



Celebrating 100 Years of  
Microscopical Magnificence



# The Leidy Letter

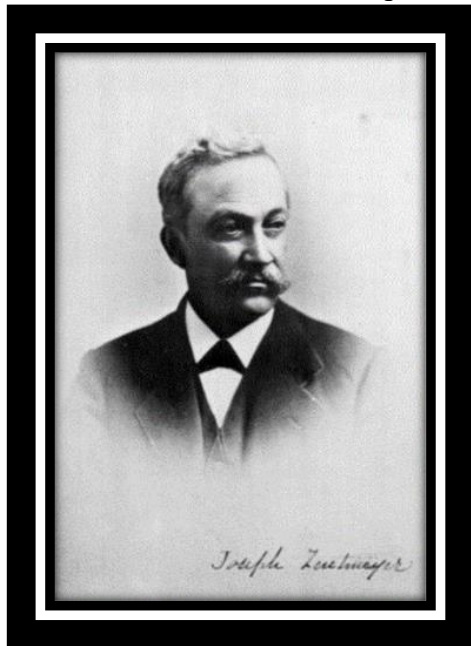
**Newsletter of The Leidy Microscopical Society**  
**Volume 1** **February 2025** **Number 2**

## Joseph Zentmayer

*Optician*

Born: March 26, 1826, Mannheim,  
Baden, South Germany

Died: March 28, 1888, Philadelphia, PA



Photograph of Joseph Zentmayer, taken about 1876. (Photograph courtesy of the American Philosophical Society, Philadelphia, PA)

Joseph Zentmayer was born in Mannheim, Baden, in South Germany on March 27, 1826. He completed his formal education at the Gymnasium in Mannheim. After graduating he was apprenticed to a local optician, and this began his journey to become a premier maker of optical instruments. He associated with many of the optical establishments in Karlsruhe, Frankfort, Munich, and Hamburg. In 1848 his political views forced him to immigrate to the United States where he worked for the best instrument makers in Baltimore, MD and Washington, DC. By 1853 he had made his home in Philadelphia, PA where he opened a shop at Eighth Street and Chestnut Streets. There he made high quality mathematical instruments with a single lathe.

The quality of his instruments attracted the leading scientific men of that time. He furnished most of the microscopes used by the Union Army during the US Civil War. He

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## 2025 Officers of the Leidy Microscopical Society

**President – Eric Brosius**

[ebrosiusrock@aol.com](mailto:ebrosiusrock@aol.com)

**Vice President – John Ferrante**

[jjf41@comcast.net](mailto:jjf41@comcast.net)

**Secretary – Karenne Snow**

[minerals.fossils.rocks@gmail.com](mailto:minerals.fossils.rocks@gmail.com)

**Treasurer – Don McAlarnen**

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**Newsletter Editor – Eric Brosius**

[ebrosiusrock@aol.com](mailto:ebrosiusrock@aol.com)

## Meetings of The Leidy Microscopical Society are held at the

The Community Center at GIANT

315 York Road

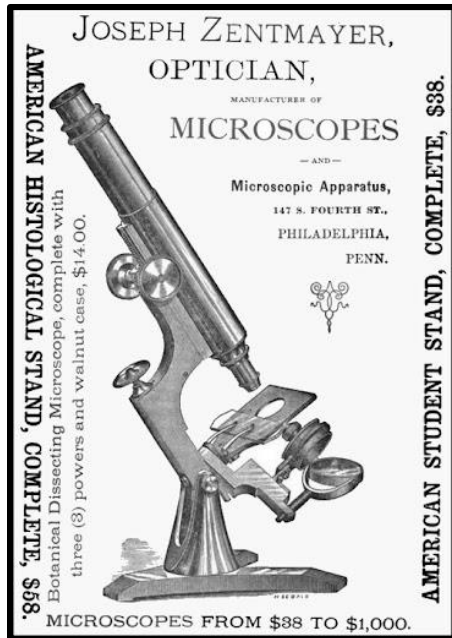
Willow Grove, PA 19090

On the third Wednesday evening from 6:00 PM to 8:30 PM in September, October, March, April, May & June and the third Saturday from 10:00 AM to 1:00 PM in November, December, January & February.

