

MINUTES



INTERNATIONAL UNION OF GEOLOGICAL SCIENCES

77th EXECUTIVE COMMITTEE MEETING

OPEN SESSION

March 16th-17th, 2022

Société Géologique France (SGF)

Paris, France

Contents

Participants	3
1. Welcoming Addresses	5
2. Discussion and Approval of Agenda	5
3. Approval of Minutes of Virtual Progress Meeting, 29 Nov 2021	5
4. Executive Committee Reports	5
4.a. President's Report	6
4.b. Treasurer's Report	6
4.c. Secretary General's Report	11
4.d. Permanent Secretariat's Report	12
5. IUGS Committees	14
5.a. Publications Committee	14
5.b. Nominations Committee	16
5.c. New Activities Strategic Implementation Committee – RFG	17
6. IUGS Commissions, Task Groups, Initiatives: 2022 Plans	18
6.a. Stratigraphy (ICS)	18
6.b. Education, Training and Technology Transfer (COGE)	19
6.c. Management and Application of Geoscience Information (CGI)	20
6.d. History of Geological Sciences (INHIGEO)	21
6.e. Tectonics and Structural Geology (TecTask)	22
6.f. Geoheritage (ICG)	23
6.g. Global Geochemical Baselines (CGGB)	25
6.h. Task Group on Igneous Rocks (TGIR)	26
6.i. Initiative on Forensic Geology (IFG)	27
7. IUGS Joint Programs	28
7.a. International Lithosphere Programme (ILP)	28
7.b. UNESCO - IGCP	30
7.c. DDE	31
7.d. Task Group on Isotope Geology	33
8. International Geological Congress (IGC)	33
8.a. Virtual 36th IGC, March 2022	33
8.b. 37th IGC in 2024 (Busan)	33
8.c. 38th IGC in 2028 – Action to take	35
9. Gender Equality in IUGS	36
10. IUGS Public Outreach in 2022 and Discussion of 60 th Anniversary Activities	36
11. Presentation of IUGS James M Harrison Medal to Peter Bobrowsky	39
12. Reports from IUGS Adhering Organizations and Affiliated Organizations	40
13. Closing of the Open Session	41

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), Claudia MORA (CM; Councilor), Silvia PEPPOLONI (SP; Councilor), Jennifer MCKINLEY (JM; Councilor), Ludwig STROINK (LS; Councilor)

Observers (attending parts of the meeting):

Özlem ADIYAMAN LOPES (UNESCO), Giuseppe DI CAPUA (Publications Committee, PC), Dolores PEREIRA (Publications Committee, PC), David HARPER (International Commission on Stratigraphy, ICS), Anna LADENBERGER (Commission on Global Geochemical Baselines, CGGB), Harvey THORLEIFSON (Commission on the Management & Application of Geoscience Information, CGI), Ian CLARK (Commission on Geoscience Education, Training & Technology, COGE), Asier HILARIO (International Commission on Geoheritage, ICG), Enrique GÓMEZ RIVAS (Commission on Tectonics and Structural Geology, TecTask), Ezio VACCARI, Martina KOELBL-EBERT and Catherine HISTON (International Commission on the History of Geological Sciences, INHIGEO), Lustrino MICHELE (Task Group on Igneous Rocks, TGIR), Laurance DONNELLY (Initiative on Forensic Geology, IFG), Hans THYBO (International Lithosphere Program, ILP), Natarajan ISHWARAN (Deep-Time Digital Earth, DDE), SG (IUGS 60th Anniversary), Manuel PUBELLIER (Commission for Geological Map of the World, CGMW), Laura QUIJANO (EuroGeoSurveys, EGS), Joel GILL (Geology for Global Development, GfGD), Jafar OMRANI (Geological Survey of Iran, GSI), Mauro SOLDATI (International Association of Geomorphologists, IAG), Sylvie DEMOUCHEY and Patrick CORDIER (International Mineralogical Association, IMA), Chaosheng ZHANG (International Medical Geology Association, IMGGA), Jianhua CAO, Qukan LUO and Bing BAI (International Research Center on Karst, IRCK), Ewa GLOWNIAK (International Association for the Conservation of Geological Heritage, ProGEO), Hema ACHYUTHAN (Geological Society of India, GSI), Bernhard GASEMANN (Austrian National Committee of Geoscience), Peter BOBROWSKY (Canadian National Committee for IUGS), Soto GERARDO J. (Colegio de Geólogos de Costa Rica), Disamuddin TERMIDI (Department of Mineral and Geoscience Malaysia), Hiroshi NISHI (Japanese National Committee for IUGS), Yasukuni OKUBO (Japanese National Committee for IUGS), Nick MORTIMER (New Zealand National Committee for Geological Sciences), Ana María Alonso ZARZA (Instituto Geológico y Minero de

España, IGME, CSIC), Åke JOHANSSON (Swedish National Committee for Geolog),
Alicia NEWTON (Geological Society of London, GSL)

IUGS Secretariat:

MA Yongzheng (Director), LI Wei (Secretary), SITU Yu (Secretary), GU Yanfei
(Secretary), XU Yaqi (Secretary) and MU Langfeng (Secretary)

1. Welcoming Addresses

John Ludden (JL) welcomed all the participants in the 77th IUGS Executive Committee Meeting. JL thanked Stanley Finney (SF) and the Secretariat for organizing the meeting. JL explained that the location of the 77th IUGS EC Meeting has been changed from the UNESCO headquarters to the Geological Society of France (SGF) due to the COVID-19 restrictions. JL expressed sincere thanks to the Geological Society of France for hosting the 77th IUGS EC Meeting and welcoming all the meeting participants in Paris.

François Baudin (FB), President of the Geological Society of France, warmly welcomed all the meeting participants. FB introduced that the Geological Society of France was founded in 1830 and is approaching its second centenary. As an Affiliated Organization of IUGS, SGF is honored to welcome the IUGS Executive Committee and all the other representatives from the IUGS community.

Kristof Vanderberghe (KV), Earth Sciences and Geoparks Section, UNESCO, expressed his gratitude to IUGS for being a long standing and reliable partner throughout the history of the International Geoscience Program (IGCP). During the past 50 years, IGCP has been developing dynamically with the technical guidance and support of IUGS. Since 2015, IGCP and Global Geoparks have been brought under one framework within UNESCO. KV sincerely thanked IUGS for the strong technical support for the evaluation of UNESCO Global Geoparks. UNESCO is planning to celebrate the 50th anniversary of IGCP at the UNESCO headquarters on 3-4 October 2022 together with IUGS and the larger international geoscience community. KV is looking forward to close collaboration with IUGS in the next 50 years to come.

