

**MINUTES**



**INTERNATIONAL UNION OF GEOLOGICAL SCIENCES**

**79th EXECUTIVE COMMITTEE MEETING**

**OPEN SESSION**

**February 19th-20th, 2024**

**Ole Sereni Hotel**

**Nairobi, KENYA**

# Contents

Participants .....	1
1. Opening of Meeting .....	3
2. Discussion and Approval of Agenda .....	3
3. Approval of Minutes .....	3
4. Executive Committee Reports .....	3
4.a. President's Report .....	3
4.b. Treasurer's Report .....	4
4.c. Secretary General's Report .....	6
4.d. Permanent Secretariat's Report .....	7
<b>5. Nominating Committee Report .....</b>	<b>9</b>
6. Publications Committee .....	11
6.a. Episodes .....	11
6.b. Website .....	12
6.c. Social Media .....	13
6.d. E-Bulletin .....	14
6.e. GSL Books .....	14
7. IUGS Commissions, Task Groups, and Initiatives .....	15
7.a. International Commission on Stratigraphy (ICS) .....	15
7.b. History of Geological Sciences (INHIGEO) .....	16
7.c. International Commission on Geoheritage (ICG) .....	17
7.d. Global Geochemical Baselines (CGGB) .....	19
7.e. Management and Application of Geoscience Information (CGI) .....	20
7.f. Education, Training and Technology Transfer (COGE) .....	21
7.g. Tectonics and Structural Geology (TecTask) .....	22
7.h. Commission on Geoethics (CG) .....	22
7.i. Task Group on Submarine Geohazards (TGSG) .....	24
7.j. Initiative on Forensic Geology (IFG) .....	25
7.k. Task Group on Igneous Rocks (TGIR) .....	26
8. IUGS Joint Programs .....	26
8.a. Deep-time Digital Earth (DDE) .....	26
8.b. International Lithosphere Program (ILP) .....	27
8.c. UNESCO-International Geoscience Programme (IGCP) .....	28
9. International Geological Congress (IGC) .....	29
9.a. 37th IGC in 2024 (Busan) .....	29
9.b. 38th IGC in 2028 .....	32
10. Reports from IUGS Adhering Organizations .....	32
10.a. Netherlands .....	32
10.b. Canada .....	32
10.c. Lithuania .....	33
10.d. Gambia .....	33
10.e. Kenya .....	34

11. Reports from IUGS Affiliated Organizations .....	34
11.a. Geological Society of Africa (GSAf) .....	34
11.b. American Geosciences Institute (AGI) .....	35
11.c. Geological Society of America (GSA).....	36
11.d. International Organization for the Genesis of Ore Deposits (IAGOD).....	37
11.e. International Geoscience Education Organization (IGEO).....	38
12. Revisions to IUGS Statutes .....	39
13. Close of the Open Session.....	40

## Participants

### **IUGS Executive Committee:**

John LUDDEN (JL; President), Stanley FINNEY (SF; Secretary General), Hiroshi KITAZATO (HK; Treasurer), Qiuming CHENG (QC, Past President, Chair of Nominating Committee), Daekyo CHEONG (DC; Vice President), Hassina MOURI (HM; Vice President), Jennifer MCKINLEY (JM; Councilor), Ludwig STROINK (LS; Councilor), Lola PEREIRA (LP; Councilor), Yamirka ROJAS-AGRAMONTE (YR; Councilor)

### **Observers (attending parts of the meeting):**

Giuseppe DI CAPUA (IUGS Webmaster), Gurmeet KAUR (E-bulletin Editor), Sung Keun Lee (Executive Editor, *Episodes*), Daniela MUNOZ GRANADOS (IUGS Social Media Officer), David HARPER (Chair, Commission on Stratigraphy), Asier HILARIO (Chair, Commission on Geoheritage), Leonard Harvey THORLEIFSON (Chair, Commission for Geoscience Information), Anna LADENBERGER (First Co-chair, Commission on Global Geochemical Baselines), Gloria Namwi SIMUBALI (Second Deputy Chair, Commission on Global Geochemical Baselines), Sandra VILLACORTA CHAMBI (Chair, Commission on Geoscience Education, Training and Tech Transfer), Silvia PEPPOLONI (Chair, Commission on Geoethics&Tasks Group on Diversity, Equity and Inclusion), Ezio VACCARI (Chair, Commission on History of Geological Sciences), Martina KÖLBL-EBERT (Secretary General, Commission on History of Geological Sciences), Susanna OCCHIPINTI (Vice Chair, Commission on Geoscience Education, Training and Tech Transfer), Enrique GOMEZ-RIVAS (Chair, Commission on Tectonics and Structural Geology), Michele LUSTRINO (Chair, Task Group on Igneous Rocks), Kiichiro KAWAMURA (Chair, Task Group on Submarine Geohazards), Yasukuni OKUBO (Secretary General, Task Group on Submarine Geohazards), Laurance DONNELLY (Chair, Initiative on Forensic Geology), Natarajan ISHWARAN (Representative, Deep-Time Digital Earth), Kombada MHOPJENI (UNESCO Windhoek office, representative of International Geoscience Program), Hans THYBO (Chair, International Lithosphere Program), Irina ARTEMIEVA (President, European Geosciences Union), Ester SZTEIN (Director of International Programs, Geological Society of America), Jonathan ARTHUR (Executive Director, American Geosciences Institute), Akinade OLATUNJI (President, Nigerian Mining and Geosciences Society), Nir ORION, (Chair, International Geoscience Education Organization), Olugbenga Akindeji OKUNLOLA (President, Geological Society of Africa), Joseph Ng'ang' a KURIA

(President, Geological Society of Kenya), Thierry O. BINELI BETSI (Representative, International Association on the Genesis of Ore Deposits), Mary BARTON (Representative, International Association on the Genesis of Ore Deposits), Michele VAN DER MEULEN (Chief Geologist, Geological Survey of the Netherlands), Jonas SATKUNAS (Lithuanian National Committee of Geologists), Katherine BOGGS (Co-Chair, Canadian National Committee for IUGS), Daniel LEBEL (Past President, Canadian National Committee for IUGS), Alieu JAWO (Acting Director, The Gambia Geological Department), Abdoulie. M. CHAM (Representative, The Gambia Geological Department)

**IUGS Secretariat:**

MA Yongzheng (Director), GU Yanfei (Secretary) and Xu Yaqi (Secretary)

## **1. Opening of Meeting**

John Ludden (JL) expressed gratitude to the Geological Society of Africa and the Geological Society of Kenya for hosting the 79th IUGS EC Meeting and welcomed the online and offline participants of the Meeting. All the online and offline delegates briefly introduced themselves one by one.

Dr. Joseph Ng'ang'a Kuria, the President of Geological Society of Kenya, welcomed all the participants to join in the Meeting in Nairobi, the Capital City of Kenya. He reviewed the cooperation between Geological Society of Kenya and IUGS and introduced the abundance of geological resources in Africa and specifically in Kenya. Dr. Joseph Ng'ang'a Kuria looked forward to more collaboration between IUGS and the Africa continent in the future.

Dr. Olugbenga Okunlola, the President of Geological Society of Africa, delivered a welcoming address. He welcomed all the geoscientists back home, because Africa is where it started from. He is excited that IUGS is focusing on Africa, and emphasized that, with a lot potentials, Africa is stricken by the irony of its rich natural resource heritages and side-by-side poverty, and it leaves great room for geological research and development. He hoped that focusing on Africa will also benefit the IUGS.

## **2. Discussion and Approval of Agenda**

Motion to approve the Agenda.

**Approved.**

## **3. Approval of Minutes**

Motion to approve minutes of the 78<sup>th</sup> Executive Committee Meeting, February 14-16, 2023, Virtual Progress Meeting, July 3, 2023, and Virtual Progress Meeting, November 10, 2023.

**Approved.**

## **4. Executive Committee Reports**

### **4.a. President's Report**

John Ludden (JL) pointed out that 2023 was the hottest year on record for our planet, and IUGS needs to continue to orient science towards the big questions. IUGS does not have the budget to actively undertake decarbonisation solutions, but it does have the money to try to facilitate people communicating about the problems and help solving the problems. Geoscientists need to think seriously about our role in how we can help mitigate against transitions in climate, energy and sustainability.

IUGS created a Commission on Geoethics this year and it has already proved effective on several issues.

JL sent virtual messages to many meetings, but attended the 100th anniversary of German geosciences in a solemn event in the Humboldt forum. JL also presented IUGS to more than a thousand members at the International Landslide Forum. All events focused on the status of geosciences now and how we need to emphasize the need for geology, geophysics and specialist professions as part of the transition to a decarbonized society.

#### **4.b. Treasurer's Report**

Hiroshi Kitazato (HK) presented the budgetary structure of IUGS. IUGS income includes membership fee (70%), UNESCO-IGCP reimbursement, Royalties from Geological Society of London and capitation fee both from IGC and RFG (once every four years). IUGS expenses include UNESCO-IGCP allocation, joint programs (ILP and OneGeology), IUGS Commissions, Task Groups, Initiatives, Affiliated Organizations, contributions to ISC, IUGS committees, Episodes and administration costs. IUGS fund is composed of current activities, contingency/flexibility and reserve for future.

By December 31, 2023, total balance of IUGS account is 1,621,011.99 USD. Breakdown of current part as of December 31, 2023 includes USD account (1,141,363.72 USD), EUR account (381,438.88 EUR) and JPY account (98,205.53 JPY and cash (3.86 EUR).

##### **Income**

IUGS income in 2023 is 705,163.16 USD in total and it includes membership fees (318,118.09 USD), contribution from UNESCO to IGCP (205,301.66 USD) and other income (181,743.41 USD).

##### **Expense**

IUGS expense in 2023 is 745,070.36 USD in total and IUGS net income in 2023 is -39,907.20 USD. Translated exchange loss (with no cash-out) is 5030.20 USD and Adjustment on income on 36<sup>th</sup> IGC is -176,993.60 USD. Therefore, the net increase in IUGS account is -211,870.60 USD.

##### **UNESCO IGCP**

In total, IUGS has paid for 26 projects. IGCP 663, 665, 684, 722, 728, and 731 have not implemented yet during 2023. Their activity money shall be paid during UNESCO IGCP Project 2024.

##### **Analysis of Membership Status and Fees**

##### **Status of Countries by Fees Category - 2023**

Category	Active	Inactive	Total	Number of Countries paid for			
				2024	2023	2022	2021
1	19	52	71		13	1	
2	13	4	17		11	2	1
3	11	4	15	1	10	1	
4	7	2	9		6		
5	-	-	-	-	-	-	
6	2	0	2		2		
7	5	0	5		2		
8	4	0	4		3		
<b>Total</b>	<b>61</b>	<b>62</b>	<b>123</b>	<b>1</b>	<b>47</b>	<b>5</b>	<b>1</b>
(2022)	64	59	123			52	7
(2021)	66	56	122				48

Category 3        One member has paid for 2024 in advance.

Category 6&7    One member changed its category from 6 to 7 for 2023.

Category 8        One membership has been suspended by the resolution of EC meeting in March 2022.

#### **Alteration of Status during the year 2023**

Pending(Note)→Active	Bangladesh	2022 dues paid
Inactive→Active	Greece	2022,2023 dues paid
	Mexico	2021,2022,2023 dues paid (For 2021&2022, the payment was arranged in 2022 but due to an in remittance, it was re-remitted in 2023.)
Active→Pending(Note)	Guyana Russia	Dues unpaid for 2 years as of the end of 2023
Pending(Note)→Inactive	Iran Mongolia Sri Lanka Vietnam	Dues unpaid for 3 years as of the end of 2023

(Note) Members of “Pending”status are included in “Active”in the table “Status of Member by Category” and have the voting right. South Africa, that was “pending”, paid the fees at the end of 2023, becoming active in January 2024.

#### **Financial Comments**

##### **Financial Situation as of December 31, 2023**

During the period from 01/01/2023 to 31/12/2023, IUGS income and expense are USD 705,163.16 and USD 745,070.36 respectively, and the net loss is USD 39,907.20. The balance of IUGS current account as of 31/12/2023 is USD 1,621,011.99.



## **Income**

The total income received during 2023 is USD 705,163.16, including membership fee of USD 318,118.09 (compared to USD 369,584.99 in 2022). The major reason for the decrease of the membership fee income is because payments from several members were not in time for the closing date of December 31, 2023. On the positive side, Greece and Mexico became active members in 2023. Receipt of USD 33,026, as the final reimbursement of finance to IGCP projects for 2023, is expected from UNESCO in early 2024. Other income includes USD 176,993.60 received in relation to the 36<sup>th</sup> IGC (International Geological Congress).

## **Expense**

The total expense during 2023 is USD 745,070.36. IGCP Projects were co-financed with UNESCO (mentioned below).

New activities starting in 2023 are the TGSG (Task Group on Submarine Geohazards) and the IUGS African Project (mentioned below).

IUGS has changed the category of membership of ISC (International Science Council) from “Band B” to “Band A” for 2023 to increase the voting rights.

Former Publication Committee has become “Outreach Committee”, expanding its activities in the field of social media.