The Annual Leidy Microscopical Society Micromount Symposium is held in March.



continually made improvements to his instruments, becoming totally immersed in a project. In 1876, his greatest triumph came to fruition with the perfection of his Centennial Microscope Stand. He would never do any work slightly. It was always perfection he strived for.



Joseph Zentmayer was not one who made significant writing. He preferred to express his ideas verbally and informally among his colleagues. What written works that were published include: “On a Mechanical Finger for Use in Mounting Diatoms Under the Microscope” in 1870, (This paper is reproduced in its entirety later on in this Leidy Letter); “On an Erecting Prism for Use in the Microscope” in 1872; “A Lecture on Lenses” in 1876; “On Improvements in Microscopes” in 1877. All of these papers are found in the Journal of the Franklin Institute. Additionally, in The Philadelphia Photographer, Volume 4 Page 251, 1867 is found the article, “Refraction without Dispersion, and some Reflections.”

Joseph Zentmayer passed away on March 28, 1888, after a lingering illness. He was 62 years young.

## Program for February 15, 2025

The February meeting of the Leidy Microscopical Society will feature micromounts of John Ebner. Members and guests are requested to bring six of their best John Ebner micromounts for viewing. The group will then vote on the best overall John Ebner mount that was viewed. Everyone is invited even if you do not have a microscope or any John Ebner mounts.

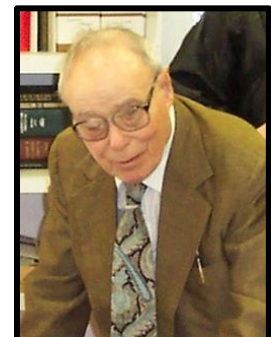
## A Quiet Man

By Eric Brosius

*“Silence is the sleep that nourishes wisdom” – Francis Bacon (1561-1626)*

The January meeting brought a long-time fellow member back to the meetings via the Zoom on-line meeting computer application. Bob Hesse, former Leidy Microscopical Society President, along with Bruce Geller joined our meeting from their homes in Colorado.

The subject of our meeting was Leonard A. Morgan micromounts. Not many of Leonard’s micromounts seem to be in circulation among collectors. In fact,





Bill Prince and Karenne Snow were the only two who attended the meeting, of the nine actual attendees, with Leonard Morgan micromounts.

An obituary, penned by former Society member and close friend Chuck O'Loughlin, is published in the December 2006 Rock Chatter, official newsletter of The Rock & Mineral Club of Lower Bucks County, PA., Inc. and has been reprinted below:

### **The Loss of a Friend and Fellow Collector**

**By Chuck O'Loughlin**

**Leonard A. Morgan:** September 2, 1907 – November 1, 2006. Leonard was a long-time member of the Rock and Mineral Club of Lower Bucks County and was a steadfast member from the moment he joined until his recent passing. Rare indeed was the meeting or field trip that Leonard failed to make. His extensive knowledge of mineralogy and mineral locals was a valuable asset for the members of RMCLBC, a knowledge he was ever willing to share.

In addition to RMCLBC, Leonard was a member of the Philadelphia Mineralogical Society (since 1929, the year he graduated from Rutgers College), The Delaware Valley Earth Science Society, Leidy Microscopical Society, Friends of Mineralogy - PA Chapter, The Franklin and Ogdensburg Mineralogical Society and quite probably others that I never learned about. He had an overwhelming love of nature and the earth sciences and a good day for Leonard was a day spent enjoying nature's gallery of art. He also had an unquenchable thirst for knowledge and never passed on the opportunity to learn something new.

