

News at a Glance

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1. Slate of candidates for various positions in IUGS

The Biography and Statement of the candidates for IUGS Executive Committee (2024-2028) and IUGS Nominating Committee (2024-2028) have been published on the IUGS website (<https://www.iugs.org/election2024>).

The Fifth Ordinary Session of IUGS-IGC Council will be held on August 28-29th, 2024 in the conjunction with the 37th International Geological Congress in Busan, South Korea. IUGS National Committees/Adhering Organizations will send delegates to the Council Meeting and cast their votes at the election of IUGS EC and NC members. Please click the link <https://www.iugs.org/election2024> to read the Biography and Statement of the candidates.

2. News from Episodes

June issue of Episodes (Vol. 47, No.2) has been published and uploaded at Homepage (<https://www.episodes.org/main.html>). This issue carries 8 Articles, 1 review, 3 Communication of IUGS Geological Standards and one article from History of Geology.

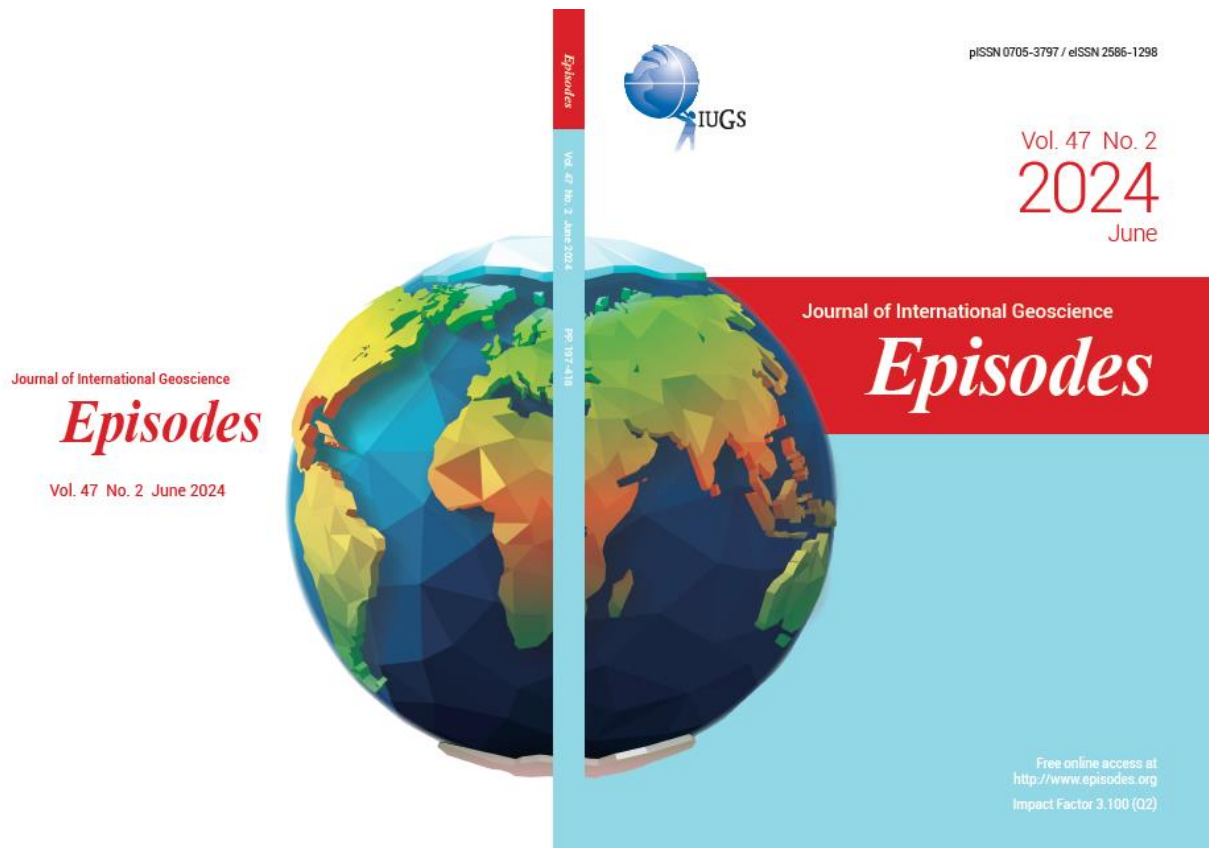


Figure 1. June issue of Episodes.



