

# November 2020



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# OCMS SHALE MAIL



Join us for our monthly meeting via zoom on November 13, 2020 at 6:30 pm. As you can see it's a good time with exceptional visuals so pull up your couch, make a coffee and join us for a little rock hound socialization. SEE YOU ALL THERE!



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# Are You getting Your Monthly Meeting Link?

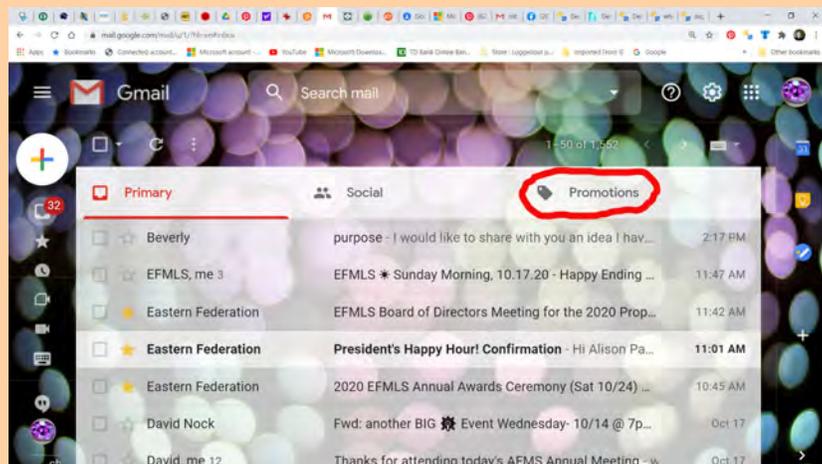
Alison Pacut

Oh my goodness, I discovered last month that I was not receiving my EFMLS mail? As I investigated I discovered that the EFMLS uses

ciety@yahoo.com with a subject of OCMS Video Teleconference Mineral Meeting.

If you are still unable to find these emails try to use the search, all email programs have one. Mine is at the very top of my screen. Begin typing the email address in but, keep an eye on it because with mine I get to Orange and it pops up, it's a real time saver! If you still can't find it check any other folders you may have including spam and junk folders.

When you have located the email, don't open it but simply right click on it so the drop down list opens. Find the "Move to tab", on the next drop down list click "Primary". After you click on primary a pop-up will appear asking if you want to

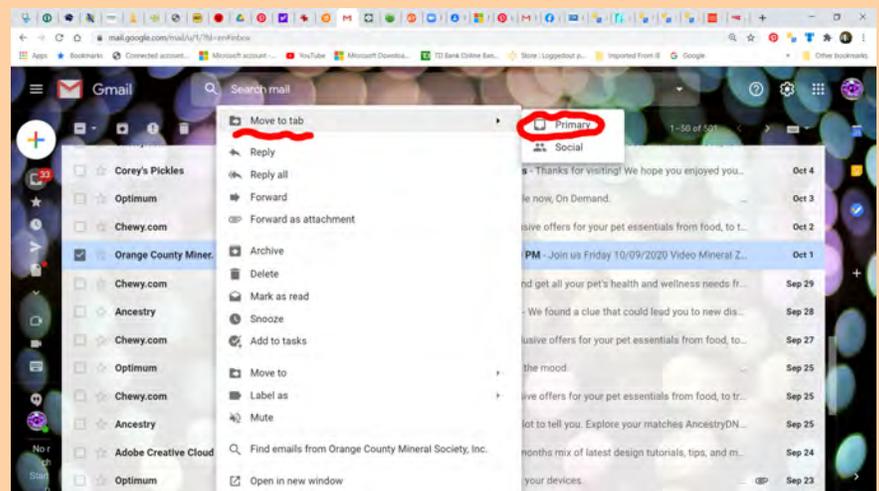


Mailchimp. Orange County Mineral Society also uses Mailchimp so why didn't I realize that's why I was not getting the monthly meeting links.

At this past monthly meeting it became apparent that many members of our club are not getting the link email either. Mailchimp (despite being an awesome platform with many advantages the other emails don't have) seems to be categorized as promotional email. I discovered that gmail is not the only email program that sorts Mailchimp away from the main email folder.

I don't know if my fix will work for other email programs out there but, for you gmail users I have a fix for you!

When you first open your email, you should automatically be in your primary email folder. You have two other folders as you can see in the diagram. You will check both to see if you have anything from the orangecountymineralso-



do this with all future emails, click Yes.

Now whenever you get an email from the Orange County Mineral Club mailchip it will appear in your primary email. If you have any problems please let me know. I am going to start forwarding the link emails to all of you when I receive them as well. I hope to see you all at the next monthly meeting on Friday November 13<sup>th</sup> at 6:30 pm.

# DEEP TIME

Alison Pacut

For those of you who were unable to attend the October 9<sup>th</sup> meeting with Derek Yoost, you missed a doozy!