Leonard has received numerous awards and recognitions from various mineralogical societies over the years. He was named a "Fellow" by the American Mineralogical Society. He was honored by his peers at the Desautels Micromount Show in 2005. He was honored by The Leidy Microscopical Society for a lifetime of achievement in 2006 and most recently, he was nominated as Rockhound of the Year by the Philadelphia Mineralogical Society, his first rock and mineral club. In all likelihood there are other awards that I don't know about because Leonard, as any who knew him, know that he was not one to brag or for that matter to even talk about himself.

It took three years of intensive questioning as we drove to various meetings, shows and field trips for me to get to know even a little about our good friend. Len was born in Burlington, NJ. He attended Rutgers College on a scholarship and graduated in 1929 with a degree in Chemistry. His first job after college was with the NJ Zinc Company at The Sterling Hill Mine, which was short lived as the stock market crash of 1929 set off the great depression and as an unmarried young employee he was soon laid off. He did confess that he made it to the picking table at least once during his employment with NJ Zinc. Leonard eventually ended up working as a chemist for the Marines and Navy as a civilian employee and spent over 40 years so employed. He retired when he was in his 70's and spent the next 20 plus years pursuing his hobbies, which, in addition to mineralogy, included gardening, fishing, bird watching, photography and ceramics.

Leonard A. Morgan will be missed by his many friends, who were as numerous as his days. He is survived by his son Alfred and his three grandsons, Ben, Daniel and Sam.



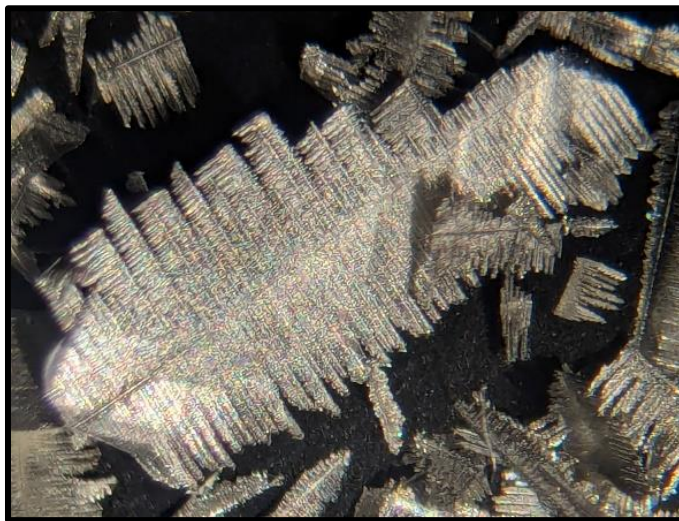
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Leonard's official obituary put out through the family and the Haddonfield United Methodist Church is as follows:

**LEONARD A. MORGAN** on Nov. 1, 2006, age 99, of Cherry Hill, formerly of Haddonfield and husband of the late Helena J. (Nee Jones). Survived by his son Alfred L. Morgan of Portland, OR, and 3 grandchildren. Mr. Morgan graduated from Rutgers University with a B.S. in Chemistry in 1929. He worked at the Marine Corps Supply Depot and the Philadelphia Naval Yard for 32 years until his retirement in 1974. He was a long-time member of the Haddonfield United Methodist Church and enjoyed photography and mineral collecting. Family and friends are invited to Mr. Morgan's Memorial Service, Saturday, 11 A.M, in the Chapel of the Haddonfield United Methodist Church, 29 Warwick Rd., Haddonfield NJ 08033, where the family will receive friends after 10:30 A.M. Interment Haddonfield Friends Cemetery. Memorial donations in Mr. Morgan's name may be made to the Church at the above address.

Before the viewing and voting on the best Leonard A. Morgan micromount, the group was treated as a rarity in the Micromount World. At the June 15, 2000, meeting of the Leidy Microscopical Society Leonard was somehow persuaded to give a demonstration talk on his micromounting techniques. Fortunately, one of our members recorded the talk which has now been saved digitally. Don McAlarnen was able to clean up the audio so Leonard can now be understood. The final result of this digital file was viewed at the January 18, 2025, meeting. There were several cameo appearances of some of our old friends, both living and ones who have passed on, that graced the background of Leonard's work area.

