Mineralogical Society of the District of Columbia

# MINERAL MINUTES

*The Mineral Minutes* is the award winning bulletin of The Mineralogical Society of the District of Columbia, Inc.

*The purpose of this Society is to promote interest in mineralogy, geology, and related earth sciences and to encourage mineral collecting. An annual scholarship is awarded to a deserving student in the related field.*

*The Mineralogical Society of the District of Columbia is one of the founding Societies of the Eastern Federation of Mineralogical and Lapidary Societies.*

***Vol. 73, No. 10*** ***Founded 1942*** ***December 2014***

*December 3, 2014*


**WHEN: December 3**

**WHERE: Kirby Room - Museum of Natural History, The Smithsonian Institution**

**WHAT: Holiday Party - Bring Finger Food and a mineral-related gift to exchange**

**WHO: You are invited!**

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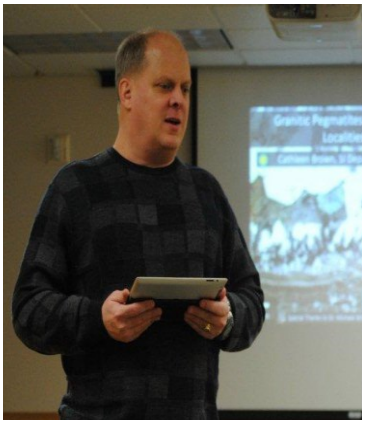


## *THE PREZ SAYS…*

*By Stephen Johnson*

Winter finally seems to have arrived and a little early if you ask me. I hope that everyone has a wonderful holiday season.

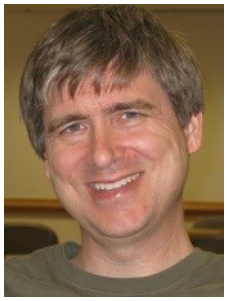
I'm looking forward to seeing you all at the holiday party - don't forget that it is at the Smithsonian this year, not at a member's home. We will be enjoying each other's company, giving scholarship money to a GWU geology student to help support her/his research, giving a donation to the Smithsonian for their wonderful continued support and finally voting on officers for next year.

If anyone is interested in running for a position, just let one of the nominating committee members know - Ed Fisher, Dave Hennessey, or me.

Next weekend (the weekend of 22 Nov), the Northern Virginia Club is having their annual show at the George Mason Student Center. It is one of the few shows in this area. If you have the time, I highly recommend it. There are plenty of activities for children and the club does a great job helping scouts of all ages work on their loops and merit badges. If you do plan on attending, don't forget to check out their website because they have a coupon for $1 off admittance. (There is also a coupon in this issue of the Mineral Mintues.)

See you at the party!!

## Secretary's Report



**By Rick Rieber**

**Meeting Date**: 11/5/2014

**Meeting Place**: Cathy Kerby Rm.-CE 340, The Smithsonian National Museum of Natural History

**Attendees**: 23

**Agenda:** Business meeting. Acknowledgment of past presidents: Ed and Susan Fisher, and Andy Thompson. Introduction of speaker, Melanie Gifford, National Gallery of Art.

**Minutes Approved**: Minutes from previous meeting approved,

**Visitors:** None

**Treasurer's report**: $ _____ (Please contact treasurer for actual figure as bank balances are not recorded in the newsletter.) As of 9/30/2014 (October statement has not arrived from bank as of 11/5/14 meeting)

**Old Business:** None reported.

**New Business**: Meeting raffle winners: Steve Johnson, Holly McNeil, Andy Meir, Dave Nanney, and Jeff Guerber.

**Geology in the News**: Sheryl Sims reported that there is $1Trillion of minerals in Afghanistan and that NASA rover has found magnetite on Mars via remote mapping.

**Club Member Concerns & Announcements**
Cynthia Payne is doing well.

**Announcements**: Holiday party @ next meeting at Smithsonian on the regular club night. NOVA Annandale campus is getting a scanning electron microscope. John Weidner announced a thin section field trip. John Weidner was awarded Rockhound of the Year by MSDC.

**Motion to Adjourn to the Program:**
Accepted at 8:25

**Program:** Study of relationship of minerals and art. Speaker, Melanie Gifford, National Gallery of Art.

**Refreshments:** Courtesy of Andy and Betty Thompson; Ed and Susan Fisher, Sheryl Sims.

**Meeting adjourned:** Meeting was adjourned at 9:55PM

## BOARD MEETING REPORT:

**Approved: Minutes of the MSDC Board Meeting, 12 October 2014, 2-4 pm held at the Nanney's home.**

**Attendees**: Board Members President Steve Johnson, Dave Hennessey, Dave Nanney, Rebecca Siegel, Andy Thompson**. Guests**: Ed Fisher, Leslie Nanney, Betty Thompson

**Welcome**: President Steve thanks everyone for coming and said his agenda was to work through three topics: **Budget** for 2015, **Officers** for 2015 and **Programs** for 2015.

1. **Budget**. Rebecca reported that the funds for MSDC are sound.

Betty Thompson distributed a 2008 listing of MSDC's major expenses and Steve asked Rebecca to fill out that form or a similar form which indicates the club's upcoming expenses for the year. Discussion highlighted that those expenses needed to include current debts (about $400 due the Fisher's for last year's holiday party, printing and mailing costs due the Fisher's for duplicating and mailing the hard copy of the *Mineral Minutes*), and on-going yearly expenses of about $1,000 as a gift to the Mineral Department of the SI, about $750 to an undergraduate geology student, about $120 for the Yahoo domain name for MSDC's website renewed annually in February, Eastern Federation insurance costs (which depend on the number of club members), reimbursement for monthly dinner expenses for the speaker (and spouse if appropriate), and any other expenses Rebecca could note.

**Possible Budget Item: Attendance at the Annual Eastern Federation Meeting**. A financial question arose about the possibility of MSDC paying expenses for a member to attend the Eastern Federation annual meeting. The discussion yielded the following proposal that was unanimously accepted by the board.

**Proposal**: That MSDC should actively participate in the Eastern Federation, including having a formal presence at the annual Eastern Fed meeting and do so on an *ad hoc* basis. This means MSDC would continue its routine of asking at a monthly club meeting if any members planned on attending the Eastern Fed meeting. If so, then the President, if attending him or herself, would be the Representative. If a second member also planned to attend, that person would typically be identified as the Delegate. The Secretary then sends in the name(s) of the attendees to the Eastern Federation in a timely manner so that MSDC would have a formal voice in any Eastern Fed discussion. In case the President were not attending, then another member who did plan on attending would be designated as the Representative (of the President and MSDC club). In all these cases, it has been MSDC's routine that the attending members pay all their own expenses, including travel and registration.

If the situation arises that no club member intended to attend, and if one member volunteered to attend if MSDC could help underwrite the expenses, then the Board of Directors will decide on a case by case basis if MSDC can help defray expenses up to a total of $150 for the representative who will be designated by the Board of Directors to represent MSDC.