## **IGCP Projects Co-financed with UNESCO**

30 IGCP (International Geoscience Programme) projects were financed jointly with UNESCO during 2023, totaling to USD 266,500.00, of which IUGS bore USD 70,000.00. The projects that were not implemented during 2023 may be transferred to 2024 upon the approval of UNESCO.

## **IUGS African Project-Starting from 2023**

IUGS sponsored (USD 20,000 at Silver Level) and attended the 29<sup>th</sup> Colloquium on African Geology (CAG29) held at Windhoek, Namibia in September. IUGS Bureau made the five delegate passes provided for the sponsorship granted to the geologists who could not otherwise afford to attend.

## **Outlook for 2024**

The 37<sup>th</sup> IGC will be held on 25-31 August 2024 in Busan, Korea and IUGS will prepare for the activities as host in the Congress.

To further promote African Project, IUGS considers inviting delegates of African countries at the EC meeting in Kenya.

Measures to encourage the members that have been inactive for periods to become active need to be reviewed and considered.

## **4.c. Secretary General's Report**

Stanley Finney (SF) reported that the main activities of the IUGS Secretary General in 2023, including:

1. Regularly communicated with leaders of IUGS Commissions and Task Groups;
2. Managed votes for ratification by the Executive Committee of five GSSPs and one GSSA submitted by ICS;
3. Remained involved in recognition of IUGS Geological Heritage Sites by Commission on Stratigraphy;
4. Managed the online vote for new Science Editor of Episodes and provisional approval of affiliated membership of International Association of Structural Geology and Tectonics and for the Nigerian Mining and Geosciences Society;
5. Made efforts to return several South America countries to active adhering membership;
6. Participated in Ad-hoc Review Committee evaluation of IGCP, held at UNESCO-Paris in January;
7. Organized the 78<sup>th</sup> IUGC Executive Committee Meeting in Glasgow in February;
8. Organized Virtual EC meetings in July and November;
9. Represented IUGS at STRATI 2023 - 4<sup>th</sup> International Congress on Stratigraphy in Lille, France in July;
10. Represented IUGS at the dedication of the GSSP for the Campanian Stage, Cretaceous System at Gubbio, Italy in July;
11. Edited the 2022 IUGS Annual Report;
12. Manages the schedule and agenda for EC meetings, the schedule for the nomination and selection processes for IUGS Awards and Travel Grants, and for the IUGS-IGC Council Meeting and related IUGS activities at the IGC and consults with those developing Expressions of Interest and Bids for future IGCs;
13. The IUGS and IGC Statutes need update and revision. The team of IUGS President JL, IUGS Councilor Ludwig Stroink, and SF made significant revisions, which will be presented to the IUGS Executive Committee for approval in early 2024 and to the IUGS-IGC Council for consideration and ratification when it meets at the 37<sup>th</sup> IGC;
14. Following upon the idea of the IUGS President, began planning for the 79th IUGS Executive Meeting and the following 2-day IUGS Geoscience in Africa event. That planning included attending the 29th Colloquium of African Geology to identify and recruit participants to the Geoscience in Africa Event.

#### **4.d. Permanent Secretariat's Report**

MA Yongzheng, the Director of IUGS Permanent Secretariat, reported on the major work in 2023 and work plan for 2024 of the Secretariat as follows:

##### **Business Meetings**

- 78th EC Meeting on 13-18 February, 2023
- Assisted Secretary General in preparing and distributing the Announcement of the 77th EC Meeting;

- Distributed the call for submitting IUGS Annual Reports to the IUGS Constituent Groups, Adhering Organizations and Affiliated Organizations;
- Prepared and distributed meeting documentation (including Agenda, annual reports, etc.);
- Assembled financial requests from the IUGS Bodies;
- Minute taking, preparation and distribution (including Action List);

### **EC Virtual Progress Meetings and Other Virtual Meetings**

The Secretariat arranged the following meetings through zoom:

- Virtual Nominating Committee Meeting (13 January 2023 and 3 November 2023)
- EC Virtual Progress Meeting (3 July 2023 and 29 November 2023)
- Prepared and distributed meeting documentation;
- Minute taking, preparation and distribution (including Action List);

### **79th EC Meeting and IUGS Geoscience for Africa Event in February, 2024**

- Distributed the call for submitting IUGS Annual Reports to the IUGS Constituent Groups, Adhering Organizations and Affiliated Organizations.
- Collected all the annual reports and prepared meeting documentation (including Agenda, annual reports etc.).
- Coordinated on meeting participants and logistical issues.
- Invited geoscientists from African countries to deliver reports.

### **Major Work Related to the 37th IGC**

- Designed a series of the IUGS promotional gifts for the 37th IGC booth.
- Designed gifts for the 5th Ordinary Session of the IUGS-IGC Council Meeting.
- Designed IUGS booth for the 37th IGC.
- Assisted Secretary General in other related issues.

### **IUGS Exhibitions at Major International Events**

- Designed a new series of the IUGS promotional gifts for the booth.
- Set up booths at the following international events:
- 2023 Annual Meeting of EGU on 23-28 April 2023;
- 28th General Assembly of the International Union of Geodesy and Geophysics (IUGG) on 12-18 July 2023;
- 2023 Annual Meeting of GSA on 15-18 October 2023;
- AGU Fall Meeting 2023 on 11-15 December 2023.

### **Outreach and Publications**

#### **1. Annual Report**

Designed and formatted the 2022 IUGS Annual Report;

#### **2 . E-Bulletin**

Formatted and distributed the E-Bulletin #182-#191 to over 16,000 recipients;

Updated the list of recipients based on feedback.

Drafted some pieces of IUGS news being published on E-Bulletin.

### 3. New Year E-Card

Designed and distributed the electronic New Year Card in the name of the Bureau to the international geoscience community.

### Membership Maintenance

- Adhering Members
- Updated the contact information of the IUGS Adhering Members in the IUGS Information Management System.
- Prepared the updated list of membership status (Active, Pending, Inactive) of Adhering Members being posted on the IUGS website;
- Actively communicated with inactive members and assisted them in becoming active members.

### Affiliated Members

Updated the contact information of IUGS Affiliated Organizations in the IUGS Information Management System according to the information published on their official websites.

### Work Plan for 2024

- Preparations and Participation of the IUGS Business Meetings
- 79th IUGS EC Meeting and IUGS Geoscience for Africa Event.
- IUGS EC Progress Meetings and Bureau Meetings.
- A series of IUGS business meetings and activities during the 37th IGC in Busan.
- IUGS Nominating Committee Meeting in 18-22 March 2024 in Zhuhai, Guangdong Province, China

### Daily Routine

- Basic Work on membership maintenance
- Information system updates
- Distribution of IUGS publications including Episodes, E-Bulletin and annual report, etc.

## 5. Nominating Committee Report

Qiuming CHENG (QC), the IUGS Past President and IUGS Nominating Committee Chair reported that IUGS Nominating Committee (NC) held a virtual meeting on Jan 8<sup>th</sup>, 2024. NC members discussed and decided on the following issues:

### (1) Nominations for IUGS EC

The NC members reviewed the list of nominations received by December 31<sup>st</sup>, 2023, the deadline for the second Call for Nominations of the following IUGS EC members (2024-2028).

The updated list includes 27 nominations, including 10 female candidates from 17 countries covering five continents: America, Asia, Africa, Australia, and Europe.

### Nominations received for IUGS EC

Positions	Nominees	Genders	Country/Region	Nominators
President	Daniel Lebel	Male	Canada	Canadian Federation of Earth Sciences
	Silvia Peppoloni	Female	Italy	International Association for Promoting Geoethics (IAPG)
Secretary General	Ludwig Stroink	Male	Germany	German IUGS National Committee
Treasurer	Qingtian Lyu	Male	China	Geological Society of China
	David Cohen	Male	Australia	The Australian Academy of Science
Vice Presidents	Zengqian Hou	Male	China	Geological Society of China
	Marko Komac	Male	Slovenia	Slovenian National IGGP Committee
	Min Huh	Male	ROK	Geological Society of Korea
	Philip Leonard Gibbard	Male	UK	International Commission on Stratigraphy
	Wenzhi Zhao	Male	China	Geological Society of China
	Olugbenga Okunlola	Male	Nigeria	Geological Society of Africa
Councillors 2024-2028	Farnoosh Farjandi	Female	Iran	Iran Geological Survey
	Hamid Reza Javadi	Male	Iran	Iran Geological Survey
	Qinhong Hu	Male	China	Geological Society of China
	Maria Rose Petrizzo	Female	Italy	IAPG - International Association for Promoting Geoethics
	Pablo G. Silva Barroso	Male	Spain	Spanish Geological And Mining Institute (IGME-CSIC)
	Rasik Ravindra	Male	India	Indian National Science Academy
	Renee Clary	Female	US	US National Committee of Geological Sciences
	Rie Hori	Female	Japan	The Science Council of Japan
	Huaying Wu	--	China	Geological Society of China
	Absai Vatuva	Male	Namibian	Geological Survey of

				Namibia
	Giesberta Shaanika	Female	Namibian	Geological Survey of Namibia
	Josephine Uushona	Female	Namibian	Geological Survey of Namibia
	G.M. Bhat	Male	India	Geological Society of India
	Maideyi Meck	Female	Zimbabwe	Geological Society of Africa
	Sidonie Revillon	Female	France	French Geological Society
Councillors 2026-2030	Hema Achyuthan	Female	India	The Geological Society of India

## (2) Nominations for IUGS NC 2024-2028

So far, two nominations from Adhering Organizations for the IUGS NC have been received; a reminder was distributed to the IUGS members for further nomination.

NC discussed and agreed on the following items:

- Since only two nominations have been received from IUGS Adhering Organizations for the IUGS NC so far, a reminder was distributed to the IUGS members to nominate further.
- There are no nominations from South America, and work needs to be done to find potential candidates.
- NC will make efforts to make nominations so that the NC shall prepare a list of preferably two or more candidates for each office position on the Executive Committee.

## Work plan for 2024

- January-March 2024: Discuss and put forward the slate of candidates by the NC.
- April 2024: Send the formal slate to the IUGS President.
- August 2024: Be elected by the IUGS Council

## In-person meeting in Zhuhai, China

The in-person meeting will be held at Sun Yat-Sen University (Zhuhai Campus) in Guangdong Province, China, from March 18<sup>th</sup> to 22<sup>nd</sup>, 2024. The goal of the in-person meeting is for the NC to discuss and decide on the slate of candidates and forward it to the President in April.

## 6.Publications Committee

### 6.a. Episodes

Sung Keun Lee, the Executive Editor of Episodes reported that there are a total of 89 manuscripts received through the Editotial Manager system (as of 2023.12.31), and 52 manuscripts (31 original articles, 1 review, 4 communications regarding IUGS

geological standards, 4 reports, 5 History of Geology articles, 3 Book Reviews, 2 obituaries/profiles, and 2 editorials) were published in Vol. 46, no. 1-4.

As reported in Claivate data in June 29, the impact factor rose from 2.439 in 2021 to 3.1 in 2022. The CiteScore increases from 5.3 to 5.6 in the recently published Elsevier's CiteScore Tracker (Last updated on December 5, 2023), and the percentile in category retained Q1.

The Associate Editors consist of 28 experts in earth and environmental sciences, are globally diverse, with representation from Africa, South America, North America, Europe and Oceania.

There are two Special Issues: September issue (Vol47, no. 3)-Recent Advances in Korean Geosciences and December issue (Vol 47, no. 4) - International Geoscience Education Strategies: Innovations, collaborations and future directions.

**Work plan for 2024:**

1. Publication and securing a special issue.
2. Promotional booth is scheduled to operate at the 2024 IGC held in Busan, Korea.

**6.b. Website**

Giuseppe DI CAPUA reported the main work as IUGS webmaster as follows:

The webmaster's activity was focused to maintain efficient operation of IUGS website by creating and updating pages regularly. During the year, the webmaster worked closely with the President, Secretary General, the E-Bulletin editor, Chairs of IUGS bodies, and the Secretariat staff for assuring continuous support to IUGS Executive Committee and bodies to promote events and activities organized or supported by the Union.

In 2023, an average of 98 visitors, 131 sessions, and 239 page views per day were recorded. Additionally, there is a decrease in the number of pages consulted per session. Finally, the bounce rates remained stable compared to 2022. This is attributed to the majority of IUGS website users visiting the homepage (49% of visits), with the homepage serving as their primary landing page; of those users, 34% subsequently exit the website.

There were 13 instances of session peaks reaching or exceeding 200, with 7 occurrences specifically in the month of November. The highest peak in 2023 occurred on July 12<sup>th</sup>, with a total of 281 sessions recorded.

Sessions originate from visitors in 180 countries, predominantly from China (15.9%), USA (11.1%), India (9.5%), and the United Kingdom (4.0%). Less than 4% of sessions come from each of the remaining countries.

The most visited pages of the website were the following: Homepage (33.7%), ICS (7.7%), IGC (6.4%), History (6.0%), Calendar 2023 (5.8%), Calendar 2024 (4.3%), Flagship Activities (2.9%), DDE (2.8%), Executive (2.7%), Episodes (2.2%). Other pages received less than 2.0% of visits.