Many of Leonard's micromounts, along with the main technique that he used, involve flat paper squares mounted on a pedestal. The squares were covered with a variety of adhesives, depending on the specimen mounted. Once the adhesive dried but was still tacky Leonard would sprinkle individual crystals of the same species onto the mounting medium. Most of the micromounts that Bill Prince and Karenne Snow shared were of this type. The pictures beside and below were taken by Steve Stuart, through his microscope using a phone camera to ocular adapter that he obtained from Amazon.com. "**General Mobile Phone Clip, WNJ-01**". The pictures clearly show Leonard's mounting technique of multiple single specie crystals.



**LAB GROWN TIN**  
**Bill Prince collection**



**FRANKLINITE**  
Franklin, NJ  
Karenne Snow collection



**PYRITE**  
Pequa Silver Mine,  
Lancaster, PA  
Karenne Snow collection



**PYRITE**  
French Creek Iron Mine,  
St. Peters, PA  
Karenne Snow collection

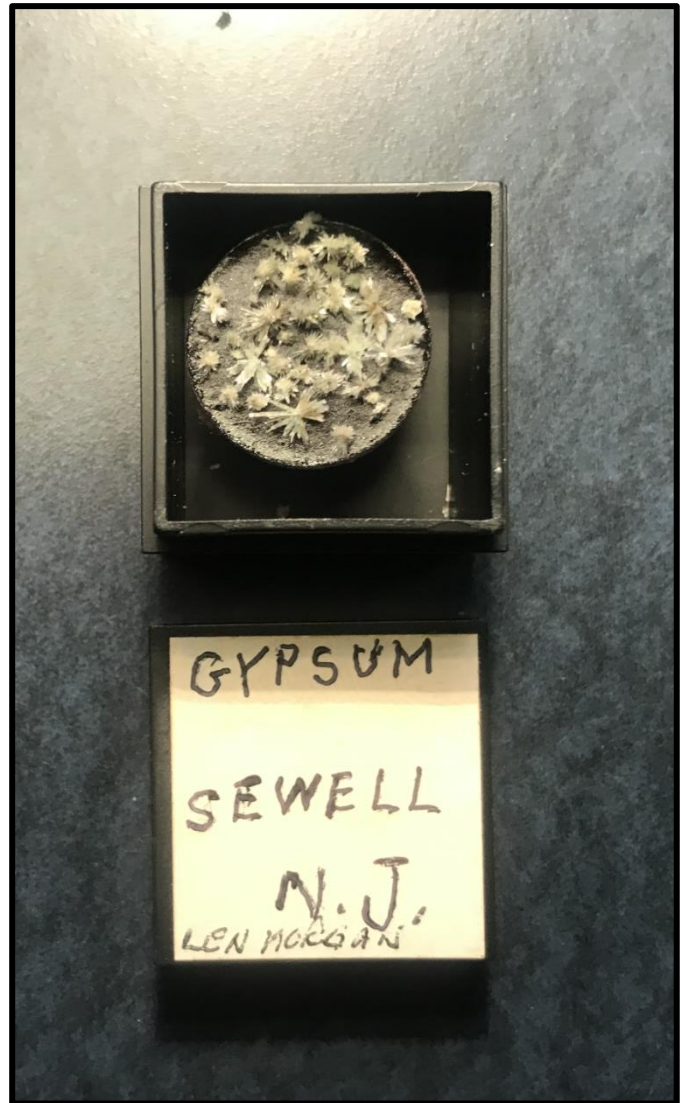


**GARNET**  
East Grant's Ridge, NM  
Karenne Snow collection



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After everyone had a chance to view the Leonard Morgan micromounts, the votes were taken for the best Leonard Morgan mount. The clear winner was Bill Princes Leonard Morgan mount of Hibiscus Pollen. Karenne Snow's Leonard Morgan mount of Gypsum Crystals, Sewell, NJ came in second.



