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1. News from IUGS-IGEO

After a pandemic-forced hiatus in 2020, the International Earth Science Olympiad (IESO) returned this year with an online event. One hundred and ninety-nine student participants from 33 country delegations participated in the 14th IESO from 25-30 August 2021. Students engaged in new and unique challenges, including Data Mining (a multiple-choice test based on analysis and manipulation of real Earth science databases), a National Team Field Investigation (wherein student teams pursued novel research questions, developed hypotheses, collected field data field and prepared a final presentation), an Earth System Project (which required international teams of students to collaboratively create a virtual poster presentation), and a “Mission to Mars” (a virtual experience for international student teams to socialize and learn whilst problem solving). This year there was also a special opportunity for creative expression within the confluence of Earth science and art. Students were invited to share their science-inspired art and a personal Earth System Pledge, a statement of how they intend to use their Earth science-related knowledge in the future.

IESO is one of the main activities of IGEO (<http://www.igeosci.org/>). If your country does not yet participate, we invite you to start your national selection for next year. More details are available on the IESO website: <http://www.ieso-info.org/>

2. IUGS President leads workshops on tackling climate change

Prof. John Ludden (IUGS president) has been leading a series of workshops in identifying ten priorities for tackling climate change. This was undertaken in Panmure House, Edinburgh, the home of Adam Smith the economist. James Hutton the famous geologist worked with Smith and the series is named the Hutton Series and follows an Enlightenment style debate which brings together science and engineering, business and government and the concerned public. The outputs are in a final report. We hope that the actions will be implemented and we expect IUGS as a geoscience organisation to contribute to thinking about how we as geoscientists will underpin the energy transition.



Figure 1. Ten priorities for tackling climate change. To know more, open the links below:

<https://www.iugs.org/>

<https://www.panmurehouse.org/programmes/hutton-series/series-reports-perspectives/hutton-series-on-climate-change-final-report/>

3. News on the rejuvenated IUGS - International Commission on Geoheritage

Between the 18th and 20th of November, the Secretary General – IUGS and the officers of the International Commission on Geoheritage (IUGS-ICG) met in the Basque Coast UNESCO Global Geopark to discuss the new structure, statutes, logo, webpage, and future strategy for the rejuvenated ICG. The meeting was a big step forward in the consolidation of this important commission within the IUGS. After intense discussions for two days, the new structure, statutes, logo, and webpage for the ICG were adopted by all. This meeting has also given strong support to the creation of a third sub-commission on GeoCollections and has reopened the discussion on evaluating high-quality standards for the recognition of "Global Heritage Stone". The IUGS-ICG strongly supports the work done by the members of the IGCP 731 IUGS Global Geosites project in the last year and accepts the challenge to make a big announcement of "The First 100 IUGS Global Geosites" next November at an IUGS-IGCP international conference on Geoheritage.



Figure 2. IUGS SG (Stanley Finney in the center) and the Officers of IUGS-ICG (from left to right: Asier Hilario, Benjamin van Wyk de Vries, Juana Vegas, Angela Ehling, Gurmeet Kaur, Victor Cardenes) during the two days meeting in Basque Coast UNESCO Global Geopark.



4. News from IUGS-UNESCO-IGCP projects 2021

The 2021 Annual Meeting of the China National Committee for IGCP was successfully convened on November 13-14, 2021. The hybrid event was held with a limited in-person audience paired with a virtual meeting due to the COVID-19 pandemic. The meeting attracted a large number of geoscientists and students on the virtual meeting platform, with the accumulated number of audiences reaching 3,734 and a total of 11,600 clicks during the two-day meeting period. The meeting was hosted by the China National Committee for IGCP and co-organized by the School of Earth and Space Sciences of Peking University and the Chinese Academy of Geological Sciences. The organization of the meeting was greatly supported by the IGCP Secretariat at the UNESCO headquarters. The meeting has won widespread acclaim due to its high-level academic exchanges and a wide range of research fields.

At the opening ceremony, Dr Özlem Adiyaman from the IGCP Secretariat at the UNESCO Headquarters, Dr. Zhang Zhanhai, Chief Engineer and Director General of the Department of International Cooperation, the Ministry of Natural Resources of China, Mr. Qin Changwei, Secretary-General of the China National Commission for UNESCO, Prof. Zhou Weijian, Councilor of the IGCP Council, Prof. Cheng Qiuming, Past President of the IUGS, and Dr. Li Jinfa, Vice President of China Geological Survey and Executive Vice President of the Chinese Academy of Geological Sciences delivered opening addresses. Academicians and experts both from home and abroad were invited to deliver keynote talks on Deep-time Digital Earth (DDE) program, UN Sustainable Development Goals and surface-Earth system, lunar geological evolution, and Qinghai-Tibetan Plateau tectonics. Both Chinese and international IGCP leaders were invited to present their latest research results focusing on the IGCP scientific themes - Earth resources, global change, geohazards, hydrogeology and geodynamic during the past year. Altogether 20 IGCP projects were presented at the meeting.