**Budget Item, MSDC Holiday Party**: Another annual budget expense item is the December holiday party. It was noted that MSDC at this time has an outstanding debt of $400 due the Fishers for the 2013 dinner party. At this point in the discussion, Steve thanked Ed for the Fishers having hosted the MSDC holiday party last year and asked if they were in a position to once again host it this year (in December). Ed said he would have to check with Susan and get back to Steve about this.

**Budget Item, Student Grant**. After considerable discussion, attendees concluded by expressing a willingness to once again fund a GWU undergrad of Dr. Tollo's choice. The amount suggested was once again $750 to be awarded at the December holiday gathering. However members noted we should make it clear that we strongly desire having a presentation by the recipient as to what he or she discovered by the research. Andy

volunteered to contact Tollo and pass along this message. Attendees also noted that given MSDC is located within the District of Columbia, it was fitting, but by no means necessary, that we support a student studying in a DC based college or university. Steve noted that he has contacted colleges within DC and concluded GWU was the only school offering a major in geology or earth sciences. Discussion also noted that the University of MD in College Park has such programs and would certainly be eligible, as would undergrad programs in the state of VA.

**Budget Items, Treasurer's MSDC Membership List**: David Nanney asked Rebecca if she would print out a list of the current members and be able to do so down the road when folks pay their dues in the first several months of the new year. She said she would be able to do so and indicated she will send it to Steve. Betty suggested that given the relatively small size of our membership, it did not necessarily require that the list be generated by any particular software program such as QuickBooks. Rather, it was up to Rebecca to decide what method worked best for her. No expense was cited as associated with budget software.

**Budget Item, Treasurer's Mail Box** - Rebecca noted that the expense for MSDC's P.O. box is about $60 per year.

1. **Election of MSDC Officers.** The board discussed the creation of a Nominating Committee and Steve volunteered to serve in that post and was joined by Dave Hennessey and Ed Fisher. The process is that any MSDC member willing to serve as an officer of the club needs to give his or her name to any one of the above members of the Nomination Committee. Steve will then present the list of candidates at the MSDC November meeting. If there are multiple candidates for any one position, they will be included on the slate. Traditionally, voting takes place at a business meeting in the beginning of the holiday party. Officers begin their service as of 1 January 2015.

It was noted that MSDC expected four known vacancies as of January 2015: Current officers in three positions, Vice President, Secretary and Editor, indicated they were not willing to serve in those positions next year and were completing their work as of 31 December 2014. As to the fourth open position, it was noted that each year, one of the three "director" positions expires and needs to be replaced. Andy Thompson's three year term expires in December 2014 and so that will be the fourth open position.

The board meeting's attendees then held a general discussion to assess who was willing to have their name placed on the ballot.

For the position of President, Steve expressed a willingness to serve for another year. He noted that MSDC was the first club he had ever belonged to and was attracted to it because of its strong focus on minerals. Andy Thompson proposed the possibility of creating a new position on the board which could free Steve to focus in 2015 on his obvious expertise with new technology (such as 3-D printing and creating crystal models, MSDC wood panels/boxes) as well as leading field trips, an interest requiring geological knowledge and physical fitness which could appeal to younger, new club members and possibly increase membership.

For the **Vice President's** role of planning monthly programs and presenters, Andy recounted his experience working with another volunteer organization in which monthly programs were supported by a formal sub-committee who fed suggestions to the V.P. for his or her choice of speakers. With such a support system in place, Andy asked Dave Nanney, currently a Director, if he had any interest in considering becoming the V.P. for Programs. Dave expressed a willingness to consider that position.

Attendees then made several recommendations with regard to desirable future programs including Tim Rose (Andy T. will ask him), Dr. Brent Owens (Steve will ask him), Mike Wise (who could present his acclaimed new system for classification of pegmatite minerals), and Tom Tucker (who could very knowledgeably speak on Yellowstone).

For the other open positions on the board, the attendees had an initial but not exhaustive discussion of a wide range of members, new and old, who they thought would bring strong talents to the club. Attendees also expressed a desire to make sure that candidates new to any position on the board be given mentoring suggestions throughout the year so the candidates could become familiar with the traditions and expectations of MSDC's membership.

2. **Programs for MSDC's Monthly Meetings**
The discussion of the agenda's first two topics, budget and officers, absorbed the allotted two hours to which members had previously agreed. Prior engagements and travel schedules required the board to bring the meeting to a close. So although this important topic of monthly programs and speakers did have some initial discussion as noted above in connection with the position of V.P., and although some suggestions as to speakers were made and discussed, participants agreed we would have to focus on this topic in another board meeting, ASAP in the coming months.

Steve then proposed that we bring the board meeting to a close. All agreed and thanked David and Leslie Nanney for their having hosted the event.

*(Page 9 Rock Buster News November 2014--taken from AFMS Newsletter-October 2014)*

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# A Wake-up Call

***By Shirley Leeson, ALAA President***

These pictures could have been taken at your favorite collecting site anywhere in the U.S. But they were taken by the U.S. Forest Service office in Missoula, Montana and the site is the famous quartz crystal collecting area at Lolo Hot Springs, Montana. This area is in Montana, but close to the border of Idaho and has been a field trip destination for clubs in the northwest for many years. Right now the entire area is closed to rockhound collecting. The word rockhound is what is used to denote who we are. But in this case it was a greedy few who went into the area and left huge holes, pits and trenches in search of something saleable.

Something that will probably show up at a swap meet or Quartzsite, many miles from the area they were taken from. I was told by the Missoula Forest Service Law Enforcement team that the destruction is worse farther back in the forest. We know people who have taken home lots more of an item than they can use and we've called them rock hogs, but this goes far beyond that and has severe consequences. First on the wildlife in the area.....these deep holes and trenches are death traps for wild animals who can hurt themselves and not be able to get out and lay there to die. Second, it paints all of us with the same damning brush. The government and the public can't tell the difference, so we'll all blame.

Let's all abide by our American Federation's Code of Ethics when collecting. We've always prided ourselves in making the place we collect in better than when we found it. From now on let's do this....take a picture of the collecting site when you arrive, and one when you're ready to leave. But first, contact the Forest Service or BLM who oversees the area and get the rules and regulations for the collecting site. Leave the pictures with them with the dates of arrival and departure. At least this way, the Forest Service and BLM has a record of your compliance with the rules and regulations. And if it's a field trip group, offer to clean up the surrounding area to leave them with a better picture of who and what a rockhound really is.

# AFMS Land Use Policy

1. Adherence to the AFMS Code of Ethics assures compliance with most statutes and regulations governing collecting on public lands and encourages respect for private property rights and the environment. Clubs are urged to read the AFMS Code of Ethics in at least one meeting every year, to publish the Code frequently in the club newsletter, and to compel compliance on club field trips.

2. Individuals and clubs are urged to write their elected representatives and land use management agency supervisors regarding issues of rulemaking, legislation and enforcement affecting field collecting of minerals and fossils.