The contribution of social media to the number of sessions continues to be very scarce in 2023, clearly worsening compared to the year 2022. Most visits come from Facebook. Visits from Facebook, Twitter, and LinkedIn have strongly decreased from 2022 to 2023, ranging from -30.1% to -75.0%. To reverse the negative trend, it is fundamental to reconsider the approach to creating posts on IUGS social media.

In 2024, the IUGS domain (iugs.org) must be renewed. The IUGS Executive Committee should evaluate two options concerning the budget allocation for the renewal :

- Option 1 (domain renewed for 9 years):  $314.91 + 69.28 \text{ (VAT)} = 384.19 \text{ USD}$
- Option 2 (domain renewed for 20 years):  $659.80 + 145.16 \text{ (VAT)} = 804.96 \text{ USD}$

### **6.c. Social Media**

Yamirka Rojas-Agramonte(YR), the IUGS Councillor and Social Media Manager, and María Daniela Muñoz-Granados, the IUGS Social Media Officer, jointly gave the report.

#### **Youtube**

With 142 subscribers, it has uploaded 12 videos of geoheritage stones and meetings. Most of the audience are male viewers of 25-34 years old.

#### **Facebook**

Currently, it has 7.9k likes and 8.7k followers.

#### **Instagram**

A whole new page has been created and the posts are kept in uniform.

#### **Metric**

Through one year, Facebook reach has increased by 350.3% and Instagram reach by 100%. The First 100 IUGS Geological Sites posts are the ones with more reach and engagement. Facebook has 8703 followers and Instagram has 247 followers.

### **IUGS Young Reporters**



The IUGS Young Reporters Initiative was established in May 2023, and the website was built accordingly. Social Media made the call for reporters and distributed it on social media, AGU, GSAf (Geological Society of Africa). At present, there are reporters from 9 countries, 4 videos and 6 written reports have been generated, and 9 certificates and business cards have been generated and sent to all reporters.

#### **Future of Social Media**

YR encouraged IUGS member to subscribe to social media, to re-post the news and to send them news. In addition, volunteers are needed to check the reports of the young reporters.

JL commented that YR needs to further discuss with Giuseppe Di Capua and Hassina Mouri to come up with a revised proposal containing the work plan and the targets, so that the EC can determine how many young reporters the Social Media is going to have.

#### **6.d. E-Bulletin**

Gurmeet Kaur, the Editor of IUGS E-bulletin, reported that a new format of E-bulletin has been designed and circulated for providing e-Bulletin news. This format will be used from January 2024 onward. It is proposed to bring out the e-bulletin in the first week of every month. The contributors can submit the material by end of the month. The e-Bulletin now contains profiles of young IUGS reporters. It can be discussed at the closed meeting whether to include the Young Reporters' reports in the E-Bulletin.

#### **6.e. GSL Books**

SF reported that in 2003 IUGS signed MoU with GSL Books, a publishing agreement where IUGS will encourage all its constituent groups to publish their activities, main articles and scientific achievements. In return, the books published by GSL will carry the logo of IUGS and provide a little income (1,250 pounds per book).

SF had a meeting with the Director of the editorial board of GSL on 13 February 2024 and had a look at the books published from 2019 to the present. The results of the discussion are as follows:

- (1) Generally high citations and downloads of IUGS book articles.
- (2) Desire to strengthen the relationship.
- (3) Produce a new agreement on that relationship; probably in the form of a new MOU and establishing a more formal relationship with GSL Books.
- (4) Promotion by IUGS of publication in GSL books arising from workshops, symposia, and congresses of the IUGS and its constituent groups.

- (5) The two sides are working on the third edition of Igneous Rock Classification Book.
- (6) Possibly marketing and selling of 100 IUGS Geological Heritage Sites books.
- (7) Selling the GSL-IUGS relationship to the new EC (2024-2028) in order that the EC promotes it to all IUGS constituent groups.
- (8) SF asked for support to move forward with developing the MOU with its presentation for approval at the 23 May virtual EC meeting.

Lola PEREIRA (LP; Councilor) complemented that in the agreement between IUGS and GSL Books there is an item “IUGS community is supposed to send a proposal to GSL Books if they want to publish books, and if the proposal is rejected, they can send it to other editorials.”

## **7. IUGS Commissions, Task Groups, and Initiatives**

### **7.a. International Commission on Stratigraphy (ICS)**

David Harper, the Chair of International Commission on Stratigraphy (ICS) reported that the key priority of ICS is the completion of the ICS chart.

#### **Significant Achievements**

- (1) Definition and ratification of some 15 GSSPs and two GSSAs in the last four years.
- (2) Two GSSP dedications in 2023, Germany (Coniacian) and Italy (Campanian).
- (3) Key contributions to the IUGS World Heritage sites: the first 100 and the second 100.
- (4) Most downloaded Episodes articles: 2022. A practical solution: the Anthropocene is a geological event, not a formal epoch. 2023. The Anthropocene is a prospective epoch/series, not a geological event.
- (5) Translations into numerous languages including French, German, Belgian Dutch, Chinese, Korean, Spanish, American Spanish, Japanese, Norwegian, Portuguese, Russian, Lithuanian, Hungarian and Finnish.
- (6) Ongoing major makeover (new content, new design) of the ICS webpages and the development of an ICS family for the subcommissions.
- (7) Publications focused on the work of the ICS.
- (8) The STRATI meeting in Lille, 11-13th July 2023 with c. 300 delegates.
- (9) Award of the ICS and the Digby McLaren medals.
- (10) Election (and appointment) of new executives.

#### **Future Plan**

- (1) Priority funding is for those subcommissions moving to complete the outstanding 20 GSSPs, through field meetings and some laboratory work.
- (2) Work is far advanced on the Burdigalian, Bartonian, Aptian, Valanginian, Oxfordian, Olenkian, Norian, Kungurian, Ghezelian stages.
- (3) Support for dedication ceremonies.

- (4) Preparation of data for the DDE and nomination of a data officer for each subcommission.
- (5) Most subcommissions will hold their own conferences/field meetings in the coming year. Business meetings and symposia in Busan.
- (6) A number are publishing books on their respective systems.
- (7) Better promotion of our activities. Continued modernization of the web pages and their functionality; accelerate use of our own social media.
- (8) Support for attendance of Commission (including subcommissions) members at BUSAN 2024.

### **Funding Request**

Currently each subcommission receives about \$3000 for its activities per year; about 90% of actual costs are funded by research grants to individuals and institutions together with support in kind. Operational costs plus support for Lille meeting = \$60,141 spend for 2023 (granted \$60,000 from IUGS).

Request for 2024 = \$96,339 (including Busan requests of \$42,150).

### **7.b. History of Geological Sciences (INHIGEO)**

Martina Kölbl-Ebert, the Secretary General of Commission on History of Geological Sciences (INHIGEO) gave the report.

The goal of INHIGEO is to promote study on the history of geological disciplines in an international context and with an open interdisciplinary approach and to encourage national and regional organizations with the same purpose. Currently, INHIGEO has 306 members from 56 countries.

INHIGEO-sponsored conferences include:

- 48<sup>th</sup> INHIGEO Annual Symposium Cracow was held with five-day conference from 31 July to 4 August 2023 and six-day field trip to historical mining sites and other noteworthy localities in southern Poland. 43 papers were presented by participants from 16 countries.
- 6<sup>th</sup> Argentinian Congress and 1st Latin American Congress of History of Geology, 5–6 October 2023 in San Miguel de Tucumán, Argentina.
- Histories of Earth Sciences, one-day conference on 6 June 2023 at the Centre for the History of the Mountains, Material Culture and Earth Sciences of the University of Insubria in Varese, Italy.
- History of Volcanology session at the 28<sup>th</sup> International Union of Geodesy and Geophysics (IUGG) General Assembly, Berlin, Germany, 17 July 2023.

Publications include:

- Proceedings of the 47<sup>th</sup> INHIGEO Annual Symposium, held in Les Eyzies (France) in September 2022, published in December 2023 as additional volume of the journal Travaux du Cofrhigé.

- Details on all workshops and symposia organized by INHIGEO members are published in the Annual Record: <http://www.inhigeo.com/annual.html>
- INHIGEO Quarterly Circular with issues in March, June, September and December. The most recent Circular is available from the INHIGEO website: <https://www.inhigeo.com/circular.pdf>

INHIGEO contributes monthly “Anniversaries” for IUGS website and IUGS e-bulletin. INHIGEO Webinar Series were held with new Perspectives in the History of Earth Sciences focusing on recent research by young INHIGEO members / early career scholars. INHIGEO 2023 Early Career Award was presented to Dr. Daniele Musumeci.

#### **Plans for 2024:**

- Next INHIGEO meeting will be at the 37<sup>th</sup> IGC.
- INHIGEO will act as a sponsor to the 100<sup>th</sup> Anniversary of Paratethys, 30 September-1 October 2024 in Belgrade.
- INHIGEO Webinars: first two for 2024 are currently in the planning stage.
- Interaction with other IUGS Commissions: INHIGEO is discussing joint meetings with the IUGS Commission on Geoheritage as well as IUGS Initiative on Forensic Geology. More interactions are in progress with the IUGS Commission on Geoscience Education (COGE) and will be planned with the newly established IUGS Commission on Geoethics.
- The next “INHIGEO Vladimir V. Tikhomirov History of Geology Award” will be presented at the 37<sup>th</sup> IGC in Busan, South Korea.

#### **7.c. International Commission on Geoheritage (ICG)**

Asier HILARIO, the Chair of International Commission on Geoheritage (ICG) presented the following issues:

##### **Main Achievements 2021-2023**

##### **(1) Internal structure**

- The statutes of the ICG have been approved by the IUGS EC. There is still work to be done to refine it, but the main pillars of the commission and sub-commissions have now been defined.
- The lists of voting members and corresponding members of each subcommission has been notably increased and formally updated.
- The Commission on Geoheritage is now unified and strong working under a common strategy with common logo and looking for synergies among different subcommissions.
  - A new Sub-commission on Geo-collections has been defined and approved by the IUGS – EC.

##### **(2) Designation programs**

- The IUGS Geological Heritage Sites program has been successfully redefined and established with the announcement of “The First 100” in 2022. This program has been consolidated during 2023 with the evaluation and selection of The Second 100, which will be announced at the IGC 2024 in Busan.
- The existing program of Global Heritage Stone Resources has been reformulated to IUGS Heritage Stones with new guidelines and an extended group of voting members. 20 new Heritage Stones have been designated since 2021, which makes a total amount of 42 designated Stones. The first 50 will be presented at the IGC 2024 in Busan.
- The standards for the new program of Geo-Collections have been discussed and approved. The selection of the first Geo-collections to be designated in place.

### **(3) Visibility and networking**

- A new website has been established [www.iugs-geoheritage.org](http://www.iugs-geoheritage.org).
- ICG has gained huge visibility and credibility. The IUGS 60<sup>th</sup> anniversary event and the declaration of Zumaia was a big milestone, but the interest on ICG is even higher one year after.
- Collaboration with other international organizations has been strongly consolidated.
- Collaboration with UNESCO and GGN has been also strengthened and consolidated. New guidelines have been created for the IUGS desktop assessment. The IUGS – ICG provides an average of 80 assessments for around 15 aspiring geoparks every year.
- The collaboration with IUCN in relation to the assessment for criteria viii for World Heritage Sites has been consolidated and formalized.
- ICG is consolidating as a global reference in the field of geological heritage with very high visibility for the IUGS.
- 4.100 pdf books of “The First 100” have been downloaded for free from ICG website.

### **Main Actions in 2023**

- (1) IGC website has been updated with professional support.
- (2) The process for The Second 100 IUGS Geological Heritage Sites has been conducted.
- (3) Desktop assessment for UNESCO Global Geoparks. 15 dossiers have been evaluated in 2023 (Feb – May). Each dossier has been evaluated by 5-6 evaluators. 80 evaluations have been completed and a final dossier with a summary and the IUGS final statement was sent to UNESCO secretariat in time. The new guidelines for the IUGS desktop assessment of geological heritage of international significance in aspiring UGGp have been finally approved unanimously by the UGGp Council in Sept.
- (4) 10 new Heritage Stones have been approved in 2023. All proposals were evaluated by the 28 voting members of the Subcommission according to the guidelines. All were approved by more than 60% of the votes.
- (5) III International Stone Workshop was organized by the Gurmeet Kaur and her team. 51 colleagues from 12 countries attended for 6 days. The meeting was a big

success and consolidated the vision and the cohesion of the members of the sub-commission.

(6) The designation scheme and standards for Geocollection designations have deeply discussed and approved.

### **Main Goals For 2024**

(1) Consolidation of the internal structure and operation of the three designation programs, specially considering that there will be elections of all ICG members in 2024.

(2) Participation at the IGC 2024. An internal meeting of the commission will be organized at the IGC and different sessions have been applied for the announcement of The Second 100 IUGS Geological heritage Sites (T27-session 8), the new IUGS Heritage Stones (T27-session 1 & session 2) and the first IUGS Geocollections.