Eric Brosius Photos  
of the winning Leonard Morgan micromounts  
Taken with a handheld I-Phone 7 Camera



## In Other Society Business

There were nine members (Len Porcelli, Steve Stuart, Bill Prince, Paul Langer, Don McAlarnen, Karenne Snow, Robert Carlton, Dick Braun, Eric Brosius) in person attending the January 18, 2025, meeting. Two members (Bob Hesse, Bruce Geller) who joined the meeting via the ZOOM on-line computer application.

A motion was made to purchase 4 tables for the upcoming and future Micromount Symposiums if the previously rented tables from The Rock & Mineral Club of Lower Bucks County, PA. Inc that now belong to the Delaware Valley Earth Science Society are no longer available. The motion was approved by those in attendance.

There is a potential joint meeting with the Philadelphia Microscopy Society being planned at the Delaware County Institute of Science in April 2025. The subject matter will be "Pollen".

Karenne Snow provided a copy of the March-April 2005 Mineralogical Record magazine that featured an article by Quitin Wight about a machine in the Leidy Microscopical Society's instrument inventory that produces perfect circles on microscope slides.

The program for the February 15, 2025, meeting will be John Ebner micromounts. Members and guests are requested to share for viewing John Ebner mounts that they have in their collections.



Above Left: Steve Stuart (Left) showing Don McAlarnen (Right) how his phone to microscope adapter works.  
Above Right: Close up view of a Diatom slide on Steve's phone viewed through the microscope using the adapter.

Close Up View of Phone to Microscope Adapter







### Just Having Fun at a Leidy Meeting



Above Left:

(From Left) Len Porcelli, Bill Prince and Karenne Snow enjoying viewing Leonard Morgan micromounts.

Above Right:

(From Left) Paul Langer, Dick Braun and Don McAlarnen having a grand old time.

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## A NEW MECHANICAL FINGER FOR THE MICROSCOPE BY J. ZENTMAYER

AT the present time, when we are informed almost daily of some new scheme of gigantic magnitude, and while nothing short of connecting two worlds or two oceans, by Cable, Canal or Railroad, will create even a short-lived excitement, it may hardly seem profitable to call attention to a Lilliput

Engineering Instrument, such as the Mechanical Finger. But, on the other hand, while some far-sighted ones already fear that this cutting through Isthmuses, tunneling mountains and mining whole kingdoms, might, before long, dangerously displace the centre of gravity of our earth, I can, at least, promise faithfully, that even if the instrument which I am about to describe is worked to its utmost capacity it will not appreciably disturb the equilibrium of our planetary system.

In the study of diatoms, it has been long desired to find a substitute for the clumsy fingers of the human hand, to do the delicate work of picking up rare and valuable diatoms detected by the microscope and to transfer them to a glass slide for preservation.

Prof. H. L. Smith, well known by microscopists as the inventor of several valuable accessories to the microscope, first presented us with a very ingenious little instrument of this kind.

