

# Mineralogical Society of the District of Columbia



## *MINERAL MINUTES*

*The Mineral Minutes is the 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. 71, No. 3**

**Founded 1942**

**March 2012**

**Program and Speaker: March 7, 2012 - Program Title:**

***"The Geological and Mineralogical Contributions of Nicholas Steno, the Founder of Modern Geology."***



Tom Tucker,  
MSDC President



(photo credit: [http://www.montgomerycollege.edu/Departments/phengrv/BB/SEM\\_02\\_24\\_11.htm](http://www.montgomerycollege.edu/Departments/phengrv/BB/SEM_02_24_11.htm))

Author and geology professor at Montgomery College, Alan Cutler will speak on the geological and mineralogical vision of Nicholas Steno (1638-1686). Alan is perhaps best known for his book: *The Seashell on the Mountain Top* which focusses on the genius of Steno and provides a context for how his scientific method and insights overcame the stereotypical philosophizing of European scientists.

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March 2012

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**The Prez Says...**

**A Word from MSDC, President, Tom Tucker**

**FIELD TRIP REMINDER/DETAILS FROM TOM TUCKER: February 18, 2012 - 9:00 AM**

Dr. Lance Kearns has again invited MSDC, along with the MNCA Micromounters and the Northern Virginia Mineral Club to visit the mineralogy labs and the fabulous mineral museum at James Madison University, in Harrisonburg, Virginia. We'll "pass the hat" so everyone will have an opportunity to make a small donation to the mineralogy department for the furtherance of their activities and acquisitions, and to pay for the hot coffee and breakfast buns or donuts that Lance will have awaiting our arrival.

The Museum alone is worthy of a trip to Harrisonburg, being the finest collection of minerals in the State. There are a dozen or so large wall cabinets filled with minerals from around the world, but with an obvious emphasis on Virginia specimens, like the turquoise from Lynch Station, or apophyllite from Centreville or aragonite from Buchanan

During the morning Lance will be available to identify those unknown specimens you have accumulated over the years. I'm sure he will demonstrate the use of the x-ray diffractometer for crystal determinations, and the Ramen spectrometer. The lab has enough stereo microscopes for all those interested to examine their specimens, or perhaps those that others have brought to share on a "freebie" table. Bring anything you have to share. (cont. p. 6)

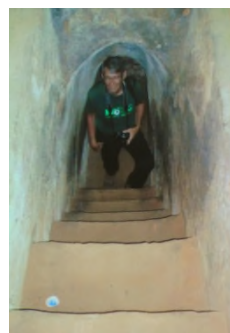
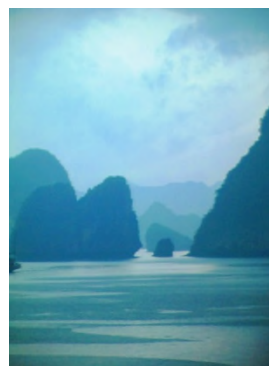
**Alan Cutler (cont.):**

Dr. Alan Cutler holds a B.A. in geology from Carleton College, an M.S. in geology from the University of Rochester, and a Ph.D. in geosciences from the University of Arizona. Over his career, he has worked as a scientific researcher, exhibit developer, and science writer at the Smithsonian Institution and he taught at the University of Rochester, University of Chicago, National Louis University, and Northern Virginia Community College. Before joining the Department of Physics, Engineering, and Geosciences this fall as an associate professor, Dr. Cutler was a science writer and publications officer at the Carnegie Institution for Science.

For further information on Alan's work, see <http://www.amazon.com/Seashell-Mountaintop-ebook/dp/B001NGN2HI>

**PREVIOUS PROGRAM REVIEW (February):**

Tom Tucker, MSDC President and veteran in several senses of that term, gave a presentation on his findings from a mineral collecting field trip in Viet Nam. Tom shared his adventures while exploring not only minerals but also caves, karst and quarries.



