



Mineralogical Society of America

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PRESIDENT'S LETTER

Final Thoughts

This is my sixth, and last, President's Letter in *Elements*. If you look back at the titles of my previous five offerings, "MSA at a Crossroads," "Mineralogy, an Inch Deep and a Mile Wide?," "MSA and AGU: A Very Important New Partnership Begins," "Mineralogy to the Fore," and "MSA Marches On, Quickly," one can see that I have been writing about the challenges that MSA faces and the very important new opportunities that MSA has at its fingertips right now, particularly with new developments related to AGU and *American Mineralogist*. A third theme that I have also written about is the foundational status that mineralogy will always have in the Earth, planetary, and space sciences, and the opportunities this gives to us; I strongly believe that this simple fact underlies the health of our science in the long term and is arguably the most important subject for our discussions not only within the MSA membership but also with all the mineralogical societies around the world that represent our science so well.

As my final comment in the President's Letter, allow me to attempt to put together these three themes in a way that will result in a grand challenge. To do so, I need to start with a natural tendency among all of us: humans are deeply prone, and often for good reason, to put up dividing lines. We often categorize, organize, separate, classify, sort, and group. We all know this and experience it every day, whether in politics, religion, business, or any other human endeavor—including academics. Considering the latter, here at Virginia Tech, every science major will happily (or maybe not so happily) go through the usual "intro courses" where science is neatly separated—a.k.a. Introduction to Chemistry, Introduction to Physics, Introduction to Biology, and so on—usually within the first two years of their undergraduate tenure. However, these days, here at Virginia Tech and at some other schools, one can bypass the intro courses and take, for two years, what is often called an "integrated science curriculum." The historic barriers that we find so convenient have been removed in this case, and students are immersed in problem-driven science. In the process, they learn the fundamentals of all the sciences at once, as needed, to understand observed phenomena of all sorts. After all, in the real world, there are no dividing lines within the behavior and processes of nature. Thinking of this from the opposite direction, all aspects of nature operate not based on the principles of physics and then the principles of chemistry, but on both, and always combined. Closer to home, in the critical zone of Earth, no process is truly purely geo or bio, but geo-bio-phys-chem, all mixed into one. From this vantage point, the dividing lines need to go away, or we are fooling ourselves.

Now, take this same mindset and go to an AGU or GSA meeting or a Goldschmidt Conference and randomly walk into a session without even looking at the session schedule on the easel just outside the door. Listen to a few talks, then continue your random walk through the meeting venue and keep doing the same thing. The point is, it would be difficult to not find some aspect of the science of mineralogy, either directly or indirectly, in every talk you listen to. How many of the subdisciplines of the Earth and space sciences can say that? A few can; most cannot. The significance for us? In the natural world the science of mineralogy is everywhere, and it is relevant in some way or another to just about all things. The processes in which the science of mineralogy has critical relevance are not ubiquitous but are truly common. Also, mineralogists, especially these days, are also geochemists, or geophysicists, or petrologists, or atmospheric scientists, or contaminant hydrologists, or biologists, and so on, because they don't see the boundaries—a very good thing. The importance of and need for our science in the future is thus assured. Sure, the methods and emphasis and bounds of mineralogy will change. They always have and they always will. But that in no way should be mistaken for a reduction in mineralogy's relevance.

We should expect that the only constant thing is change. Change in the way in which mineralogy is taught; change in the courses where mineralogy is taught; change in the way mineralogy is done; and change in the way mineralogy is applied to understanding this planet, other planets, all the other types of bodies in space, and space itself.

How many sessions at AGU, GSA, Goldschmidt, and other international meetings can MSA cosponsor? We already cosponsor a remarkable number, and we will do more. And how much of this exciting science, whatever "field" it is in, might appear on the pages of *American Mineralogist*? Mineralogy is relevant not just to itself, but to everything outside of it. *AmMin* is now on a path to help promote that approach. And as this happens, journals like *Science*, instead of just going to other fine geoscience journals, such as *EPSL* and *JGR*, for their "Editor's Choice" column, will also be able to come to *American Mineralogist*.

Our grand challenge is to deconstruct artificial barriers, and at the same time actively show, always, how mineralogy is a science that is critically relevant to, and inseparable from, all aspects of the Earth and planetary sciences.

I have been deeply humbled to be president of this historic society, whose outlook is extraordinary, especially when seen from this angle. What a great pleasure it has been. My warmest and very best regards to all.

Michael F. Hochella Jr. (hochella@vt.edu)
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President, Mineralogical Society of America

NOTES FROM CHANTILLY

• **Results of the 2012 MSA election:** The 2013 president is John M. Hughes; the vice president is David J. Vaughan. Andrea Koziol remains in office as secretary, and Howard W. Day was elected treasurer. The new councilors are Isabelle Daniel and Kirsten P. Nicolaysen. They will join continuing councilors Pamela C. Burnley, Guy L. Hovis, Christine M. Clark, and Kimberly T. Tait.

• MSA members were contacted electronically in September to renew their membership for 2013. Members who renew and pay online before 31 October 2012 will receive a \$5 dues discount; the discount reflects cost savings to MSA from members who renew early online. There will be several electronic reminders before a paper copy is sent during November to those who do not renew online by the end of October.