3. Individuals and clubs are urged to join and support activities of the American Lands Access Association (ALAA), a sister organization with responsibility for advancing the interests of earth science amateurs with legislatures and land use management agencies.

4. The AFMS will receive a report from ALAA at its annual meeting.

5. The AFMS endorses the principle of multiple uses of public lands as a guarantee of continuing recreational opportunities.

6. Wilderness and monument designations are inconsistent with the principle of multiple use. In view of the vast amount of public land already designated as wilderness and monuments, future such designations should be minimal, taking into account the increased demand for recreational opportunities, including rockhounding, created by a growing population.

7. In furtherance of the principle of multiple use, the AFMS believes that laws, regulations and rules established by relevant governmental authorities should be designed to allow freest possible access to all public lands, coupled with minimal restrictions on the recreational collection of minerals, fossils, gemstone materials and other naturally occurring materials.

8. A right to collect minerals and fossils on public lands should be protected by statute.

9. The AFMS urges its members to work with any or all government authorities to achieve a good working relationship in order to improve the "Public image" of recreational collectors

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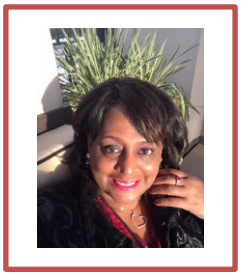
***CONGRATULATIONS TO JOHN WEIDNER***
***MSDC ROCKHOUND OF THE YEAR!***


***REMINDER: Elections are just around the corner! Please let the current officers and Board members know if you are interested in serving! This is YOUR club! Please help keep it energized and going with your ideas and willingness to serve.***



## The Write Stuff!

***By Sheryl E. Sims***

It's been a good couple of years, but it's time to turn my editor's hat in to be donned by some other deserving person! Before I do, however, I want to thank the club for the opportunity to serve in this creative manner. It's been fun!

There is no way that I could have done the job that I did, or won the bulletin awards that I won, without the hard work of Andy Thompson and Susan and Ed Fisher. They were the behind the scenes team that proofed the newsletter and saw that it got out to those opting to receive their newsletter via the U.S. Mail.

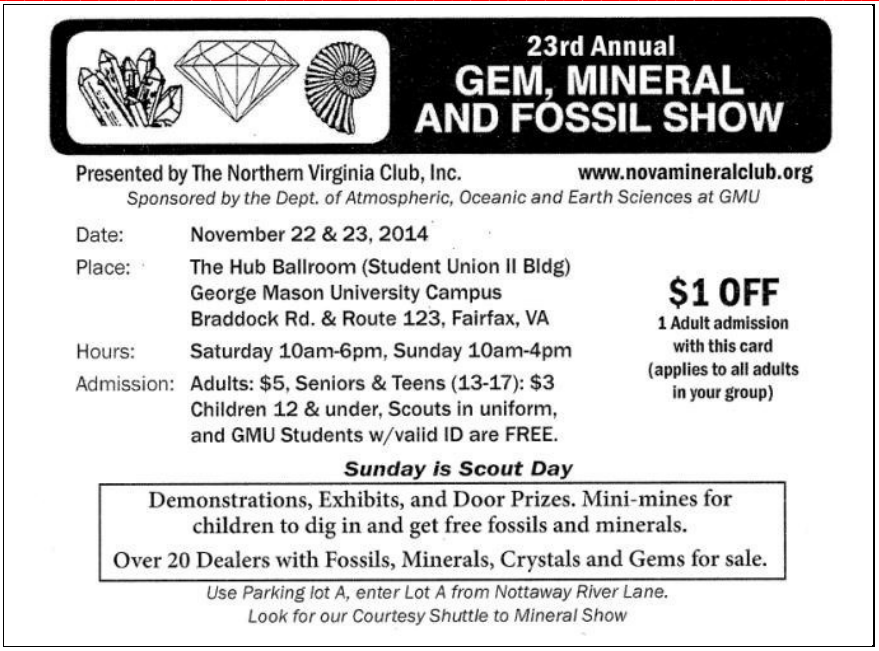
Teamwork is what it's all about and what will make or break any club/organization. Therefore, I'd like to also thank all of you who have contributed to the newsletter with your articles, mineral news, and mineral show information. Thank you for letting me take and share your pictures, and, for coming up with articles on demand when necessary.

I look forward to reading our 2015 issue of the *Mineral Minutes* with great delight. I know that it will be a good read because I also know that our next editor, whoever it may be, will possess all of the "write" stuff!

Thank you!

**THANK YOU TO MSDC's OUTGOING 2014 OFFICERS!**

**WELCOME TO MSDC's INCOMING 2015 OFFICERS!**



***A WORD FROM TOM TUCKER:*** We have been invited to the mineralogy labs at **JMU, Saturday, February 14**. More details of this annual "expedition" will be in the future Mineral Minutes. Mark your calendars!

**SHOUT OUTS:**

**MORE REFRESHMENTS, PLEASE**! A big THANK YOU to those who provided refreshments for our meeting -- especially Betty and Andy Thompson! If you are able to bring refreshments to our monthly meetings, please do so. It would be greatly appreciated!

**WELCOME! WELCOME! WELCOME!**
Guests are always welcome to attend MSDC meetings.

**THANK YOU to Andy Thompson** for the time that he devoted to proofreading the Mineral Minutes. His assistance was invaluable! Also, special thanks to **Susan and Ed Fisher** for mailing our newsletter to those without email!

**2015 DUES**

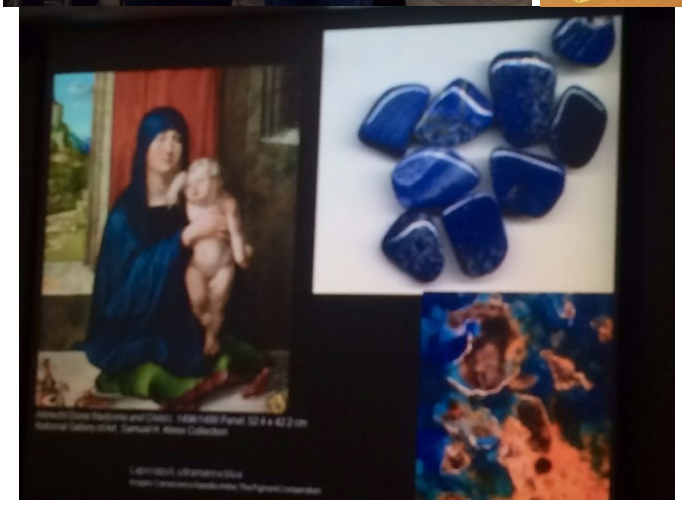
**Please renew your membership today!**

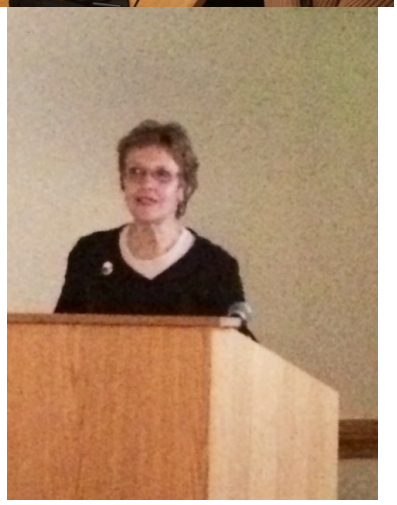
**$20 for single member-ships. $25 for family memberships.**

