



# Association of Applied Geochemists

[www.appliedgeochemists.org](http://www.appliedgeochemists.org)

## FROM THE PRESIDENT



Bob Eppinger

Mark on your calendars the 26<sup>th</sup> International Applied Geochemistry Symposium (IAGS), to be held on 18–21 November 2013 in Rotorua, New Zealand. This extraordinary venue will host an excellent technical program, a variety of workshops, and some amazing field trip opportunities. Current information for the symposium is at [www.gns.cri.nz/iags/](http://www.gns.cri.nz/iags/).

I announce with pleasure the 2013 Gold and Silver medallists of the Association of Applied Geochemists. This year we have two Gold Medal recipients, Clemens Reimann and Eric Hoffman, and one Silver Medal winner, Gwendy Hall. The medals will be presented at the 26<sup>th</sup> IAGS conference dinner.

The Gold Medal is awarded for outstanding scientific accomplishments in the field of applied geochemistry. This year's recipients boast accomplishments at both ends of the academia–industry continuum that defines the field of applied geochemistry.

**Clemens Reimann** (Geological Survey of Norway) has had an outstanding scientific career on the academic side of this continuum. During more than 30 years of work in government and academia, Clemens gained international recognition as a leader in the fields of environmental geochemistry, geostatistics, and geochemical mapping at scales ranging from local to continental. His prolific publication record includes numerous journal articles and book authorships. Clemens led regional geochemistry projects in Europe across geographic and political boundaries, and his work has influenced the formulation of regional surveys worldwide. His service to professional organizations has included acting as an AAG distinguished lecturer and regional councillor and as president and vice president of the International Association of GeoChemistry. He has served on the editorial boards of *Applied Geochemistry*, our own *Geochemistry: Exploration, Environment, Analysis*, and *Science of the Total Environment*.

**Eric Hoffman** is recognized for his career as an industry leader in bringing novel analytical techniques to commercial fruition. Through his company, ActLabs, Eric has repeatedly been at the forefront in bringing techniques developed by research laboratories to commercial use by applied geochemists worldwide. He has anticipated the evolving needs of the applied geochemist through technique design and instrument modification for a variety of sample media. This has been particularly important as exploration has moved into progressively more difficult, concealed terrains. Eric has published consistently throughout his career, but equally important, he is always in attendance at scientific meetings to present and promote the latest in techniques and instrumentation.

The Silver Medal is awarded for outstanding service to our Association. **Gwendy Hall** is highly deserving of this award, having served as AAG president, vice president, councillor, committee member, and treasurer over the last 17 years. In all these roles, Gwendy has ensured that our organization thrived. The creation and success of our journal, *Geochemistry: Exploration, Environment, Analysis*, can be firmly credited to Gwendy as editor. Her spirit of volunteerism towards AAG is a model to emulate. As a now-retired scientist from the Geological Survey of Canada, Gwendy's scientific contributions to applied geochemistry have also been prolific in terms of method development, publications, committee participation, and scientific review. These contributions led to her being awarded an AAG Gold Medal in 2005.

**Bob Eppinger** ([eppinger@usgs.gov](mailto:eppinger@usgs.gov))  
U.S. Geological Survey, AAG President

## RECENT ARTICLE PUBLISHED IN EXPLORE

**RYAN R. P. NOBLE, MARCO CAVALIERE, PAUL A. MORRIS, G. TENTEN PINCHAND AND ROBERT M. HOUGH (2013) Determination of micro and nanoparticulate fraction gold in regolith. EXPLORE 159 (June 2013)**

Small gold particles (<2  $\mu\text{m}$ ) in regolith have recently been observed but not quantified. Determining micro- (<2  $\mu\text{m}$ ) and nanoparticulate (<0.2  $\mu\text{m}$ ) gold in soils and regolith may provide an effective strategy for gold exploration. A method to quantify gold in the micro- and nanoparticulate fractions was tested using wet sieving and centrifugation of fourteen soil samples from Western Australia. Five fractions were separated and subjected to aqua regia digestion and analysis by ICP–MS. Although the soils tend to be dominated by the coarse (>250  $\mu\text{m}$ ), quartz-rich soil fraction in these transported soils, the analysis of all the size fractions shows that the majority of the gold is small and hosted in the <53  $\mu\text{m}$  fraction. The gold associated with the bulk, coarse fraction-dominated materials is less than 2%. Analysing the nanoparticulate gold fractions via particle size separation demonstrates that gold concentrations span three orders of magnitude (<1 to 1000s ppb). The micro- and nanoparticulate fractions of gold are different within individual samples, with no single sample showing anomalously larger contents in both these fractions compared to the other samples, i.e. one soil sample is not consistently anomalous across grain size fractions. In this study, the authors developed a method to quantify gold in these very small size fractions and demonstrated it to be nuggety at all scales, down to the <0.2  $\mu\text{m}$  fraction. Future research requires a more rigorous assessment of the method along with orientation surveys to determine if significant benefit exists in analysing the micro- and nanoparticulate fractions of soils for gold exploration, a process that is not conducted currently by industry.

**Ryan Noble** ([ryan.noble@csiro.au](mailto:ryan.noble@csiro.au))  
CSIRO Perth

**26th International Applied Geochemistry Symposium,**  
incorporating the  
**New Zealand Geothermal Workshop**

18-21 November, 2013  
Rotorua, New Zealand  
[www.gns.cri.nz/iags](http://www.gns.cri.nz/iags) for  
Third Circular & information on

- Technical programme
- Short courses
- Field trips
- Partner activities

**NEWMONT**  
**OCEANAGOLD**  
**GNS SCIENCE**

Pohutu Geyser, Whakarewarewa, New Zealand