2. Discussion and Approval of Agenda

Agenda approved.

SF noted that in the agenda of the closed session, the IUGS statement on the war in Ukraine will be further discussed. He called on the leaders of the IUGS constituent groups to have their input and thoughts on the statement so that the EC could make the final decision on the statement based on the input.

3. Approval of Minutes of Virtual Progress Meeting, 29 Nov 2021

Motion to approve the Minutes of the Virtual Progress Meeting on 29 Nov 2021.

Approved.

4. Executive Committee Reports

4.a. President's Report

JL reported that he prepared a full President's report to be included in the 2021 IUGS Annual Report.

JL commented that this has been a difficult year. The full IUGS EC met virtually in March 2021 and has held three intermediate meetings of the entire EC. The minutes of the all the above meetings are available on the IUGS website. As requested by the IUGS council we have published full accounts and are aiming for complete transparency through the IUGS website.

Our IUGS 60th anniversary was in 2021, but we have put off any celebrations until 2022 and we will distribute a series of events throughout 2022. The IUGS EC hired SG as the technical lead of the IUGS 60th anniversary and she has been assisting in organizing a series of events throughout 2022 to reflect every spectrum of IUGS.

IUGS has worked through 2021 with the IGC-36 Organizing Committee towards full reimbursement of registration fees for participants. This is now largely complete, and I thank registrants for their patience in this difficult process. The closing event of the IGC-36 will now be held in Delhi in March 2022 and will be a reduced scope virtual event. The virtual event will involve the handover of the IGC cup from India to the Republic of Korea. JL noted that there were problems with the virtual event that was not gender balanced at all. IUGS intervened and the event has a better gender balance now but not perfect. JL stressed that he will try his best to ensure gender balance on a global scale during his presidency.

JL reported that IUGS made a statement on the Russian Federation's invasion of Ukraine with the approval of the IUGS EC. The EC will further discuss what the statement means for the IUGS activities during the meeting.

JL called on the IUGS community to come up with more proactive actions to support geoscientists in Ukraine. JL reported that the Polish Academy has asked IUGS to waive its annual membership fees, which will be used to support the Ukraine scientists.

Hassina Mouri (HM) introduced that some neighbouring countries of Ukraine are hosting PhD students of Ukraine to complete their studies and suggested the IUGS community could help PhD students of Ukraine in a similar way to its best capacity.

EC77Act_01: JL to produce a letter to support the leaders of the IUGS constituent groups to support geoscientists in Ukraine.

4.b. Treasurer's Report

HK reported that for the period from 01/01/2021 to 31/12/2021, IUGS' income and expense were USD 527,776.00 and USD 482,627.96 respectively, with the net income of USD 45,148.04. The balance of IUGS current account as of 31/12/2021 is USD 1,765,286.84. It is noteworthy that Gambia and Peru have become IUGS active members.

Total balances by December 31, 2021

Total Balance of IUGS Account as of December 31, 2021

(compared to 2020)

	Amount (USD)	
	2021	2020
Current Part (Note 1)	1,765,286.84	1,720,138.81
Reserved Part	-	-
Total Balance	1,765,286.84	1,720,138.81

Current Part is Cash and Deposit at Bank. Reserved Part is for the fund that is kept separately from Current Part, such as fund put in financial instruments. Currently, all the amount of Total Balance (except cash of EUR 3.50) is kept in accounts in USD, EUR and JPY at MUFG Bank, Ltd., Shibuya Meijidori Branch, in Tokyo (as in Note 1 below). Further to the guidelines by IUGS Finance Committee to EC (Executive Committee) in 2020, feasible and appropriate financial instruments within the legal framework of IUGS are under consideration and discussion, as there are several legal issues and organizational restrictions for IUGS to make financial contracts in Japan.

Current account status by December 31, 2021

Note 1: Breakdown of Current Part as of December 31, 2021

			Amount converted in USD (Note 2)
USD Account	USD	1,297,352.55	1,297,352.55
EUR Account	EUR	326,184.02	369,990.53
JPY Account	JPY	11,257,447	97,939.79
Cash	EUR	3.50	3.97
Total Current Part			1,765,286.84

The following is included in IUGS account.

Deposit payable (Note 3)	26,774.60
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Note 2: Exchange rate as of December 31, 2021

1 EUR = 1.1343 USD
1 JPY = 0.0087 USD

Note 3: This is due to the overpayment of membership fee of the Russian member in 2011 and has been used for the subscription fee of Episodes of the Russian member since 2014 (in 2021, USD 6,482.65 was paid out)

Description of income

The total income we received in 2021 is USD 527,776.00, including USD 400,782.35 of membership dues. The table below reflects detailed information of the income situation in 2021 and 2020.

(Amount in USD)

Income		
	2021	2020
Membership Fees For 2018 & 2019	400,782.35	493,002.01
	3,170.00	61,965.61
For2020	11,018.52	431,036.40
For2021	386,593.83	-
Contribution from UNESCO	84,100.00	26,317.58
Final payment for previous year	-	20,382.16
1st payment for current year	34,100.00	5,935.42
2nd payment for current year	50,000.00	-
Other Income* ₁	42,893.65	33,696.85
Total Income	527,776.00	553,016.44

* 1 Other income includes refund of Geo Expo Stand Fee paid in 2019, royalty and bank interest

Status of Countries by Fees Category – 2021

Category	Active	Inactive	Total	Number of Countries paid for		
				2021	2020	2019
1	20	50	70	13	8	5
2	14	3	17	11	1	-
3	13	2	15	10	-	-
4	8	1	9	6	2	-
5	-	-	-	-	-	-
6	2	-	2	1	-	-
7	4	-	4	3	-	-
8	5	-	5	5	-	-
Total	66	56	122	49	11	5

Description of Expense

The total expense is USD 482,627.96. The table below reflects more detailed information of expenditure situation in 2021 and 2020.

	2021	2020
IGCP	170,600.00	34,555.53
Joint Programmes	21,278.98	21,106.50
IUGS Commissions	78,529.07	72,200.00
IUGS Task Groups	-	1,400.00
Initiatives	47,165.00 ^{*2}	3,600.00
Affiliated Organizations	29,000.00	27,000.00
Contributions	14,226.39	14,717.89
Committees	-	2,539.07
Episodes	28,000.00	28,000.00
Hutchison Award	12,427.00	8,000.00
Secretariat Expense	15,000.00	15,000.00
Disbursement from Deposit Payable	6,482.65	6,517.60
ICS Special Funding Program	-	47,000.00
IGC Special Expense	-	9,297.95
IGC Cancellation Fee	-	6,973.30
IUGS Associated Event	5,008.66 ^{*3}	-
Other expense	54,910.21 ^{*4}	25,702.40
Total Expense	482,627.96	323,610.24
Net Income	45,148.04	229,406.20

*2 includes payment of USD 20,000 (Deep-Time Digital Earth Research Program) allocated for and transferred from 2020.