The China National Committee for IGCP will further cooperate with the IGCP Secretariat at the UNESCO headquarters to jointly promote IGCP projects among the Chinese and international geoscience community and to attract more and more young geoscientists to join IGCP projects. China has been a major participating country in the IGCP projects, and the Chinese geoscientists have participated in 151 projects in total.

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

IUGS-IFG is collaborating in a project in China on the '*Regional Environmental Inference and Traceability Technology of Soil for Forensic Purpose*'. This includes soil colour, elemental analysis, mineralogy, pesticide residue analysis, plants, palynology and isotopic analysis of human hair and nails.

Forensic Geology at the Japan Geoscience Union (JpGU)

JpGU has accepted a proposal for a session on '*An Introduction to Forensic Geology*.' The hybrid event can be attended in person or virtually and takes place from 22-27 May 2022. Abstracts can be submitted from 12 January 2022 to 17 February 2022. To know more, open the link below

<http://www.jpгу.org/en>

Remote Sensing to Detect Unmarked Graves, Canada

Information including a video by the Canadian Archaeological Association, on the remote detection of graves can be found on the link below.

<https://canadianarchaeology.com/caa/resources-indigenous-communities-considering-investigating-unmarked-graves>

Crime Scene Training, Queens University Belfast (QUB), Northern Ireland

Students at QUB took part in a training course comprising forensic search and crime scene examination and used the newly-published book, 'A Guide to Forensic Geology'.

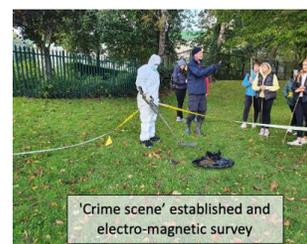
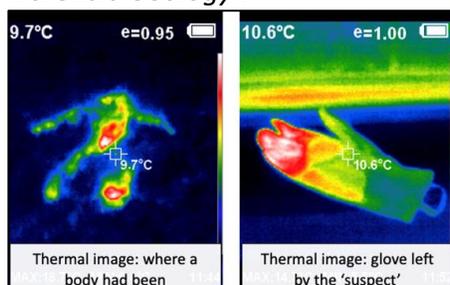


Figure 3. Search for a burial using geophysics (top right), line search (bottom right) and thermal images of a glove and body location

International Trafficking of Elephant Ivory and Animal Teeth, Brazil

Federal police in Brazil conducted searches and seizures related to the illegal trade in elephant ivory and animal teeth. Further details can be found on the IUGS-IFG Student Chapter web site.

<https://geoforenses.com/noticias/>



6. News from IUGS_DDE Geoscience Standards Training Workshop held in great success

The online geoscience standards training workshop for IUGS big science program Deep-time Digital Earth (DDE) was held with great success on 26th -28th Oct., 2021. The training workshop was planned and co-organized by DDE and CGI, the commission for geoscience information of IUGS. There were 93 registered and 152 attendees from DDE Working Groups and Task Groups (DDE-WTGs) and professionals worldwide participated in this 3-day training workshop.

12 talks on Introduction to CGI & OGC standards and partners on geoscience standards, CGI Geoscience Terminology, Geoscience ontology, GeoSciML- Geology data model and exchange standard, EarthResourceML-Mineral resource and mining data model and exchange standard, Metadata standard and practice, DDE metadata standard draft, OneGeology data and standard technology, CODATA FAIR data principles and GOFAIR practice, and A vision on DDE data science with

FAIR data were delivered at the training workshop. Questions, comments, and discussions were answered and exchanged among speakers and audiences after each talk, including common issues on data-driven discovery, open data policy, artificial intelligence, and workforce coordination, etc. Video of this training workshop is available at <https://www.ddeworld.org> via News & Event/Event.

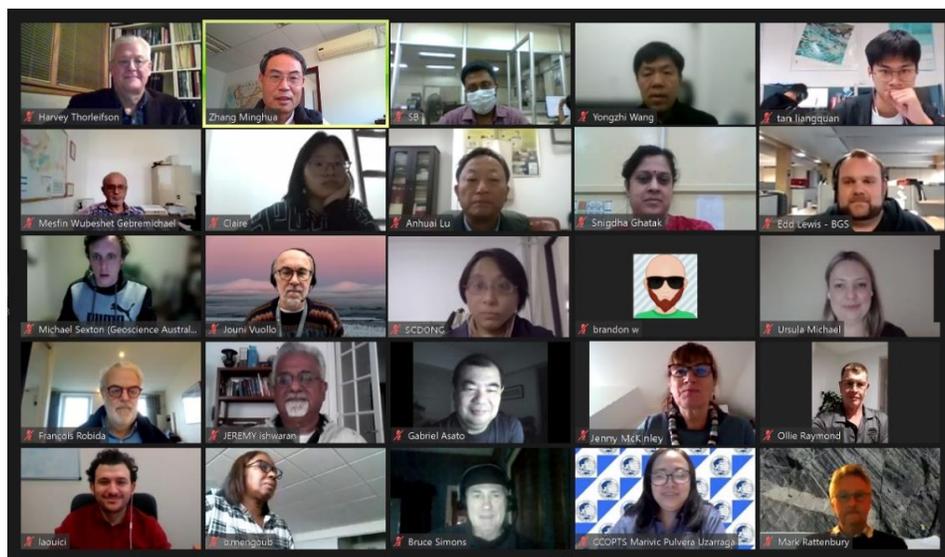


Figure 4. A screen shot of the online geoscience standards training workshop 26-28 Oct 2021.