# I Missed It Again!

By Sheryl E. Sims



(photo credit: <http://news.ph.msn.com/top-stories/article.aspx?cp-documentid=5783567>. 1/19/12, agency France-Press)

**Why** couldn't I have been there when meteorites fell from the skies of Morocco on July 18, 2011? Yes, a group of international scientists confirmed that the glowing fireball that was seen racing across the sky was neither bird nor plane, but a meteorite! It was from Mars, no less – and, I missed it!

Sadly, this was not my first experience with wanting to get my hands on a meteorite. Last year, when the Lorton meteorite crashed through Dr. Gallini's office, I raced from home to his office location to procure a piece of the meteorite for myself. I had grand illusions of meeting Dr. Gallini, sharing my rock hound testimony with him, and convincing him to give me a tiny piece of his meteorite. I wanted to unselfishly share my find with *you* by bringing it to our mineral club meeting for show and tell. I convinced myself that in a few short moments, I would walk out of Dr. Gallini's office happy, and in possession of, a meteorite. It was all an illusion.

*Illusion: a mistaken perception of reality—a fantastic desire or plan that causes an erroneous perception.*

Did someone say *fantastic*? I think not! *Noah Webster* and his dictionary were right. I had just experienced a bout of erroneous perception. With my illusions shattered, I walked out of Dr. Gallini's office empty-handed, with the exception of a couple of rock-filled Smithsonian gift shop pencils. I foolishly brought them along with me to sweeten the deal and make the ill-fated trade.

Then, approximately a year later, with the Lorton meteorite sitting pretty in the Smithsonian's Museum of Natural History, I found myself idling my time away before my computer screen. As I sat there, in my own world—on the other side of the world from Morocco as it were—I missed the entry of the Moroccan meteorite. (I call it the Moroccan meteorite because as I listened and learned in a recent mineral presentation, given by the Smithsonian Institution's own Dr. Cari Corrigan, meteorites are named after the locations in which they are found.)

Glancing upward I imagined the fiery light of the descending meteorite whizzing by the Moroccan nomads. They were most fortunate not to have missed the blazing sighting. The nomads tracked down the meteor fragments and found a 15-pound meteorite.<sup>1</sup> Oh, what a night!

What is truly remarkable about the find is that meteorites from Mars have only been discovered *five* times in history! It's said that they are more rare than gold! I'm not talking about pyrite either! The source of the meteorite was confirmed by Carl Agee, a curator at the University of New Mexico. The nomads sold the meteorites to various dealers. Some museums, however, were able to buy them at a cost from between \$500 and \$1,000 per gram. The first known meteorite from Mars was found in France in 1815, a specimen called *Chassigny*. Agee said that it was one of the most expensive meteorites in the world.<sup>2</sup> As you can see, Elizabeth Taylor's rocks aren't the only one going for big bucks!

Although pricey, the importance of the meteorites is huge. Meteorites can contain atmospheric gas. Scientists release the gas by heating it. Then, they measure and analyze it, according to Carl Agee. An eyewitness stated that upon crossing the sky, the meteor changed colors. It was first yellow then green. The entire area lit up! Then, the meteorite appeared to split in two. Hearing two sonic booms, the nomads searched and found fresh, fusion-crust stones in a remote area about 50 kilometers (30 miles) east-southeast of Tata.<sup>3</sup> Agee said that scientists will examine the Moroccan meteorite for radioactive "signatures" left by cosmic rays. The signatures will indicate how long the meteorite's journey

<sup>1</sup> *Express: A publication of The Washington Post*, January 18, 2012.

<sup>2</sup> *Ibid.*

<sup>3</sup> <http://news.ph.msn.com/top-stories/article.aspx?cp-documentid=5783567>. 1/19/12, agence France-Press)

took. It may have been thousands or even millions of years!<sup>4</sup>

As I write this missive, on the weekend of Martin Luther King’s birthday, I reflect on all that is good and right in the world. I glance at, and finger, my souvenir piece of granite from Dr. King’s monument. I remember that, like Dr. King, I, too, have a dream. My dream is that one day I’ll stand on a mountain top, the desert floor, or even a parking lot off Route 1, in Lorton, Virginia. I dream that as I stand there, a meteorite will zip across the sky and land, not on my head, or in my hand, but right at my feet in all of its glowing glory. Along with my dream, I will hold on to hope—hope that it won’t take a million, a thousand, or even one more year for my dream to come true. Won’t you join me repeating, “keep hope alive!” “Keep hope alive!” “Keep hope alive!”? Believe me, I do!

