



# International Association of Geoanalysts

<http://geoanalyst.org>

## REPORT ON THE 31<sup>ST</sup> ISO/REMCO MEETING



Jacinta Enzweiler

Users of geochemical data and geoanalysts share the need to know the closeness between analytical results and the real values of the measurands of their samples. Reference materials (RMs), which can be either certified or quality-control materials, play an essential role in achieving this objective. The vast majority of available geochemical RMs are non-certified because they were produced at a time when this issue was not so clear. Regardless of metrological category, all aspects related to RM production, use, terminology and certification should be subject to the guidelines developed by the Reference Materials Committee of the International Organization for Standardization (ISO/REMCO). The benefits of applying strict

metrological standards and the need for harmonization of results are reasons why the International Association of Geoanalysts has a Certification Committee and is an observing member within ISO/REMCO.

The 31<sup>st</sup> ISO/REMCO annual meeting, held in Rio de Janeiro from 10 to 13 June, 2008, was attended by 32 delegates representing the majority of the 31 participating countries and the 20 liaising international organizations, including the IAG. ISO/REMCO has several working groups, and at the meeting each presented the progress of its efforts, which are aimed mainly at the development of new ISO Guides or the revision of those already in use.

For instance, ISO Guide 80, "Production of RMs for Metrological Quality Control," which is still under development, will establish a common basis for the production of RMs intended for use in quality assessment, for the purpose of demonstrating that a measurement system is under statistical control, performs as expected and provides reliable results. It can be expected that this future guide will be of great interest to both the geochemical community and to the IAG, which already markets, for quality-control applications, materials that were part of previous rounds of the GeoPT<sup>TM</sup> International Proficiency Test programme.

**Jacinta Enzweiler**

IAG Representative at 2008 ISO/REMCO meeting

## SECOND QUALITY ASSURANCE IN ANALYTICAL GEOCHEMISTRY WORKSHOP

The Goldschmidt Conference provides a great forum to present, discuss and review the latest advances in analytical geochemistry. The International Association of Geoanalysts took this opportunity to hold its second Quality Assurance in Analytical Geochemistry workshop, immediately before the 2008 Goldschmidt Conference in Vancouver. The goal of this year's one-day workshop was to foster discussion and highlight important aspects of good data

quality (e.g. measurement uncertainty, metrological traceability, proficiency tests, etc.).

The workshop was characterized by lively discussion and the expression of many concerns about the unawareness of how to properly report data. The 19 participants from governmental, academic and corporate backgrounds contributed much input from their own experiences, and all agreed that more needs to be done in the field of geochemistry to shift from the current notion of accuracy and precision

to the more universal measurement uncertainty concept. Such a change in paradigm will greatly facilitate comparison of data produced in different labs or between independent analytical methods or procedures.

At the Vancouver workshop the IAG emphasized its commitment to support the analytical geochemist by organizing collaborative trials, including the highly successful GeoPT proficiency test programme ([www.geoanalyst.org](http://www.geoanalyst.org)), and by producing and distributing certified reference

materials ([www.iageo.com](http://www.iageo.com)) in accordance with ISO/REMCO guidelines. The success of these workshops has encouraged us to hold further such events at important regional meetings (DMG Conference, September 2008 in Berlin; MAPT meeting, September 2009 in Edinburgh), and of course at the 2009 Geoanalysis (South Africa) and Goldschmidt (Switzerland) conferences.

**Thomas Meisel**

Chairperson, IAG Certification Committee

## OSMIUM ISOTOPE REFERENCE MATERIAL IAG-4 DROsS NOW AVAILABLE



A new reference solution, prepared collaboratively by the University of Durham and the IAG's Certification Committee, has been distributed to leading laboratories in the field of Os isotope research. IAG-4 DROsS exists as a 2000 µg/mL solution, of which roughly 10 litres remain in stock. In contrast to other solutions used for in-house quality control, this new solution is recommended for researchers planning to set up new Os isotope programmes, for method validation and for quality control in osmium isotope analysis, for example, for the radiogenic isotope ratios <sup>186</sup>Os/<sup>188</sup>Os and

<sup>187</sup>Os/<sup>188</sup>Os and for cosmogenic induced changes in the isotope abundances of Os. In view of the current state of the art, it is not possible to certify this solution's absolute composition at an acceptable uncertainty level. An earlier solution (LOsST), distributed by Thomas Meisel, demonstrated that slight but significant biases exist among labs. The source of such bias has yet to be resolved to the extent that the total uncertainty of an absolute Os isotope determination can be reduced to a level that is significantly below the uncertainties reported for routine measurements. This issue is particular true for the <sup>186</sup>Os/<sup>188</sup>Os ratio in the long-lived Pt-Os isotope system.

It is thus suggested to use IAG-4 DROsS as a "delta zero" solution for reporting variations of the <sup>186</sup>Os/<sup>188</sup>Os ratio and variations of the stable isotope ratios. Such a strategy, if adopted by many researchers, will rapidly lead to an improved situation regarding the traceability of measurement data among various labs. Significantly, there is sufficient supply of DROsS in stock to last for perhaps two decades even if the MC-ICP-MS technique turns out to be the determination method of choice in the near future. The hope is that DROsS can be certified for its absolute Os isotope composition at some future date with an acceptable level of uncertainty, once methods have improved significantly.

Inquiries about IAG-4 DROsS can be addressed to the chair of the IAG's Certification Committee: [thomas.meisel@unileoben.ac.at](mailto:thomas.meisel@unileoben.ac.at).