A presentation that centered on the first 4 billion years of earth's history. The way Derek presented this crucial time period made me realize how important it really was.

During this time not only was the earth born but the other planets in our solar system as well. The planets including our home planet were born from dust particles that were clumped together with the help of static electricity. As our home world grew it developed gravity which continued the accretion process. A process the Earth's still in today as meteorites rain from the sky.

During Earth's early history there were approximately 100 proto planets in our solar system however, do to the catastrophic collision of these planets only 4 remain.

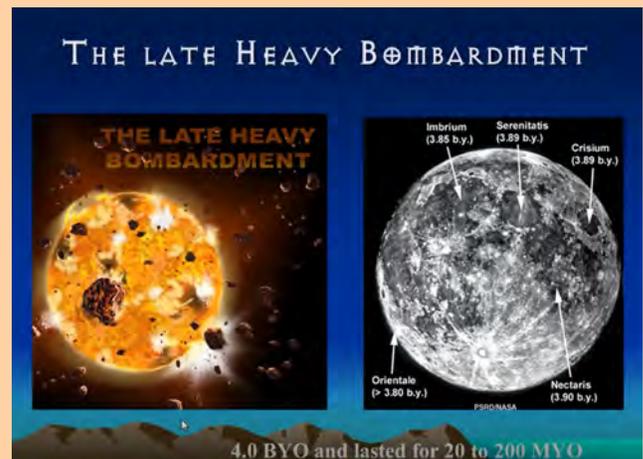
Now that the earth has formed it's mass it became a vision of hell called the Hadeon Era. A



surface covered by liquid molten rock with a vast amount of meteorites showering down continuously. All rocks were recycled and destroyed leaving us with no visible record of this time period.

However, our solar system holds the key,

debris left over that still occasionally plummet to earth called meteorites. Not just any meteorite but very primitive meteorites called "carbonaceous chondrites. If you are ever lucky enough to find one look for the white matter they contain. This white matter gives us earth's age which is 4.567 billion years old.



Approximately 4 billion years ago the late bombardment took place. Scientists believe Neptune and Uranis traveled through the Kuiper belt interrupting planets and debris sending them hurtling towards the sun. This bombardment lasted an incredible 20 to 200 million years. The earth's surface would have been re-liquefied during this period. The craters on the back side of the moon shows it shielded earth from a much bigger beating.

Let's stop here for a moment and reflect a little. Just imagine what the world would have been like at the end of the Haden and the beginning of the Archean periods. Imagine how hot it would have been. Scientists say because of the molten rock, the environment was hot enough to keep all the volatile material in a gaseous form. It was over 100 degrees Celsius. Among this volatile material was water trapped in the atmosphere as steam and vapor.

# DEEP TIME cont.

Alison Pacut

But, what happens when the earth begins to cool? When all that vapor condenses and turns to rain. Yep! It rained for millions of years creating our first oceans.

The Archean Era was a busy one as this was the era that the earth came to life. In the North Pole, Australia a microbial mat was preserved giving evidence of the first life you can see in a rock without the use of a microscope.

Tectonic Activity begins as heat escapes from the center of the earth pushing apart the plates. Through the erupting of volcanoes, the rock built up enough to create land above the water. Earth's plates move around the ocean about the same rate as finger nails grow. Sir Francis Bacon was the first person to recognize there was a super continent called Pangaea had separated due to plate tectonics. A super continent is formed every 500 million years then breaks apart again. This has happened 3 times during the history of earth.

About this time frame stromatolites formed. What the heck is a stromatolite you may ask? It's a dome like rocky structure that is made by blue green algae. During the day, they are photosynthetic and take in carbon dioxide to make sugars. One of there waste products is oxygen. At night they take in lime calcium and put it into there dome to make it larger layer by layer.

At the end of the Proterozoic the great oxygenation event happened. The atmosphere was mostly carbon dioxide which would have been so much pressure it would have squished us like bugs. It would have been impossible to breath. If they ever invent the time machine don't travel here for a visit!

Toward the end of the Proterozoic eon stromatolites started doing there thing by taking carbon dioxide out of the air replacing it with oxygen. Some of the rocks that record this event

are the banded iron formation. Banded iron is a formation of hematite, the red is stained jasper and quartz.



The hematite in Australia is also called tiger iron. But, how did these banded iron beds form? Smokers and hydro-thermal vents on the ocean floor began pumping out excess iron. Stromatolites began putting oxygen in the air. The oxygen began reacting with the iron and formed banded iron beds on the ocean floor. Oxygen also built up in the atmosphere. Oxygen allowed organisms to become multi-cellular.