### **Budget Proposal 2024**

The total expense expected for 2024 is 44.800 USD, including 18.800 USD for general operation, 15.000 USD for Subcommission on Geological Heritage Sites, 8.000 USD for Subcommission on Heritage Stones, 3.000 USD for Subcommission on Geocollections. Surplus of 4.543 € from books sales in 2023 can be used to cover partially printing 2 x 100 books for the IGC in Busan or part of the second edition of the First 100. Surplus of 3.606 from 2022 can be used to cover partially 2024 necessities or unexpected actions. Total budget requested for 2024 is 42.000 USD.

### **7.d. Global Geochemical Baselines (CGGB)**

Gloria Simubali, the 2<sup>nd</sup> Deputy Chair of Commission on Global Geochemical Baselines (CGGB) gave the presentation as follows:

#### **Activities in 2023**

1. Steering Committee virtual meetings.
2. Annual joint business meeting.
3. Other meetings and work performed: Monthly IUGS E-Bulletin publication,
4. Geochemical mapping in Latin America and the Caribbean virtual workshop, Lecture
5. on forensic geology.
6. International sessions and workshops: Spread of information regarding relevant events, European Union General Assembly, 38<sup>th</sup> International Conference on Geochemistry and Health (Athens, 2-6 July), Goldschmidt Conference 2023 (9-14<sup>th</sup> July), Geological Society of America Annual Meeting.
7. Global black soil project.
8. E-books in process of publication.
9. Commission's website.

10. Work of Commission's Committees: Sampling, Analytical&Data Management Committee; Conversion of computer programs to 32-&64-bit windows platform; Public Relations and Finance Committee.
11. Assistance to members and workshop participants.
12. Publications.

#### **Planned 2024 activities**

1. Preparation of material for the promotion of the "International Union of Geological Sciences Manual of Standard Methods for Establishing the Global Geochemical Reference Network", and the two accompanying eBooks.
2. Organisation of webinars for the promotion of the "International Union of Geological Sciences Manual of Standard Methods for Establishing the Global Geochemical Reference Network", and other aspects of applied geochemistry.
3. Updating the Commission's website (on-going).
4. Writing a review paper about the Manual to be published in Episodes.
5. Organisation of Applied Geochemistry Webinars in different continental blocks.
6. Looking for sponsors for the preparation of reference materials.
7. Affiliation with other professional Geochemical associations.
8. Starting the compilation of a popular well-illustrated book for lobbying at the UN and UNESCO level for all 196 Member States to agree to carry out the Global project as will be detailed in the IUGS Manual of Standard Methods.
9. Revision of the IGCP 259 Report, the "Blue Book" by removing all contradictory parts.
10. Looking for sponsors for the organisation of dedicated applied geochemistry workshops based on the material of the IUGS Manual of Standard Methods.
11. Under preparation is the Spanish version of the ROBCOOP4A program. Presently, there are the English and Hellenic versions.
12. Under preparation are other software programs.
13. Proposed the 4<sup>th</sup> Arthur Darnley Symposium and a Workshop for the promotion of the Manual at the 37<sup>th</sup> IGC.

Taking into account the outstanding balance in the Commission's bank account of USD273.81, the estimated smallest amount required to cover 2024-25 expenses, as well as unforeseen expenses, is USD38,000.

#### **7.e. Management and Application of Geoscience Information (CGI)**

Harvey Thorleifson, the Chair of Commission on Management and Application of Geoscience Information (CGI) reported the achievements in 2023 and 2024 work plan as follows:

##### **Chief accomplishments and products in 2023**

1. CGI News: CGI's leading role in the DDE Standards Group, CGI standards promotions.

2. Working Group reports: GeoSciML Standards Working Group, Geoscience Terminology Working Group, EarthResourceML Standards Working Group, The Joint CGI/OGC Geoscience Domain Working Group.
3. CGI Regional Reports in Asia, Africa, South/Latin America, North America, Europe, Oceania.
4. DDE Standards Task Group and R&D Project.

#### **Work Plan 2024**

1. Population of the DDE metadata standard (Edition 1.0-2023).
2. Conduction of the jointly proposed R&D project with CODATA on DDE data resource FAIR if approved in 2024.
3. DDE Knowledge System review, release and FAIR evaluation.
4. Promotion of DDE resources FAIR and supporting standards.

In 2024, CGI Council requests USD 10,000 from IUGS.

#### **7.f. Education, Training and Technology Transfer (COGE)**

Susanna Occhipinti, the Vice Chair of Commission on Education, Training and Technology Transfer (COGE), reported the following issues:

##### **Activities in 2023**

1. Geoscience Education Field Officer (GEFO) Program. 9 Field Officers are involved in the program, with two GEFOs transitioning to other roles within COGE and four new FOs recently joining.
2. Chris King Medal. Dr. Prof. Hector Lacreu from Argentina was awarded this medal.
3. Publications. COGE members collaborated with the edition and promotion of the CGEO journal “Teaching and Communication of Geosciences” which is focused on Spanish language teachers.
4. International Relations. COGE signed MoUs with Women in Earth and Environmental Science Australasia and the Geoscience Center of the National Autonomous University of Mexico.
5. Social Media. COGE witnessed significant advancements in its social media engagement, following the establishment of platforms on Instagram, LinkedIn and Twitter.

##### **Planned activities in 2024**

1. 2 Sessions on Geoscience Education in international events.
2. 1 Chris King Medal Awarded winner featured at the IGC24, Busan.
3. 3 virtual workshops of the GEFO Program and one in-person event.
4. 2024 Edition of the “Earth Sciences Teaching Diploma” for Spanish-speaking primary and secondary school teachers.
5. Presenting COGE-GEFO activities at EGU-Vienna 2024



6. Participation at EGU-GEFO training course in Barcelona, with new COGE-GEFO, June 2024.

COGE's budget request for 2024 is USD 25,300.

### **7.g. Tectonics and Structural Geology (TecTask)**

Enrique Gomez-Rivas, Chair of Commission on Tectonics and Structural Geology (TecTask), presented the main activities of TecTask in 2023, including:

1. Transition of the TecTask commission towards an International Association for Structural Geology and Tectonics (IASGT)
2. TecTask Web Portal and social network accounts as our arena for communication and exposure to the public and science community
3. Terminology & Standards initiative with a wiki-like Internet Platform
4. Organization of the DRT Conference Series (International Conference on Deformation Mechanisms, Rheology and Tectonics) and DRT-2024 in Barcelona
5. Henk Zwart award
6. Monthly world Web Cast seminars on Structural Geology and Tectonics published at the TecTask YouTube channel
7. Outcropedia portal and new application for tablets and smartphones
8. TecTask short course "Microtectonics of fault rocks"
9. IASGT workshop on "Deformation mechanisms, processes and fabric analysis in earth materials from the global to the nano scale - methods and applications"
10. Contributions to the IUGS newsletter
11. Participation in the first and second 100 IUGS Geological Heritage Sites
12. Organization of The Alpine Orogen: Petrology, Geochemistry, and Plate Dynamics", a field-based course directed to students at the China University of Geosciences, Wuhan.

### **7.h. Commission on Geoethics (CG)**

Silvia Peppoloni, the Chair of Commission on Geoethics (CG), gave the report as follows:

#### **Activities and achievements in 2023**

1. Drafting and updating ethical guidelines for IUGS.
2. Supporting the IUGS (officers and bodies) regarding questions such as unprofessional conduct, misconduct, harassment, retaliation, racism, sexism, conflicts of interest and others.
3. Fostering the participation of women in activities, events, and other initiatives organized or supported by IUGS with the aim of reducing the gender gap and increasing diversity.

4. Cooperating with IUGS bodies to focus on geoethical issues or other themes of mutual interests.
5. Contributing to IUGS events or any other scientific or public events.
6. Supporting IUGS in developing activities at the geoscience-policy interface and delicate issues related to geoscience-society interaction.
7. Promoting the adoption of the Geoethical Promise within Universities and geoscience organizations.
8. Organizing events that address ethical and social implications of geoscience knowledge, research, practice, education, and communication.
9. Training on geoethics, professional ethics, data ethics, and publication ethics.
- (10) Networking with geoscience and humanities organizations to create opportunities for bridging geosciences and human and social sciences.
10. (11) Fostering opportunities to increase the impact of IUGS in Latin American and African countries by promoting activities to foster the culture of geosciences among local geoscience communities.
11. (12) Supporting IUGS in enlarging its network in countries in which the presence of IUGS is missing or to be developed/increased.
12. (13) Preparing an annual report containing the outcomes of the reference year, a plan of activities for the new year, and a financial request to IUGS.

#### **Activities planned in 2024**

1. To approve the Ethical Guidelines for IUGS and the Action Plan on Diversity, Equity, Inclusion, and Accessibility.
2. To continue in aiding IUGS Presidency and the Executive Committee in resolving disputes that may arise between IUGS officers, bodies, affiliated organizations, and adhering members.
3. To contribute to the activities of the Chair on Geoethics of the International Council of Philosophy and Human Sciences
4. To co-sponsor the following sessions on geoethics: Session EOS4.4 “Geoethics: The significance of geosciences for society and the environment” at the General Assembly of EGU, and Session 1 “Geoethics at the hearth of all geosciences: serving the public good” of the Theme T39 “Geoethics and Societal Relevance of Geosciences” at the 37<sup>th</sup> IGC.
5. To deliver presentations on geoethics in the following events: General Assembly of EGU, Centennial Celebration and Congress of the International Union of Soil Sciences-IUSS, First Latin American Symposium on Geoethics, and the 37<sup>th</sup> IGC.
6. To submit a proposal for a book on geoethics to the Geological Society of London. (7) To publish the book “Geoethics for the Future: Facing Global Challenges” with Elsevier.
7. (8) IAPG will undertake additional activities on geoethics, which should be considered as an integral part of CG’s initiatives and efforts in the field of geoethics for the Union

8. (9) To continue to promote its activities through dedicated pages on the website [www.geoethics.org](http://www.geoethics.org), IUGS E-bulletin, and CG social media pages, giving wide visibility to IUGS.

Funds requested for 2024 is 9271.7 Euro (10163.31 USD)

#### **7.i. Task Group on Submarine Geohazards (TGSG)**

**Kiichiro Kawamura, the Chair of Task Group on Submarine Geohazards (TGSG), reported that:**

##### **Notable activities in 2023**

1. **TGSG was approved in the IUGS-EC meeting at Belfast, 14-17 February.**
2. **Online meetings were held on the following dates: March 16-17, May 1-2, June 26-27, September 25-26, and November 22-23.**
3. **4DWC at Edinburgh from June 24-26.**
4. **ICSE-11 at Copenhagen from September 17-21.**
5. **IAEG2023 at Chengdu from September 21-27.**
6. **WLF6 at Florence from November 14-17.**

##### **Achievements attained in 2023**

1. (1) Shared TGSG establishment with its members by building the website <http://iugs-tgsg.com>.
2. (2) During the meetings above, geohazard information was shared in Taiwan, Scotland, the United States, Australia, and the Philippines, and information was also provided from the company side by the Ørsted representative.
3. (3) The 4<sup>th</sup> Deep Water Circulation Research Conference (4DWC) at 24-26 June 2023.
4. (4) The International Committee on Scour and Erosion (ISSMGE Technical Committee on Scour and Erosion) has been organizing the ICSE conference series, and had ICSE-11 in Denmark, September 17-21, 2023.
5. (5) The 14<sup>th</sup> Congress of the International Association of Engineering Geology and Environment (IAEG2023) held at Chengdu, China from September 21 to 27, 2023 had Theme 06: Marine Engineering Geology, Marine Geo-environment and Disasters, which was held in conjunction with the 3rd International Conference on Marine Engineering Geology.
6. (6) The 6<sup>th</sup> World Landslide Forum (WLF6): Submarine Geohazards Sessions 1.3.
7. (7) The WLF6 in Italy, 14-17 November 2023 was organized with IUGS.

##### **Activities planned for 2024**

1. Warm up the 37<sup>th</sup> IGC: The Tasks on Global Submarine Geohazard issue to the future earth Conveners: Kawamura, Char-Shine Liu, offshore renewable energy systems and submarine geohazards.

2. International Symposium to discuss mechanisms of submarine geohazards, guidelines for survey/assessment/measures of submarine geohazards and capacity building
3. To build a new formal web site of TGSG.

**Budget request for 2024 is 4,650 USD.**

#### **7.j. Initiative on Forensic Geology (IFG)**

**Laurence Donnelly, Chair of Initiative on Forensic Geology (IFG), reported 2023 achievements and 2024 work plan as follows:**

##### **Summary for 2023**

1. Protocols in Crime scene examination, geological trace evidence, giving evidence in court.
2. Search for missing persons, homicide graves and other buried items related to terrorism.
3. Advancement of the IUGS-IFG 'Special Project'.
4. Supported the 'Clean Gold Program' (Brazilian Federal Police & Colombian National Police).
5. Collaboration with INTERPOL on illegal mining.
6. World Police Summit, on 'Inspiring Next Generation Policing', World Trade Centre, Dubai.
7. Geological Society of America Congress, IUGS-IFG, '11 Years of Progress and Counting!'
8. Geological Society of London, 'murder mining and minerals crimes.
9. Collaboration with OECD: Geological methods to investigate minerals crimes,
10. Invited membership of the Mines Security Working Group (MSWG).
11. Expansion of student members and the next generation of forensic geologist.
12. Expansion of Geoforensic International Network (GIN).
13. BSc, MSc and PhD support.
14. Increased visibility of IUGS in new communities and hard to reach places.