*3 is the expense for preparation and promotion of the 60th Anniversary of IUGS in 2022.

*4 includes management expenses of Treasurer's office (USD 13,160.17) and exchange translation loss (USD 33,361.45 with no cash out).

Status alteration of member countries

Alteration of Status during the year 2021

Inactive → Active	Gambia Peru	2021, 2020, 2019 dues paid 2020, 2019 dues paid (2021 unpaid)
Pending → Active	Chile Guyana Mongolia Vietnam	2021, 2020, 2019 dues paid 2021, 2020, 2019 dues paid 2020, 2019 dues paid (2021 unpaid) 2020 due paid (2021, 2019 unpaid)
Active → Pending	Argentina Cuba Greece Kosovo Tajikistan	Dues unpaid for 2 years as of the end of 2021
Pending → Inactive	Kyrgystan Mozambique	Dues unpaid for 3 years as of the end of 2021

Countries with no contact point - 28 countries

Azerbaijan, Belarus, Belize, Bolivia, Bosnia and Herzegovia, Burkina Faso, Burundi, Cameroon, Cote D'Ivoire, Ecuador, Georgia, Ghana, Iraq, Madagascar, Nicaragua, Panama, Paraguay, Somalia, Sudan, Suriname, Swaziland, Syria, Tunisia, Uruguay, Venezuela, Yemen, (Nepal), (Rwanda)

Countries restricted by OFAC (US Office of Foreign Assets Control) - 5 countries and region

Cuba, Iran, D.P.R.Korea, Syria and Crimea Region

HK reported that due to extraordinary inflation rate in USA (7%), IUGS membership fees for 2022 will increase a great deal. Taking into the consideration of the global economic situation, the IUGS EC has decided to keep the same membership fee as 2021 for 2022. The unit membership fee for 2022 will remain at 657 USD, the same as 2021.

IUGS Treasurer Office is located at Waseda University from 2021 to 2024. Moderate level audit is being carried out by Japanese auditor (Mr. Kazuhiro Tanaka, C.P.A.) year by year. The income and expense records have been thoroughly examined during the year 2021.

HK sincerely thanked Ms. Yoshiko Okada, Treasurer's assistant, for her great contribution to the Treasury Office.

JL commented that the IUGS EC decided to pay part-time salaries to the Treasurer's assistant to maintain professionalism in IUGS accounting.

JL thanked HM for bringing Algeria to the IUGS family. HM is also working on bringing Kenya to IUGS. JL noted these actions are very important to enlarge the IUGS membership.

4.c. Secretary General's Report

Stanley Finney (SF) started by logging on the IUGS information management system (IMS) to show the documents of the IUGS EC meeting.

SF reported that President John Ludden, the Secretary General and other EC members, and the IUGS Secretariat staff devoted much time to facilitating the reimbursement of registration, field trip, and exhibit booth fees to delegates and delegations registered for the 36th IGC. In fact, the IUGS role in securely gathering and transferring bank information to India was essential to ensuring reimbursements. The Secretary General worked with IUGS Treasurer Hiroshi Kitazato to secure IUGS reimbursement of financial losses suffered by awardees of Hutchison travel grants.

SF reported that it was originally planned to present the IUGS medals at the 36th IGC. With the cancellation of the 36th IGC, the IUGS medals (Émile Argand Medal and Early Career Medal) will be presented at the IUGS geoheritage conference in Spain in late October 2022, as a part of the IUGS 60th anniversary events. The James Harrison award will be presented at the 77th IUGS EC Meeting for the recipient Dr. Peter Bobrowsky who cannot attend the event in Spain in October. SF suggested that the significant activities of the IUGS constituent groups in 2022 can also be highlighted as a series of the IUGS 60th anniversary celebration events.

SF reported that IUGS is faced with restrictions coming from the IUGS Statutes as to what we can do to accommodate the crisis and unexpected situations. The IUGS Statutes says that revising the Statutes has to be approved at an ordinary session of the IUGS-IGC Council, which usually occurs during an IGC. Without an IGC, we cannot have an ordinary session to revise the Statutes taking into the consideration of the crisis and changes we have been experiencing. The revisions of the IUGS Statutes shall be taken care of at the ordinary session of the IUGS-IGC Council at the 37th IGC in Busan.

Normal activities of the Secretary General included editing the 2020 IUGS Annual Report, which was distributed in May 2021, participating in the annual meeting of the Publications Committee, held virtually on August 1, and managing votes by the IUGS EC to ratify three proposals from the Commission on Stratigraphy – the GSSPs for the Kimmeridgian and Coniacian Stages and for the chronostratigraphic rank of subseries.

The Secretary General consulted throughout the year with leaders of IUGS constituent groups, serving as their direct link to the Executive Committee, calling for annual reports and budget requests, informing them of budget allocations, giving advice as requested on IUGS procedures and expectations of the EC. The IUGS Secretary General maintains an awareness of all IUGS constituent groups and all

activities of the Publications Committee and conveys their status to the EC. Considerable attention was devoted in 2021 to the restructuring of the Commission on Geoheritage and developing of the first 100 IUGS global geosites.

JL and SF thanked the IUGS Permanent Secretariat in China, which has been very supportive to the IUGS activities.

4.d. Permanent Secretariat's Report

Mr. MA Yongzheng (MY) reported on the main work of the Secretariat.

● Business Meetings

(1) 76th EC Meeting on 22-24 February & 22 March, 2021

- Assisted Secretary General in preparing and distributing the Announcement of the 76th 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.);
- Minute taking, preparation and distribution (including Action List);

(2) EC Virtual Progress Meetings

The Secretariat arranged the following meetings through zoom:

- 1st Virtual Progress Meeting (19 May 2021)
- 2nd Virtual Progress Meeting (29 September 2021)
- 3rd Virtual Progress Meeting (29 November 2021)
- Prepared and distributed meeting documentation;
- Minute taking, preparation and distribution (including Action List);

(3) 77th EC Meeting March, 2022

- Distributed the call for submitting IUGS Annual Reports to the IUGS Constituent Groups, Adhering Organizations and Affiliated Organizations;
- Collected all the annual reports.

