



International Association of Geoanalysts

<http://geoanalyst.org>

GEOANALYSIS 2024 – 12th INTERNATIONAL CONFERENCE ON THE ANALYSIS OF GEOLOGICAL AND ENVIRONMENTAL MATERIALS

Every three years, the IAG has the privilege of convening an international conference devoted specifically to developments in analytical geochemistry and their application. The latest event, Geoanalysis 2024, held from 15th to 19th September 2024 in Wuhan, China, was jointly organised by the State Key Laboratory of Geological Processes and Mineral Resources and the School of Materials and Chemistry at China University of Geosciences (Wuhan).



Lakeside view with Wuhan city in the background. PHOTO: MARK CAVE.

Geoanalysis 2024 attracted over 200 experts, scholars, and students from 16 countries, fostering a diverse and international academic exchange. The conference venue was set in the idyllic grounds of the East Lake Hotel international conference centre with a backdrop of the busy city of Wuhan.

The scientific programme featured 55 oral presentations and 38 poster contributions, covering five main themes of:

- reference material preparation and applications;
- instrument developments and field analysis;
- sample preparation and bulk analysis;
- microanalysis, mapping, and imaging; and
- characterising planetary, terrestrial and environmental materials.

In addition, delegates had the opportunity to attend two workshops on *How reliable is your geochemical data? How do we know?* led by Prof Thomas Meisel, and *Secondary Ion Mass Spectrometry* given by Dr Michael Wiedenbeck.

The conference was opened by Prof Yongsheng Liu, President of Yangtze University and Chair of the Geoanalysis 2024 Organising Committee. Prof Jianwei Li, President of China University of Geosciences (Wuhan), delivered the welcome speech on behalf of the host institution, expressing warm greetings to all attendees and emphasising the significance of Geoanalysis as a platform for sharing cutting-edge research in geological and environmental material analysis. Not only was the main lecture theatre well designed and very comfortable, it also contained one of the largest presentation screens many delegates had ever encountered at a scientific conference!

Professor Dorrit Jacob of the Australian National University opened the scientific programme with a keynote presentation entitled “Towards correlated geochemistry,” where she made a plea for geochemists to take more advantage of multiscale co-registered datasets combined with microscopic imaging and/or tomography to unlock a wealth of information. She identified the lack of software to communicate across platforms, standardised sample preparation protocols, and automated imaging and dataset registration as bottlenecks to correlated geochemistry.



Opening ceremony. PHOTO: MARK CAVE.



Breaktime in the exhibition area with food, coffee, and networking. PHOTO: MARK CAVE.



Dr Sogra Rasti (RIGHT), the IAG travel bursary winner, with IAG President Prof Dorrit Jacob (LEFT). PHOTO: MARK CAVE.

In complete contrast, the second keynote presentation by Prof Zhengtian Lu (University of Science and Technology, China) was on the subject of identifying old ice and water with single-atom counting. There followed a full day of presentations on reference material preparation and their application. The afternoon session also included a talk given by Dr Sogra Rasti, the IAG travel bursary winner, on “Nickel isotope fractionation in laterite profiles of the Bavanat area, Fars Province, Iran.” She was representing the Shiraz University of Iran and was extremely grateful to the IAG for making it possible for her to attend the conference.

In the evening, we were invited to the conference dinner where we were not only provided with a sumptuous Chinese banquet but also a wonderful traditional Chinese entertainment show featuring local Chu Dynasty cultural performances.



Traditional Chinese entertainment at the conference dinner. PHOTO: MARK CAVE.

On the second day, Prof Thomas Meisel of the Montanuniversität Leoben, Austria, gave a plenary lecture entitled “Highlights from 36 years of geoanalytical work: what can be learnt for the advancement of geoanalysis.” His overall conclusions were: (1) chemists and Earth scientists need to collaborate more closely to understand geochemical data better; (2) modern instrumental methods produce large quantities of data but better use of traditional approaches can enhance our understanding of these data; and (3) geoscience laboratories too often outsource analysis, thereby losing the collaboration between the analyst and Earth scientist, which makes for a more rounded interpretation of the analytical data.

This was followed by a half-day session covering instrument developments and field analysis before delegates were taken for a tour of the very well-equipped laboratories of the State Key Laboratory of Geological Processes and Mineral Resources and the School of Materials and Chemistry at China University of Geosciences. In the evening, participants were treated to a very spectacular Han Show that featured acrobatics, water effects, and a unique architectural design. One delegate commented that it was along the lines of the “Cirque du Soleil” but much better!

In his plenary lecture the following day, Dr Wiedenbeck described G-Chron, the IAG’s unique proficiency testing scheme for U-Pb geochronology. He discussed the patterns emerging from the datasets generated over three rounds by between 52 and 63 laboratories employing in situ analytical methods applied to zircon geochronology.

The IAG General Meeting, held in the main lecture hall, was well attended with about 30 delegates present together with at least 12 online participants. The meeting was chaired by Prof Dorrit Jacob, the new IAG President, with members of IAG Council reporting on the status of the



IAG Council at the triennial General Meeting. PHOTO: MARK CAVE.



Delegates at Geoanalysis 2024. PHOTO: CONGZHOU HE.

IAG’s finances, grants and awards, proficiency testing schemes, and its journal *Geostandards and Geoanalytical Research*. A special IAG medal was awarded to Chris Jackson in recognition of his tireless, friendly, and highly efficient work as IAG treasurer since the Association was constituted in 1997.

Characterising planetary, Earth and environmental materials was the theme of the last day. In her plenary lecture entitled “Tandem mass spectrometry for the 21st century,” Prof Alicia Cruz-Urbe (University of Maine, USA) demonstrated how ICP-MS-MS is a fundamental tool for mitigating isobaric interferences. She showed how developments in instrumentation herald exciting prospects for further advances in such measurements.

At the closing ceremony, Prof Jacob and other delegates expressed their appreciation to the Organising Committee for a splendid conference, offering an excellent platform for sharing knowledge, experiences, and ideas. We now look forward with excitement to the next triennial IAG gathering, scheduled for August 2027 in Golden, Colorado, USA.

Mark Cave, Alicja Wudarska, and Wei Chen

IAG COUNCIL 2024–2027

At the IAG General Meeting in Wuhan, results from the election of the new IAG Council were announced. For the period from 2024 to 2027, the IAG’s governing Council will consist of:

PRESIDENT

Dorrit Jacob (Australian National University, Canberra, Australia)

VICE-PRESIDENT

Regina Mertz-Kraus (University of Mainz, Germany)

HONORARY SECRETARY

Jennifer Cook (British Geological Survey, UK)

HONORARY TREASURER

Chris Jackson (Kent, UK)

IMMEDIATE PAST PRESIDENT

Jacinta Enzweiler (University of Campinas, Brazil)

COUNCIL MEMBERS

Anastassia Borisova (Toulouse University, France)

Wei Chen (China University of Geosciences, Wuhan, China)

Daniel Frick (Kiel University, Germany)

Charles Gowing (British Geological Survey, UK)

Mike Pribil (U.S. Geological Survey, USA)

Alicja Wudarska (Polish Academy of Sciences, Warsaw, Poland)

A full list of co-opted members of Council can be found on our website at geoanalyst.org.