##### **Work Plan for 2024**

1. Continue to increase the global visibility and promotion of IUGS to a range of stakeholders.
2. Collaboration with police laboratories including BFP and FBI.
3. Advanced collaboration with INTERPOL on illegal mining with a focus on Africa.
4. Collaboration with OECD.
5. International Symposium on Economic Crime, illegal Mining, Minerals and Metals Crime, Cambridge University, (INTERPOL & UK Foreign, Commonwealth and Development FCDO).
6. Collaboration with the UNODC on sampling and sample preparation.

7. Collaboration with ENFSI-APST working group and wider ecological disciplines such as forensic botany and non-human DNA.
8. Development of forensic geology and targeted investigations in West Africa.
9. Collaboration with the Mines Security Working Group (MSWG).
10. Development of students in Latin America, Africa and Asia.
11. Support to BSc, MSc courses and PhD.
12. Continued support for missing persons searches with the International Commission on Missing Persons (ICMP), Bogota, Colombia.
13. Session at the IUGS, 37th International Geological Congress, Busan, South Korea
14. Attendance at the '11th World Conference of Sampling and Blending', South Africa.
15. Visit to China to collaborate on international mining, minerals and metals crimes.
16. Provision of, 'A Guide to Forensic Geology' and 'Forensic Soil Science and Geology' to low income countries, harder to reach communities and developing nations.
17. Attract young people and the next generation into forensic geology.

#### **7.k. Task Group on Igneous Rocks (TGIR)**

Michele Lustrino, Chair of Task Group on Igneous Rocks (TGIR) reported that During 2023, the TGIR moved to a more operative stage, focusing on the definition of specific areas that required major changes. As a group, it tried to understand and digest what the major results during the last >20 years of research have been for the update on igneous rocks. New findings, improvement of analytical techniques, alternative models and re-interpretations of mineralogical parageneses, as well as key geochemical signatures has meant a focus on some topics rather to the entire view of igneous petrology. The most important feature in 2023 is the organization of the workshop held in Rome and the visit to several localities in central-southern Italy from September 22<sup>nd</sup> to 28<sup>th</sup> 2023.

Budget request for 2024 is 10,000 USD to partially cover at least some expenses relative to the participation of a restricted number of its members to the 37<sup>th</sup> IGC and 15,000 USD to cover the costs for publication of the third version of the book.

### **8. IUGS Joint Programs**

#### **8.a. Deep-time Digital Earth (DDE)**

Jennifer McKinley, Chair of Deep-time Digital Earth (DDE) Governing Council, gave a report on the following items:

##### **Headline message**

1. DDE activities in 2023 has contributed to increasing the visibility of IUGS in Asia (IPTC 2023), Europe (EGU 2023), Africa (CAG29, Namibia) and the US (GSA & AGU 2023).
2. IUGS is integral to the DDE logo and all presentations by DDE Secretariat staff emphasize that DDE is IUGS' first ever big science initiative that is making significant contributions to promoting a data driven research paradigm in geological sciences.
3. IUGS commissions like CGMW and CGI are direct beneficiaries of DDE financed projects that add value to the IUGS contribution of US\$ 20,000 per year.

#### **Scientific Activities in 2023**

1. (1) DDE in GSA 2023, October. USA: Technical Session, Short Course and Booth
2. (2) DDE in CAG29, September, Namibia: Workshop and Keynote Speech
3. (3) DDE in JpGU 2023, May, Japan: Booth and discussion with Geological Survey of Japan
4. (4) DDE in EGU 2023, April, Austria: Booth and Town-hall Meeting

#### **Social Activities in 2023**

1. DDE Voyager (Outcrop 3D Team), A wild outcrop collection journey across the European continent: 100+ days, 30+ geoscientists, 8 countries, June - August 2023
2. DDE Youth Dinosaur Expedition, Supported by DDE and Japanese Embassy to China, 19 -26, August 2023

#### **Scientific projects supported by DDE**

There are three R&D Projects funded by DDE beginning 2021. The Geological Map project has been completed in 2023 and a possible second phase is under consideration. The other two are making good progress and are expected to be completed in 2024. CGI-IUGS and the DDE Standards Task Group are also thinking of a next phase of the Geoscience Data Standards project in collaboration with CODATA; DDE is now an official CODATA partner with voting rights in the CODATA General Assembly.

#### **Significant Outcomes and some key activities/events in 2024**

1. Collaboration: Being Online for Open Sciences.
2. Open infrastructure: DDE Cloud.
3. Big Science: Exploration of Digital Infrastructure Driving Innovation.
4. Sessions and Booth at EGU and the 37<sup>th</sup> IGC.

#### **8.b. International Lithosphere Program (ILP)**

Hans Thybo, President of International Lithosphere Program (ILP), reported the main accomplishments in 2023 and work plan for 2024 as follows:

### **Main Accomplishments in 2023**

1. ILP had a strong representation at the EGU and AGU meetings, where several symposia were co-sponsored by ILP or convened by members of the Task Forces and Coordinating Committees.
2. The Evgueni Burov Medal for 2023 was awarded to Prof. Nicolas Coltice, Ecole Normale Supérieure, Paris for his outstanding contributions to the studies of geodynamics, his significant scientific leadership, and unselfish service.
3. An online meeting was held on 23. February 2023 to discuss the strategy of ILP with participants from the bureau, advisory board and task force/coordinating committee leaders.
4. A bureau meeting was held on 25 April 2023.
5. The business meeting was held on 25 April 2023 with partial hybrid participation.

### **Work Plan for 2024**

1. **Provide support to the Task Forces/Coordinating Committees.**
2. **Presence at the IGC in Busan 2024. Several sessions with TF and CC contributions at EGU24 in Vienna and at AGU 2024.**
3. **Several workshops of individual task forces are planned.**
4. **ILP Business meeting and meeting of the bureau during EGU annual meeting in Vienna, April 2024. Meeting between the ILP officers and the advisory Board.**
5. **An ILP townhouse meeting and a dedicated ILP session at AGU 2024.**
6. **Award the E. Burov medal and Flinn-Hart award with lectures at EGU 2024.**
7. **Strengthen connection to industry through the most relevant projects.**
8. **Expand the national membership, e.g., with dedicated approach to African countries and Australia.**
9. **Seeking new support from national science foundations and industry.**

**ILP's Financial request for 2024 is 15,000 USD.**

### **8.c. UNESCO-International Geoscience Programme (IGCP)**

**Kombada Mhopjeni, Officer of Windhoek Office of UNESCO, reported that IGCP is a knowledge hub that facilitates global scientific cooperation, focused on training women and youth. Three new council members are to be appointed in 2024 in themes of Hydrogeology, Earth Resources and Geodynamics.**

**IGCP in 2023: 43 active projects with 3100 project participants, 112 participating countries, 53% of participants from developing nations, 38% female participants, 45% female project leaders, and 42% young or early-career participants.**

**IGCP aims at delivering geoscience for society, and its key themes include Africa, Youth, Gender Equality, International collaboration, Sustainable Development, and UNESCO designated sites. IGCP highlight of 2023 is Environmental dynamics of**

**western Rwanda (IGCP 767). IGCP 2024 Projection is 30 estimated projects, appx. 300k USD funding required, of which 200kUSD from UNESCO and 100k USD required from other channels.**

Possible future focus of IGCP: Geoheritage Management and Sustainable Earth resource extraction for the establishment and management of protected-and/or UNESCO-designated sites. In particular: Strong link to UN SDGs; UNESCO designated sites are the assets; Common theme among many current IGCP projects; Possibility to attract additional outside funding (private sector, government).

## **9. International Geological Congress (IGC)**

### **9.a. 37th IGC in 2024 (Busan)**

#### **9.a.1. Status of Preparation for 37th IGC**

Daekyo Cheong (DK), Chair of the Organizing Committee of the 37<sup>th</sup> IGC, gave the report and updated the preparation work of the 37<sup>th</sup> IGC as follows:

#### **Outline of the 37<sup>th</sup> IGC**

DK presented an outline of the 37<sup>th</sup> IGC, including Key Visuals, Organizing Committee, Important Dates, Registration Fees, Registration and Abstract Submission Status. Three circulars of the Congress have been published and the fourth and final circular will be published by the end of June. DK mentioned that at the very early stage of registration, the Congress has only received 84 registrations. About 3,000 abstracts have been submitted to the Congress and it is expected to receive about 1,000 abstracts before the Congress. Date of abstract submission has been extended to March 15<sup>th</sup>, 2024.

#### **Main Congress Programs**

DK introduced the Timetable, Scientific Program, Workshop & Short Course, Business Meetings, and Plenary Speakers. DK mentioned that the the Scientific Program includes 287 sessions.

#### **Field Trips & Sightseeing Tours**

DK reported that the Congress will arrange 33 field trip routes in Korea, 2 routes in Mongolia and will also arrange tours for accompanying persons and one-day optional tours.

#### **GeoExpo and Special Events**

DK introduced the exhibitors of the GeoExpo (Exhibition), GeoFilm Festival on August 29<sup>th</sup> and the Korean Night and Concert on August 27<sup>th</sup>. DK mentioned that the IUGS reception on August 26<sup>th</sup> will be arranged in APEC Nurimaru House.



### **Attractions of the Host City, Busan**

DK described the weather, food, convention city, accommodations, wide attractions, Geopark in Busan and international and domestic transportation for international travelers.

DK reported on the visa application process for African participants: When there is no Korean Embassy in the residing country, visa issuance application is handled through the nearest neighbouring countries. More details on the visa application of African participants can be found on the 37<sup>th</sup> IGC official website.

### **Legacy of IGC 2024 Busan**

DK reported the tentative plan on the legacy of the 37<sup>th</sup> IGC, including the Busan Declaration to be announced at Closing Ceremony and Future Earth Sciences Center in Busan to be established.

### **9.a.2. IUGS Activities at 37th IGC**

SF presented IUGS activities before and during the 37th IGC as follows:

February 19-22	IUGS EC meeting and IUGS Geoscience for Africa Event, Nairobi
March 31	Deadline for submission of bids to host 38th IGC to IGCC
April 15	IUGS Commissions (and subcommissions) report results of election of officers and voting members for terms of 2024-2028
May 1	Geoethics Committee reviews officer and voting members of IUGS Commissions (and subcommissions) elected for terms of 2024-2028
May 1-29	Secretary General prepares report on the administration of the Union since the previous Ordinary Session.
May 23	<u>Virtual IUGS EC Meeting</u> Approval of officers and voting members of IUGS Commissions (and subcommissions) for terms of 2024-2028 Approval of proposed agenda for IUGS-IGC Council Meeting at 37 <sup>th</sup> IGC
May 29	Proposed Agenda for IUGS-IGC Council Meeting at 37th IGC must be distributed by Secretary General to representatives of all Adhering and Affiliated Organizations Secretary General sends out call for Resolutions for consideration at the 37th IGC Deadline for Secretary General to forward to all Adhering

Organizations a report on the administration of the Union since the previous ordinary session

June 29	Last Day for Resolutions from the Executive Committee, the IGCC, Adhering Organizations, and IUGS Constituent Groups (Commissions, Task Groups, Initiatives), and Affiliated Organizations to reach the Secretary General who then immediately distributes them to members of the Council for their consideration and to representatives of Affiliated Organizations for their information
July 29	Last day to place questions on the Agenda for the IUGS-IGC Council Meeting
August 25-30	37 <sup>th</sup> IGC, Busan
August 24 (Saturday)	IUGS Bureau Meeting, Busan
August 25 (Sunday)	IUGS EC Meeting, Busan Congress Icebreaker Party in evening
August 26 (Monday)	37 <sup>th</sup> IGC Opening Ceremony with presentation of IUGS Medals and Argand Lecture, Exhibits Open, IUGS Reception
August 27 (Tuesday)	Announcement and presentation of “Second 100” IUGS Geological Heritage Sites and release of “Second 100” book
August 28-29 (Wednesday-Thursday)	Fifth Ordinary Session of IUGS-IGC Council Morning of August 29 – presentation of and vote on bids for the 38 <sup>th</sup> IGC; Afternoon of August 29 – Elections of Executive Committee members for 2024-2028
August 30 (Friday)	37 <sup>th</sup> IGC Closing Meeting of new IUGS Executive Committee Meeting of new IGCC

SF introduced that each candidate for the host of the 38<sup>th</sup> IGC will give a 30-minutes presentation. Number of votes on the host of IGC complies with the membership level of each adhering organization.

SF stated that candidates for IUGS President, Secretary General, Treasurer and Vice Presidents will give presentations at the election, which will be held in the afternoon of August 29<sup>th</sup>. Candidates for IUGS Councilors don't need to give presentation at the election, but candidates for all the IUGS EC members should provide their biography,

which will be provided to adhering organizations in advance of the meeting. SF pointed out that online voting is not allowed, but if a national member is not able to attend the Council Meeting, its proxy can be assigned to another organization.

SF pointed out that no adhering organizations can send out politics for any candidates, which is against standard practice.

**ACTION:** Secretariat to collect and provide IUGS adhering organizations with EC candidates' biography and statement in advance of the Council Meeting.