3. News from the IUGS Initiative on Forensic Geology (IFG)

IUGS IFG and ENFSI APST Collaboration, State Forensic Science Bureau, Latvia

On 23-25 April, Jodi Webb (IUGS-IFG FBI Adviser) and Lorna Dawson (IUGS-IFG Treasurer) attended the ENFSI APST working group meeting organised by the State Forensic Science Bureau, in Latvia. Jodi presented case work examples in a talk entitled: *'The Garden Gnome is Innocent! Geologically Derived Building Materials in Criminal Cases.'* Lorna presented on a recent case on the, *'Discrimination of wood fragments in a murder investigation using chemical profiles'*. Additionally, they participated in soil lab case related topics including the evaluation of evidence and reporting and new methods under development, such as filtration for non pollen particles and Artificial Intelligence. The visit included a field expedition to the Baltic sea, where reference samples were collected from three different beaches and parent sand. Lorna is on the APST Committee with responsibility for Training and Education discussing opportunities to deliver routes to best practice for key stakeholders. There were over 50 delegates attended, from over 12 countries, including UK, USA, Latvia, The Netherlands, Poland, Hungary, Spain, Portugal, Germany and Switzerland.

Forensic Soil Sampling and Illegal Mining, Amazon Rainforest, Brazil

In March-April 2024, Marcelo Tortolero (IUGS-IFG Student Representative and GIN Manager) visited the Amazon Rainforest in Brazil to collect soil samples from illegal artisanal and small-scale gold mining (ASGM) sites (garimpos), to investigate mercury contamination. This related to illegal mining in the 1990s as recent as January 2024, and at an operational garimpo. As part of a PhD research project the aim is to provide insights for the Brazilian Federal Police regarding the varying levels of mercury-related environmental impact associated with different stages of illegal ASGM in Jardim do Ouro, Pará, located in the Brazilian Amazon. This collaborative project involves partnerships with the Brazilian Federal Police, the State University of Campinas, and Serabi Gold.

Sampling Crime Scenes and Exhibits, Johannesburg, South Africa

On 21-23 May 2024, Laurance Donnelly (IUGS-IFG Chair), attended the *'11th World Conference on Sampling and Blending'*, Johannesburg, South Africa. He gave a presentation on, *'Challenges Associated with the Forensic Geological Sampling of Crime Scenes and Exhibits for Police and Law Enforcement Criminal Investigations'*. This provided the opportunity to develop forensic geology sampling practice to align with the *'Theory of Sampling'*. Further research is planned to improve forensic geology protocols by variance and bias testing at crime scenes and exhibits. Additionally, geological strategies were explored for the traceability and provenance determination of illegal gold in South Africa.

Battery Minerals and Crime, Jiangsu Province, China

On 28-31 May 2024, Laurance Donnelly (IUGS-IFG Chair), attended the, *'9th China International New Energy Industry Expo, CLNB Jiangsu Province, China'*. The theme of the event was, *'Empowering a Sustainable Future with Dual Carbon Intelligence'*. Laurance's presentation included battery minerals, conflict minerals and associated crimes.

IUGS-IFG Website

In May 2024, the new IUGS-IFG web site became operational. The previous site at QUB will be decommissioned. IUGS-IFG committee members are encouraged to contact Matheus Pereira Nogueira e Silva (IUGS-IFG Website Manager) for any relevant information to be uploaded onto the

website. Matheus is acknowledged for developing and managing the website, with support from Fabio Salvador, Elisa Bergslien, Alastair Ruffell and Jennifer McKinley.

<https://forensicgeologyinternational.com/>

The IUGS-IFG Raymond Murray Award

In 2020, the IUGS-IFG Award for Forensic Geology, was renamed the IUGS-IFG Raymond Murray Award. A coin/medal has been designed in honour of ‘Ray’ featuring his portrait, and which also appears on a certificate. Ray’s family have been informed and support the award. The next Raymond Murray award is planned to be presented at the IUGS-IFG Annual General Meeting, to be held in Italy, in 2025. A formal voting system will be established later in the year so suitable nominations can be proposed by members of the IUGS-IFG Committee.