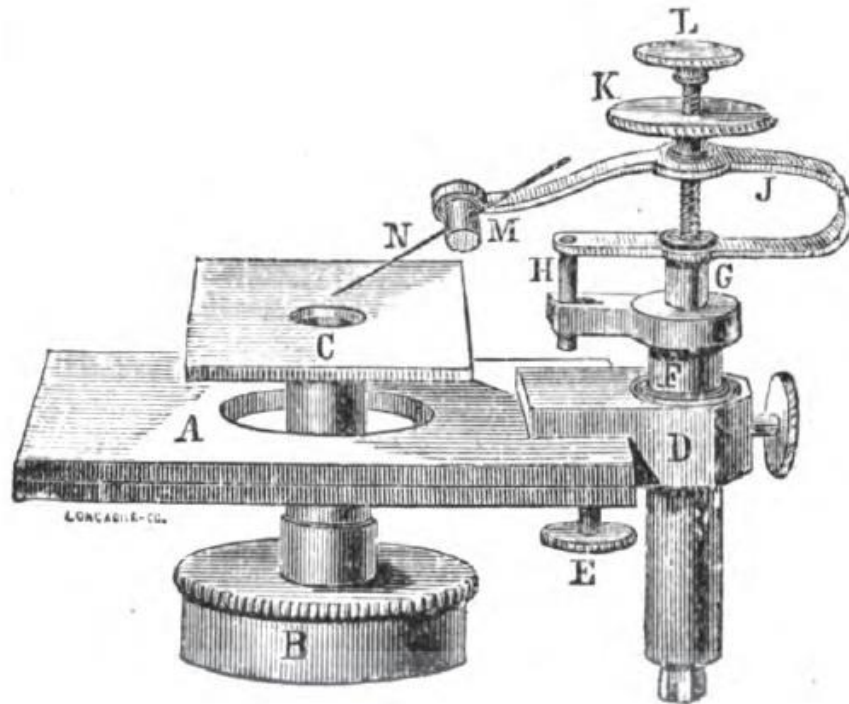
Messrs. John H. B. Latrobe and Geo. Dobbin of Baltimore, two expert microscopists, had in use for some time one of these instruments, but found it difficult to work it; and as the instrument was exceedingly well made, this proved that its construction was too complicated to give the firmness

required in picking up a shell, less than the thousandth part of an inch in length, and of which a single ounce of ocean sand contains, sometimes, many millions. Mr. Latrobe invited me to design and construct for him an instrument for this purpose.

The instrument requires many adjustable movements, and each of these increases its liability to shake and spring. So I made it my object to utilize such movements of a first class microscope stand as are not essential for other specific operations, as parts of the new finger. I found in the movements of a mechanical or sliding stage the main movements required in the finger, and so attached the apparatus to the mechanical stage. This gave me two of the most important movements, with a firmness and with dimensions of parts for which, otherwise, there would be no room.

This step, however, made it necessary to provide for another stage; but as there is never a higher power than a  $2/3$  employed with such an apparatus, a plain stage with some simple arrangement to hold the slides would be found quite sufficient. Such an one was therefore arranged. The cut represents the finger attached to one of my large microscopes.

A is the top plate of the mechanical stage; the circular plate is omitted. The cap B is fitted to the lower body below the stage, into which cap the new substage c is fastened by a narrow tube, wide enough to admit illumination from the mirror. As the lower body is movable up and down by a rack, another movement is gained which is necessary to accomplish our result. The difference of the size of the aperture of the stage and the diameter of the tube, which connects the sub-stage with the cap A is equal to the movement of the mechanical stage, and this is found more than sufficient.





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D is the clamp by which the finger is attached to the stage by means of the screw E. A steel cylinder, G, is nicely fitted into the top and bottom of the tube F, leaving room inside for a light spring to press the steel cylinder upwards. To prevent turning, the spring I is provided, at H, with a steel pin, accurately fitted into the fork at the top of the tube F. By turning the nut K the spring I is elevated and depressed, giving nice adjustment to the needle N in case the finger is to be attached to a microscope, not having rack movement to the cap B, to bring the end of the hair and the object in close approximation.

The end of the spring I forms a little ring, with a screw cut inside, into which a cork M is screwed to receive a needle N, to which a hair is fastened by wrapping gum-paper around. Turning the cork facilitates the adjustment of the hair to the proper inclination. A slight pressure on the button L brings down the hair, and the spring, inside of F, instantly lifts it again when the pressure is removed.

The tube F turns in the clamp D in order to adjust the hair and cork more conveniently, and when brought back again it is tightened by a set screw.

Complicated as it may appear, only one movement is added to the microscope stand by this instrument, the one, namely, which gives the vertical motion. When the apparatus is to be used the material you want to select from is placed on the sub-stage c and focused, then the point of the hair is approximately brought over the selected object by means of the stage movements and turning of D ; this brings the hair nearly in focus too, because it is almost in the same plane with the object. We next adjust the hair precisely over the selected shell, press down the button L, and the shell will adhere to the hair. Now we remove the slide with the material and substitute a glass slide, moistened by breathing on it, and having brought it in proper position, briskly dip down the button L again and the shell will be deposited on the glass slide.

