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## PRESIDENT'S LETTER

### MSA: Can We Publish Our Research in a Better Way?



I write this, my fifth President's Letter, in mid-July. My previous letters have all focused on the pandemic, which has affected all of our lives in profound ways. But, for this message, I'd like to reflect on a matter that existed before the pandemic and that has only become more acute as we emerge from the viral abyss. Namely, how we can publish our work in a manner that is replicable, accessible, reproducible, and extensible.

I am sure that most of you are thinking that the process is simple, or at least simply stated. You write the paper. You submit the paper (hopefully to *American Mineralogist*!). The paper is reviewed and revised, and, ultimately, it is published and read and maybe even cited by others. That is the traditional publication workflow. Researchers have been doing it this way for centuries. Yes, now we have more publication options, including open-source venues, and there is an increased reliance on supplemental materials to support and document arguments and conclusions. But the result is still a static research snapshot.

What do most readers do with published articles? We reference the conclusions, usually to support an argument that we are trying to make in a subsequent paper. We reference data associated with the publication. Usually, those data are provided in supplementary documents maintained by the journal with limited search capability with regard to content. Why doesn't the journal publication process insist that these critical supportive data be stored in centrally accessible and searchable data resources? Much time and effort are expended by managers of data facilities, and by authors who do synthesis data analyses, in

transferring and organizing publication data to make them accessible in online databases. That process invariably involves rooting out metadata essential for a full characterization of the dataset that are seldom fully presented in the published work. Why is this effort not part of the publication process? If our goal is to publish replicable and extensible science, it should be.

In addition to using data and conclusions presented in publications, the community relies more and more on the use of published modeling tools. Here, the traditional publication process fails us entirely. A publication may describe a model, say a new geothermometer, but if that model is of any complexity, subsequent researchers who want to use that model require an implementation. A workbook or some software may be made available, and its distribution may be tied to the journal article via supplementary documents. But is that really sufficient? Software goes out of date, websites become obsolete or ill-maintained, and the inevitable result is that the future use of the modeling tool is impaired.

We need a better way to publish our science, in particular our synthesis science that results in models that are intended to be used by the community. We need to publish models as sustainable open-source software ecosystems, and we need to establish intimate direct ties between the publication process and the code/data repositories. The time is now to begin to reexamine how we publish our science. With the limitations imposed by the printing process no longer a relevant issue, we should be exploring avenues that ensure that future published work will adhere to the goals of replicable and reproducible science.

As always, I would very much enjoy hearing your thoughts on this matter.

**Mark Giorso**  
2021 MSA President

## NOTES FROM CHANTILLY

- Membership renewals for 2022 will start in September, with MSA renewal notices sent electronically followed by several electronic reminders before a paper copy is sent to those who do not renew online by the end of October.
- Member subscription rates to the print version of the 2022 *American Mineralogist* will increase. The U.S. member print subscription price will be \$170 (currently \$165), and the foreign member print subscription price will be \$190 (currently \$185). The U.S. institutional subscription price (paper and electronic) will increase to \$1,320 (from \$1,300), and foreign institutional subscriptions will be raised to \$1,335.00 (from \$1,325.00). The institutional electronic-only subscription will increase to \$1,235 (from \$1,225). Included in the institutional subscription will be all current-year (2022) print issues of *American Mineralogist*, *Reviews in Mineralogy and Geochemistry*, *Elements*, as well as access to the electronic version of these publications on the MSA website starting with volume 1, number 1. GeoScienceWorld subscriber prices for *American Mineralogist* and the *Reviews* are \$275 and \$255, respectively.
- Members and Fellows who are in the senior, honorary, and life categories 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.
- If you subscribe to other journals through MSA, please **renew early**, because MSA needs to forward your renewal to those publishers before your subscription expires. These journals include: *Gems & Gemology*, *Journal of Petrology*, *Mineral News*, *Physics and Chemistry of Minerals*, *Mineralogy and Petrology*, *Rocks & Minerals*, and *Journal of Gemmology*.