#### **9.b. 38th IGC in 2028**

JL announced that the International Geological Congress Committee (IGCC) has received bid to host the 38<sup>th</sup> IGC in 2028 from Melbourne (Australia), Calgary (Canada) and Glasgow (UK). SF emphasized that, according to IUGS Statutes and Bylaws, the number of votes for each delegation on the host of IGC and financial matters is dependent on membership level.

### **10. Reports from IUGS Adhering Organizations**

#### **10.a. Netherlands**

Michiel van der Meulen, Chief Geologist of Geological Survey of the Netherlands/TNO, announced that the Netherlands has closed the giant Groningen gas field, so the energy supply system is changing considerably. There have been substantial investments in geo-energy and critical raw materials in terms of geoscience data and science programs. The Dutch Government specifically requests that subsurface data and information should be made available to and understood by the public. Michiel van der Meulen announced that UNESCO Global Geopark Schelde Delta is coming up as the second UNESCO global geopark of the Netherlands. Good publicity around new national geological mapping has been realized. However, Michiel van der Meulen reported that geoscience has also gained a negative image associated with hydrocarbon management. Michiel van der Meulen requested support from IUGS in terms of geoscience's connection with the public and with other branches of sciences and geoscience education and outreach. Michiel van der Meulen also pointed out that the Netherlands will submit a proposal on geoheritage stone, and he urged IUGS to resolve the Anthropocene discussion in a scientific manner.

#### **10.b. Canada**

Katherine Boggs, Chair of the Canadian National Committee for IUGS, reported on major achievements in terms of geoscience education and outreach. Katherine Boggs presented the publication of *Geoscience in Canada* (Fall, 2021) and *Canadian*

*Geoscience Diplomacy in Collaboration with IUGS, UNESCO IGCP Geoparks, and World Heritage Geosites: Past, Present, and Future* (December, 2023). A field trip was made to the Cliffs of Fundy Geopark, which is the newest Canadian Geopark and a future sister Geopark to M'goun Geopark in Morocco. Katherine Boggs described the Pan-Canadian Geoscience Strategy, which is a framework to increase collaboration across 10 provinces, 3 territories and federal government.

Katherine Boggs reported that Canada has submitted its bid to host the 38<sup>th</sup> IGC, and she reviewed Canadian geologists collaboration with IUGS. She reported on the 2<sup>nd</sup> International Geodiversity Day on October 6, 2023, and introduced the latest geodiversity discoveries in summer 2023. To change narrative into “Geoscience is important for humanity”, more work has been done to increase the engagement of politicians and policy makers and to enforce professional development and bridges to education and public.

#### **10.c. Lithuania**

Jonas Satkunas, Chairman of the Lithuanian Geological Society briefly described the geographical condition and major geological resources of Lithuania. He reported that Lithuania proposed the IUGS-UNESCO Joint Program International Geoscience Program IGCP 731 and that the Thermoerosional Hills of Vilnius Castles is a candidate for the Second 100 IUGS Geological Heritage Sites.

Jonas Satkunas reviewed thePanAfGeo Program, which is for capacity building in African Geological Surveys and focuses on the Geohazards and Environmental Management of Mines. The Program has 121 trainees and represents 34 countries. Timeline of the Program includes 2015 for feasibility study (200k Euros), 2016-2019 for stage-1 (10.3 Million Euros) and 2021-2024 for stage-2 (9 Million Euros).

#### **10.d. Gambia**

Alieu Jawo from the Geological Department, Ministry of Petroleum and Energy of Gambia, reported that Gambia is one of the smallest mainland African countries with an area of about 11,000 km<sup>2</sup> with population of about 2,000,000. The Geological Department under the Ministry of Petroleum and Energy has been an adhering member of IUGS for over quarter of a century. The Department is charged with the responsibility to coordinate all geological, geophysical and exploration work in Gambia. Alieu Jawo reported that Gambia was invited to IUGS's DDE programme on the harmonization of deep-time digital geological data and to the 50<sup>th</sup> Anniversary of IGCP in 2023 at UNESCO Headquarters, Paris, France.

Alieu Jawo reviewed the geoscience events and developments in the Gambia, including continuing the transformation of the Geological Department to a full pledged geosciences institute, building capacity and recruitment of geoscientists

and future investment in geological exploration. In October 2023, the Gambian signed with a UK firm on a hydrogen exploration rights, and the Geological Department of Gambian will be working with the UK firm to unlock the clean energy sector. The Department participated in the preparation and submission of documents for the Claim for the extension of continental shelf to the UN Commission on the Limits of the Continental Shelf, and Gambia was a significant contributor to the International Year of Planet Earth.

Alieu Jawo presented the challenges facing the Gambia, including inadequate professional geoscientists in Gambia, inadequate investment in geological surveys and mineral resources exploration, information gap in geosciences and limited involvement in some of the major IUGS programs. He proposed recommendations to IUGS, including promoting regional and bilateral cooperation among IUGS member states and institutions, capacity building in the are of geosciences for member states, supporting and funding member states for the development of the geosciences in member states, encouraging and facilitating the participation of geological surveys in the world, supporting mineral resources exploration projects for supply of the highly needed minerals, energy and water resources for the global society for the next generations, supporting less developed IUGS members and increasing IUGS presence in Africa and African involvement in IUGS projects and programs.

#### **10.e. Kenya**

Joseph Ng'ang'a Kuria, President of the Geological Society of Kenya (GSK) first reviewed the history of the Geological Society of Kenya and mentioned that geological science in Kenya was started at the loyal college in 1961. GSK ensures geology space has not been taken by others. GSK fought to ensure geologists were accorded their own scheme of service and recognized as professional group, which gave geologists higher entry level in public service jobs. In 1993, GSK worked towards enactment of a Geologists Registration Board that has been charged with ensuring professional ethics are upheld, and in 2005 GSK ensured an investment arm - Kenya Chamber of Mines - was formed to bring all stakeholders in the sector together. GSK played a pivotal role in repealing old Mining Act of 1940 in 2016 and played a major role in preparation of the Geology Bill 2020.

Joseph Ng'ang'a Kuria repported that GSK joined IUGS as an adhering member in 2021. He suggested joint efforts between IUGS and African members to enforce capacity building for young geologists and improve geological tools and equipment for operation areas.

### **11. Reports from IUGS Affiliated Organizations**

#### **11.a. Geological Society of Africa (GSAf)**

**Olugbenga Akindeji Okunlola, President of the Geological Society of Africa (GSAf), reported that GSAf was founded in 1973 and has as objectives the promotion and the development of geosciences in Africa, the promotion of sustainable (and environment friendly) development of the mineral, hydric and hydrocarbon resources of the Continent, to act as a channel for the opinions of African geoscientists, to foster the highest standards of professional competence and ethical behavior in the practice of geosciences in Africa, to preserve important geosites in Africa, to publish regularly a Newsletter, to maintain an active website, and to encourage and sponsor African publications. Okunlola reported that GSAf has 1250 members, including 84 membership countries inside and outside Africa, and he described the major benefits of being a member of GSAf.**

**Olugbenga Akindeji Okunlola mentioned that GSAf has organized the Colloquium of African Geology since 1965 and the 30<sup>th</sup> Colloquium will be held in Kenya in September 2025. He presented the major outcome of the Colloquium in 2023 (CAG29), which is the Book of Abstracts of CAG29. He presented the projects and initiatives where the GSAf will participate and currently participates.**

#### **11.b. American Geosciences Institute (AGI)**

**Jonathan D. Arthur, Executive Director of the American Geosciences Institute (AGI) gave the report. AGI represents and serves the geoscience community by providing collaborative leadership and information to connect Earth, science and people. AGI provided resources for the completion of the COVID-19 Impact Study (supported by NSF), which is a three-year study. AGI examined the nature and extent of the COVID-19 pandemic's impact on the geoscience workforce and academic programs, from early effects to more permanent changes in the workforce and academia. AGI worked on the Geoscience Caucus Program, which focuses on fundamental structure and role of societies and associations and strategies for membership: value propositions, recruitment, and retention strategies. AGI carried out the GRANDE Program (supported by NSF), which focuses on the evaluation of natural hazards impact on curricula, evaluation of natural hazards scope of impact on departments/programs, and surveys on the perceived influence of expected climate change impacts on geoscientist career decisions. AGI provides the Geoscience Online Learning Initiative platform for online geoscience education and training of different professional levels. Through IGCP 766, Fostering Researchers in the Geosciences (FoRGe), AGI conducted a survey of the Geoscience Researcher Experience in Africa.**

**Jonathan D. Arthur presented the themes of the Earth Science Week since 2022, namely Earth Science for a Sustainable World in 2022, Geoscience Innovating for Earth and People in 2023, and Earth Science Everywhere in 2024. AGI produced the documents Geosciences for Sustainability through Global Outreach, 2023-2026**

Strategic Plan, GeoRef, Critical Needs Document, Reframing the Workforce and K-12 Education.

2023 was the 75<sup>th</sup> Anniversary of AGI. At the 37<sup>th</sup> IGC, AGI will convene the Session “Geology Degrees Around the World - How are the Next Generation of Geologists, Being Educated for the Geosciences of Tomorrow” and will join in the session “Navigating the Path to the Green Transition: Balancing Resource Extraction and Environmental Stewardship”. AGI will share an exhibit with INTRAW, SEPM, AWG, etc.

#### **11.c. Geological Society of America (GSA)**

Ester Sztein, Director of International Programs of Geological Society of America (GSA) stated that the mission of GSA is to advance geoscience research and discovery, service to society, stewardship of Earth and the geosciences profession.

Ester Sztein described GSA International, GSA International Committee and achievements of GSA International. GSA International’s purpose is to promote, create, and enhance opportunities for international cooperation, provide a forum for science and policy discussions, build collaborative relationships with GSA Divisions and Associated Societies on international issues, and strengthen cooperation with international geoscientific societies.

Ester Sztein reviewed the major achievements of GSA in 2023 including:

1. Awards for senior scientists (Distinguished Career Award, Thompson Distinguished International Lectureships, Honorary Fellow Award);
2. Awards for students and ECRs: International Travel Grants (students and professionals), Christopher and Irene Chalokwu Awards (African students), Farouk El-Baz (students, desert studies);
3. New MoUs with four international associated societies (AS): Geological Societies of Korea, India, Nigeria, and Serbia;
4. Updated MoU with the Geological Society of London;
5. Conversations started with Chile, Argentina, and Brazil;
6. Collaboration with the Korean LOC for the 37th IGC;
7. Support GSA’s divisions’ relationships with international associations;
8. Webinar with GSA’s past president Little, councilor Mukherjee, and GS of India’s president Gupta;
9. GSA’s incoming president Garzzone’s talk at the 2023 IGC-1 meeting in South Korea;
10. GSA’s president Bailey plenary keynote at the 2023 Annual meeting of the Mexican Geophysical Union;
11. Improved outreach to scientists via traditional means and social media;
12. Tracking internationally relevant U.S. legislation on visas and research grants;

13. Representation at international meetings (IGC-1, EGU) and U.S. meetings with strong international attendance (AGU);
14. Outreach to science diplomats based in Washington, DC.

Ester Szein presented GSA's plan for 2024:

1. Award GSA Awards and Travel grants (International and Chalokwu);
2. Refresh existing relationships with international associated societies (AS) and create new relationships– special focus on the Global South;
3. Strengthen relationships with the International Unions for the various geosciences;
4. Establish MOUs with existing and new AS;
5. Plan specific activities with AS and international scientists (U.S. and abroad);
6. Technical sessions, plenaries;
7. Webinars on different topics (i.e. careers with the Geological Society of Nigeria);
8. Workshop: training and mentoring for associate editors/editorial board members on diversity, implicit bias, respectful/inclusive expectations;
9. Field trips;
10. Improve engagement of international members and participants both at GSA's annual meeting (Connects) and virtually.

SF announced that IUGS will grant Hutchison Award to support about 15 early career geoscientists to participate in the 37<sup>th</sup> International Geological Congress (37<sup>th</sup> IGC) in Busan, South Korea this August. SF encouraged the offline and online participants to spread the information although this has been announced to all IUGS adhering organizations, constituent groups and affiliated organizations and has been published on IUGS website, e-bulletin and social media platforms.

#### **11.d. International Organization for the Genesis of Ore Deposits (IAGOD)**

Thierry Binelli Betsi, representative from International Organization for the Genesis of Ore Deposits (IAGOD), reported that the mission of IAGOD is to catalyze scientific cooperation, knowledge exchange and capacity building between developed (OECD) countries and economically less-developed countries (LDC), specifically involving students and young professionals. IAGOD has 24 members in Africa, including 13 members from Ghana, 5 members from South Africa, 2 members from Namibia, 1 member from Botswana, 1 member from Cameroon, 1 member from Morocco and 1 member from Ethiopia.