SWISSAID, African Gold Report

Gold smuggling causes African countries to lose billions of dollars every year. A new report from SWISSAID provides unprecedented figures on this market over the period 2012-2022. Between 2012 and 2022, the UAE imported 2,569 tonnes of undeclared gold for export to African countries, worth more than \$115.3 billion. This is what the Swiss foundation SWISSAID reveals in a new report published on May 30 and illustrating with new figures a well-known phenomenon in the African mining sector.

Money laundering and trade based on laundering in gold.

The Sunday Times, a UK newspaper, reported on money laundering and trade-based laundering in the global supply chain. This includes a network or organisations linked to drug money, money laundering in Dubai and gold mining operations.

<https://www.thetimes.com/uk/crime/article/cocaine-inc-how-british-drugs-cash-is-turned-into-solid-gold-in-dubai-cmrvjsgwg#:~:text=As%20part%20of%20a%20new,and%20whole%20goldmining%20operations%20in>

Organization of Scientific Area Committees for Forensic Science (OSAC), GEO trace meeting, Florida, USA

An in-person meeting of the Organization of Scientific Area Committees for Forensic Science (OSAC) Group was held on 12 to 14 May 2024, at the Hyatt Regency, Jacksonville, Florida, USA. The OSAC Geo trace materials sub group met at this venue as part of the wider OSAC organisation to discuss key areas of importance for geological materials in criminal investigations and held wider discussions with the Trace working group. The sub groups consists of Fibres, Geo, Glass, Hair, Interpretation, Physical fit, Polymers and Terminology. IUGS-IFG Treasurer, Lorna Dawson, was invited to attend as an affiliate member of the Geo trace material sub group and contribute to the Geo trace group activities. Alastair Ruffell, Training Officer, IUGS-IFG also joined on-line for some of the Geo trace sub group sessions. Libby Stern also attended some sessions remotely. The status of the latest three documents was discussed in the sub group - XRD document ‘Guide for Forensic Analysis of Geological materials by powder X Ray Diffraction’; Soil Collection document ‘Standard Guide for

Collection of Soils and Other Geological Trace Evidence for Criminal Forensic Applications’; and the ‘Electron Microscopy Diffraction Scanning’ document. At the meeting the Geo sub group also liaised with the Anthropology, Wildlife and Interpretation forensic sub groups to discuss areas of common interest and outline potential new Standards and Standards development and improvement. In addition, research needs were discussed and proposals were drafted for consideration on a range of topics, including the opportunity to use emerging technologies to utilise geological databases for forensic use and bias in transfer and persistence. This collaboration between OSAC and IUGS-IFG enables sharing of best practice and opportunities for cooperation.



Figure 2. IUGS-IFG and OSAC, Florida, USA (Photo: Lorna Dawson)

4. News from INHIGEO

INHIGEO Anniversary contributions (May 2024)

1. Occasion: Emerald mining in Egypt 700 years ago

Title: Emerald Mines in Upper Egypt in the Islamic Period (until the 14th century): A neglected era in modern history of mining

Author: Khallaf El Ghalbi (MOROCCO)

Various heritage sources confirm that mines were widespread in all parts of the Islamic world, however, many contemporary studies focused on emerald mining history, ignore the Arab-Islamic experience in this field. Study of historical writings related to mining in Upper Egypt up until the 14th century demonstrates the level of knowledge in mining management and shows an awareness with regard to the worldwide sources of emerald as well as the mining expertise known in their times.

Please open the link to know more: <http://www.inhigeo.com/anniversaries.html>



Figure 3: Emeralds, Muzo Mine, Vasquez-Yacopí Mining District, Colombia.

