

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, and help separate academic supervisor and mentor.

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 need 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/>