**WELCOME MSDC GUESTS!** Members welcomed Cort and Nathan Mackelroy to the February meeting.



Cort responds to club welcome.



Tom Tucker welcomes Chris, MSDC guest.

**Treasurer’s Note:**  
Treasurer, Rick Reiber



**Reminder: DUES!** “Now” is always a good time to pay your dues! (MSDC 2012 dues was due on January 1, 2012.) A renewal form is included in this newsletter. \$20 for single memberships. \$25 for family memberships. Invite your friends and family to join!

**SAVE THE DATE!**  
*See our upcoming events. WHY NOT INVITE A FRIEND TO OUR MEETINGS?*



Cort shows MSDC members his mineral collection

(photo credit: Sheryl Sims)

<sup>4</sup> Ibid.

**Editor's Note:**

**Newsletter Editor, Sheryl Sims**



**Thank you** to all who submitted articles for the February edition of the Mineral Minutes. Our club members are anxious to read more from you, so please keep your submissions coming! Do you have interesting pictures or announcements to share? Please email me them to me at: [sesims4@cox.net](mailto:sesims4@cox.net). Remember, it's your submissions that make our club newsletter a great read! **The Mineral Minutes newsletter deadline is the 15th of each month.**

**DOOR PRIZES: Please contact Andy Thompson if you have door prize donations!**

**MSDC sends well wishes to Leslie Nanney and Kathy Hrecka as they recover from knee and rotator cup surgery.**

**AFMS & EFMLS NEWS TO KEEP IN MIND**

(excerpts & photos from EFMLS & AFMS January/February 2012 Newsletters).

**Each One Teach One (EFMLS)**

**Hazel Remaley, EOTO Chair**



Do you know of fellow club members who are teachers, instructors, writers, movers and shakers in your club? If so acknowledge their sharing and caring by nominating them

for the "Each One Teach One" award. Nominations should be sent to me by June 15<sup>th</sup> at: [northridge5@verizon.net](mailto:northridge5@verizon.net).

**WHAT YOU CAN DO!**

**AFMS Scholarship Foundation News**

**Reivan Zeleznik, AFMS Scholarship Foundation Coordinator**



The AFMS Scholarship Fund is an anonymous plan of giving to a yet-to-be-determined scholarship recipient. The acknowledgment of contributions will continue with the recognition of donations by clubs and their members. Certificates will continue to be granted as visible incentives to encourage donations from members and club budgets.

**Visit [www.efmls.com](http://www.efmls.com) and [www.afms.com](http://www.afms.com) for more information on federation news and activities.**

**American Club Rockhound of the Year**

**Ellery Borow, ACROY Chair**



Here at the ACROY we are dedicated to recognizing your outstanding members by encouraging clubs to select their own Club Rockhound of the Year. Once you

send your selection to us we will publish the names and deeds of those members for all to see and appreciate. (Ellery Borow: 207-547-3154)



**EFMLS Nominations**

**Matt Charsky, Nominating Committee Chair**

Matt Charsky is reminding members that it's not too early to begin thinking about candidates for the term 2012-13. Please contact him if you'd like to nominate someone for the positions of EFMLS president, 1st or 2nd vice president, secretary, treasurer, assistant treasurer or editor. Please include the name of their club why you think they should be nominated.

**The Prez Says...** (cont. from p. 1)

We will probably go out for pizza at lunch, and return in the afternoon to visit the "micro probe" and scanning electron microscope laboratory, on the other side of the campus. We might use it to determine the chemical make-up of our unknowns, or to see close-up the crystals at hand. The mineralogy labs are in the Geology Department which is in Memorial Hall ( the former Harrisonburg High School building ), on South High Street. For a map of the campus go to the University website: [www.jmu.edu](http://www.jmu.edu), and at the upper right corner request "directions/map". On the index map, the Memorial Area is an inset at the upper right. Click the small map, and a detailed area map will appear.