(4) NC Meeting, 6 December 2022

- Prepared meeting agenda and meeting documents;
- Minute taking, preparation and distribution (including Action List);
- Prepared a note of the NC Meeting for the IUGS E-Bulletin.

● 36th IGC Reimbursements

The Secretariat did a large amount of daily correspondence with regard to the 36th IGC reimbursements. It was a demanding and time-consuming task. Although we were unable to provide direct answers to the questions of the delegates sometimes, we tried our best to explain the situation and forwarded their requests to the 36th

IGC Secretariat.

- Assisted the EC in contacting the delegates for the collection of bank information;
- Responded to all the requests from the 36th IGC delegates on reimbursements;
- Sent reimbursement reminders to the remaining delegates for several times;
- Transferred all the bank information received to the 36th IGC Secretariat;
- Collected the bank information of Chinese delegates;

● **IUGS 60th Anniversary**

- Updated the IUGS Book of Facts (1961-2021) referring to a large number of documents;
- Designed the IUGS 60th anniversary logo;
- Held zoom meetings with SG on the IUGS 60th anniversary;
- Participated in the stakeholder mapping of the IUGS Adhering Members and Affiliated Organizations led by SG;
- Distributed the information of the IUGS 60th anniversary events to the IUGS family.

● **Outreach and Publications**

(1) Annual Report

- Designed and formatted the 2020 IUGS Annual Report;

(2) Episodes

- Prepared the list of recipients;
- Mailed 100 hardcopies of Episodes for Vol. 44, No. 1 (Mar), No. 2 (Jun), No. 3 (Sep), No. 4 (Dec).

(3) E-Bulletin

- Formatted and distributed the E-Bulletin #173-181 to over 160,000 recipients;
- Updated the list of recipients based on feedbacks.
- Drafted some pieces of IUGS news being published on E-Bulletin.

(4) 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**

(1) 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.

(2) Affiliated Members

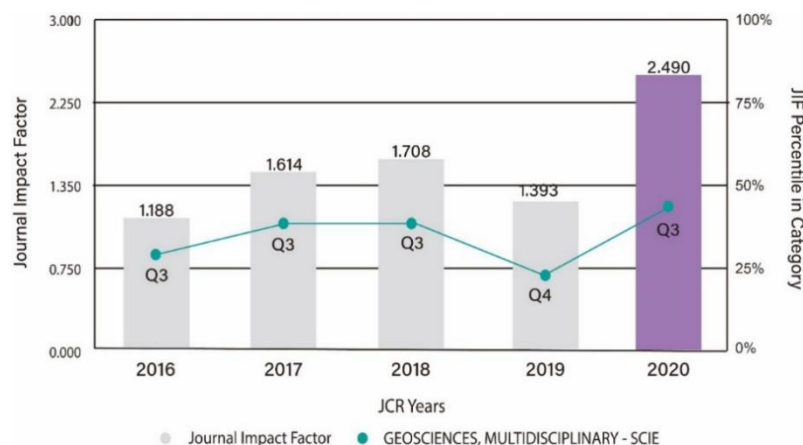
- Updated the contact information of IUGS Affiliated Organizations in the IUGS Information Management System according to the information published on their official websites.
- **Others**
- Assisted in the statistics analysis of the active IGCP projects;

5. IUGS Committees

5.a. Publications Committee

Dolores Pereira (DP), Chair of the Publications Committee (PC), reported that the PC was composed of herself as Chair, Prof. Stanley Finney (IUGS Secretary General), Prof. Jin Yong Lee (Editor, Episodes), Heejung Kim (Managing Editor, Episodes), Dr. Giuseppe Di Capua (Webmaster), and Dr. Gurmeet Kaur (member responsible for social media outreach issues). The Committee is appointed from July 2018-2022 and adopts a new principle to have a 2-year offset between the PC changing and the Executive changing to reduce future disruptions.

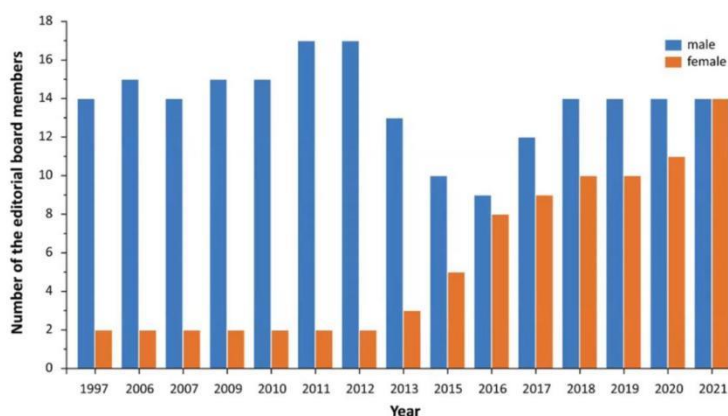
Episodes: The Impact Factor (IF) of the journal has increased with the 2020 IF being 2.490, a large increase from the IF of 1.393 previously recorded in 2019. Thus, the journal has moved from Q4 to Q3. The homepage of episodes (episodes.org) is user-friendly, accurate in contents and have cross-ref possibilities (e.g., doi implemented). The cumulative number of visitors to the website since it was established is 81,438. In August 2019, when the system was built and service provided, 7,037 people visited the homepage of Episodes. This largely increased in 2020 and 2021 with 31,670 and 42,731 visits, respectively. DP noted that there is a lack of contributions of papers from Africa and South America.



Impact factor of Episodes in the past five years (2016 – 2020)

DP reported the gender distribution of the editorial board members has improved a great deal.

Gender distribution of the editorial board members for the period 1997-2021.



Website: Intensive work has been undertaken to update the former website and a new web page was redesigned. More than 29,930 unique visitors from 183 countries accessed the website in 2021. Visitors accessed the website mainly from USA (16%), China (11%), India (9%). All other countries have less than 5% of visitors. A parallel website for the IUGS 60th anniversary is also built, linking to the main website of IUGS.

Geological Society of London Special Publications: IUGS has a MoU with the Geological Society of London. 2021 was a very fruitful year for books produced from IUGS activities. Seven books were published by the Geological Society of London as Special Publications, but many others are in the production prep-line. Four of these books are in final production and many of them already have papers online first.

