



Mineralogical Society of America



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PRESIDENT'S LETTER

MSA at 100: Teaching Mineralogy



Mickey Gunter

This President's Letter may seem more fitting for a Triple Point column as an opinion piece but, based upon a career of teaching and learning basic and applied mineralogy, I think it is a subject we all need to consider regardless of our professional status. I stated that I thought it was important to "return the pure study of mineralogy back to geological sciences curricula" in my write-up when I ran for vice president and president. Many of the more senior readers of this article will recall when mineralogy was taught as a year-long

course, often with mineralogy the first semester followed by optical mineralogy. Not to leave out the petrologists, petrology used to be a full-year course as well. And now, many schools have condensed two years' worth of courses into one half year, while our knowledge in these areas has only grown!

Perhaps we are a victim of our own success. Over the last 100 years, our science has matured to the level where, although there are still unanswered questions, we do have a deep understanding of our field. For instance, look no further than the Reviews in Mineralogy and Geochemistry series where there are entire volumes dedicated to mineral groups from A to Z (i.e., amphiboles to zeolites). We have also been able to design entire families of instruments that allow us to accurately and precisely determine the composition of minerals and their internal structure at several scales, as well as send a miniaturized version of one of those to Mars; and, to understand the theory of how these instruments work. So, it might seem to many faculty members that there is less of a need for a year-long course in mineralogy because we have made all of these accomplishments in the last 100 years. But they could not be further from the truth, because a basic understanding of mineralogy underlies most of the geosciences. In fact, this might also explain why "pure" mineralogy is being taught less because there are so many non mineralogists who can teach mineralogy more as a means to an end, rather than an end in itself. In fact, one of my petrology colleagues used to joke that my mineralogy course should be taught as an introduction to petrology course and named likewise.

Specifically, let us take optical mineralogy and the use of the polarized light microscope as an example; most certainly we could pick another area such as crystallography. A few years back, I conducted a non-scientific survey on MSA-Talk. Two-thirds of those who responded stated their institution used to teach a semester-long course in optical mineralogy, while now only one-third do so. While there might be many reasons (e.g., inclusions of other courses, courses on more "modern" instrumentation, reduction in credits hours for the major, etc.) the end result is that fewer students learn this much-needed basic skill. And to "prove" it is much-needed, look no further than the private sector where several companies teach week-long courses in polarized light microscopy. The cost of these courses is approximately \$2,000. Of course, there are many other reasons to teach optical mineralogy and use of the polarized light microscope; this has been often pointed out in lively discussions on MSA-Talk.

Whereas there will be new things to learn over the next 100 years, there most certainly needs to be a return to teaching more of the fundamental principles of mineralogy that have been removed from our curriculum, and I only need point to the example of optical mineralogy. MSA most certainly has teaching resources to help accomplish this. But as we teach the new things, let us not forget the old things that are the very foundations for building the new things!

Happy teaching and learning ... both the old and new!

Mickey Gunter, 2019 MSA President

NOTES FROM CHANTILLY

- MSA will have electronic balloting for the 2019 election of 2020 MSA officers and councilors. The slate of candidates – President: Carol D. Frost (University of Wyoming); Vice President (one to be selected): Howard W. Day (University of California-Davis) and Mark Ghiorso (OFM Research). Secretary (one to be selected): Kim Tait (Royal Ontario Museum) and Razvan Caracas (École normale supérieure de Lyon). Councilor position 1 (one to be selected): Przemyslaw Dera (University of Hawaii) and Mainak Mookherjee (Florida State University). Councilor position 2 (one to be selected): Fangzhen Teng (University of Washington) and Francis McCubbin (NASA Johnson Space Center). Thomas S. Duffy (Princeton University) continues in office as Treasurer. Continuing Councilors for 2019 will be Jay J. Ague (Yale University), Donna L. Whitney (University of Minnesota), Mark J. Caddick (Virginia Tech), and Adam C. Simon (University of Michigan).
- All 2017 and 2018 MSA members have been contacted by mail, electronically, or both about renewing their membership for 2019. If you have not renewed your MSA membership, please do so. If you have not received a notice by the time you read this, please contact the MSA Business Office. You can also renew online anytime.

J. Alex Speer
MSA Executive Director

AWARD NOMINATIONS

Nominations Sought for 2020 Awards

Nominations must be received by 1 June 2019

The **Roebbling Medal** (2020) is MSA's highest award and is given for eminence as represented by outstanding published original research in mineralogy.

VOTE
2019 MSA ELECTIONS

The **Dana Medal** (2020) recognizes continued outstanding scientific contributions through original research in the mineralogical sciences by an individual in the middle of their career.