Driving directions: It takes approximately two-and-a-quarter hours to reach JMU from the DC Beltway. From the Beltway, go west on I-66 approximately 65 miles to its intersection with I-81. Take the left fork, and go south on I-81 approximately 54 miles to Harrisonburg. Take Exit 245, Port Republic Road, and go right about a mile to High Street. Turn right, and proceed north about a half mile to a light at Cantrell Avenue. Memorial Hall will be to the left, with abundant parking. Being a weekend, parking passes will not be needed, but if you do have a problem, Lance can probably take care of it.

If you plan to attend please let me know the number in your party, so that we can let Lance know how many to expect for coffee and buns. Email: [threedogtom@earthlink.net](mailto:threedogtom@earthlink.net), or phone: 540-347-9098. See you there.—Tom

**Upcoming Events:**

**February 18:** Southern Maryland Rock and Mineral Club. The 22<sup>nd</sup> Annual Mineral, Jewelry & Fossil Show, 10am-5pm. The Show Place Arena, Upper Marlboro, MD. <http://www.smrnc.org/2012-rock-show.html>.

**March 3-4:** Newark (Stanton), DE - 49<sup>th</sup> Annual Earth Science Gem & Mineral Show sponsored by the Delaware Mineralogical Society. Delaware Technical & Community College, I-95, Exit 4B, Churchmans Rd. (Rte. 58); Newark (Stanton), DE.

**March 7: MSDC Meeting Program: Author Alan Cutler will speak on the geological and mineralogical vision of Nicholas Steno, the founder of modern geology. He authored the book: The Seashell on the Mountain Top. For further information, see <http://www.amazon.com/Seashell-Mountaintop-ebook/dp/B001NGN2HI>**

**March 10-11:** Clifton, NJ – 23<sup>rd</sup> Annual North Jersey Gem & Mineral Show sponsored by the North Jersey.

**March 16-18:** Hickory, NC – 42<sup>nd</sup> Annual Unifour Gem, Mineral, Bead, Fossil & Jewelry Show sponsored by the Catawba Valley Gem & Mineral Club. Hickory Metro Convention Center, I-40, Exit 125.

**March 17-18:** The Gem, Lapidary and Mineral Society of Montgomery County, 48<sup>th</sup> Annual GLMSMC Gem, Mineral and Fossil Show. Saturday 10am-6pm, Sunday 11am-5pm. Montgomery Co. Fairgrounds, 16 Chestnut St., Gaithersburg, MD. <http://www.glmsmc.com/show.html>

**March 24-25:** Sayre, PA – The 43<sup>rd</sup> Annual Che-Hanna Rock & Mineral Club Rock & Mineral club show will be held on March 24 (9-5) and March 25 (10-5) at the Athens Twp. Vol. Fire Hall, 211 Herrick Ave., Sayre, PA. Admission is \$3/adults, \$1/students, kids under 8 years old are free. Contact Bob McGuire 570-928-9238 for more info. [www.chehannarocks.com](http://www.chehannarocks.com)

**April 4: MSDC Meeting Program: Professor Joe Marx will present "Details on Some New Kimberlite Pipes Found in Falls Church. Joe is a geology professor at Northern Virginia Community College. For further information, see <http://www.nvcc.edu/home/jmarx>**

**April 10 – 15:** EFMLS Workshops at Wildacres World renowned photographer Jeff Scovill will be the keynote speaker. Jeff will give six illustrated programs. The fall session will be held from September 3 - 9 and will feature Julian Gray, curator at the Tellus Museum in Cartersville, GA. Tuition for the April session is \$350 per person and \$370 per person for September. The only additional cost to participants will be for materials used in the class. Information and an application form can be found on the Wildacres web site [www.amfed.org/efmls](http://www.amfed.org/efmls).