([https://en.wikipedia.org/wiki/Colombian_emeralds#/media/File:B%C3%A9ryl_var._%C3%A9meraud_e_sur_gangue_\(Muzo_Mine_Boyaca_-_Colombie\)_-2.jpg](https://en.wikipedia.org/wiki/Colombian_emeralds#/media/File:B%C3%A9ryl_var._%C3%A9meraud_e_sur_gangue_(Muzo_Mine_Boyaca_-_Colombie)_-2.jpg))

2. INHIGEO Anniversaries – a new contribution (June 2024)

Occasion: Charles Gould born 190 years ago

Title: Charles Gould, the first government appointed Geological Surveyor of Tasmania

Author: Carol Bacon (Australia)

At 25 years old, Charles Gould was appointed geological surveyor of Tasmania on recommendation of Sir Roderick Murchison (1792–1871). He travelled extensively throughout Tasmania, reaching many places that are still only accessible to the determined bushwalker. Gould correctly established the stratigraphic sequence of Ordovician to Lower Devonian rocks over much of Tasmania and established that there were two series of coal measures separated by a marine sequence. His interests were varied including an insatiable curiosity regarding mythological creatures.

Please open the link to know more: <http://www.inhigeo.com/anniversaries.html>

3. Award to INHIGEO member

Geological Society of London – June 2024

Sue Tyler Friedman Medal

Our congratulations to Martina Kölbl-Ebert, INHIGEO Secretary General, who was recently awarded the Sue Tyler Friedman Medal by the Geological Society of London for her contribution to the History of Geology. This award is for distinguished contributions to History of Geoscience and is not confined

to those with a geoscience background or to Fellows of the Society, and is awarded to an individual of any nationality.

<https://www.geolsoc.org.uk/About/Press-Office/Press-Releases/2024-Society-award-winners>



Figure 4. Dr. Martina Kölbl-Ebert, INHIGEO Secretary General, recipient of the Sue Tyler Friedman Medal 2024.

5. News from the Commission on Global Geochemical Baselines (CGGB)

Reporting the activities of geochemistry students at the Athens Science Festival 2024

The University of Athens (Hellenic Republic) made a notable contribution to the recent Athens Science Festival that took place between the 16th and 21st of April 2024, highlighting its research and educational initiatives through a dynamic booth centred on "Metals in a Changing World." Geochemistry and ore

geology students from the Department of Geology and Geoenvironment led this effort under the supervision of Professor Ariadne Argyraki, the [CGGB Public Relations & Finance](#) officer, offering a range of engaging demonstrations and discussions that captivated festival attendees.

One of the standout features was a demonstration showcasing the rapid extraction of pure copper in seconds. The booth also tackled environmental issues associated with mining, presenting sustainable methods for treating mining waste and mitigating its impact on the ecosystem. Deep-sea mining was another critical topic of interest, with experts from the University exploring the potential and environmental considerations of mineral extraction from the ocean floor. This discussion emphasised the delicate balance between resource acquisition and marine conservation.

In addition to these technical topics, the booth promoted citizen science initiatives, inviting visitors to help monitor seawater quality in the Aegean Volcanic Arc. This interactive activity aimed to raise public awareness about marine contamination and the importance of community involvement in scientific research. Festival-goers were enthusiastic about contributing to ongoing environmental monitoring efforts, highlighting the importance of public engagement in scientific activities.

The audience showed particular interest in the [FOREGS periodic table posters](#) displayed at the booth (Fig. 1). These posters, detailing the geochemical distribution of elements across Europe, provided an educational and visually appealing resource that enhanced the overall experience for visitors. They sparked many conversations and inquiries, demonstrating a strong public curiosity about geochemical mapping and its implications. This event underscored the commitment of applied geochemistry to addressing contemporary scientific challenges and inspired attendees, reinforcing the role of science festivals in connecting academia with the broader community.



Figure 5. Students showcasing the rapid extraction of pure copper using as table cloth [The FOREGS periodic table of residual topsoil in Europe](#).

Reporting the European groundwater geochemistry and promoting the IUGS Manual of Standard Methods

Alecos Demetriades (Chair of CGGB's Sampling Committee) presented on the 17th of May 2024 'EGG: European Groundwater Geochemistry' as part of the [Society of Environmental Geochemistry and Health's Fellows Virtual Seminars](#). This is a follow-up to the presentation delivered on the occasion of the IUGS60 event for [World Water Day](#) on the 22nd of March 2022. In the introduction, it was pointed out that (i) slightly more than 1% of the water on Earth is fresh and available for use; (ii) two-thirds of our freshwater is used in agriculture to grow our food; (iii) with 83 million more people on Earth each year, water demand will keep going up, unless we change the ways we use it; (iv) 1.1 billion people in developing countries have inadequate access to clean and safe water, and (v) about 1.4 million children will die each year from lack of access to safe drinking water and adequate sanitation.