• Honorary and life members and fellows are sent renewal notices. They need not pay dues, but are sent notices as the best way to prompt an update of membership information, particularly mail and e-mail addresses.

• Senior members and senior fellows also need not pay dues, but they do need to pay if they wish to subscribe to *American Mineralogist* or other journals.

A member qualifies for senior status if they have reached the age of 65, have retired from fulltime professional employment, and have been a member of the Society for at least 30 years. Senior members and fellows retain all benefits of MSA membership (receiving *Elements*, voting, reduced rates on MSA products, etc.), but need not pay dues. They can subscribe to the paper or electronic version of *American Mineralogist* or other journals, purchase Society publications, and attend short courses all at member rates. If you are interested in senior status, select senior member or senior fellow dues on your next renewal and write us in the text box that you would like to become a senior member.

• If you subscribe to other journals through MSA—*Journal of Petrology*, *Physics and Chemistry of Minerals*, *Rocks & Minerals*, *Mineral News*, or *Gems & Gemology*—please renew early. MSA needs to forward your renewal to those publishers before your subscription runs out.

J. Alex Speer

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IN MEMORIAM

HAROLD R. STEACY – SENIOR FELLOW – 1967

2012–2013 MSA DISTINGUISHED LECTURERS

The Mineralogical Society of America is pleased to announce its Distinguished Lecturers and their lecture titles for 2012–2013:

Julia A. Baldwin, Department of Geosciences, University of Montana, Missoula, MT, USA: (1) “Metamorphic phase diagrams and geochronology: You can’t have one without the other”; (2) “When the continental crust gets really hot: The petrology of ultrahigh-temperature metamorphism”

Matthew J. Kohn, Department of Geosciences, Boise State University, Boise, ID, USA: (1) “How to become a fossil: A geochemist’s guide”; (2) “Making the Himalaya: Oozing, squashing or sliding?”

Hans-Peter Schertl, Institut für Geologie, Mineralogie und Geophysik, Ruhr Universität Bochum, Bochum, Germany: (1) “A time machine for rocks: Cathodoluminescence microscopy of metamorphic and magmatic minerals”; (2) “How do mountains form? The critical evidence from small-scale petrological observation”

The schedule of the Lecturers’ tours will be posted on the MSA website (www.minsocam.org). Check to see if the lectures will be at a location near you. MSA expresses its appreciation to these individuals for undertaking such a service to our science.

MSA AWARDS



Harry W. Green II

At this year’s annual meeting in Charlotte, North Carolina, USA, Harry W. Green II will receive the 2012 Roebling Medal, given for a lifetime of outstanding original research in mineralogy. Professor Green is Distinguished Professor of the Graduate Division in the Department of Earth Sciences, University of California–Riverside, California, USA. In his research, he uses microstructures to understand the effect of stress on mineral reactions and phase transformations, and the consequences of those interactions for flow and failure in Earth’s mantle and their relationship to plate tectonics. He has devoted particular attention since 1989 to the mechanics of earthquakes and other processes operating within subducting lithosphere and at the interface of that lithosphere with the mantle wedge above; in this environment he and his colleagues have documented ultrahigh-pressure metamorphism occurring at depths approaching 400 km, followed by exhumation to the surface.



Karim Benzerara

The Mineralogical Society of America Award is given for outstanding contributions by a scientist beginning his or her career. Dr. Karim Benzerara is the 2011 MSA Award recipient. Dr. Benzerara is a CNRS director of research, Institute of Mineralogy and Physics of Condensed Matter (IMPIC), Paris, France. Dr. Benzerara’s main research interest has been the study of interactions between microorganisms and minerals, i.e. how microbes form and/or alter minerals. The implications are as diverse as the search for traces of life in ancient rocks, the design of bioremediation strategies, and the study of processes leading to pathological calcifications in the human body. In particular, he has used microscopy and spectroscopy techniques extensively, including electron- and synchrotron-based X-ray microscopy (STXM), which provides information both on organic carbon and minerals down to the nanometer scale. Recently, his research has centered on the formation of amorphous carbonate phases within cyanobacteria cells.



Out-of-print Reviews volumes are back! You can now purchase the entire volume of your favorite, previously out-of-print Reviews volume in electronic or print form. These are: v1, *Sulfide Mineralogy*; v2, *Feldspar Mineralogy*; v3, *Oxide Minerals*; v4, *Mineralogy and Geology of Natural Zeolites*; v5, *Orthosilicates*; v6, *Marine Minerals*; v7, *Pyroxenes*; v9A, *Amphiboles and Other Hydrous Pyriboles: Mineralogy*; v12, *Fluid inclusions*; and v17, *Thermodynamic Modeling of Geologic Materials: Minerals, Fluids, and Melts*. An added advantage: you can now search the electronic versions.

You can also purchase single chapters from these and all Reviews volumes [v1 (1974) to present], and you can use chapters from any and all Reviews volumes for course packs and add to them articles from the *American Mineralogist* [v85 (2000) to present] and *Elements* [v1 (2005) to present].

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