



# International Association of Geoanalysts

<http://geoanalyst.org>

## CERTIFICATION AND PROFICIENCY TESTING WORKSHOP 17–19 MARCH 2014

The venue for our workshop was the Kavli Royal Society International Centre at Chicheley Hall (near Milton Keynes, UK), a stunning early 18<sup>th</sup>-century mansion set in 80 acres of beautifully kept grounds. The secluded location meant there were few distractions to lure participants (see photo) away from their main purpose, which was to consider the effectiveness of the IAG Proficiency Testing and Certification Protocols and to recommend revisions as necessary. The IAG was very pleased to welcome Steve Ellison (LGC Group) and Christophe Quéfé (IRMM) as external mentors on the certification of geological reference materials under ISO Guide 35 and some of the challenges this represents, particularly those involving the assessment of uncertainties and traceability.

The workshop also reviewed the operational aspects of GeoPT, IAG's proficiency testing scheme for powdered silicate rocks. Since its inauguration in 1996, GeoPT has amassed a large amount of data, with some 90 laboratories contributing 3000–3500 values in recent rounds. Trends in reported data and overall performance of the scheme were used as a basis for proposing possible modifications. Outcomes from these sessions will be presented at a GeoPT user's forum during the Geoanalysis 2015 conference (8–14 August 2015, hosted by Montanuniversität Leoben, Austria).

Discussions on the role of G-Probe, IAG's microanalytical proficiency testing programme, highlighted the difficulties in developing test materials for in situ analytical techniques as diverse as EPMA and LA-ICP-MS. In this case, one technique requires major element homogeneity at the 2  $\mu\text{m}$  spot size, whereas the other requires trace element ( $\text{mg kg}^{-1}$ ) homogeneity at 20–50  $\mu\text{m}$ . The production of materials for the G-Probe programme has already resulted in several advances pertinent to the development of microanalytical reference materials. Future G-Probe efforts offer a multitude of opportunities with respect to the development of new materials, including synthetic minerals, with an expanded range of major element, trace element and isotopic compositions, unusual element matrices, and mixtures of glasses and powders that will expand the usefulness to techniques such as LIBS and LA-ICP-MS.

The format of the workshop enabled participants to propose ideas that might have been regarded as heretical in other situations and led to a common understanding of many of the fundamental issues raised. Thanks to some

splendid organisation behind the scenes by Phil Potts and Jenny Cook, the workshop successfully laid the groundwork for implementing the agreed priorities for the IAG's proficiency testing and certification programmes.



Members of the IAG Certification and Proficiency Testing Committee at their internal workshop at Chicheley Hall, UK, in March 2014

## HARVARD MINERAL RMs AVAILABLE THROUGH THE IAG

Through a further agreement with the Mineralogical and Geological Museum of Harvard University, the IAG will soon begin marketing a broad range of additional mineral Reference Materials. These materials, previously marketed directly by the Harvard museum, include 23 materials initially targeting either the quantification of oxygen by EPMA or the determination of light-element concentrations. Examples of the new RMs include albite, elbaite, enstatite and muscovite (see photo). Over the coming months, information will be released on the [www.IAGeo.com](http://www.IAGeo.com) website describing these new materials and how they can be procured. As part of the agreement between Harvard and the IAG, members of our association will have the opportunity to further characterise the elemental and isotopic compositions of these samples, thereby expanding their utility to the geoanalytical community.



Muscovite MGMH#98973, part of the new inventory of mineral Reference Materials being marketed through IAGeo Limited



### THE 9<sup>TH</sup> INTERNATIONAL CONFERENCE ON THE ANALYSIS OF GEOLOGICAL AND ENVIRONMENTAL MATERIALS

8 - 14 AUGUST 2015  
MONTANUNIVERSITÄT LEOBEN  
STYRIA, AUSTRIA

#### TOPICS INCLUDE

- Sampling and field measurements
- Sample preparation
- Method development for
  - Isotope techniques (stable and radiogenic)
  - Bulk rock analysis
  - Micro- and nanoanalytical techniques (laser ablation, SIMS etc.)
- Reference materials (preparation and certification)
- Quality assurance in geochemical measurements

#### MAIN APPLICATIONS

- Geochemistry including Bio- and Hydrogeochemistry
- Environmental studies
- Geochronology
- Geochemical exploration and mapping
- Gas and oil source characterisation
- Ore deposits research
- Past and modern climate change studies
- and more