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### "Stacking disorder and reactivity of kaolinites"

Bidemi Fashina and Youjun Deng

### "New insight into the relationships between structural and FTIR spectroscopic features of kaolinites"

Victor A. Drits, Bella B. Zviagina, Boris A. Sakharov, Olga V. Dorzhieva, and Aleksander T. Savichev

### "Influence of nanostructural-biocolloidal processes on the rheological properties of marine clay dispersions of iron-aluminosilicates and their mineralogical transformations as a cause of certain catastrophic phenomena"

I.G. Kovzun, A.V. Panko, V.O. Oliniki, V.A. Propenko, O.M. Nikipelova, and O.A. Tsyganovich

### "Construction and characterization of a nanostructured biocatalyst consisting of immobilized lipase on Mg-amino-clay"

Mingzhu Zhang, Shiyong Sun, Rui Lv, Yevgeny Aleksandrovich Golubev, Ke Wang, Faqin Dong, Olga Borisovna Kotova, and Elena Leonidovna Kotiva

### "Preparation and visible photocatalytic properties of N-doped TiO<sub>2</sub>/muscovite nanocomposites"

Yao Li, Hongjuan Sun, Tongjiang Peng, Hao You, Li Zeng, and Yating Qin

Go to <https://link.springer.com/journal/42860/volumes-and-issues> to see the latest issues.

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## CONTRIBUTORS AND BENEFACTORS

Many members contribute to MSA by including a donation with their annual dues and/or by responding to special appeals. Depending on the wishes of the member, the money is deposited with the principal of the MSA Endowment, the J. Alexander Speer Outreach Fund, the MSA Mineralogy/Petrology Fund, the J. B. Thompson Fund, the Edward H. Kraus Crystallographic Research Fund, the F. Donald Bloss Fund, the General Operating Funds, or the new Peter R. Buseck Lecture Fund. The income of these funds is used to support MSA's research grants in crystallography, mineralogy, and petrology; the MSA Undergraduate Prizes; the Mineralogical Society of America Award, the Distinguished Public Service Award, the Dana Medal, and the Roebing Medal; the website; and the Distinguished Lecturer program. If you have not done so previously, please consider contributing at the next opportunity. Here, we want to extend our gratitude to the individuals and organizations that have contributed to MSA between 1 July 2020 and 30 June 2021.

## AWARDS NEWS

Past President **Michael Brown** (University of Maryland, USA) is the 2021 recipient of the Distinguished Geological Career Award. This award is given by annually by the Mineralogy, Geochemistry, Petrology, and Volcanology Division of the Geological Society of America. The award will be presented at GSA's Annual Meeting in Portland (Oregon, USA) this October.

Past President **Robert Hazen** (Carnegie Institution for Science, Washington DC, USA) is the 2022 recipient of the International Mineralogical Association's Medal for Excellence. This award is given for "outstanding scientific publication in the field of mineral sciences."

The MSA congratulates both award recipients for these honors.

## REMEMBERING CARL BOWSER

The staff at MSA are sad to announce the recent passing of Dr. Carl J. Bowser. Dr. Bowser was one of us at the MSA booths at GSA and at the Tucson Gem and Mineral Show (TGMS) each year. He captivated children at the TGMS booth as he explained the displays of rocks and minerals created by Alex Speer. Dr. Bowser joined MSA in 1959 and became a Senior Fellow of the organization. Professor Emeritus of the University of Wisconsin-Madison (USA), he was also a skilled and talented photographer. We will greatly miss his knowledge, kindness, and great sense of humor.



Carl Bowser and John Rakovan at the MSA booth at the Tucson Gem and Mineral Show.

## MSA STUDENT GRANT AWARDEES



**Si Athena Chen** (Pennsylvania State University, USA) is the winner of the 2021 Grant for Research in Crystallography funded by the Edward H. Kraus Crystallographic Research Fund for her proposal "Superhydrous hematite and goethite: a potential water reservoir in the red dust of Mars?"



**Eva Juliet Baransky** (Northern Arizona University, USA) is the first of the winners of the two 2021 Grants for Student Research in Mineralogy and Petrology. Eva won for her proposal "Investigating Ni isotope fractionation during interaction with birnessite and implications for the marine Ni budget."



**Juliet Ryan-Davis** (California Institute of Technology, USA) is the second winner of the 2021 Grants for Student Research in Mineralogy and Petrology for her proposal "Developing fs-LA-MC-ICPMS protocol for in situ Sr isotope analyses in clinopyroxene: quantifying mantle-derived inputs across the Sierra Nevada batholith."

## DID YOU KNOW?

You can follow MSA on Facebook, Twitter, and Instagram. And you can subscribe to our YouTube channel. Videos on YouTube include those from the Centennial Symposium, Minerals Day, Short Courses, and others. Our warmest thanks to MSA Social Media Liaison Officer Dr. Andrea Koziol for moderating the Facebook, Twitter, and Instagram accounts.