Mineralogical Society of America Award (2020) is given for outstanding published contribution(s) prior to awardee's 35th birthday or within 7 years of the PhD.

The **Distinguished Public Service Medal** (2021) is presented to an individual who has provided outstanding contributions to public policy and awareness about mineralogical topics through science.

Society Fellowship is the recognition of a member's significant scientific contributions. Nomination is undertaken by one member, with two members acting as cosponsors. Form required, contact committee chair or MSA home page.

Submission requirements and procedures are on MSA's home page:
<http://www.minsocam.org/>

IN MEMORIAM

HIDEMICHI HORI (1980)
JAMES H. C. MARTENS (1924)
FRED ORDWAY (1955)
HORST PENTINGHAUS (1972)
ROBERT TRACY (1968)

2019 TUCSON GEM & MINERAL SHOW



There was a combined MSA/MAC booth at the Tucson Gem & Mineral Show, held 14–17 February 2019. This year's theme was wulfenite. Unlike most years, MSA had an exhibit case on the floor as well. The exhibit theme was MSA Centennial and the case was assembled by MSA members John Rakovan and Barb Dutrow. It included MSA publications, awards, mineral specimens from the University of Michigan that had belonged to MSA founder Edward H. Kraus, as well as a specimen of the mineral krausite $[KFe_{3+}(SO_4)_2 \cdot H_2O]$. Many of the Tucson show attendees are from the general public. They attend out of curiosity and this year had lots of questions about the items at the booth illustrating a short history of the Universe.

MINERALOGICAL SOCIETY OF AMERICA
AND GEOCHEMICAL SOCIETY

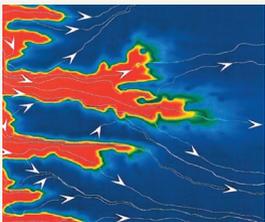
Short Course Announcements

REACTIVE TRANSPORT IN NATURAL
AND ENGINEERED SYSTEMS

ORGANIZERS: Jennifer L. Druhan, University of Illinois
Christophe Tournassat, French Geological Survey, Orléans (BRGM)

17–18 August 2019

(before the Goldschmidt Conference, 18–23 August 2019, Barcelona, Spain)

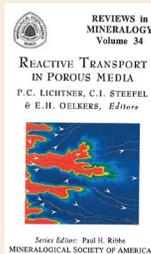


A wide variety of geochemical processes—including such diverse phenomena as the transport of radiogenic and toxic waste products, diagenesis, hydrothermal ore deposit formation, and metamorphism—are the result of reactive transport in the subsurface. Such systems can be viewed as open biogeochemical reactors where chemical change is driven by the interactions between migrating fluids, solid phases, and organisms.

The evolution of these systems involves diverse processes including fluid flow, chemical reaction, and solute transport, each with differing characteristic timescales. This volume focuses on methods to describe the extent and consequences of reactive flow and transport in natural subsurface systems.

For more description and table of contents of these books, and ordering online visit www.minsocam.org or contact the Mineralogical Society of America, 3635 Concorde Pkwy Ste 500, Chantilly, VA 20151-1110 USA phone: +1 (703) 652-9950 fax: +1 (703) 652-9951

PUBLICATION ON REACTIVE TRANSPORT



A wide variety of geochemical processes including such diverse phenomena as the transport of radiogenic and toxic waste products, diagenesis, hydrothermal ore deposit formation, and metamorphism are the result of reactive transport in the subsurface. Such systems can be viewed as open bio-geochemical reactors where chemical change is driven by the interactions between migrating fluids, solid phases, and organisms. The evolution of these systems involves diverse processes including fluid flow, chemical reaction, and solute transport, each with differing characteristic time scales. This volume focuses on methods to describe the extent and consequences of reactive flow and transport in natural subsurface systems.

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MSA CENTENNIAL SYMPOSIUM

1919 – CENTENNIAL – 2019



Mineralogical Society of America

20–21 June 2019
Washington D.C., USA

Join us in celebrating
the 100th MSA Birthday!

This symposium will feature 44 speakers who will address a range of exciting themes:

- The mineralogy of Mars
 - Diamonds and plate tectonics
 - Minerals and sustainability
 - Unraveling the roots of continents
 - Mineral dusts and human health
- and more...

Registrants will attend a private evening reception at the National Museum of Natural History for viewing of the Janet Annenberg Hooker Hall of Geology, Gems, & Minerals!

Symposium information can be found at: http://www.minsocam.org/MSA/Centennial/MSA_Centennial_index.html