Thierry Binelli Betsi reported the major achievements of IAGOD in 2023 as follows:

1. Sponsorship for the 14<sup>th</sup> International Platinum Symposium held in Cardiff University, 4-7 July 2023;
2. Open Access APC Waivers for Ore Geology Reviews;



3. **2023 IAGOD General Assembly in London that led to the appointment of the new Executive Council and regional Councilors;**
4. **IAGOD committee members delivered four presentations and were involved in the organization of a workshop and residential field trip during the 2023 conference of the Society of Economic Geologists (SEG) in London;**
5. **IAGOD's website interface changed in 2023.**

**Thierry Binelli Betsi reported the planned activities in 2024, including:**

1. **Sponsorship for the 45<sup>th</sup> Mineral Deposits Studies Group (MDSG) Annual General Meeting, January 3-5, 2024;**
2. **Two IAGOD representatives at IUGS 79<sup>th</sup> EC Meeting and Geoscience in Africa Event;**
3. **Sponsorship for the 10<sup>th</sup> International Geosciences Conference of Young Researchers, May 23-24, 2024;**
4. **Sponsorship for the 37<sup>th</sup> International Geological Congress. IAGOD will sponsor the scientific program T12-REsource Geology and Economic Geology. David Lentz, IAGOD Promotional Manager, is the convener of section 14 entitled Ore-forming magmatic-hydrothermal systems: analysis of source to sink in deposit genesis within the T12 scientific program;**
5. **Short courses delivery for the September 2024 SEG Conference in Namibia.**

**Thierry Binelli Betsi introduced that IAGOD Quadrennial Symposium 2026 will be held in the two last weeks of July in Porto, Portugal. The Symposium will include 3 days of conference, 2-3 days of pre- and/or post- conference field trips and 1 day of workshop/short courses.**

#### **11.e. International Geoscience Education Organization (IGEO)**

**Nir Orion, Chair of International Geoscience Education Organization (IGEO) gave the report. Nir Orion introduced that IGEO was initiated in 1997. The Earth Science education research established a holistic practical model, which is the Earth systems teaching approach. This teaching approach involves inquiry-based methods with a proper integration of the indoor and outdoor learning environments, and it enables the development of cognitive skills such as logic and scientific thinking, spatial and temporal thinking, knowledge integration and systems thinking skills.**

**Nir Orion pointed out that the status and the profile of Earth Science Education (ESE) in schools worldwide remains very low and he presented the IGEO Multi-year Master Plan to introduce proper ESE to schools, which involves joint efforts of National ESE leaders and the Geoscience Education academic R&D community. IGEO held the GeoSciEd Conference since 2000 and conducted International Journal of Earth System Education (IJESE), the Growth of National Leadership in**

ESE (GLESE project) and the ESE Grassroot Youth Movement (GYM). At the school level, IGEO held the International ES Olympiad (IESO).

Nir Orion mentioned that climate change is not a climate crisis, but an educational crisis. It is the failure of educational systems worldwide to educate citizens with environmental insight, and the key to the development of environmental insight is the Earth system educational approach.

## **12. Revisions to IUGS Statutes**

Ludwig Stroink (LS) reported that the decision to update and revise IUGS Statutes and Bylaws was made at the Closed Session of the 78<sup>th</sup> IUGS EC meeting on February 16-17, 2023, in Belfast (EC78Act\_06). The current version dates from 2016 and was ratified by Council at the 35<sup>th</sup> IGC in Capetown on September 1<sup>st</sup>, 2016. The writing team is composed of IUGS President John Ludden, Secretary General Stanley Finney and Councilor Ludwig Stroink. Two virtual meetings were held in 2023 for the revision of the Statutes and Bylaws and major modifications have been recommended.

LS presented the recommendations on the revision of the Statutes and Bylaws as follows:

**Statutes:**

**PREAMBLE:** too long; limit to the essentials.

**Definitions:** too long; many definitions can be moved to the text; limit definitions to a minimum.

**Aims:** Include an article on “Gender equality”: *“Promoting gender diversity throughout the geoscience community and fostering the participation of geoscientists in international endeavors regardless of race, citizenship, language, political stance or gender”*.

**Fiscal Policy:** revision of the fiscal system, done either by the Executive Committee or the Finance Committee is recommended. A revised fiscal policy is to be discussed by the IUGS-EC (in Nairobi) and presented to the Council Meeting in Busan.

**Working Structure:** to be deleted, as all individual articles will be repeated later in the document.

Council/Council meetings: must deal with situations such as 2020 when Council could not meet at a session of the IGC and thus could not have an ordinary session. A respective article was included in the "Bylaws".

Executive Committee: all efforts should be made to ensure gender equality on the IUGS executive.

Finance Committee: More plans will be presented by JL later.

Commissions and Task Groups of the Union: Terms of office should emphasize gender diversity in selection of officers and voting members.

Bylaws:

The Council: In order to avoid a situation as in 2020, a new article is mandatory:

*"In the case that an IGC has to be canceled due to force majeure, an alternative date for an ordinary Council session must be defined by the Executive Committee within 6 months after the originally scheduled closure of the IGC. The Council Session can take place either virtually or in presence and is to be organized by the Executive Committee and the IUGS Secretariat."*

*"Decision can be made in extraordinary or virtual session by electronic ballot except on IGC and financial matters. IGC and Financial matters can be decided by an electronic ballot in a virtual Ordinary session should such a virtual session be necessary."*

Commissions of the Union: to delete the sentence: *"In general the normal lifetime of a Commission shall be eight years"*. (we should be flexible- some commissions e.g., ISC, live on, as will Ethics, etc.).

Affiliated Organizations: to delete the article: *"Each Affiliated Organization is expected to submit to the Executive Committee annual reports on its activities....."*. However, the EC can invite them when it has a special need.

LS pointed out that more discussion on the revision of the Statutes and Bylaws will be made at the Closed Session of the 79<sup>th</sup> EC meeting.

### 13. Close of the Open Session

JL thanked all the participants for the open session and invited them to participate in the IUGS Geoscience in Africa Event held in conjunction with the 79<sup>th</sup> EC meeting on February 22<sup>nd</sup>-23<sup>rd</sup>.

### **ACTION LIST**

Item	Description	Status
EC79Act_01	Secretariat to collect and provide IUGS adhering organizations with EC candidates' biography and statement in advance of the Council Meeting.	In progress

ANNEX: IUGS TEN ACTION PLAN FOR AFRICA “TAP FOR AFRICA”



# IUGS Geoscience in Africa Event

*22-23 February 2024*

*Nairobi, Kenya*



The IUGS Executive, its affiliate members, and a group of geoscientists representing 13 African countries, met in Nairobi in February 2024 and developed the following ten actions for African Geoscience.

The IUGS will design, implement, and support these actions in collaboration with The Geological Society of Africa (GSAf), The organisation of African Geological Surveys (OAGS), The Minerals Africa Development Institution (MADI), local African Geological Societies, and other international organisations including UNESCO, The European Geosciences Union (EGU) and The Geological Society of America (GSA).

**Some key upcoming meetings to be used to develop these actions**

- a. IUGS EC virtual meeting planned for 24th May 2024.
- b. IUGS EC Meeting at 37th International Geological Congress (IGC) August 25th 2024, Busan, Republic of Korea.
- c. Society of Economic Geologists (SEG) Meeting on the 27th to 30th September 2024, Windhoek, Namibia.
- d. The Colloquium of African Geology (CAG) Nairobi 2025 (date to be announced).
- e. Others.

If possible, IUGS will undertake a similar event in Latin America in 2026 to develop a series of similar actions for that region.



## **IUGS Ten Action Plan for Africa “TAP for Africa”**

### **1. A strategy for fundraising opportunities, outreach and education in geoscience**

IUGS, in collaboration with GSAf, OAGS, UNESCO and other international bodies, will investigate possibilities of establishing a “specific trust fund” (TAP for Africa Trust Fund) for research and training. It might be financed by industries who profit from African resources. It should also engage African diaspora in geoscience. It will contribute to:

- Scholarships for Postgraduate students to be trained in African Universities
- Mobility of young researchers within African countries and elsewhere
- Short periods exchange programs for students among African countries
- Sponsorship programmes to organize open summer schools in Africa that facilitate networking of students from outside Africa with those from Africa.

**Key action:** African entities identified by OAGS, GSAf, and MADI will define project proposals that will be submitted to the up-coming meetings, which will facilitate mobilisation of resources from IUGS (UNESCO-IGCP, GSA International, EGU, EPOS).

### **2. Increase IUGS presence and visibility in Africa while promoting gender balance, diversity and inclusion**

- IUGS will increase its presence and visibility in African scientific meetings/conferences with specific sessions organized to evaluate and facilitate the implementation of TAP for African Geosciences. IUGS will actively seek to amplify the participation of women to promote gender balance in order to make its working groups and activities in Africa as inclusive as possible.
- IUGS will partner with African entities (e.g. OAGS, GSAf, MADI) to increase membership in IUGS and provide services to African entities as members of IUGS.
- IUGS commissions, task groups, and key partners should be involved in promoting the actions and projects identified here and should include key African representation in all activities.

**Key action:** Make IUGS working groups and activities in Africa as open and diverse as possible, in order to Increase the participation of women experts within the IUGS constituent groups. This action involves not only increasing the visibility of women and diverse experts but also ensuring their meaningful involvement in decision-making processes and leadership roles.

**Facilitate visas and travel for African countries:** IUGS will address the issue of acquiring visas and entering countries hosting an IGC for participants from African Countries. Bids for the IGC must identify difficulties in acquiring visas and passing through immigration for African participants. This matter must be an important factor considered in evaluation of bids.

### **3. A common strategy for education and outreach in geosciences**

IUGS will work towards a common strategy for education and outreach in geosciences in Africa led by joint work from the GSAf and OAGS. This strategy should consider issues such as:

- Higher school education
- How to retain skills and trained young scientists in Africa
- Mobility and exchange programs for students and early career researchers among African countries (see point 1)
- Internship programs for students to enable establish employment opportunities

**Key action:** A joint Taskforce (IUGS, GSAf, OAGS, UNESCO) which can develop a document and guidelines that could guide the joint working practices.

### **4. Improve Geological knowledge and Increase the Awareness of Geological Sciences**

- To promote research training and specific tools for a better geological knowledge specifically on Earth's resources.
- Increase the awareness of geosciences, geoconservation and the potential of Geotourism in Africa. Include more African Geological Heritage Sites and Heritage Stones in the IUGS designation programs and explore the potential to link to UNESCO Global Geoparks as tools for local development.

**Key action:** IUGS Geoheritage commission to include actions involving R&D in African heritage environments.

### **5. IUGS sponsored research labs with partners**

- Develop IUGS-sponsored research labs in geophysics, geochemistry, and geochronology that will assist African researchers (graduate students and



faculty) endorsed by IUGS and when appropriate apply for specific funding from national research foundations to do so.

- Such facilities might be in developed countries for use by African scientists, but IUGS envisages creation of labs in Africa for Africans and research visitors.
- This action will require co-sponsorship from partners in Africa but also GSA, EGU, UNESCO and others.

**Key action:** Establish a task force which might investigate the feasibility and what it requires to enable the establishment of such laboratories in institutes and in the field.

#### **6. Science Diplomacy - IUGS with key African geoscientists as an advocate to inform and influence policy makers and society**

- IUGS with key African geological institutions serves as an advocate to inform and influence policy makers and society.
- The IUGS brand can be used by the African geoscience community (such as National professional societies, the African Academy of Science) to deal and discuss with governments/policy makers on geoscience initiatives, etc.

**Key action:** An identified IUGS executive member will serve in the role of coordinating with those African colleagues wishing to offer such a program and in seeking funding for doing so.

#### **7. Decarbonisation of future energy resources**

**Embrace the Green energy transition in Africa:** use of all renewable energy resources and support for immediate and affordable results, including capacity building.

- **Geothermal:** IUGS recognizes the world leading expertise of Kenya in geothermal energy development. And a collaborative programme on green fields geothermal research and development in Africa and the Global South is proposed.
- **Hydrogen:** IUGS recognizes the rapid development of hydrogen from several sources as a fuel and encourages R&D.
- **Hydrocarbons:** This resource, especially gas, is still needed. Its deleterious effects can be mitigated by decarbonizing the transport infrastructure. However, some countries are still dependent on fossil energies, e.g. coal. Collaborative efforts between IUGS and entities of these countries should be encouraged in development of clean coal technologies, like CCS/CCU.
- **Nuclear energy:** Storage of the waste, inventory of respective subsurface

structures. IUGS should engage with African entities for R&D in new nuclear waste geological storage technologies.

- **Hydro-Technologies:** We need to encourage development of hydropower systems and understand the impact of climate change on these resources.
- **Green energy minerals:** R&D on exploration and development, including ethical aspects of sourcing.

## **8. Support Geoscience Mapping Programs and initiatives in Africa**

IUGS with its relevant affiliated organisations, commissions and task groups such as:

- Geoscience Education, Training & Technology Transfer
- Global Geochemical Baselines (GGB)
- International Commission on Stratigraphy (ICS)
- International lithosphere program
- Deep Time Digital Earth

will work together with relevant organisations in Africa (OAGS, GSAf) and other geological surveys (USA, China, Canada, Australia, Europe) to design, implement and support relevant training programs and projects on mapping tailored on the basis of the relevance and the needs for each region/country.

## **9. Recognize the need to preserve and enhance African geodata**

Work with partners to create an Inventory of all existing relevant data. Create a high-quality research inventory on strategic/green energy minerals, energy systems (agro-food requirements). Where appropriate with the focus on cross border issues.