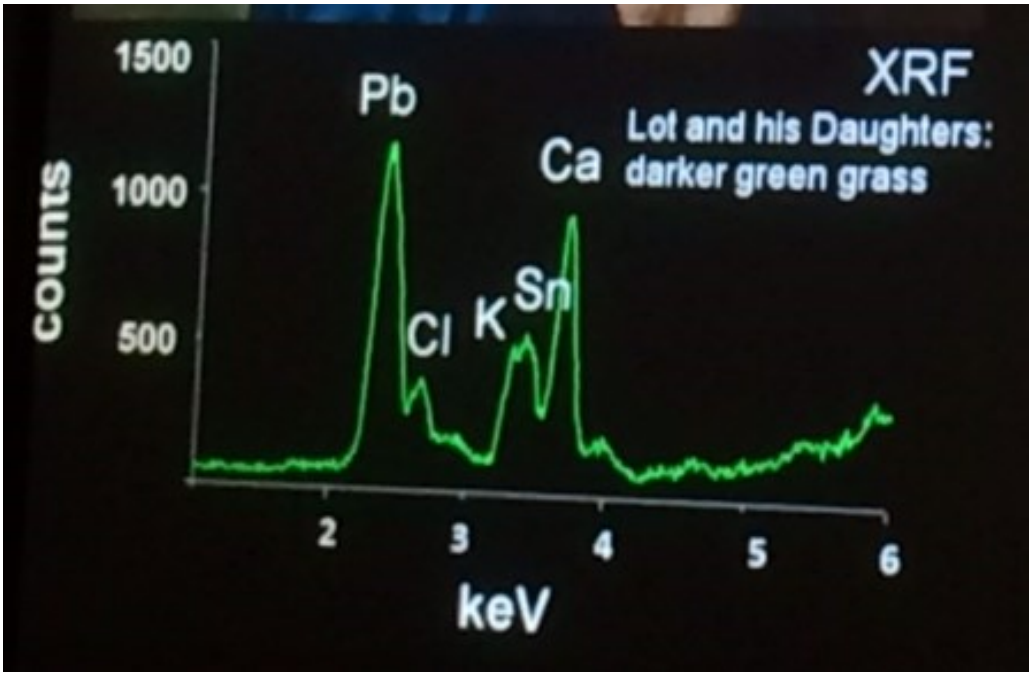
Mail to: P.O. Box 9957
Alexandria, VA 22304
U.S.A.
See Rebbeca Siegal
dcmineralclub@gmail.com

## Photos from November's Meeting

**(Photos by S. Sims)**



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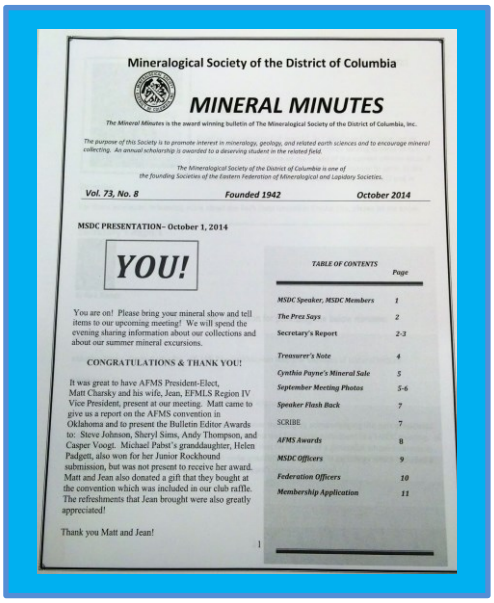
# Mineral Club Bulletins 101: How to Create a Club Bulletin

***By Sheryl E. Sims***



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*Vol. 73, No. 8* *Founded 1942* *October 2014*

MSDC PRESENTATION– October 1, 2014

YOU!

You are on! Please bring your mineral show and tell items to our upcoming meeting! We will spend the evening sharing information about our collections and about our summer mineral excursions.

CONGRATULATIONS & THANK YOU!

It was great to have AFMS President-Elect, Matt Charsky and his wife, Jean, EFMLS Region IV Vice President, present at our meeting. Matt came to give us a report on the AFMS convention in Oklahoma and to present the Bulletin Editor Awards to: Steve Johnson, Sheryl Sims, Andy Thompson, and Casper Voogt. Michael Pabst's granddaughter, Helen Padgett, also won for her Junior Rockhound submission, but was not present to receive her award. Matt and Jean also donated a gift that they bought at the convention which was included in our club raffle. The refreshments that Jean brought were also greatly appreciated!

Thank you Matt and Jean!

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As my time as club editor comes to a close, a phrase reverberates in my mind. I've heard many people say to me--"I don't know how to put together a newsletter." I had no previous mineral club newsletter experience. What I did have was a willingness to give the job a try. You, too, can create a club newsletter and here's how!

1. The first thing to consider is the overall appearance of the newsletter. You want it to make a good impression on the reader. It must be attractive, legible, and neat.

2. Be sure to include the club's vital information. This means the name of the newsletter or bulletin, the club's name, as well as the city and state of the club. You'll want to include the publication date on the cover page as well as on each of the pages to follow. Have a return mailing address on the outer cover along with the editor's name and address. It's also helpful to have the club officers listed with the club address or their specific contact information. In addition, include dues information, the purpose of the club and the club's federation affiliation. Don't forget to include the date, time, and location of your meetings.

3. Consider your newsletter's format. There should be page numbers and a date on each page, along with the bulletin name. Make sure that your headings, margins, and overall spacing are attracting and readable. Clean neat typing is important. You don't want messy corrections. Try to arrange your subject matter in and interesting and orderly fashion. Use spell check! I find that it's helpful to have someone else help you with proofreading. They always catch the things that you don't. It's also important to credit publications, writers and any borrowed material. Names, dates of publications and even a note that permission to use a piece has been granted is also acceptable to note. You want to avoid copyright violations! Check for inaccuracies. See if you can find maps, logos, cartoon, or other graphics to accompany or enhance your newsletter. There is a wealth of information and graphics or photos to access. A variety of material makes your newsletter all the better.

4. When considering club news, you must also consider the size of your bulletin. Do you want a mini, small, mid-sized or large newsletter? There's no right or wrong size. It depends on how much information your club would like to share. Your bulletin can contain program announcements and reviews. It can highlight previous club minutes. What about including committee and board meeting reports? Many newsletters include a message from the club's president. Then, there are fieldtrips on which to report, workshops, and federation information and activities. Your bulletin is the perfect way to advertise mineral shows, events, and even news from other clubs. Exchanging newsletters with other editors is an excellent idea as well. Don't forget about club members! Share news appropriate news about members. They will appreciate your interest and concern.