Title	Type
<i>From Continental Shelf to Slope - Mapping the Oceanic Realm</i>	IUGS
<i>The Carboniferous Timescale vols 1&2</i>	IUGS
<i>Lamprophyres, Lamproites and Related Rocks: Tracers to Supercontinent Cycles and Metallogenesis</i>	IUGS/I GC
<i>Large Igneous Provinces and their Plumbing Systems</i>	IUGS/I GC
<i>Carbon Cycle and Ecosystem Response to the Jenkyns Event in the Early Toarcian (Jurassic)</i>	IUGS/I GCP
<i>Forensic Soil Science and Geology</i>	IGC35
<i>A Guide to Forensic Geology</i>	IUGS
<i>Mineralization and Sustainable Development in the West African Craton: From field observations to modelling</i>	IUGS

<i>Characterization of Modern and Historical Seismic–Tsunami Events, and Their Global–Societal Impacts</i>	IUGS
<i>Geoethics: Status and Future Perspectives</i>	IUGS
<i>Pannotia to Pangaea: Neoproterozoic and Paleozoic Orogenic Cycles in the Circum-Atlantic Region</i>	IUGS/ GCP

Social media: The IUGS social media platforms (Facebook, Twitter and LinkedIn) regularly report relevant information and activities of the various IUGS commissions, joint programs, task groups and initiatives. The total Facebook followers have crossed a 7.7 k mark.

The eBulletin: The ebulletin is the quickest instrument for disseminating news about IUGS initiatives, activities, achievements, events, and publications. All IUGS Commissions, Task Groups, Initiatives, IGCP projects and Adhering Bodies are invited to provide a steady flow of material, consisting of concise texts accompanied by few illustrations (photographs, diagrams, etc). Science reports or papers are excluded. The ebulletin is distributed to more than 16,000 recipients and it appears regularly every month.

DP reported that Dr. Gurmeet Kaur will step down in July 2022 and the responsibilities of eBulletin and social media will go back to the EC.

JL thanked all the work DP has done as the Chair of the Publications Committee. SF congratulated DP for managing the Publications Committee and thanked DP for the large amount of workload she has accomplished.

DP reported that she will also step down in July 2022 and the candidates for the new Chair of the PC are being proposed. The new Chair will be approved by the IUGS EC.

5.b. Nominations Committee

Qiuming Cheng (QC), Chair of the IUGS Nominating Committee, reported that the first meeting of the IUGS NC was held virtually on 6 December, 2021. During the meeting, the NC got familiarized with the IUGS Statutes and Bylaws regarding the functions and duties of the NC and discussed extensively on the principles and criteria of nominations. With the consideration of the timeline requirements set out in the Statutes and Bylaws and in order to allocate sufficient time for nominations, the NC proposed the following work plan:

January 2023: Send out a call for nominations for the EC (2024-2028) (nomination

deadline: 31 October, 2023)

July/August 2023: Send out reminders for nomination

November 2023: Send out a second call for nominations (if necessary) (extended deadline: 31 December, 2023)

January-March 2024: Discuss and put forward the slate of candidates by the NC

April 2024: Send the formal slate to the IUGS President to be distributed to the IUGS Council

August 2024: Be elected by the IUGS Council (August 25-31, 2024)

The NC will make full use of the IUGS website, E-Bulletin and the extensive international networking of IUGS to publicize the call for nominations as widely as possible to attract qualified and capable candidates with geographical distribution and gender balance to take up leading roles of IUGS.

HK commented that the Treasurer's position usually finishes at the time of the IGC but there will be a transitional period between the outgoing and the new Treasurers. The transfer of the IUGS account to the new Treasurer will be made not at the time of the IGC but will be at the end of the calendar year of the IGC.

5.c. New Activities Strategic Implementation Committee – RFG

SF reported on behalf of the New Activities Strategic Implementation Committee (NASIC) and Edmund Nickless. NASIC was established to consider new strategic initiatives for IUGS, and one of the initiatives is the Resourcing Future Generations (RFG). The RFG2018 Conference was successfully organized by the Canadian geological societies.

To keep RFG alive during the pandemic, with iCRAG Edmund Nickless has been heavily involved in planning and broadcasting a series of six UNESCO-sponsored webinar-style lectures, broadcast between 26 January 2021 and 9 March 2021; working with SGA in delivering the Seventh workshop on African Metallogeny, a hybrid event held in Windhoek, Namibia from 29 November to 3 December 2021; organising ReSToRE 2 which will be held in Dublin, Ireland from 4 to 8 July 2022 for which there are currently 113 applications; preparing for a SEG/SGA student workshop to be held in Geneva, Switzerland from 13 to 15 September 2022; talking with UNESCO about a possible FoRGe (Fostering Researchers in the Geosciences) meeting to be held in Africa during 2023.

These activities focus on training the next generation of practitioners and not on a fundamental research agenda that bridges the nexus of metals and minerals, energy and water, crustal modelling of potential deeply buried deposits, development of

new geophysical exploration techniques or new mineralogical/metallurgical techniques to improve the processing of ores, and so on.

SF commented that the EC needs to consider the future of NASIC, in particular the programme on Resourcing Future Generations.

JL commented that he was involved in the activities of NASIC and the RFG2018 conference in Canada. Resourcing future generations is an important field for IUGS. As part of the IUGS 60th anniversary events, a series of energy transition events/webinars will be organized. JL is personally involved in the activities to increase the IUGS' visibility in energy for future generations. JL suggests that potential meetings on RFG be held in Africa in the future.

6. IUGS Commissions, Task Groups, Initiatives: 2022 Plans

6.a. Stratigraphy (ICS)

David Harper, Chair of ICS, reported on ICS' main activities. ICS has 17 subcommissions, involving over 500 scientists. ICS's priority remains completion of the chart, series/epoch and stage/age definition.

Some significant achievements in the past years:

1. Definition and ratification of some 12 GSSPs in the last three years; two most downloaded and read *Episodes* articles are GSSPs (Hauterivian and Priabonian).
2. Additional translations of the chart including American Spanish and Japanese of the 2020/2 version.
3. Ratification by IUGS on the adoption of the Subseries and Subepochs as formal divisions (tied to stages) to be adopted at the discretion of the individual system/period subcommissions.
4. A major makeover (new content, new design) of the ICS webpages and the development of an ICS family for the subcommissions.
5. Bases of the Lower/Early, Middle/Middle, and Upper/Late Neogene Subseries/Subepochs coincident with the respective global stages GSSPs ratified.
6. Discussions on new Precambrian subdivisions commenced with the possibility to establish GSSPs.
7. Proposal from Lille (France) for the next STRATI meeting in 2023.

The key product of ICS is the International Chronostratigraphic Chart that is widely used in research, teaching and outreach activities. 77 GSSPs have been completed. And 24 are in need of attention and have not been completed. ICS has been involved in the IUGS heritage site proposals.