**Key action:** IUGS will support development of online platform through GMIS Structure, AMREC, Digital Earth Africa to provide the status of geoscience data for each member state. IUGS will optimise geoscientific information, FAIR data, aligned to African priorities and existing platforms with a focus on African resources.

## **10. Develop Research and Awareness in Geology for Health**

IUGS will work together with UNESCO and other African and international organisations to support the development of geological research projects which have direct and indirect societal impacts related to the health of people in the continent. These will be aligned with regional, national priority programs and UN Sustainable Development Goals (SDG). It may cover:

- Mining operations and their environmental and health impacts
- Water pollution, quality and health

- Soil quality, food security and health
- Extreme events including those related to geological risk and climate change

### **Key data portals that might help these actions**

<https://scienceforafrica.foundation/grand-challenges-africa>

<https://www.weforum.org/agenda/2023/10/investment-opportunities-africas-energy-sector/>

<https://au.int/en/agenda2063/>

<https://www.weforum.org/agenda/2023/11/innovative-approaches-for-unlocking-research-and-development-funding-in-africa/>

International Science Partnerships Fund (ISPF) - GOV.UK ([www.gov.uk](http://www.gov.uk))

CMMI <https://portal.ga.gov.au/persona/cmmi>

<https://www.usgs.gov/centers/gggsc/science/critical-minerals-mapping-initiative-cmmi>

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

<https://madi.africa/>

[https://research-and-innovation.ec.europa.eu/strategy/strategy-2020-2024/europe-world/international-cooperation/regional-dialogues-and-international-organisations/eu-africa-cooperation/funding-and-support\\_en](https://research-and-innovation.ec.europa.eu/strategy/strategy-2020-2024/europe-world/international-cooperation/regional-dialogues-and-international-organisations/eu-africa-cooperation/funding-and-support_en)

<https://www.nature.com/articles/d44148-023-00360-4>



# List of Participants IUGS Geoscience in Africa Event

*Nairobi, Kenya  
February 22-23, 2024*

<b>Representatives from IUGS Constituent Groups, Adhering Organizations and Affiliated Organizations</b>						
<b>NO.</b>	<b>GROUP</b>	<b>POSITION</b>	<b>F_NAME</b>	<b>G_NAME</b>	<b>AFFILIATION</b>	<b>COUNTRY/ REGION</b>
1	Executive Committee Members	President	LUDDEN	John	Heriot-Watt University	U.K.
2		Secretary General	FINNEY	Stanley	California State University	U.S.
3		Treasurer	KITAZATO	Hiroshi	Waseda University	Japan
4		Past President	CHENG	Qiuming	China University of Geosciences (Beijing)	China
5		Vice President	CHEONG	Daekyo	Kangwon National University	ROK
6		Vice President	MOURI	Hassina	University of Johannesburg	South Africa
7		Councilor (2020-2024)	MCKINLEY	Jennifer	Queen's University	U.K.
8		Councilor (2020-2024)	STROINK	Ludwig	GFZ German Research Centre for Geosciences	Germany
9		Councilor (2022-2026)	PEREIRA	Lola	Department of Geology, University of Salamanca	Spain
10		Councilor (2022-2026)/Social Media Manager	ROJAS-AGRAM ONTE	Yamirka	Christian-Albrechts-Universität zu Kiel	Germany
11	Publications Committee (PC)	E-Bulletin Editor	KAUR	Gurmeet	Panjab University	India
12	Publications Committee (PC)	IUGS Webmaster	DI CAPUA	Giuseppe	National Institute of Geophysics and Volcanology	Italy
13	Episodes	Executive Editor	LEE	Sung Keun	Seoul National University	ROK
14	IUGS Social Media	Social Media officer	MUNOZ GRANADOS	Daniela	Universidad de Los Andes	Colombia
15	International Commission on Stratigraphy (ICS)	Chair	HARPER	David	Durham University	U.K
16	International Commission on Geoheritage (ICG)	Chair	HILARIO	Asier	Basque Coast UNESCO Global Geopark	Spain
17	IUGS Commission for Geoscience Information (CGI)	Chair	THORLEIFSON	Leonard Harvey	Minnesota Geological Survey	U.S.
18	Commission on Global Geochemical Baselines (CGGB)	First Co-Chair	LADENBERGER	Anna	Geological Survey of Sweden	Sweden
19	Commission on Global Geochemical Baselines (CGGB)	Second Deputy Chair	SIMUBALI	Gloria Namwi	Geological Survey of Namibia	Namibia
20	Commission on Geoscience Education, Training and Tech Transfer (COGE)	Chair	VILLACORTA CHAMBI	Sandra	CSIRO, Mineral Resources, Perth, Australia	Australia
21	Commission on Geoethics (CG)	Chair	PEPPOLONI	Silvia	Istituto Nazionale Di Geofisica e Vulcanologia	Italy

	Task Group on Diversity, Equity, and Inclusion (TGDEI)	Chair				
22	International Commission on History of Geological Sciences (INHIGEO)	Chair	<b>VACCARI</b>	<b>Ezio</b>	Università degli Studi dell'Insubria	Italy
23	International Commission on History of Geological Sciences (INHIGEO)	Secretary General	<b>KÖLBL-EBERT</b>	<b>Martina</b>	Ludwig-Maximilians-Universität München	Germany
24	Commission on Geoscience Education, Training and Tech Transfer (COGE)	Vice Chair	<b>OCCHIPINTI</b>	<b>Susanna</b>	National Association of Geologists	Italy
25	Commission on Tectonics and Structural Geology (TecTask)	Chair	<b>GOMEZ-RIVAS</b>	<b>Enrique</b>	Universitat de Barcelona	Spain
26	Task Group on Igneous Rocks (TGR)	Chair	<b>LISTRINO</b>	<b>Michele</b>	Sapienza Università di Roma	Italy
27	Task Group on Submarine Geohazards (TGSG)	Chair	<b>KAWAMURA</b>	<b>Kiichiro</b>	Yamaguchi University	Japan
28	Task Group on Submarine Geohazards (TGSG)	Secretary General	<b>OKUBO</b>	<b>Yasukuni</b>	Geothermal Energy Research & Development CO., LTD.	Japan
29	Initiative on Forensic Geology (IFG)	Chair	<b>DONNELLY</b>	<b>Laurance John</b>	Alfred H Knight International	U.K.
30	Deep-Time Digital Earth (DDE)	Representative	<b>ISHWARAN</b>	<b>Natarajan</b>	Deep-Time Digital Earth (DDE)	France
31	International Geoscience Program (IGCP)	Representative	<b>MHOPJENI</b>	<b>Kombada</b>	UNESCO	Namibia
32	International Lithosphere Program (ILP)	President	<b>THYBO</b>	<b>Hans</b>	International Lithosphere Program (ILP)	Denmark
33	European Geosciences Union (EGU)	President	<b>ARTEMIEVA</b>	<b>Irina</b>	European Geosciences Union	Denmark
34	Geological Society of America (GSA)	Representative	<b>SZTEIN</b>	<b>Ester</b>	Geological Society of America	U.S.
35	American Geosciences Institute (AGI)	Executive Director	<b>ARTHUR</b>	<b>Jonathan</b>	American Geosciences Institute	U.S.
36	Nigerian Mining and Geosciences Society (NMGS)	President	<b>OLATUNJI</b>	<b>Akinade</b>	Nigerian Mining and Geosciences Society (NMGS)	Nigeria
37	International Geoscience Education organization (IGEO)	Chair	<b>ORION</b>	<b>Nir</b>	Weizmann Institute of Science	Israel
38	Geological Society of Africa (GSAf)	President	<b>OKUNLOLA</b>	<b>Olugbenga Akindeji</b>	University of Ibadan	Nigeria
39	Geological Society of Kenya (GSK)	President	<b>KURIA</b>	<b>Joseph Ng'ang'a</b>	Geological Society of Kenya	Kenya
40	International Association on the Genesis of Ore Deposits (IAGOD)	Representative	<b>BINELI BETSI</b>	<b>Thierry O.</b>	Botswana International University of Science and Technology	Botswana
41	International Association on the Genesis of Ore Deposits (IAGOD)	Representative	<b>BARTON</b>	<b>Mary</b>	Odikwa Geoservices CC	Namibia
42	Geological Survey of the Netherlands /TNO	Chief Geologist	<b>VAN DER MEULEN</b>	<b>Michiel</b>	Geological Survey of the Netherlands/TNO	Netherlands
43	Lithuanian National Committee of Geologists	President	<b>SATKUNAS</b>	<b>Jonas</b>	Lithuanian Geological Survey	Lithuania
44	Canadian National Committee for IUGS	Co-Chair	<b>BOGGS</b>	<b>Katherine</b>	Mount Royal University	Canada
45	Canadian National Committee for IUGS	Past President	<b>LEBEL</b>	<b>Daniel</b>	Geological Survey of Canada	Canada

46	The Gambia Geological Department	Acting Director	<b>JAWO</b>	<b>Alieu</b>	The Gambia Geological Department	Gambia
47	The Gambia Geological Department	Adviser	<b>DARBOE</b>	<b>Mansata M.</b>	The Gambia Geological Department	Gambia
48	IUGS Secretariat	Director	<b>MA</b>	<b>Yongzheng</b>	China Geological Survey (CGS)	China
49		Secretary	<b>GU</b>	<b>Yanfei</b>	Chinese Academy of Geological Sciences (CAGS)	
50		Secretary	<b>XU</b>	<b>Yaqi</b>	Chinese Academy of Geological Sciences (CAGS)	

<i><b>Invited Lecturers and Participants from African Countries</b></i>				
<b>NO.</b>	<b>F_NAME</b>	<b>G_NAME</b>	<b>AFFILIATION</b>	<b>COUNTRY/REGION</b>
1	<b>MOURI</b>	<b>Hassina</b>	International Union of Geological Sciences (IUGS)	South Africa
2	<b>MUGYENYI</b>	<b>Frank</b>	Minerals Africa Development Institute (MADI)	Uganda
3	<b>OKUNLOLA</b>	<b>Olugbenga Akindeji</b>	Geological Society of Africa	Nigeria
4	<b>GICHERUH</b>	<b>Chrysanthus Muchori</b>	Geological Society of Kenya	Kenya
5	<b>KURIA</b>	<b>Joseph Ng'ang'a</b>	Geological Society of Kenya	Kenya
6	<b>MHOPJENI</b>	<b>Kombada</b>	UNESCO	Namibia
7	<b>NYASIMI</b>	<b>Mary</b>	UNESCO	Kenya
8	<b>SAMBA EP DIENE</b>	<b>Rokhaya</b>	Organization of African Geological Surveys (OAGS)	Senegal
9	<b>OLATUNJI</b>	<b>Akinade</b>	Nigerian Mining and Geosciences Society (NMGS)	Nigeria
10	<b>NGUNO</b>	<b>Anna</b>	Geological Society of Africa & Geological Survey of Namibia	Namibia
11	<b>ARISEKOLA</b>	<b>Tunde Muritala</b>	African Minerals Development Centre (AMDC)	Ethiopia
12	<b>PETER</b>	<b>Lesego Polite</b>	Botswana Geoscience Institute	Botswana
13	<b>KASSAYE</b>	<b>Asfawossen Asrat</b>	Department of Mining and Geological Engineering, Botswana International University of Science and Technology	Botswana
14	<b>JAWO</b>	<b>Alieu</b>	Geological Department, Ministry of Petroleum and Energy	Gambia
15	<b>DARBOE</b>	<b>Mansata M.</b>	Geological Department, Ministry of Petroleum and Energy	Gambia
16	<b>SIMUBALI</b>	<b>Gloria Namwi</b>	Geological Survey of Namibia	Namibia
17	<b>BARTON</b>	<b>Mary</b>	Odikwa Geoservices CC	Namibia
18	<b>NDIAYE</b>	<b>Abdoul Aziz</b>	Ecole Nationale Supérieure des Mines et de la Géologie (ENSMG, Ex_IST, University Cheikh Anta Diop Dakar, SENEGAL)	Senegal
19	<b>CHAMUSSA JUVANE</b>	<b>Mónica</b>	ENH National Oil Company	Mozambique
20	<b>MERIAUX</b>	<b>Catherine</b>	ICTP-EAIFR, University of Rwanda	Rwanda
21	<b>OKOO</b>	<b>Joyce</b>	Kenya Electricity Generating Company PLC	Kenya
22	<b>DATA</b>	<b>Gabriel</b>	Ministry of Energy and Mineral Development	Uganda
23	<b>DANBATT</b>	<b>Umar Adamu</b>	Centre for Inland Basins Studies (CIBS), Ahmadu Bello University, Zaria	Nigeria
24	<b>BINELI BETSI</b>	<b>Thierry O.</b>	Botswana International University of Science and Technology	Botswana
25	<b>MANUEL</b>	<b>José</b>	Geologica Institute of Angola	Angola

26	<b>BARNES- SAKYI-ADDO</b>	<b>Georgette</b>	Georgette Barnes Limited/Women in Mining Ghana	Ghana
27	<b>MWANGI</b>	<b>Anna</b>	KenGen PLC	Kenya