5. I have always thought it important to share federation news in the bulletin. American and Eastern Federation officers always include important information in their newsletters. It's a great idea to share this with your club members. They work hard for our clubs and clubs should strive to stay informed and support the federation. One way is via the club bulletin.

6. Your bulletin needs articles. There is a wide variety of subjects on which to spotlight. Articles can be educational or hobby-related. They can feature book reviews, safety tips, or include helpful mineral-related hints. You can even include articles from other clubs and source! Also, as an editor, if you join S.C.R.I.B.E. -- Special Congress of Responsible Involved Bulletin Editors, you will receive DVD with articles from clubs all over the federation! Just don't forget to credit the sources and authors! For club members who aren't big on writing, what about sharing photos, minerals in the news blurbs, and mineral-related links? Almost everyone can contribute to the bulletin in some way!

7. Lastly, if you distribute the bulletin via email, be sure to send it "bcc" -- blind carbon copy. Club members will appreciate the fact that you are respecting their privacy as they may not wish to have their personal email addresses shared with others. I simply put my name in the "To" field and bcc everyone else.

If you follow these easy steps, I am sure that not only will you have an enjoyable, easy to read newsletter, but you'll also have an award-winning newsletter! Just give it a try! I did!

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# Colorado Rambling

**By George Loud**

Tom Tucker and myself taken with Fred Schaefermeyer

September 4th of this year Tom Tucker and I flew out to Denver. How two adults could be on opposite sides of the same empty luggage carousel and take so long to locate each other remains something of a mystery. Our destination was the "Ouray-Silverton San Juan Mountains Mineral Symposium," in Ouray, Colorado, sponsored by the Colorado Chapter of FM, the Colorado School of Mines Geology Museum, and the Friends of the Colorado School of Mines Geology Museum.

After picking up our rental car we drove to Wheat Ridge for a brief visit with our good friend Fred Schaefermeyer, and then on to Ouray. Because we took the scenic route through Leadville, we were late checking in at Western Hotel in Ouray, described on its web site as "an authentic old west hotel and saloon." Built in 1891, it hasn't had many up-grades since that date.

In passing through Climax we were surprised to find the Climax molybdenum mine apparently back in operation.

Friday, September 5th, taking many photographs, we visited the sites of the Camp Bird, Revenue, Idarado, and other mines. We also photographed several tramways. Tom assured me that he would recognize the site of the Camp Bird mine which yielded a fortune to Tom Walsh and financed purchase of the Hope diamond. See, "*Father Struck it Rich,"* by Evalyn Walsh McLean. However, driving up the old road built by Otto Mears, we missed the Camp Bird because the mill was gone. Since Tom's last visit, the Camp Bird Mill had been disassembled and shipped to Mongolia where it has been reassembled. We found the Camp Bird site on our trip back down the mountain and took photos of the several beautiful Victorian office buildings which remain standing. The old Otto Mears road also took us by the Revenue mine which is once again in operation.

On Friday afternoon, we drove to Silverton and took CO 110 toward Animas Forks. The drive on 110 took us through the "ghost towns" of Howardsville and Eureka; and, past the remains (foundations) of the Sunnyside Mill. The guide books told us that a high clearance, 4-wheel drive vehicle is required for travel to Animas Forks on 110, but Tom and I are both from Missouri and required convincing the hard way. At one point a fella in a four-wheeler travelling in the opposite direction yelled "you guys sure are brave." "Stupid" would have been more accurate than "brave." We never did make it to Animas Forks but, incredibly, we came close.

On the way back to Ouray we visited the Hillside Cemetery overlooking Silverton, there located the grave of the iconic mineral dealer Ed McDole, and collected drill cores from the parking lot of the now closed Idarado Mine office complex. In sum, we had a very full day yet made it back to Ouray in time for the Friday evening opening lecture of the symposium, *Mountains of Silver: A History of the Red Mountain Mining District* by P. David Smith.

*(Photos by/courtesy of George Loud*)

Tom Tucker at one of the mines we visited on Sunday, the 7th; probably the Yankee Girl Mine.
Headframe of the Yankee Girl mine on Red Mountain which we visited on Sunday, September 7

Early Saturday, September 6th, my brother Jim drove over the divide from his home in Creede, Colorado to join us for a full day of lectures and a banquet dinner. The three of us shared the "Honeymoon suite" at the Western Hotel the next two nights. The lectures were great but perhaps the high point on Saturday was a visit to view the incredible collection of Benjy Kuehling. Many of Benjy's specimens are pictured in Lithographie #15 *The San Juan Triangle of Colorado: Mountains of Minerals*, which also has a brief bio of Benjy (p. 42).

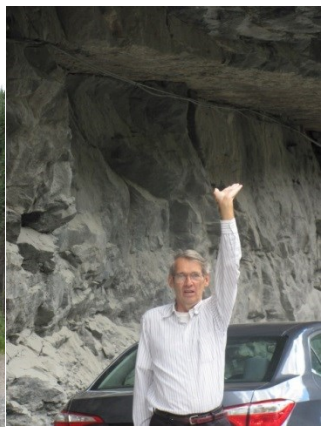
A variety of guided collecting trips were offered by the Symposium on Sunday, the 7th. Jim, Tom and I elected to go on the Red Mountain trip led by the team of Don Paulson (historian) and Robert Larson (mine geologist). The combination of a historian and a geologist was a brilliant idea from the symposium organizers and, in practice, made Sunday as enjoyable a day as I have ever had collecting. We collected enargite, pyrite and other micros at the Longfellow, National Belle and Guston mines. We also visited several other mines, including the Yankee Girl, but found nothing of interest. At the National Belle I found a heavy hunk of ore which Mr. Larsen identified as "argentite" (acanthite); however, while not yet tested, I suspect that it is a fine-grained argentiferous galena. Jim and Tom found interesting small octahedral pyrites at the Guston mine. The only negative on Saturday was that my brother's 4-wheel drive pickup really only has room for two adults. "Room" for a third (yours truly) was behind the two front seats in the cab. I never did figure out the best way to enter and exit, feet first or head first! Wish I had photos of my less than graceful exits. We returned to Ouray sufficiently early to visit the Ouray County Historical Museum which has minerals on display donated by John H. Marshall, Jr. (1931-2008; of Dedham and, later, Westport, MA.).

Monday the 8th, after breakfast, Tom and I said farewell to my brother and drove to Denver with stops for malts at the DQs and a purchase at the Rock Hut in Leadville. I stayed Monday and Tuesday nights at the Ramada where Marty Zinn had his satellite show which had very light traffic during the brief time I was there. On Tuesday, Tom and I first visited the new Fine Minerals show, from which we departed with eyes glazed over by 5 figure prices, and then visited Dave Bunk's warehouse sale. I flew home Wednesday but Tom stayed on to Saturday and was able to see something of the main show where he met our good friend Barbara Sky and prevailed upon her to drive home some of his purchases.