## Minerals in the News (Part 1)

By Erich Grundel



<http://en.wikipedia.org/wiki/Quartz>   <http://en.wikipedia.org/wiki/Pyrite>

Today the science of mineralogy is generally far removed from the classical aspects of it that form the core of what most collectors know about the subject. Perhaps the most enduring of the classical aspects of the science and one still very much in vogue in some collecting circles is the description of new species. For many mineralogists it is minerals known since ancient times that hold the greatest interest for new scientific research. From some of the most common minerals have come important new insights into some of the most fundamental geological and mineralogical events and processes. Here are some examples that have been published this year.

### **Calcite (CaCO<sub>3</sub> or calcium carbonate)**

The incredible number of habits, forms, colors and associations of this mineral, coupled to the fact that it is very abundant and usually affordable makes this one of the most collected of all minerals. Because crystallization is such a fundamental process, both naturally and man-made, it is very intensely studied. A paper (Stephens, 2011) looked at the crystallization of calcite, which is both organically and inorganically important in natural processes, from solution of very small volumes (picoliter =  $10^{-15}$  m<sup>3</sup>) on what are called self-assembled monolayers (SAMs), a 2-D platform (50-300  $\mu\text{m}^2$ ) on which the crystal will grow. Normally, crystallization is looked at in open (3-D) structures allowing bulk fluid reservoirs to influence the growth.

What was found in this 2-D system was that crystallization proceeds more slowly than it does in bulk solution and does so through an initial amorphous calcium carbonate. Also, because of the lack of a bulk solution the crystallization terminates early revealing intermediate growth forms. The intermediate growth form for crystals that took 24 hours to precipitate looks like nothing you see in natural calcite crystals; tetrahedrons. This contrasts with the rhombohedral crystals that formed from

bulk solutions. As the tetrahedral crystals were allowed to grow in bulk solutions the growth slowly changed the morphology until the transformation to rhombohedra, the most common form of natural calcite, was completed.

Why calcite can display such an enormous number of different crystal faces is not yet known. This study does show that under very controlled and restricted conditions we get a better idea how the process of the morphological complexity begins.

### **Quartz (SiO<sub>2</sub> or silicon dioxide)**

Quartz is another collector favorite. It is generally easy to recognize, usually not complex morphologically, occurs in only a few colors, is extremely abundant and is very easy to obtain. It is one of the most essential of all the rock forming minerals and therefore central to many geological processes.

Information from a remarkable experiment called EarthScope was used (Lowry, 2011) to determine how large scale continental deformations, such as mountain building, are related to rock type. Quartz is mechanically the weakest abundant mineral found in continental rocks. EarthScope

provided seismic, gravity and heat flow data that helped estimate the thickness and other properties of the continental crust in the western United States. It turns out that a property called the seismic velocity (sv) ratio is slightly dependent on temperature but very dependent on quartz abundance. What was found in the deformation of the Cordillera (mountains) of the West was a correlation between low crustal sv and higher lithospheric temperature. This led to a proposal that this temperature relationship is a feedback where strain is localized in quartz rich crust and this promotes warming, hydration and weakening. Presumably this has taken place repeatedly over the course of geological time and therefore offers a partial explanation to the growth and destruction of continents (plate tectonics).

### **Pyrite (FeS<sub>2</sub> or iron disulfide)**

Pyrite or Fool's Gold as it is sometimes called is especially liked by children. Its bright surfaces and moderate heft give it an appeal kids cannot resist. Adults are hardly less resistant to the appeal. It too is a very abundant, showy mineral and can be found almost anywhere. Every mineral or rock show you go to has it available.

The iron isotope ratios in pyrite formed in sedimentary rocks were used (Guibaud, 2011) to determine the influence of bacteria in the evolution of oceans and the atmosphere. Pyrite can be formed by organisms which metabolize iron or it can form by inorganic processes. The ratios of the iron isotopes have been found to vary according to which of these mechanisms the pyrite formed.