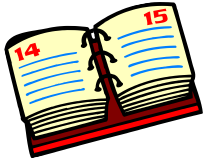
As the mechanical stage has a graduated indicator, the finger may be moved along regularly, and shells may be placed at equal distances in lines. After the cover-glass is carefully placed over it, then Canada Balsam may be run in by capillary attraction without disturbing the position of the shells.

Philadelphia, April 1870.

**From: 1870 Proceedings of the Franklin Institute Volume 89 pages 334-336  
On Mechanical Finger for the Microscope**



**“It’s not the big things that add up in the end; it’s the hundreds, thousands, or millions of little things that separate the ordinary from the extraordinary” – Darren Hardy (1971 -)**



## Calendar of Events

**February 13-16, 2025 – Tucson, AZ – Tucson Gem & Mineral Show.** Tucson Convention Center, 260 South Church Street, Tucson, AZ 85701. Thursday/Friday/Saturday 10:00 AM to 6:00 PM, Sunday 10:00 AM to 4:00 PM. For additional information visit: <http://www.tgms.org/>

**February 15, 2025 – Willow Grove, PA – Leidy Microscopical Society Regular Meeting 10:00 AM to 1:00 PM, Giant Community Center, 315 York Road, Willow Grove, PA,** the subject of the meeting will be “John Ebner micromounts”. Members and guests are requested to bring in their best John Ebner micromounts for viewing. The group will then vote on the best overall mount of those that were viewed. Everyone is invited even if you do not have a microscope or any John Ebner mounts.

**March 1-2, 2025 – Wilmington, DE - Delaware Mineralogical Society Show.** DoubleTree by Hilton, 4727 Concord Pike (Rt-202), Wilmington, DE 19803. Saturday 11:00 AM to 5:00 PM, Sunday 11:00 AM to 5:00 PM. For more information visit: <http://www.dmsrocks.org/>

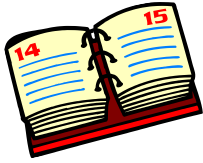
**March 7-9, 2025 - Middleburg Heights, OH – Gem Street USA.** Cuyahoga County Fairgrounds, 19201 East Bagley Road, Middleburg Heights, OH 44130. For additional information visit: <http://www.gemstreetusa.com/>

**March 7-8, 2025 – Richboro, PA – 49<sup>th</sup> Annual Leidy Microscopical Society Micromount Symposium. Celebrating 100 years of Microscopical Magnificence.** Advent Lutheran Church, 45 Worthington Mill Rd, Richboro, Pa. 18954. Friday 12:00 Noon to 6:00 PM, Saturday 9:00 AM to 6:00 PM. **Two great speakers – ‘Diving into Olivine’ by Geologist Chris Duerr and ‘The Fascinating World of Diatoms’ by Bill Dailey.** Table Space (for two days): \$25.00 for half of a 6-foot table, \$40.00 for a full 6-foot table. Visitor’s fee \$5.00 for Friday, \$10.00 for Saturday (Includes Lunch). Reservations/ Admission: Make checks payable to; Don McAlarnen, 916 Senator Rd, East Norriton, PA 19403 Phone: (610) 584-1364 Questions: Email: [donmcalarnen@outlook.com](mailto:donmcalarnen@outlook.com)

**March 8, 2025 - Linglestown, PA - Rocks4Kids Jr Education Day!** Linglestown Life United Methodist Church, 1430 North Mountain Road, Linglestown, PA 17112. Saturday from 10:00 AM to 3:00 PM. For more information visit: <http://www.rocks4kids.org/>

