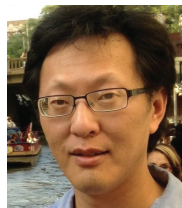




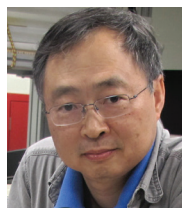
NEW MEMBERS JOIN GS BOARD OF DIRECTORS

Two new members joined the Geochemical Society's Board of Directors in January. They will serve for three years and help set the strategic direction of the organization. Meet the entire board of directors at www.geochemsoc.org/board



Cin-Ty Lee was elected as a director from Region 1 (Canada and the United States). He is a geochemist at Rice University (Texas, USA) with interests in mantle and crustal differentiation, ore genesis, weathering, interactions between the deep Earth and atmosphere, and crystal growth kinetics. He has published over 150 peer-reviewed papers in geochemistry, geophysics and tectonics. His editorial service includes *Geochemistry*, *Geophysics and*

Geosystems, *Geochemical Perspective Letters*, and *Science Advances*. He has served in a number of leadership positions, including being department chair. He is passionate about education, science communication, diversity and holding dialogs between academics and industry. He holds a PhD from Harvard University and a BA from UC Berkeley and has been a professor at Rice University since 2002.



Liping Zhou began his term as a director from Region 3 (Africa, Asia, Australia, and Central/South America). He is Boya Distinguished Professor and Director of Institute of Ocean Research at Peking University in Beijing. He graduated from Peking University, got his PhD from Cambridge University, and did postdoctoral research in the University of East Anglia and then Cambridge University. His research aims to apply multiple geochemical

approaches for revealing and understanding the history of Quaternary climate change recorded in the continental and marine archives. He is currently using stable and radiogenic isotopes of seawater to characterize water masses and ocean circulation in the South China Sea, the Philippine Sea and the NE Indian Ocean. He previously served on the Science Committee for the 2020 Goldschmidt Conference.

VOLUNTEER SERVICE OPPORTUNITIES

The society's programs are driven by the efforts of hundreds of volunteers. Serving on a board, committee, or working group is a way to give back to the community and meet new colleagues. There are opportunities for scientists at every career stage, including students. Go to www.geochemsoc.org/get-involved to learn more.

SETTING THE PATH FORWARD TO A MORE INCLUSIVE AND EQUAL ENVIRONMENT IN GEOCHEMISTRY

Mentoring has been recognized as an essential tool to promote personal and professional development and is a two-way street that benefits both mentor and mentee. The geochemical community increasingly recognizes the importance of mentoring, but there are still recognizable gaps that not only impact future opportunities for underrepresented groups, but also are part of a systematic problem which involves how mentoring is perceived and addressed within academic departments. The Geochemical Society and the European Association of Geochemistry organized a Town Hall in December 2020 aiming to start a hard but long-needed conversation about mentoring, the overall challenges faced by mentors and mentees, and how we can bring positive change to geochemistry. We have invited four panelists for this discussion — Rebecca Barnes (Colorado College, USA), Pieter Bots (University of the

Strathclyde, UK), Fillsmith Luzolo Ndongani (University of Cape Town, RSA), and Nivea Magalhães (University of St Andrews, UK), facilitated by Mariama Boney.

What is the role of a mentor?

Different views have emerged on what constitutes the role of a mentor. While research has shown that we tend to look for mentors that are "like us", there is also a clear tendency to see the academic supervisor as the primary mentor. Forming a network of mentorship (i.e., having more than one mentor) is regarded as ideal if possible, as different mentors can provide varied advice, also not burdening a single person. However, regardless of whether a mentor is a primary academic supervisor or not, or if a person has many mentors, it is agreed that good mentorship should allow for the mentee to be their "unapologetic self" and provide a broadening of their horizons, both personally and professionally.

The audience participated via poll. When asked the question "Do you have access to any formal or informal mentors that you trust?", a majority (78%) does have access. The most valued trait of a good mentor was "being supportive", while other important traits were being a good listener, having experience, and having empathy.

Difficulties in mentorship

Difficulties brought up by the panelists reveal different aspects that are broad and interconnected, affecting both mentors and mentees. Although mentoring is an essential part of academic life, it is generally not rewarded or recognized by departments either financially, towards promotions, academic service, or even simply as a time-consuming activity that benefits academia greatly both in the short- and long-term. Despite the lack of recognition, mentoring is often expected of a researcher but very little training, if any, is offered on how to be a good mentor, and resources for both mentors and mentees can be scarce.

The structure of the system, as it currently stands, favors the formation of mentorships where the mentor is the supervisor who holds the financial purse-strings of a student's project. Therefore, a power imbalance often exists when an academic advisor is also a student's primary mentor, and this can be detrimental if mentor and mentee's values and expectations diverge. This can affect both domestic and international students. Additionally, international students often struggle to find mentors in other countries due to discrimination and/or a lack of understanding of other countries' systems. Even when this barrier is overcome, there is an additional struggle as international students may be afraid to lose immigration status, which adds to an even greater power imbalance. Discrimination also can impact other groups, and more often than not there isn't a support system in place to address these issues, leaving mentees either without mentorship or in dire situations.

Ways forward

Creating a mentorship-friendly culture within our community is essential for changing the current system into a more open, inclusive, and equitable one. Departments need to recognize mentorship as an important contribution, reward these efforts when evaluating faculty for promotions, workload models, and provide resources in support for both mentors and mentees. Development of strategies for giving feedback safely, and if needed, change of mentorship, also need to be addressed. Mentoring trees within departments involving undergraduate and graduate students, postdoctoral fellows, and faculty provide an opportunity for training early career scientists in how to be a mentor while also receiving mentoring. A mentoring tree also helps separate academic supervisor and mentor.