Approximately 2.4 billion years ago the Earth underwent something called the Great Oxygenation Event. At that time the atmosphere became richer in oxygen and triggered the development of multicellular life forms. Bacteria metabolized iron and produced oxygen. By studying the iron isotope ratio in pyrite they can gain a picture of how bacteria influenced the formation of this mineral. What they found is that prior to that time bacteria had no influence on the composition of pyrite and thus the mineral was formed inorganically. Therefore, bacteria which were the dominant, probably only, life forms at that time on the planet were still living in an oxygen poor atmosphere.



### **MSDC Meeting Minutes - February 2012 Secretary, Pat Rehill**

**Meeting Date:** February 1, 2012

**Meeting Place:** Katherine Kerby Rm., Smithsonian Institution National Museum of Natural History

**Agenda:** Club President Tom Tucker presiding

Recognized past presidents, Cynthia Payne, Ed & Susan Fisher, Andy Thompson

Minutes Approved: January 2012

**Treasurer's report:** Request was made to please pay dues. Club's account is in good standing.

**Old Business:** Appreciation of the changed format of the newsletter by editor, Sheryl Sims, was mentioned.

Denise Whitman, former newsletter editor, is leaving the club and moving to Raleigh, NC.



**New Business:** Announced the 2011 EFMLS awards for articles written for our newsletter. A list of club member names were published in the EFMLS and AFMS newsletters.

**Announcements:** Upcoming programs-Alan Culter, author of “The Sea Shell on the Top of the Mountain,” a discussion about the father of geology. Joe Marks, Gary Loehman, petrified wood. Eric Junger-Forensic-related use of mineralogy/geology, Dan Cortier, Raw Earth Minerals.

**Cares & Condolences:** A quick recovery from surgery was wished for Leslie Nanney.

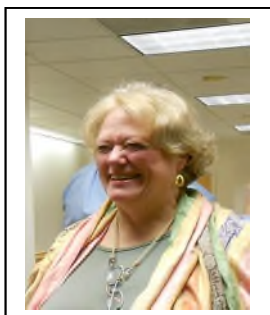
**Guests:** Club members welcomed Chris, Nathan, and Nathan’s son, Cort, a fourth grader.

**Program:** Speaker-MSDC President, Tom Tucker.

**Topic:** The Geology of Hanoi, Halong Bay, Laos in Vietnam

**Program note:** The program included a pictorial travel log of Tom and his daughter’s recent trip to Viet Nam, as a tribute to his past military service during the Viet Nam War. Venues visited included: the Karst Caves along Halong Bay, a World Heritage Site. The Hanoi Hilton, Ho Chi Minh Trail, the Geologic Survey Building, featuring a collection of minerals.

The meeting concluded at 9:45 pm.

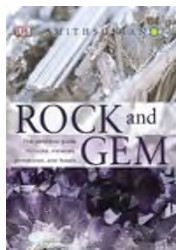


**THANK YOU to  
BETTY THOMPSON  
& SUSAN FISHER  
FOR THE DELICIOUS  
REFRESHMENTS!**

(photo credit: Cynthia Payne)

**KEEP US INFORMED!** Do you have a book review or mineral news to share? Please share your news at our monthly meetings or by submitting it to the Mineral Minutes editor at [sesims4@cox.net](mailto:sesims4@cox.net).

**Book Review:** *Smithsonian Rock and Gem* is a wonderful book to add to your mineral library. I’ve found *Rock and Gem* to be both informative and easy to use. It contains easy to understand information for the amateur rock hound and has lots of beautiful photos. —*Sheryl Sims*



**Smithsonian Rock and Gem: The Definitive Guide to Rocks, Minerals, Gems, and Fossils By  
Ronald L. Bonowitz, Margaret Carruthers (Consultant), Richard Eftim (Consultant)**

(image credit: <http://www.barnesandnoble.com/w/smithsonian-rock-and-gem-ronald-l-bonowitz/1103238874>)

**LINK(S) TO SHARE:** Dave Nanney shared the following link which you will find most interesting:  
[http://www.usgs.gov/blogs/features/usgs\\_top\\_story/100-years-of-volcano-monitoring-in-the-united-states](http://www.usgs.gov/blogs/features/usgs_top_story/100-years-of-volcano-monitoring-in-the-united-states)



**MSDC POETRY CORNER**

***I Ain't Nuthin' But A Rock Hound!***

*By Sheryl E. Sims*

I ain't nuthin' but a rock hound.  
Just a stone's throw from a kook.  
I looked for rocks and minerals;  
Beneath each cracked and dirty stoop.