Stromatolites pumping out all this oxygen affected the climate of earth in a big way. We call the effect "Snowball Earth". Earth froze from pole to pole, oceans froze at least a mile down. But, why did this happen? Carbon dioxide is a green house gas that kept the earth warm. When all this oxygen began filling the atmosphere it sent the earth into a climatic crises. Also, it's possible that the super continent Rodinia may have formed at this time cutting off the currents in the oceans that helped earth regulate temperature. Where is the proof? Scientists are finding tropical latitude drop stones in ocean sediment core samples. These drop stones were carried by glaciers and dropped as they melted.

# DEEP TIME -cont.

Finally, the earth warms up! You might ask how this happened since the earth is covered in ice and snow which reflects the sun's heat creat-



ing a feedback loop. People dispute this saying if it happened this way we would still be in it. So, what our scientists think happened is about 650 million years ago the continent Rodinia broke up causing a lot of volcanic activity. Pumping carbon dioxide into the atmosphere melting the ice in only a few thousand years. Surface temperatures briefly climbed to fifty or sixty degrees Celsius allowing the earth's system to self-regulate.

After snowball earth but before Precambrian came a time called, "Ediacaran" that lasted for 94 million years. The explosion before the Cambrian explosion came in the form of fauna.

Thank you Derek for giving this exciting presentation. Thank you for allowing me to record it so I could do it justice with this great write-up. Now, Derek is scheduled to present again at our December meeting where he will follow this presentation up with "**Ediacaran Fauna - The Explosion before the Cambrian**".

I look forward to seeing you all there!

# Pseudomorphs

Howard Heitner

WOW another exciting topic! Please Join Howard Heitner and your fellow club members on November 13<sup>th</sup> @ 6:30 pm.



Hematite ps magnetite Argentina

The word pseudomorph was first used by the French scientist Rene Just Haüy in 1801. In Greek it means "false shape". A pseudomorph is a mineral that has the external crystal shape of another mineral. The subject of pseudomorphs was first written about in detail by the 19th century German mineralogist Johann Blum. Pseudomorphs were later classified by the mineralogist Strunz in 1982. The talk covers the various theories of how pseudomorphs form. In some cases the second mineral is similar in composition to the original mineral. In those cases the mechanism is a chemical reaction. In

other cases the two minerals are not similar and the mechanism of pseudomorph formation is more complicated. There is still controversy about the formation of some pseudomorphs. The talk is illustrated with pictures of both common and rare pseudomorphs.



Malachite ps azurite, Tsumeb



Copper ps aragonite, Bolivia

# Presidents Message

Mike Tedford

Join our zoom meeting 6:30 PM Friday November 13, 2020. I hope everyone is getting these meeting announcements and links to the zoom meetings. Please pass the word and let us know of any omissions you notice. After a short business meeting, we will have a presentation by Howard Heitner. If you want to show and tell or ask about your new mineral finds, please bring them along to show on zoom.

Our business meeting will include nominations for our club annual election of officers. We will discuss updates on the mineral show, meeting hall, EFMLS, website, facebook, memberships and EFMLS insurance. Thank you members and officers for your contributions in these trying times. Your efforts are appreciated. Keep an eye out for prospective members trying to identify their finds..... For instance, if you get an email from Holly, please help her identify her finds from Orange County. If you are interested in running for OCMSNY office or are just interested in getting more involved or helping with meetings or activities, please contact one of the officers listed in this issue. This is your club. Please do not hesitate to call with questions, ideas and concerns...Yes we all want real meetings, mineral shows and field trips. There are a few around if you check the websites and facebook page.

Please look through these Shale Mail volumes for more details and photos. We are so fortunate that Alison Pacut has experience and enthusiasm for our newsletter. Please feel free to contribute any article or personal article to her attention for inclusion in the Shale mail. (Shale is often a rather bland rock and Your inclusions in the shale mail make it special. Years from now someone will read these articles and notice how the fossilized inclusions are so much more entertaining than the presidents's message.. Please seriously consider sending your interest or article to editor Alison Pacut.

Please thank Ron and Marge Nelson again for the days of extra work in preparing the September BBQ entrees, plates etc. All the members that came and brought their potluck favorites enjoyed the socially distanced, and acceptably safe day.

Please thank Mark Kucera for providing the zoom platform, arranging speakers and administering our monthly meetings so well on zoom. Other clubs are not as successful in lining up speakers and getting members to partake. Again thank Mark for stepping up in August for his mineral presentation and slides and information on Wild Acres. The photos of his collection were impressive in quality and provided various aspects of many variations of sulfides. Wild Acres is an amazing opportunity available to our members prior to the pandemic. Derek Yoost presented an impressive geologic timeline to us at our October meeting. Many of his slides contained several images that he pieced together to help tie the fossil era, geology and geography. This Gestalt (the sum of the whole is greater than any of its parts) presentation makes for an ease of understanding and learning.