We met old friends, made new friends, saw great minerals, improved our knowledge of mining history, and had a great time.

Tom, myself and Benjy Kuehling

One shelf in Benjy's collection

Circa 1902 Victorian office building at the Camp Bird Mine site. Tom holding up a rock overhanging the road built by Otto Mears that accesses the Camp Bird mine site and the Revenue Mine

## "This Year's Nobel Physics Prize Awarded For: The Purification of Mineral Crystal Structures"

***By Andy Thompson***

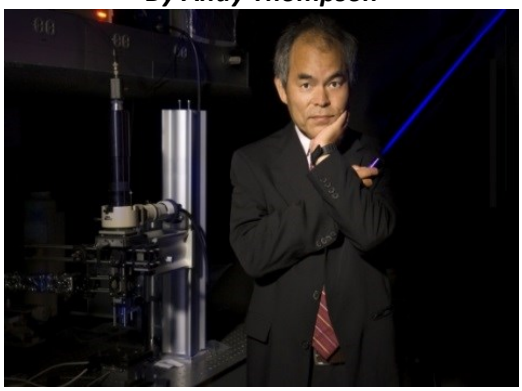


*Photo credit:* Randall Lamb. Permission to use by Andrea Estrada, UCSB
*http://www.news.ucsb.edu/sites/www.news.ucsb.edu /files/styles/slideshow_image/public/images/2014 /ShujiNakamura1.jpeg?itok=-mLlWGwi*

Did you see that headline in early October? Neither did I. In early October of this year the Nobel prize committee in Sweden made their celebratory phone call to Dr. Shuji Nakamura in California, announcing he was sharing this year's prize in physics with two fellow researchers. The media story typically has focused on his invention of the blue LED, a "better light bulb" and its implications for improving people's lives. The media also typically noted how the hard-working and humble chemical engineer expressed his surprise and joy. Instead of giving the award for a theoretical break though in physics, he said, the Royal Swedish Academy of Sciences uncharacteristically awarded it for creating a device, a blue LED. That tiny solid state device transformed the lighting industry and brought not only illumination to the poor, but energy savings to all nations.

The following paragraphs report on a few lesser known aspects of his contributions which could hold special interest for mineralogists. What Dr. Nakamura actually did was grow relatively pure mineral crystal structures, specifically gallium nitride. Mineral collectors often focus on the larger features of

the crystal, its origins, shape, habit, beauty, color and any interesting interior inclusions. Engineers such as Shuji have primarily focused on the crystal structure itself and worked to grow it from a seed and excluded any "holes" or foreign inclusions in the lattice structure which for decades inhibited the flow of electrons in an LED and diminished its light-emitting and heat dispersing capabilities. The following also reports my brief personal encounter with this scientist 15 years ago.

In brief, what Shuji Nakamura and his fellow scientists did was dedicate years of painstaking trial-and-error experimentation with growing various mineral compounds by a vapor deposition method in a way that eliminated most of the imperfections in the crystal structure. Initially he worked with sapphire in combination with silicon, and later with gallium nitride. By the early 1990s, the scientists' work enabled the electrons to pass free of obstructions between the lattice layers of several semiconductor materials and thereby increased a thousand fold the quantity and quality of the light emitted from the LED. Mineral collectors know that silver is a great conductor of electricity. Perhaps less known are the advantages of using less conductive minerals which also are less expensive and can serve as on and off switches for the flow of electricity. These semi-conductors can also respond to certain field effects such as magnetic fields. Simply put, the electricity flows only under certain conditions, hence the name semiconductors and that has many practical advantages in everything from lighting rooms to regulating the flow of fuel in jet planes.

In 1962, a U.S. scientist named Nick Holonyak invented the first LED which happened to be red. As a result, the world became awash with the omnipresence of red LEDs in children's games and household electrical devices from irons to kitchen stoves. By the 1980s, prior to the three scientists' award winning research with gallium nitride, researchers had developed red and green LEDs by working with silicon and sapphire. But coax blue light from crystals by inventing efficient blue LEDs was beyond the researchers. Given that shorter wave blue light packs more energy than the longer wave length red light, and given these three Nobel recipients contributed to inventing the world's first effective blue LEDs, they successfully discovered the Holy Grail of long lasting inexpensive lighting. Blue LEDs, when combined with red and green LEDs, now allowed for the first time the generation of white light using solid state LEDs. That of course, contrasts with Thomas Edison's "heat bulbs" which converted only about 5% of the electricity into light. That loss was due to the resistance the electrons encountered coursing through the bulb's tungsten metal filament. In the solid state LED, there is no vacuum bulb and very little resistance to electron flow and so there is very little heat generated. Additionally, the Nobel winners and other researchers later found that by coating the blue and ultra-violet LEDs with phosphor, they invented a second means of generating inexpensive white light and did not need red and green LEDs to make the composite white light.

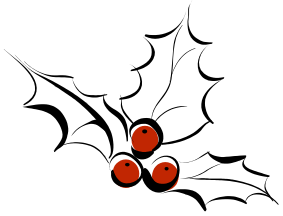
So how did Shuji accomplish this feat? The author Bob Johnstone, in his engaging biography of Dr. Nakamura, *Brilliant* (2007), describes his dogged persistence but also tells some of the more humorous aspects of Shuji's work. For example, in his efforts to bring about his dream of revolutionizing lighting by inventing an inexpensive solid state LED device, he often accidentally blew up his lab at Japan's Nichia Chemical Industries. In the beginning, when fellow workers would hear an explosion on the corporate campus, they would evacuate all the buildings. But over time they gradually learned to simply shrug and say "Oh, that's just Shuji again." Once Nichia began large scale production and sales of the blue LED, the company made hundreds of millions of dollars in profits. As a token of their appreciation, they awarded Shuji a prize of about $200 dollars for his extraordinary achievement.

His success in creating the world's first blue LED happened in the early 1990s. When his success became known, Cree, a North Carolina semiconductor firm which had also been working on inventing a blue LED soon came courting Nichia. Cree proposed a partnership but Nichia turned them down. Shortly thereafter, Cree succeeded in generating blue LEDs but using gallium nitride on top of their preferred mineral compound, silicon carbide. Shuji and Nichia, in contrast to Cree, worked with a different technology altogether, namely with sapphire, aluminum oxide. In 1999, recognizing the indignities Shuji had been suffering at Nichia, Cree sponsored a chair at the University of California Santa Barbara which allowed him to say sayonara to Nichia and come to the U.S. to further his research in an academic environment. That eventually led to Shuji's discovery of the world's first blue laser generated by LEDs, whose implications continue to find new applications today.