With an eye for all that glimmers;  
Fool's gold truly caught my eye.  
Until I lucked upon a Herkimer;  
And, now diamonds are my prize!

For years, I've collected pink granite;  
With petrified wood right by its side.  
Some rose quartz and some marble;  
And, a bit of malachite besides.

My rock hound's life is full of wonder.  
There's a lot to learn and to adore.  
More meteorites and even stellerites;  
Just so many minerals to explore!



(pink granite – photo credit: Sheryl Sims)

No jaded views of jasper jaunts.  
No alabaster clouds of volcanic ash.  
Just more days ahead of rocks to flaunt;  
And, more poetic mineral balderdash.

**2012 Speaker Flash Back!**

January 2012: Dr. Cari Corrigan gave a wonderful presentation on Meteorites in Antarctica

February 2012: MSDC President, Tom Tucker, gave an informative presentation on his mineral travels in Vietnam.

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**SAFETY REMINDER:** “ANSI statute Z89.1-2009 requires particular information to be permanently printed inside each hard hat, including the date of manufacture. The longest a hat should be in service is four to five years from date of manufacture, according to the manufacturer's guidelines. If the hat is not visibly damaged, you can calculate the expiration date by checking the date of manufacture. Additionally, workers should use a permanent marker to record the date they begin to use their head protection. This date will vary from the date of manufacture but may be needed for documentation in case of injury or accident. The manufacturer must also include the following information on the inside of the hat: manufacturer name, ANSI standard designation, and the appropriate ANSI class designation (Class A, B, or C).” ([OSHA Rules on Hard Hat Expiration | eHow.com](http://www.osha-slc.gov/publications/OSHA-3092-Safety-Health-Training-Resources-for-Construction-Workers.pdf) [http://www.ehow.com/list\\_6100977\\_osharegulations-hard-hat-expiration.html#ixzz1mHVMv6qs](http://www.ehow.com/list_6100977_osharegulations-hard-hat-expiration.html#ixzz1mHVMv6qs))

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**Pre-Meeting Dinner:** Join us for dinner at the Pier 7 Restaurant at 6:00 PM for dinner before the club meeting. 650 Water St SW, (at S L St), Washington, DC 20024, (202) 554-2500, [www.pier7restaurant.com/Menu](http://www.pier7restaurant.com/Menu).  
**Please call Susan Fisher at 703-830-9733 to make a reservation if you wish to attend.**

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

**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 BY JANUARY 10.**

Pay at December or January 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?** Distributed to Club members only.

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**

President: Tom Tucker, threedogtom@earthlink.net

Vice President & Program Chair: Andy Thompson, thompson01@starpower.net

Secretary: Patricia Rehill, patriciarehill@gmail.com

Treasurer: Rick Reiber, Mathfun34@yahoo.com, (mail: c/o MSDC, P.O. Box 9957, Alexandria, VA 22304)

Director: Cynthia Payne

Director: Dave Nanney

Director: Dave Hennessey

Editor: Sheryl Sims, sesims4@cox.net

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**Meeting Dates, Time, and Location:** The first Wednesday of each. (No meeting in July and August.) The National Museum of Natural History, Smithsonian Institution, 10<sup>th</sup> 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. If you park on the street, **THERE ARE NOW PARKING FEES, PAYABLE AT THE KIOSKS, AND ENFORCEMENT UNTIL 10 PM.**

# ***MINERAL MINUTES***

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

Sheryl Sims – Editor

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Alexandria, VA 22315

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