**March 8-9, 2025 - Meriden, CT - Annual Mineral & Gem Show.** Maloney High School, 121 Gravel Street, Meriden, CT 06450. Saturday 9:30 AM to 5:00 PM, Sunday 10:00 AM to 4:00 PM. For additional information visit: <http://www.lmscc.org/>

**March 8-9, 2025 - New York, NY - New York Gems Jewelry & Mineral Show.** The School of Fashion Industries (Gym 3rd Floor), 225 West 24th Street, New York, NY 10001. Saturday 10:00 AM to 6:00 PM, Sunday 11:00 AM to 5:00 PM. For additional information visit: <http://www.barygems.com/>



**March 15-16, 2025 - Gaithersburg, MD - Gem, Mineral & Fossil Show.** Montgomery County Fairgrounds, 16 Chestnut Street, Gaithersburg, MD 20877. For additional information visit: <http://www.glmsmc.com/>

**March 22-23, 2025 - Chicopee, MA - Connecticut Valley Mineral Club Show.** Castle of Knights, 1599 Memorial Drive, Chicopee, MA. Saturday 9:30 AM to 5:00 PM, Sunday 9:30 AM to 3:30 PM. For additional information visit: <http://www.cvmineralclub.org/>

**March 29-30, 2025 – Plymouth Meeting, PA - 2024 Mineral Treasures and Fossil Fair sponsored by the Philadelphia Mineralogical Society and Delaware Valley Paleontological Society.** Lulu Temple, 5140 Butler Pike, Plymouth Meeting, PA., (PA Turnpike, exit 333; or I-476, exit 20) Free Parking. Saturday 10:00 AM to 5:00 PM, Sunday 10:00 AM to 4:00 PM. Adults: \$7.00. Kids 12 and under: \$2.00; Uniformed scouts and troop leaders free. Special Features: On both days a line-up of distinguished professional speakers will be presented. In addition, there will be fossil and mineral displays, educational materials, door prizes and a food concession. For additional information visit: [www.phillyrocks.org](http://www.phillyrocks.org)

**March 29-30, 2025 - Canton, OH - Stark County Gem & Mineral Show.** Stark County Fairgrounds, 305 Wertz Avenue NW, Canton, OH 44708. Saturday 9:00 AM to 5:00 PM, Sunday 10:00 AM to 5:00 PM. For additional information visit: <http://www.facebook.com/StarkCountyOhioGemandMineralClub/>

**April 5-6, 2025 - Midland Park, NJ - 35TH ANNUAL NORTH JERSEY GEM, MINERAL & FOSSIL SHOW.** Midland Park High School, 250 Prospect Street, Midland Park, NJ 07432. Saturday 10:00 AM to 5:00 PM, Sunday 10:00 AM to 4:00 PM. For more information visit: <http://www.nojms.com/>

**May 16-18, 2025 – Newry, ME - New England Mineral Association Conference.** Grand Summit Resort Hotel at the Sunday River Resort, 15 South Ridge Road, Newry, ME 04261. For additional information visit: [http://www.nemineral.org/annual\\_conference/](http://www.nemineral.org/annual_conference/)

**May 17-18, 2025 - Bennington, VT - Southern Vermont Mineral & Gem Show.** Grace Christian School, 104 Kocher Drive, Bennington, VT 05201. Saturday 10:00 AM to 5:00 PM, Sunday 10:00 AM to 3:00 PM. For more information visit: <https://www.manchestervermont.com/>

**May 25-27, 2025 – Aurora, NC - North Carolina Fossil Festival.** Aurora Fossil Museum, 400 Main Street, Aurora, NC 27806. For additional information visit: <http://www.aurorafossilmuseum.org/>

**June 14-15, 2025 - Cherry Hill, NJ - South Jersey Gem, Jewelry, Mineral, & Fossil Show \*\*NEW LOCATION\*\*.** Trinity Presbyterian Church, 499 Route 70 East, Cherry Hill, NJ 08034. Saturday 10:00 AM to 5:00 PM, Sunday 10:00 AM to 5:00 PM. For more information visit: <http://sjmineralshow.com/>