ICS' future plans are as follows:

1. Priority funding is for those subcommissions moving to complete the outstanding 24 GSSPs, through field meetings and some laboratory work.
2. Work is far advanced on the Burdigalina, Langhian, Bartonian, Barremian, Aptian, Oxfordian, Olenkian, Norian, Kungurian stages. There is now a strong focus on completion of the Serpukhovian, Moscovian, Kasimovian and Gzhelian stages.
3. Support for dedication ceremonies, these are key outreach events. There is a large backlog.
4. Preparation of data for the DDE. Nomination of a data officer for each subcommission.
5. Most subcommissions will hold their own conferences/field meetings in the coming year.
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.
8. Calibration of the timescale is an important part of the work of the ICS through our 17th subcommission on time scale calibration. Major contributors to the "Cyclostratigraphy Intercomparison Project (CIP).

6.b. Education, Training and Technology Transfer (COGE)

Chris King, Chair and the inspiration of COGE passed away earlier this year. Ian Clark, secretary and treasurer of the commission gave the report.

In 2021, despite limited travel and face-to-face interactions, COGE continued to develop resources, conducted virtual workshops for teachers, and conducted and published research in geoscience education.

The chief products and accomplishments are as follows:

- Support for two Field Officers (India and Morocco)
- In 2020/21, four EGU and two IUGS funded Geoscience Education Field Officers presented 24 workshops to 585 participants in six countries and to international audience.
- Appointment of three additional Field Officers (Malaysia, TOogo, Chile)
- Provided support for the IGEO/ EGU strategy of promoting a European Chapter
- Supported the Earthlearningidea website to publish a new teaching idea every two weeks
- 380 activities in English; 1200 translations into 12 different languages, more than 5.5 million and video downloads

Future activities are:

- Appointment of five additional Field Officers (Bogota/Colombia, Cameroon, Indonesia, Burkina Faso, India)
- Training of new field officers in May in association with EGU

- Continue development of teaching resources (Earthlearningidea)

With an estimated expenditure of 23,450 USD and current balance of 15,178 USD, the budget requested is 8,272 USD.

JM asked whether the contracts with the field officers are on a yearly basis and if there are any issues with keeping those people on. IC responded that the field officers are unpaid volunteers, and the funding is to support their travel for activities and workshop materials.

IC stressed that COGE is looking to get together as a commission and trying to pick up pieces and maintain Chris King's legacy.

LP asked the possibility of a COGE special issue of on Episodes. IC regarded it as a terrific tribute to Chris King and said he will help solicit contributions.

6.c. Management and Application of Geoscience Information (CGI)

Harvey Thorleifson, Chair of CGI, gave the report.

CGI now has over 500 members in more than 80 countries. New councilor for South America is appointed from Brazil Geological Survey and the regional activities smoothly continued. The CGI secretariat is located at the China Geological Survey and bank account is managed in New Zealand.

Activities in 2021:

- CGI coordinated with partners such as Open Geospatial Consortium, CODATA, CGMW, Loop, and OneGeology
- CGI hosted a successful webinar on June 23rd, and an equally successful Technical Seminar on Sep. 9th
- CGI leaders made major contributions to DDE Standards Training on October 26-28
- Updated CGI flyers were released on the IUGS website
- CGI Council meetings were held regularly
- The new website is up to date and Newsletters were produced in May and August
- Grants were awarded to work group projects

Work plan for 2022:

- An online coordination work shop was held on Feb. 24th 2022 with CGI partners
- Quarterly Council meetings
- Ongoing work by the CGS work groups and regional groups
- Active CGS communications and support for IUGS initiatives
- Ongoing management of partnerships
- Supporting the DDE Standards Task Group

A budget of 10,000 USD is requested. The funds will be focused on interoperability projects managed by work groups due to the anticipated lack of in-person meeting expenses.

JL asked whether a data science-oriented meeting will be held in June. HT confirmed that a meeting focusing on data science and its role in the future of geology will be held in June. OneGeology is taking a leading role in this meeting and in partnership with a number of data science organizations such as OneGeology. CGI is working hard to support this meeting.

6.d. History of Geological Sciences (INHIGEO)

Ezion Vaccari, President of INHIGEO gave the report.

The primary objective of INHIGEO involves the promotion of studies on the history of geological disciplines in an international context and with an open interdisciplinary, and encouragement of national and regional organizations with the same purpose. Currently, INHIGEO has 271 members from 51 countries and holds official partnerships with geo-historical associations worldwide.

Activities in 2021:

- The 46th INHIGEO Annual Meeting took place online, July 18-24, 2021 with participants from 22 countries and received 58 papers.
- INHIGEO took part in the 26th ICHST (International Congress on the History of Science and Technology), and organized a three-session symposium.
- Published a thematic issue of the journal Earth Sciences History based on the INHIGEO meeting in Mexico City in 2018 and a theme session convened at the INHIGEO meeting in Mexico City in 2018.
- Prepared “Anniversaries” for the IUGS website and e-bulletin.
- Sponsored a series of papers on the History of the IGC to be proposed to Episodes.
 - Prepared a special webinar event on the history of IGC and IUGS in July 2022
 - Prepared a special webinar on the role of institutions in the geological sciences, from scientific societies to international unions in Oct. or Nov. 2022

Future plans:

- The 47th INHIGEO Annual Meeting will be held Sep. 16 - 20 2022 in Les Eyzies, France.
- Will sponsor History of Geology session at the 6th International Palaeontological Congress 2022 in Thailand, Nov. 7-11 2022.
- Possible forms of interactions with other IUGS Commissions and Subcommissions will be considered and initiated, in particular with the Commission on Geoheritage.

The requested budget is mainly for the publication of annual record and grants to young scientists to take part in INHIGEO meetings.

JL asked about the incoming special webinar event on the history of IGC and IUGS in July 2022 and would like to be invited to give a short speech. EV gave a detailed introduction.

JL mentioned the IUGS Year Book the Secretariat is working on and asked INHIGEO to help with it to make sure the information is complete.

JL commented that an important task of IUGS nowadays is to improve the public awareness and acceptance of geology, and INHIGEO should make efforts in that regard accordingly.

6.e. Tectonics and Structural Geology (TecTask)

Enrique Gomez-Rivas, Chair of TecTask, gave the report.