The [EuroGeoSurveys Geochemistry Expert Group](#) used the geochemistry of bottled mineral water as a 'proxy' for that of groundwater. Although the idea of using bottled mineral water was considered absurd to start with, in the end, it was concluded that the new atlas of the geochemistry of bottled mineral water is a valuable addition to the 'Geochemical Atlas of Europe' series (Fig. 1). As the Fellows's seminars are mainly for young and early career researchers, valuable advice was given for the designing of a geochemical project, and the importance of verifying the quality of the generated analytical results. It was strongly recommended to consult the '[International Union of Geological Sciences Manual of Standard Methods for Establishing the Global Geochemical Reference Network](#)'.

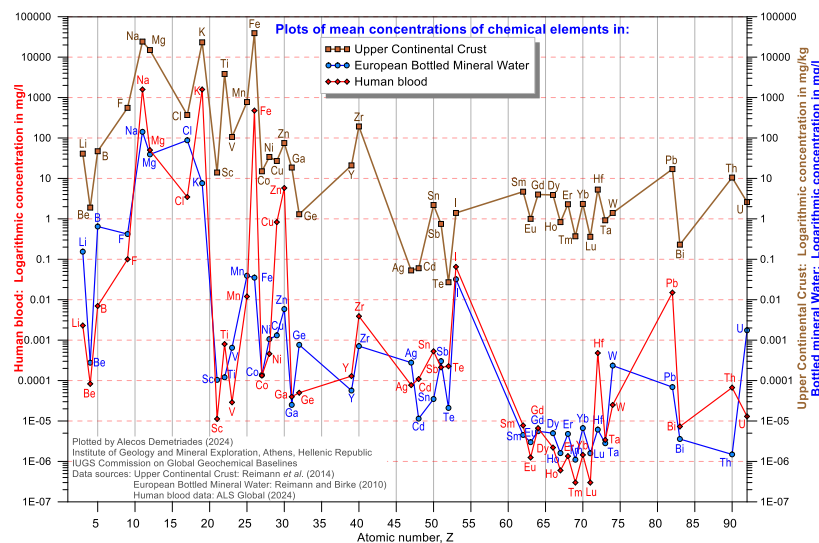


Figure 6. Distribution of chemical elements in upper continental crust, European bottled mineral water and human blood. Note the overall pattern correlation among the three data sets, proving the close relationship that humans have with earth materials.



For the IUGS website: A one-page concise text (up to about 500 words), if possible providing a web-link (e.g. to an IUGS activity website). **Each contribution to the IUGS e-Bulletin, website and/or social media should be marked as to which target medium or media it should be published in. Each contribution should be sent, at the same time, to the following addresses:**

gurmeet28374@gmail.com (e-Bulletin Editor-in-Chief)

giuseppe.dicapua@ingv.it (Webmaster)

yamirka.rojas@ifg.uni-kiel.de (Editor, Social Media)

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Time Frame for submissions to the e-Bulletin:

1. IUGS sends a reminder to leaders of activities in the middle of each month.
2. Contributions should be provided by the end of every month.
3. IUGS will evaluate all submitted items in terms of urgency and will allocate these to the next monthly issue or a later issue and will also check that these comply with IUGS policy for publications and ethics;
4. The IUGS Publications Committee Team will aim to compile monthly e-Bulletin by the end of the month and send it to the IUGS Secretariat;
5. The IUGS Secretariat will dispatch the e-Bulletin to the IUGS Community on, or in the first week of every month.

This time frame may vary due to public holidays that affect the e-Bulletin Team and IUGS Secretariat such as Christmas and Chinese New Year.

NOTES

• Please check the IUGS [Calendar of Events](#) for upcoming scientific meetings. If you require information on international conferences, meetings, etc. to be considered for inclusion in this Calendar please mail to: giuseppe.dicapua@ingv.it

• To be added to or removed from the IUGS e-Bulletin distribution list, please mail to: iugs.beijing@gmail.com or secretariat@iugs.org

• Follow the IUGS on Social Media! We are on [Facebook](#), [Twitter](#), and [LinkedIn](#).

• Check the IUGS website: <http://www.iugs.org/>

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