7. News from the IUGS cosponsored Geoethics session at EGU2022: call for abstracts

IAPG (International Association for Promoting Geoethics), IUGS (International Union of Geological Sciences), AGU (American Geophysical Union), and CIPSH (International Council for Philosophy and Human Sciences) co-sponsor the session "**EOS4.1: Geoethics in the face of global anthropogenic changes: how do we intersect different knowledge domains?**"

Session conveners: Silvia Peppoloni (IAPG/IUGS), John Ludden (IUGS), Luiz Oosterbeek (CIPSH), Pimnutcha Promduangsri (IAPG), Billy Williams (AGU).



Figure 5. Session EOS4.1 details: <https://meetingorganizer.copernicus.org/EGU22/session/43042>

8. International Geodiversity Day – 6 October

On 23rd November 2021 the International Geodiversity Day (IGD) was established by the 41st session of the UNESCO General Conference! From now on, the 6th of October will be an annual worldwide celebration, raising awareness across society about the importance of non-living nature for the well-being and prosperity of all living beings on the planet!



Figure 6. International Geodiversity Day. To know more open the links below:

<https://www.iugs.org/>

<https://www.geodiversityday.org/>

<https://en.unesco.org/news/unesco-adopts-international-geodiversity-day>

9. News from INHIGEO

1. INHIGEO Anniversaries: Inge Lehmann Discovered the Inner Earth Core in 1936.
To know more open the link below:

https://www.inhigeo.com/anniversaries/INHIGEO_Koelbl_Ice_Core.pdf

2. The Mary C. Rabbitt History of Geology Award is presented annually by the Geological Society of America's History and Philosophy of Geology Division to an individual for exceptional scholarly contributions of fundamental importance to our understanding of the history of the geological sciences.

To know more, open the links below:

https://www.geosociety.org/GSA/about/awards/Division_Awards/GSA/Awards/Division.aspx



Figure 7. Steve Rowland (University of Nevada, Las Vegas, USA), the VP for North America of INHIGEO (2020-2024), receiving the GSA History and Philosophy of Geology Division's Mary C. Rabbitt award last month at the Geological Society of America annual meeting in Portland, Oregon. Presenting the award is (INHIGEO member) Renee Clary (left) and the citationist for the award former INHIGEO SG Ken Bork (attending online).

10. Call for the USAL4Excellence, a programme under Marie Skłodowska-Curie CoFund actions

The “**University of Salamanca Programme to Foster Research Excellence**” (USAL4EXCELLENCE) is an initiative of the University of Salamanca (USAL) funded by the Horizon 2020 Programme under MSCA COFUND actions. The overall objective of fellowships will be to recognize the brightest ideas and bring brilliant minds together.

USAL4EXCELLENCE will provide fellows with training and networking opportunities that will enhance their career development and leadership potential. Professor Lola Pereira, member of the **Heritage Stones Subcommittee** and **Chair of the IUGS Publications committee** will be supervisor of selected candidates under the research line of **Natural Stones and Architectural Heritage** or any other research lines under her expertise: <https://diarium.usal.es/mdp/>.

The IUGS community is encouraged to apply for this prestigious grant. Full information on the programme and conditions can be found at: [USAL4EXCELLENCE - USAL 4 Excellence](#) and the promotional video: <https://usal4excellence.usal.es/>



Figure 8. The University of Salamanca, façade of the main building.



CONTRIBUTING TO THE IUGS E-BULLETIN, WEBSITE AND SOCIAL MEDIA

IUGS wishes to improve the co-ordination of the publication of information on **news, events and achievements** arising from IUGS activities (**not science reports or papers**).

All IUGS Commissions, Task Groups, Initiatives and IGCP projects are requested to provide a steady flow of material. Contributions from Adhering Bodies are also welcome.

To aid co-ordination and standardization, IUGS has introduced a preferred format and a monthly timetable.

Format of submitted material:

Contributors should provide:

For the e-Bulletin: A short text with links to IUGS activity website, 1 or 2 illustrations (photographs, diagrams etc. jpg, .gif or png files of good resolution with captions) not exceeding one page. Items that are not in reasonably good English will be returned for improvement. If proposed contributions exceed one page, they will be returned for shortening. All images must, if necessary, be copyright-cleared before submission. The editor of the e-Bulletin reserves the right to make necessary edits to adjust the content to the publication rules, always respecting the meaning of the text submitted.

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)
gurmeet28374@gmail.com (Social Media Manager)

Time Frame for submissions to the e-Bulletin:

1. IUGS sends a reminder to leaders of activities in the last week of each month;
2. Contributions should be provided by the 16th day 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 25th day 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 before, the last day of each 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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