Activities in 2021 are:

- TecTask Web Portal and social network accounts (facebook, twitter, linkedin) are its arena for communication and exposure to the public and science community
- Terminology & Standards initiative with a wiki-like Internet Platform
- Organization of the YORSGET conference series as a knowledge sharing, exchange, and training opportunity for young scientists
- Support to the DRT Conference Series (International Conference on Deformation Mechanisms, Rheology and Tectonics)
- Monthly world Web Cast seminars on Structural Geology and Tectonics published at the TecTask YouTube channel
- Outcropedia portal and new application for tablets and smartphones
- Contributions to IUGS newsletter and guest editing of an Episodes special issue

Currently, TecTask is in transition from IUGS-TecTask commission to the International Association for Structural Geology & Tectonics (IASGT), which will be legally based in India. Prof. Manish Mamtanis has been appointed as IASGT founding chair. The IASGT Executive Committee is being appointed in March 2022. The first IASGT EC meeting will take place in April 2022, and will start the transfer of TecTask activities. This transitional period will end in July 2024.

In addition to the current activities, TecTask will mainly focus on the following additional initiatives:

- Promoting structural geology & tectonics in developing countries
- Coordinating national and local groups
- Promoting and supporting Platinum open access journals

- Running and supporting conferences, workshops and a training platform with free courses
- Fostering the formation of student chapters and support for career development
- Carrying out activities for societal impact

The requested budget is 5,340 EUR.

JL stressed the importance of gender equality in the composition of IASGT EC. Should gender equality be imbalanced, IUGS will withdraw its support. ER responded that they will make efforts in that regard.

JL asked about its transition towards IASGT. SF pointed out that IASGT can become an affiliated organization of IUGS. TecTask expects to receive specific support from IUGS for certain activities in the process.

6.f. Geoheritage (ICG)

Asier Hllario, Chair of ICG, gave the report.

The new IUGS ICG was restructured and approved in 2020. It has two sub-commissions: Sub-commission on Sites and Collections and Sub-commission on Heritage Stones. and its 5 main mandates and goals are: 1) To review the internal structure, members and operational guideline; 2) To create a unique commission working under unified criteria, budget and statues; 3) Redefinition and activation of IUGS designation programs; 4) To increase visibility and strengthen collaboration with other international organizations, with special emphasis on UNESCO Global Geoparks; 5) A new sub-commission Geo-collections.

Main activities in 2021:

- Common strategic plan (2021-2024) and 2021 action plan.
- Discussion and adoption of new unified statues.
- Definition of a new sub-commission on collections.
- Clarification of voting members and corresponding members for each commission.
- Creation of a new logo and new unified webpage.
- Opening lecture at X ProGeo International Symposium.
- Creation of IUCN Geoheritage experts group.
- UNESCO Global Geoparks: Annual review and assessment of the geological heritage of new candidates. Evaluated 13 UGGP proposals and made 72 assessments; Created a new working group with representatives from 10 countries to produce the guidelines and methodology by which IUGS will assess Geological heritage of international significance of aspiring UGGp.
- Participated in 3 IGCP projects.

- Annual Meeting of ICG in Basque Coast UNESCO Global Geopark (Zumaia, Spain) Nov. 18-20 2021

2022 Proposal:

- Approval of new statutes and consolidation of the IUGS-ICG
- Discussion and approval of ToR for Sites, Stone Heritage and Geocollection
- Announcement of the First 100 IUGS Geological Heritage Sites
- Announcement of the First 10 IUGS Stone Heritage
- Creation of the new webpage.
- Assessment of 17 new a UGGP candidates.
- Creation of new guideline for an UGGp IUGS assessment.

The Announcement Event of the First 100 IUGS Geological Heritage Sites, which is an IUGS 60th Anniversary Celebration special event, was specifically introduced in terms of its main goals and significance, definition and standards, institutional support, schedule, the book, participants, and program etc. The cost of the event 69,000 Euro,

The requested budget for 2022 is 13,000 USD for general activities and scientific meetings and conferences.

LP pointed out that the presentation was focused on Heritage Sites while giving little attention to the results of Heritage Stones, and expressed her concerns of problems in the restructuring of the Commission. She is unable to disconnect from the website of Sub Commission on Heritage Stones which is still working. There are already more than 20 IUGS Geological Heritage Stones.

AH responded that the focus of his presentation was the proposal of the Announcement Event the First 100 IUGS Geological Heritage Stones, instead of the work report of the Commission. The Sub-commission on Heritage Stones wasn't ignored. The main goals of the Commission are to review the internal structure, members and operational guideline and to create a unique commission working under unified criteria, budget and statutes.

Anna Ladenberger noted it's difficult to realize the UNESCO priorities to avoid North-South imbalance due to the natural origins of the heritages. AH responded that they have taken it into consideration and are taking approaches such as strengthening cooperation between scientists in the North and South.

LS asked about the target group of the Book, AH responded that they will be for the geological communities rather than the public.

SF introduced the history and background of the Commission and stressed the significance of the Announcement Event of the First 100 IUGS Geological Heritage Sites.

6.g. Global Geochemical Baselines (CGGB)

Anna Ladenberger, the co-chair of the CGGB gave the report.

The Commission is led by a Steering Committee, which coordinates the activities of four Technical Committees as well as the contributions made by regional representatives. Currently, it has 202 members in 73 countries.

The Commission was established in 2016, but its history goes back to two ICGP projects in 1988 and 1997 respectively. From 1997 to 2016, it was an IAGC and IUGS Task Group on “Global Geochemical Baseline”.

The mission of the Commission is to:

- Develop a Standard Methods Manual for the Global Geochemical Reference Network project.
- Establish a global Geochemical Terrestrial Network (GTN) similar to a geodetic network for levelling existing databases (prime objective).
- Prepare a global geochemical database and its representation in map form, and
- Document the concentration and distribution of chemical elements and species in the Earth’s near-surface environment.

To reach the mission goals, the Commission works with applied geochemists throughout the world to establish standards for global- and regional- geochemical mapping, and also promotes and facilitates the implementation of harmonized protocols for sample collection, preparation, quality control, and laboratory analysis for geochemical mapping programmes at any scale.

The first Manual was published in 1998 for the continental-scale Geochemical Mapping of Europe. IUGS Manual of Standard Geochemical Methods for the Global Black Soil Project was published in 2020. Manual of Standard Methods for establishing the Global Geochemical Reference Network will be published in the spring of 2022.

Main activities in 2021:

- Organized a session entitled “Geochemical mapping at all scales for all reasons” under Theme 12 “Environmental Geochemistry and Human Health” together with the Geochemistry Expert Group (GEG) of EuroGeoSurveys at the Goldschmidt 2021 conference.

- Organized an online training workshop on “Extracting, visualizing and interpreting structure in geochemical data through compositional data analysis (CoDa)” on Nov. 18th 2021.
- Monthly IUGS e-Bulletin publication.
- The work on the ‘IUGS Manual of Standard Methods for Establishing the Global Geochemical Reference Network’ is in the final stage of revision.
- Participated in the Global Black Soil Project. The 4th Workshop on Global Black Soil Critical Zone Geo-Ecological Survey (BASGES – IGCP665) was virtual and was organized on May 19th, 2021.

