



Association of Applied Geochemists

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MESSAGE FROM THE PAST PRESIDENT



Ryan Noble

Well, my two-year tenure at the helm of the Association of Applied Geochemists (AAG) has come and (nearly, at the time of writing) gone. It went fast and was an enjoyable experience. I'm very thankful for the opportunity to serve the AAG, and I have greatly benefited from the others who contribute to the AAG. I'd like to take time to mention them. In the Executive, the stalwarts Gwendy Hall and Dave Smith, along with Steve Cook, keep things running smoothly. Al Arsenault in the office is essential to AAG operations. Our

councillors make a significant service commitment for both regional and term positions, particularly those that chair committees, and I'd like to single out Paul Morris and David Cohen, in particular, for their efforts. Finally, Beth McClenaghan (and Pim van Geffen) for *Explore*, as well as Dennis Arne for *Elements* have made sure that our publication deadlines were met, had quality content, and looked great.

This coming year should be a good one for the AAG: we have our biannual meeting that is the International Applied Geochemistry Symposium, which will form part of the Resources for Future Generations 2018 (RFG2018) conference and which will also be a good chance for us to catch up face-to-face. In addition, 2018 will look to put some stability back into our journal *Geochemistry: Environment, Exploration, Analysis (GEEA)* with the appointment of a new Editor-in-Chief after the unexpected loss of Kurt Kyser.

"The greatness of a community is most accurately measured by the compassionate actions of its members" - Coretta Scott King. And on that note, I'd like to thank the AAG membership for your support in building the applied geochemical community.

MESSAGE FROM NEW AAG PRESIDENT, STEPHEN COOK



Stephen Cook

In beginning my term (2018–2019) as President of the Association of Applied Geochemists (AAG), I want to first thank my predecessor Ryan Noble for his hard work and capable leadership at the helm of the association over the past two years. Ryan has been a strong proponent of student funding and research support, and he has been instrumental in the AAG embracing new technology such as social media and digital publications. Ryan will be a difficult act to follow, but he will continue on the Executive Council, as Past President, along with

Gwendy Hall and Dave Smith. Dennis Arne of CSA Global is now the new Vice-President of the AAG for the coming term, and I look forward to working with such an experienced and capable group over the next two years. It will be a pleasure to continue working with Al Arsenault in the business office, with our regional councillors around the world, and with the elected members of the AAG Council. I thank outgoing councillors Paul Morris, Mel Lintern, Romy Matthies and Dennis Arne for their work, and I welcome continuing councillor Erick Weiland and new councillors Maurizio Barbieri, David Murphy, Graham Sylvester and Yulia Uvarova to the 2018–2019 council.

A few words about myself: I received my BSc and MSc degrees in geology from Carleton University (Canada) and the University of British Columbia (Canada), respectively, and for the past 11 years I have been Chief Geochemist with Teck Resources in Vancouver, British Columbia.

Without question the big event of the coming year will be our 28th International Applied Geochemistry Symposium (IAGS 2018), to be

held 16–21 June 2018 in Vancouver, British Columbia. For this event, the AAG has partnered with the Resources for Future Generations (RFG2018) conference. The AAG banquet is a long-standing tradition of IAGS symposia. This year, the dinner will be held at a truly unique location: the Vancouver Aquarium in Stanley Park. Full details of the RFG meeting and all AAG events are available at: <http://rfg2018.org/rfg/2018/home>.

The Annual General Meeting (AGM) of the Association will also be held at RFG2018 in Vancouver, and I would encourage all members to attend and take part.

Finally, I wish to take a moment to remember our friend and colleague Kurt Kyser of Queen's University (Canada), who passed away far too early in 2017. Kurt was an active member of the AAG, editor of *GEEA*, and a highly regarded scientist. He was a regular contributor to AAG symposia. We shall miss him.

RECENT ARTICLE PUBLISHED IN EXPLORE

The following abstract is for an article that appeared in issue 177 of the *Explore* newsletter in November 2017.

"Quantitative Interpretation of Orientation Surveys"

Chris Benn¹, Giancarlo A. Daroch²,
Martin Kral², and Paul Lhotka²

Orientation surveys have the potential for generating a lot of data, even though there are generally not many samples. After analysing several sample types and/or several size fractions for several elements, it is easy to build up a lot of numbers. This article investigates various statistical methods that may be useful in interpreting and summarising this data. Usual interpretation aids such as dispersion profiles and symbol plots will adequately display the data from most orientation surveys. It is, however, difficult to quantify the differences that can be seen on these diagrams. For example, you may be able to see that one sample type is performing better than another, but by how much? Quantifying the differences will help when balancing out the relevant factors and deciding on the most cost-effective methods.

The quantity most often used is the length or width of dispersion, as this can be related directly to the required sampling density. However, problems may arise due to the erratic nature of the geochemical data and in deciding where the dispersion trail terminates. One or more threshold values are chosen to separate what is considered anomalous from what is considered background. The choice of the threshold(s) will not present any problems in the unlikely event that the anomalous values are completely separate from the background values. Unfortunately, one is normally dealing with overlapping populations. The more they overlap, the more difficult it is to come up with sensible thresholds and, hence, determine dispersion distances. Another problem with the more usual methods of interpreting orientation surveys is that is often not feasible to plot and interpret profiles and maps of every element and sample type combination. The methods described in this article allow all the combinations to be easily compared.

The basic idea underlying methods presented here is that an orientation survey allows you to *a priori* decide on which samples should be anomalous and which should be background. The methodology is demonstrated using two data sets: (1) orientation soil survey data over known mineralisation in Chile, and (2) orientation stream sediment survey data from southeast Australia.

- 1 Chris Benn Consulting
3424 West 1st Ave.
Vancouver, British Columbia, V6R 1G7, CANADA
E-mail: CJBenn@gmail.com
- 2 Capstone Mining Corp.
510 W Georgia St, #2100
Vancouver, British Columbia, V6B 0M3, CANADA

The full article can be viewed at: <https://www.appliedgeochemists.org/index.php/publications/explore-newsletter>