clubs. Passions run high in clubs and federations. Working together, learning together, and sharing are all part of the journey our clubs and federation want to offer. Join a club, join another club, participate in a Federation to help many clubs to share the passions and the fun in learning.

Over the past few years of COVID-19 and its variants, the power and determination of clubs to do what they do best has been tested, and still remains strong. The passions with and in our hobby remain as vibrant as ever. Keep sharing, keep having fun, keep the passion alive and well.

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**Geo-Sudoku**  
by David Glick

This puzzle contains the letters ACEGIMNTU. One row or column includes a property of some minerals. If you’ve read this issue, you’ve seen it. Each block of 9 squares, each row, and each column must contain each of the nine letters exactly once. The solution is on page 8.

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UPCOMING EVENTS

Confirm details of events before attending.
See other show calendar links on our web site.

Nov. 12-13, 2022: Symposium on Pennsylvania Mineralogy and Geology (and more), by Friends of Mineralogy-Pennsylvania Chapter. Sat. Symposium at Bright Side Opportunities Center, 515 Hershey Ave., Lancaster, PA 17603. Five talks by knowledgeable speakers; sales; silent auction; giveaway table. Sunday: field trip to Mount Pleasant Mills, open only to symposium registrants. Registration on site is with paper form and cash or check only. See page 5 and https://www.rasloto.com/FM/

March 4-5 2023: 59th Annual Earth Science Gem and Mineral Show, by Delaware Mineralogical Society. Double Tree by Hilton, 4727 Concord Pike (Rt. 202), Wilmington, DE 19803, Saturday 10:00 a.m. – 5:00 p.m., Sunday 11:00 a.m. – 5:00 p.m.


July 7-9, 2023: EFMLS Annual Convention in Syracuse, NY hosted by the Gem & Mineral Society of Syracuse, NY.

INVITE A FRIEND TO JOIN THE SOCIETY

The Nittany Mineralogical Society prides itself on having among the finest line-up of speakers of any earth sciences club in the nation. Everyone is welcome at our meetings. If you’d like to be part of our Society, dues are $20 (regular member), $7 (student rate), $15 (seniors), $30 (family of two or more members, names listed). Those joining in March or later may request pro-rated dues. Your dues are used for programs and speakers, refreshments, educational activities, Bulletins, and mailing expenses. Please fill out a membership form (available at www.nittanymineral.org), make checks payable to “Nittany Mineralogical Society, Inc.” and send them in as directed, or bring your dues to the next meeting.

We want to welcome you!

CONTACT INFORMATION

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Penna. Furnace PA 16865

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