Because of that Cree-Nakamora connection, Shuji and his colleague Steve Denbaars came to the Cree shareholder meeting in Durham NC in about 2000, an annual meeting my wife and I often attended. Their presence generated considerable excitement and hopes for future collaboration. After that meeting Betty and I were examining some of the exhibits and because we had a camera at the ready, Denbaars and Nakamura approached us and asked us to take a number of photos of them with certain Cree exhibits and standing before a projected slide as a backdrop. It was clear to everyone even at the turn of the millennium, that Dr Shuji Nakamora was destined to continue making gigantic contributions in the field engineers call material science.

When Shuji resigned from Nichia and came to the U.S., his former employer sued him for what they imagined was his having disclosed proprietary chemical secrets to their archrival Cree. He in turn counter sued Nichia, arguing that their bonus of $200 was too low. The Tokyo High Court ruled in favor of Shuji in both cases. The High Court initially awarded him $180,000,000. After years of further legal wrangling, both parties settled in 2005 and he was finally awarded $8,000,000, the largest bonus to date which a Japanese company had ever awarded anyone. He became a U.S. citizen and has continued his research at the U.C. Santa Barbara and at a privately held company, SORAA which makes lighting and lasers using gallium nitride deposited on gallium nitride, an unusual materials combination no one else had ever achieved.

So for mineral collectors, the above underscores that the marvel of crystals' structures run deep and has tremendous implications for improving lives. Most researchers agree the future is literally brighter especially for impoverished peoples who can now harvest solar power using this very efficient semi-conductor technology. This story gives mineral collectors even more reason for the respect and wonder they bring to crystals, perhaps even extending this appreciation to manufactured crystals. And, many believe we have not heard the last from this Nobel Laureate Shuji Nakamura and his breakthroughs working with light-giving crystal structures.



**DO YOU REMEMBER?** The below quiz was crafted by Betty Thompson, former *Mineral Minutes* editor. (It is from Vol. 69, No. 3 of the Mineral Minutes issue dated March 2010.) Betty used information put together by, and included in, an article by Dave Nanney entitled, "*Thoughts on a Snowy Day - February 6, 2010.*" She added a few extra terms of her own for good measure! See how you do on the quiz! The answers can be found on the next page.

**Thoughts on a Snowy Day**

a. Gwindels
b. Boudins
c. Orthogneiss
d. Flos Ferri
e. Two causes of color
f. Foliated
g. Strahler
h. Paragneiss
i. Metamorphic
j. Horizon of evaporate
k. Nappes
l. Hydrothermal
m. Fluorite
n. Batholith
o. Lenses
p. paragenesis
q. Orogeny
r. Feldspar
s. Cleft
t. Schist
u. Gangue
v. Massif
w. Gneiss

___1. Body of rock, which is thick in the middle and thin at the edges, resembling convex lens.
___2. $CaF_2$
___3. Crystalline minerals, framework silicate, most common are plagioclase (tends to be white, gray, or blue) and orthoclase (tends to be pink).
___4. Space made by splitting of rock formation.
___5. Separable into layers, repetition of layers in metamorphic rock.
___6. Structures caused by extension where rigid body is stretched like sausage.
___7. Material left after removal of valuable material. Trash minerals where one man's trash might become another man's treasure.
___8. Aragonite
___9. "Twisted quartz," the crystal appears to have grown sideways, slightly twisted and bent crystal faces.
___10. Gneiss from sedimentary rock.
___11. Skilled mountain climber and collector of minerals.
___12. Soil is made of layers called horizons. Evaporate horizon would be repeated layers of evaporated minerals.
___13. Block of earth crust displaced as a unit without internal changes.
___14. Large mass thrust over other rocks.
___15. Change in constitution of rock affected by heat pressure, water yielding compact crystalline condition. Because this is not a cause of melting, this is considered a solid state transformation.
___16. Mass of intruded igneous rock that stopped its rise considerable distance before the surface
___17. Process of mountain formation.
___18. Metamorphic crystalline rock which has closely foliated structures and can be split along parallel planes. Medium to coarse grained metamorphic rock containing foliation.
___19. Mechanical Inclusion, and Substitution.
___20 Gneiss from igneous rock.
___21. Sequence of time in which a mineral crystallizes with respect to other minerals. Important with what it tells about the time and influences of minerals.
___22. Foliated metamorphic rock, granite. Compositionally layered metamorphic rock, typically composed of alternating dark-colored and light-colored layers or lenses.
___23. Deposits formed from hot fluids.

**Answers:** 1=o, 2=m, 3=r. 4=s, 5=f, 6=b, 7=u, 8=d, 9=a, 10=h, 11=g, 12=j, 13=v, 14=k, 15=l, 16=n, 17=q, 18=t, 19=e, 20=c, 21=p, 22=w, 23=l

## Treasurer's Note:

**Treasurer, Rebecca Siegal**

(Photo by Ann Cameron Siegal)

Please send all treasurer-related emails to: dcmineralclub@gmail.com.
Also, please make sure that the Treasurer has your most current contact information.

(Microsoft Clipart)

## Speaker Flash Back

**January 2014:** Tim Rose, Smithsonian, Museum Specialist-Manager, Analytical Laboratories, Department of Mineral Sciences, will start our New Year off with a presentation on: The Mysterious Stone Masks of Teotihuacan, geologist in the Division of Mineralogy, for The Smithsonian National

**February 2014**: Sue Marcus, Australia—Minerals and Museums.

**March 2014:** GWU Field Trip/Dr. Richard Tollo & Student Presentation

**April 2014**: Joe Marty – Microminerals

**May 2014**: Wayne Sukow – Agates

**June 2014:** Dr. Brent Owens – The College of William and Mary.

**July-August 2014:** No meetings held.

**September 2014**: Ms. Penny Masuoka - "The Geology of Maryland and Three Interesting Parks to Visit."

**October 2014:** MSDC Members - Show & Share

**November 2014:** Melanie Gifford, "Objectivity and Interpretation: Technical Study of Albrecht Dürer's *Madonna and Child*, *Lot and his Daughters.*"

## UPCOMING EVENTS:

**November**

**1–2:** 45th Gemarama; Tuscarora Lapidary Society; CFS, The School at Church Farm, 1001 E. Lincoln Hwy, Exton, PA 19431 http://www.lapidary.org

**22–23: Northern Virginia Mineral Club Annual Show**; George Mason University; Braddock Rd. and Rte. 123, Fairfax, VA; 10–6, Sun 10–4. To volunteer, please click on http://www.volunteerspot.com/login/entry/764754762068!