The EFMLS annual meeting was postponed from spring to fall in North Carolina. The actual fall meeting on location was cancelled due to interstate and local COVID concerns. The EFMLS directors, delegates, and several EFMLS committee members and officers attended a Zoom meeting 10/23/2020. The 2 hour meeting attempted to address the annual meeting requirements and included multiple updates, announcements etc. The annual meeting is to be continued virtually around mid November via zoom. and may well be a largely virtual meeting. EFMLS bylaws are updated and might serve as a guide for OCMSNY in updating our bylaws consistent with NY State guidelines for non profit organizations.

Thank you to Heather Shields for all her wonderful work on the EFMLS website and for our revamped OCMSNY website as well. Her work attracts a lot of new interest, members and promotes easy access to information. Many of the EFMLS members and officers have commented on the quality The website had been submitted for judging at both the EFMLS level and AFMS level. Each time I have interaction with EFMLS members I hear compliments on our membership and officers along with their significant contributions at the local and regional levels. Thank you.

# Club Announcements

## CONGRATULATIONS HEATHER!

Finally, we recently held the EFMLS Annual Awards Ceremony. Heather not only entered the website competition but won 2<sup>nd</sup> place with only half a point separating her from the 1<sup>st</sup> place winner.

For the 2<sup>nd</sup> year in a row Heather Shields won the SAAB award, meaning the “presidents service above and beyond award”. Heather received this award for her exemplary service as the EFMLS Web-mistress!

Heather you make us Proud! We want to thank you for all you do for us too!

As many of us are preparing to cast our vote for the United States Electorates, it's time again to think about your club election.

Would you like to step into a position to help out your club? Perhaps you would like to volunteer a little of your time on a smaller scale to help your club? Come to the meeting and ask to join a committee.

Ron Nelson has a committee for our show and for membership. Perhaps when we are allowed into the senior center again you are interested in coming early or staying a little after to clean tables to keep our space safe for all.

How about the Shale Mail? Would you like to help with it, write articles, report on field trips, special events and/or meeting presentations?

As they say, many hands make light work! This is your club so it makes sense that the club will be as interesting and fun as **WE** make it! So pull up a chair, use your phone, computer, iPad, or tablet and join the meeting for nominations. We will be voting on the nominees at our December zoom meeting.

# Meeting Minutes

John Pacut

**Call to order:** 6:30 PM Thank you Mark Kucera for hosting ZOOM.

**Welcome:** Introduction of officers and members.

**Review and acceptance of Aug. Minutes.**

**Treasurer:** Ron will have report to officers by Monday via email. No issues or expenditures. Ron will check on club insurance.

**Programs:** Derek Yoost will present the Dec. Zoom meeting on the Ediacaran period. Depending on Covid-19 we may be able to return in Jan. to the senior center so we opted to hold over the Dec. party to Jan. Mark will invite other clubs to join our meetings.

**Membership Chairperson:** Membership is now being collected by Brigitte Nesteroke.

**Field trips:** Mike is looking for leaders.

**Shale Mail Editor:** Newsletter is a work in progress, looking for suggestions.

**Website & Facebook update:** N/A

**Mail Chimp update:** Members are not getting zoom meeting information, Heather will attempt to solve the problem.

**Old business:** Mike sent delegate form in for the EFMLS meeting.

**Adjourn business meeting:** Motion and accepted.

# EFMLS President David Nock Presents Special Honors!

The following individuals were presented their award at the 2020 Annual Awards Ceremony on 10/24/20.

I detest plaques with wood backing. Especially for rock folk. These are tiles of Stony Creek Granite. The same granite of the base of the Statue of Liberty (insert stock photo). This quarry is about 10 miles from my house.



The following individuals have; 1) given the most hours to the Fed, 2) gone way beyond their official role, (3) wanted the Federation to think forward and did what they could possibly do to achieve a modern day organization for the benefit of our local society members.

**- Gary Bergtholdt, EFMLS Treasurer.**



**- Christine Conlon, 2020 Annual Directory Chair**



**- Heather Shields, EFMLS Webmistress. This is the 2nd SAAB Award for Heather. She also won in 2019.**



Congratulations to those who have won awards at the ceremony! I hope all the club members remain vigilant and stay safe during this health crisis!

**OCMS members** are covered by Society-sponsored insurance.

**OCMS Disclaimer**

*The editor and the OCMS are not responsible for the accuracy or authenticities of information in the articles accepted for publication, nor are the opinions expressed therein necessarily those of the officers of the OCMS or the editor.*



**Directory of Rock Shops and Geology Attractions**

[Virtual Museum of Geology](#)

[National Museum of Natural History](#)

[The Natural History Museum](#)

[The World Wide Museum of Natural History](#)

[Geo-science Education](#)

[Home Hobby's Rock Collecting](#)

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