Cont'd on page 48



Cont'd from page 47

Finally, some mentorship network opportunities are tied to access to large international conferences, which are not accessible for many students and early career researchers due to the cost. This disproportionately affects scientists from low-income countries, helping to perpetuate the status quo. Opportunities for mentorship vary from country to country. While it may be easier to form a mentorship network in the US, for example, the same is not true in Africa.

These suggestions are meant to provide a way forward to making geochemistry an accessible field for everyone equally, but we recognize this is just the beginning of these much needed conversations.

Further Resources

- <https://www.nationalacademies.org/our-work/the-science-of-effective-mentoring-in-stemm>
- <https://nrmnet.net/blog/2016/05/16/culturally-aware-mentoring-a-new-mentor-training-module/>

A recording of the December 3 town hall is available at: www.geochemsoc.org/events/gs-town-hall-mentoring-geochemistry

To learn more about the Geochemical Society's diversity, equity, and inclusion efforts, visit www.geochemsoc.org/DEI

Nivea Magalhães
University of St. Andrews

FREE AND DISCOUNTED STUDENT ACCESS TO GOLDSCHMIDT2021 ONLINE

The 2021 Goldschmidt Conference is being planned as a online meeting. The GS and EAG are still offering free or reduced-cost registration for students and certain early career scientists. The conference is a great opportunity for undergraduate and graduate students to learn about the latest discoveries and engage with scientists from around the world.

Free registration is available for:

- Early career delegates whose main institution is located in low-income or lower-middle-income countries AND who graduated in 2014 or later, or are within 6 years of PhD
- U.S.-based graduate students and post-doctoral scholars working at universities or institutions in the U.S. and its territories who are engaged in planetary science research (with support from NASA)
- U.S.-based students (undergraduate or graduate) from underrepresented groups in the science and engineering student population, as designated by the NSF, in this case African Americans, Hispanics, Native Americans, Hawaiian and Pacific Islanders, and Alaskans
- U.S.-based students (undergraduate or graduate) from non-PhD-granting institutions
- U.S.-based students (undergraduate or graduate) from any US institution who are the first generation in their families to attend college (with support from NSF).

If you meet any one of these criteria, you can apply for waived registration. If you are not eligible, then registration is only €75 for student members of either society.

Visit: tinyurl.com/ytnu4cfw

FROM THE PRESIDENT



Dr Ritsuro Miyawaki

The Japan Association of Mineralogical Sciences (JAMS) has started to coordinate some activities for the 2022 Year of Mineralogy, which will highlight the important role of mineralogy as a basic science. Some special publications are being prepared by the JAMS, such as a textbook on mineralogy that will highlight recent global progress in the science (in Japanese), special issues of academic journals across the geosciences, and special issues of science magazines for the public. Exhibitions, mineral fairs, and mineral shows will be supported by JAMS in several cities over the next two years.

During 2020, the 13th anniversary of the JAMS, we faced a challenging time due to COVID-19. We organized a virtual annual meeting, instead of a 'real' meeting. The members, conveners, and organizing committee contributed to an active and fruitful meeting with more than 200 'remote' participants. The online presentations and discussions provided a new style of science communication. I hope that the next annual meeting, scheduled for September 2021 at Hiroshima University, will combine the benefits of in-person and virtual attendance. I believe a great number of participants will be able to enjoy 'hot' topics in the mineral sciences at JAMS 2021 on the campus of Hiroshima University, and at individual offices, laboratories and, occasionally, on field trips to remote areas. We cordially invite you to attend the JAMS meeting. Please check our website for more information: http://jams.la.coocan.jp/e_index.html.

The JAMS publishes the international *Journal of Mineralogical and Petrological Sciences (JMPS)*. This journal covers the fields of mineralogy, petrology, economic geology, geochemistry, planetary materials science, and related scientific fields and is indexed in the Institute of Science Index (ISI) database and in the Journal Citation Reports (JCR). All issues of this open access journal are now available online, free of charge. The contents of recent issues are given in the JAMS society news columns in every issue of *Elements*. You may find articles in *JMPS* that are of relevance to your own research or that you simply find interesting. And your contributions are sincerely welcome.

Dr Ritsuro Miyawaki, JAMS President

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Original Articles

A new occurrence of okhotskite in the Kurosegawa belt, Kyushu, Japan: the okhotskite + Mn-lawsonite assemblage as a potential high-pressure indicator – Wataru YABUTA and Takao HIRAJIMA

Deep crustal crystallization of tholeiitic melt: Insights from Manguao Basalt, Palawan, Philippines – James Cesar Avisado REFRAN, Tsukasa OHBA, Carlo Abundo ARCILLA, Takashi HOSHIDE and Maria Ines Rosana D. BALANGUE-TARRIELA

Petrological and mineralogical contrasts of basic lithologies between eclogite and non-eclogite units along the Kokuryo River of the Sanbagawa belt, Central Shikoku, Japan – Masaki ENAMI, Shuaimin HUANG, Motohiro TSUBOI and Yuki WAKASUGI

CO₂ distribution in CO₂-rich melanophlogite from Fortunillo, Tuscany, Italy – Masami KANZAKI

Fedorovskite from the Fuka mine, Okayama Prefecture, Japan – Shoichi KOBAYASHI, Fumiko HIGASHINO, Mitsuo TANABE, Shigetomo KISHI, Yoshinori ICHIHASHI and Isao KUSACHI

Technical Note

The synthesis of metavivianite and the oxidation sequence of vivianite – Kohei CHIBA, Misaki TAKAHASHI, Eriko OHSHIMA, Toru KAWAMATA and Kazumasa SUGIYAMA