**December 3**

MSDC Holiday Party. Kerby Rm., Smithsonian. 6:30 p.m. Please contact Betty Thompson to sign up to bring finger food,

**February 2015**

**14-15**

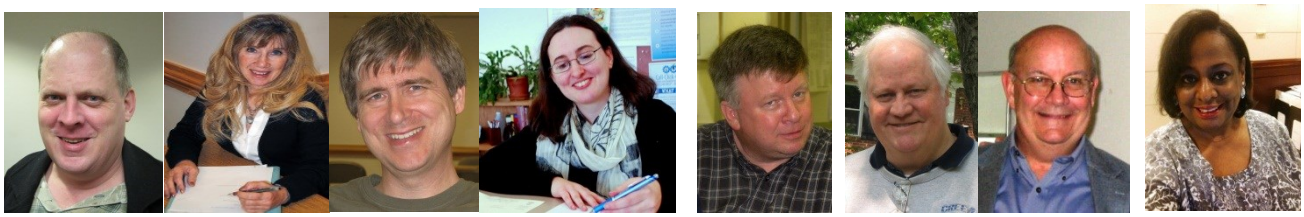
Southern Maryland Rock and Mineral Club's 25th **Annual** Mineral, Jewelry & Fossil Show
Show Place Arena, Upper Marlboro, MD
Saturday, 10am - 5pm

**March 2015**

**7–8:** 52nd Annual Earth Science Gem and Mineral Show; Delaware Mineralogical Society, Inc.; Delaware Technical and Community College, 400 Stanton-Christiana Road, Newark, DE; Sat 10–6, Sun 11–5; $6 adults, $5 seniors, $4 children 12–16, under 12 free
http://www.delminsociety.org

**28–29:** 46th Annual Che-Hanna Rock & Mineral Club show; Athens Twp. Vol. Fire Hall, 211 Herrick Ave, Sayre, PA; Sat 9–5, Sun 10–4; contact Bob McGuire uvbob@epix.net

## *2014 MSDC OFFICERS & DIRECTORS*



***(left to right: Steve Johnson, Patricia Flavin , Rick Reiber, Rebecca Siegal, Dave Hennessey, Andy Thompson, Dave Nanney, & Sheryl Sims)***

*(photos provided by B. Thompson, A. Cameron Siegal, & S. Sims)*

### *Officers & Board Members Contact Information*

*President: Steve Johnson - StevikJ@gmail.com; Vice President: Patricia Flavin - pattiflavin@gmail.com; Secretary: Rick Reiber - Mathfun34@yahoo.com; Treasurer: Rebecca Siegal – dcmineralclub@gmail.com; Directors: Dave Hennessey - dhennessey@spa.com; Dave Nanney - DNanney@cox.net;; Andy Thompson - thompson01@starpower.net; Editor: Sheryl Sims - sesims4@cox.net*

## FEDERATION NEWS- AFMS Officers for 2013-14

**President,** Richard Jaeger, rjgrsci@aol.com; **President-Elect,** Marion Roberts, mvroberts@bigvalley.net; **1st Vice President,** Matt Charsky, <matt2430@comcast.net> **2nd Vice President,** Ann James, amariann113@yahoo.com; **3rd Vice President,** J.C. Moore, jcmoore3rd@gmail.com; **4th Vice President,** Doug True, <dtruefossils12@yahoo.com> **5th Vice President,** Ann Monroe, annmonroe@windstream.net; **Secretary,** Anne Cook, secretary@amfed.org; **Treasurer,** Pat LaRue, <bplarue@earthlink.net>

(Photo Courtesy of AFMS Newsletter – November, 2013, p.4.)

## NEW EFMLS Officers for 2013 – 2014

President – Hazel Remaley, northridge5@verizon.net; 1st VP - Merrill Dickinson, medsearchnorth@comcast.net; 2nd VP – Michael Kessler, Quartz7228@aol.com
Secretary, Gerry Cox, gerryannec@verizon.net; **Treasurer, Jean Charsky, jean2430@comcast.net**
Asst. Treasurer, Michael Patterson, Michael.Patterson@pgparks.com
Editor, Carolyn Weinberger, PO Box 302, cscrystals2@gmail.com

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***Pre-Meeting Dinner***: Join us at 6:00 p.m. for dinner before the club meeting. Location: Elephant & Castle, 1201 Pennsylvania Avenue, NW. Please contact Patricia Flavin, pattiflavin@gmail.com or Steve Johnson, *StevikJ@gmail.com,* to make a reservation if you wish to attend.

**Visitors are always welcome at our monthly meetings and dinners!**

## MEET, GREET, & EAT!

Join MSDC club members enjoy dinner together before each meeting.
(We are currently meeting at Elephant & Castle. 1201 Pennsylvania Avenue, N.W.)

## MEMBERSHIP APPLICATION OR RENEWAL
## THE MINERALOGICAL SOCIETY OF THE DISTRICT OF COLUMBIA (MSDC)

(___) Family ~ $25.00 per year. One address.
(___) Individual ~ $20.00 per year.
(___) New * (___) Renewal Dues are for Year _____*
For new members who join in the last months of the year, membership will extend through the following year with no additional dues.

**ANNUAL DUES – PLEASE PAY YOUR DUES PROMPTLY**.
Pay at next meeting or mail to:
**Mineralogical Society of DC, P.O. Box 9957**
**Alexandria, VA 22304**

**Name(s)** (First and Last)
_____
**Address**_____
**City** _____ **State** _____ **Zip**_____
**Phone(s**): **Home/Work/Mobile**_____
**Email(s)**
_____
**OK TO INCLUDE YOU ON CLUB MEMBERSHIP LIST?**
(__) Yes – Include name, address, phone, email.
If you want any information omitted from the membership list, please note:
Omit my: (__) Email, (__) Home phone, (__)Work phone, (__) Mobile phone, (__) Address, (__) Name
**SPECIAL CLUB-RELATED INTERESTS?**
_____

## MINERALOGICAL SOCIETY OF THE DISTRICT OF COLUMBIA

**(2014 Officers & Board Members)**

President: Steve Johnson, stevikj@gmail.com
Vice President & Program Chair: Patricia Flavin, pattiflavin@gmail.com
Secretary: Rick Reiber, Mathfun34@yahoo.com
Treasurer: Rebecca Siegal, dcmineralclub@gmail.com, (mail: c/o MSDC, P.O. Box 9957, Alexandria, VA 22304)
Directors: Dave Nanney, Dave Hennessey, and Andy Thompson, thompson01@starpower.net
Editor: Sheryl Sims, sesims4@cox.net
Co-Web Masters: Betty Thompson & Casper Voogt, http://mineralogicalsocietyofdc.org/

**Meeting Dates, Time, and Location:** The first Wednesday of each month. (No meeting in July and August.) The National Museum of Natural History, Smithsonian Institution, 10th Street and Constitution Ave, Washington D.C. We will gather at the Constitution Avenue entrance at 7:45 PM to meet our guard who will escort us to the Cathy Kirby Room. Street parking: **THERE ARE NOW PARKING FEES, PAYABLE AT THE KIOSKS, AND ENFORCEMENT UNTIL 10 PM.**

# *MINERAL MINUTES*

*The Mineral Minutes is an EFMLS & AFMS Award Winning Bulletin*



**Newsletter of the Mineralogical Society of the District of Columbia**

Mineralogical Society of DC
P.O. Box 9957
Alexandria, VA 22304
U.S.A.

December 2014
Time Sensitive Dated Material
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