The usage of allocated 2021 fund of 4,000 USD and outstanding 2020 balance of 4,583.13 USD, making an overall total of USD 8583.13. The total expense is 683.07USD. The requested budget is 8,000 USD to cover planned expenses in 2022 and first quarter of 2023.

MC asked if the requested budget 8,000 USD was the carryover from the year before. AL responded that she hasn’t considered it yet.

JL asked whether the geochemical data generated by the Commission is open and available freely to everyone, AL responded that it depends on the country the data are from.

HM showed interest in the African data introduced in the presentation, and asked her for AL’ s email address to have further discussion later.

Chaosheng Zhang suggested that filling out the huge data gap between Africa and the other regions, asked if the Commission has any plans to increase the sampling density which seems too low. AL responded that the sampling density seems low for environmental geology but is proper for geochemical baseline study.

6.h. Task Group on Igneous Rocks (TGIR)

Michele Lustrino, Chair of TGIR, gave the report.

TGIR was established in 2021. The group has elected a chair (Michele Lustrino), a vice-chair (Roger H. Mitchell) and a secretary (Georg Zellmer). It consists of 17 experts in different fields of igneous petrology and volcanology. There has been a significant email correspondence throughout the year, albeit with prolonged periods of quiescence.

TGIR decides to adopt purely descriptive approach, using classification and nomenclature of igneous rocks based on rocks themselves. There is neither direct link with petrogenetic processes nor implications on tectonic settings.

TGIR is working on the following topics:

- Possible inclusion of the term “melilitite” in the foidite field
- Proposal to distinguish sodic and potassic variants
- Proposal to scale the relative amounts of Na₂O and K₂O to the amount of SiO₂
- Definition of the term “ultrapotassic”
- Definition of plutonic rock fields in the TAS diagram
- Ultramafic rocks as igneous or metamorphic rocks
- Igneous “eclogite”
- Definition of “silica saturation”
- Definition of the “tholeiitic” and “calcalkaline” terms
- Definition of the term “mafic” referred to magma
- Kimberlite classification
- Lamprophyre classification
- Lamproite classification
- Meteorite classification
- Pyroclastic rock classification
- Proposal of a new iconographic section
- Kalsilite-bearing rocks vs. Kamafugitic definition

...

In 2021, TGIR also presented a proposal as a topic for a session during the next SGI (Società Geologica Italiana-Italian Geological Society) SIMP (Società Italiana di Mineralogia e Petrologia – Italian Society of Mineralogy and Petrology) Congress to be held in Turin in Sep. 19-21, 2022.

AL asked whether TGIR is planning on the new edition of IGNEOUS ROCKS, and ML responded they plan to do it in 2023.

6.i. Initiative on Forensic Geology (IFG)

Laurance Donnelly (LD) firstly introduced the aim and main activities of Initiative on Forensic Geology (IFG). LD reviewed that more than 70 events were held by IFG in 2021, including workshops, seminars, online events and other registered activities. 2021 marks the 10th Anniversary of IFG and 2022 marks the 20th Anniversary of the Westminster Palace Presentation on Forensic Geology.

LD presented the Geoforensic Search Strategy (GSS) and the role it has played in finding global missing persons. LD mentioned the collaboration with the Federal Bureau of Investigations (FBI) and that Forensic Geology provides police and law enforcement operational support in terms of searches for burials related to homicide, missing persons, counter terrorism and organized crime. IFG organizes training in crime scene examination, recovery of geological trace evidence and ground searches for burials. The IFG Student Chapter, which is an academic network for students for

the development of forensic geology, includes undergraduates, postgraduates, operational based forensic geologist and police and law enforcement. LD mentioned that forensic geology has been applied to the terrorism investigation and locating genocide and war graves.

LD presented publications in 2021 and the new website and IUGS-IFG Student Chapter website.

LD reported that IFG worked with governments around the world, including security agencies, International Criminal Police Organization (Interpol), Australian Government, House of Lords, Science and Technology Committee, Governments of India, Brazil, Colombia, United Arab Emirates, China and Japan. LD described the IUGS-IFG Special Project: Crimes in Minerals, Mining and Metals Industry.

LD mentioned several highlights in the IFG work plan in 2022, including collaborations with Interpol, the Brazilian Federal Police Laboratory, the FBI, and Brazilian Banks; support to BSc, MSc courses and PhD research; support for missing persons searches with the International Commission on Missing Persons (ICMP) in Bogota, Colombia; sessions on forensic geology at several events, to develop the applications of forensic geology in mining, mineral resources industry and to assist police and law enforcement to develop guidance and best practice in forensic geology globally.

LD pointed out that IFG received USD 7,165 from IUGS in 2021, including carryover from 2020, and this gave a budget of to add to the GBP 10,584.98. IFG request to roll forward the projected balance of GBP 17.66 to support the forensic geology programme for 2022. IFG proposed a budgetary request of USD 9,500 for 2022.

7. IUGS Joint Programs

7.a. International Lithosphere Programme (ILP)

Hans Thybo (HT) introduced the aims, background projects, financial support, governing structure, missions and profile, research themes of ILP. As a bottom-up organization and covering all continents, ILP organized 81 programs since 1980, including many global and continental scale interdisciplinary geoscience programs. HT mentioned that ILP Office has relocated to Nanjing, China.

HT introduced major achievements of ILP, including:

- Global Seismic Hazard Assessment Map
- ILP World Stress Map
- Global Strain Rate Map
- Global Impact Studies
- International Continental Drilling Program (ICDP)

- Global Geoscience Transects and programmes:
 - ✧ EGT, EUROPROBE, TOPOEUROPE
 - ✧ TOPOASIA
 - ✧ Regional geoscience transects

HT mentioned that the core of ILP is Task Forces, which conduct programs on scientific subjects, and Coordinating Committees, which conduct programs with regional focus. Duration of the programs is 5 years and new programs are approved by the ILP Bureau. Currently, ILP has 8 Task Forces (2021-2025) and 5 Coordinating Committees (2021-2025).

HT presented ILP's activities in 2021, including:

- ILP is a founding member of "Deep-Time Digital Earth (DDE)"
- Participation in science advisory board and governing board of DDE
- Celebrations of ILP's 40 years at EGU (2020, virtual) and at AGU (2021, hybrid)
- Several TF/CC symposia at EGU and AGU 2021
- Virtual bureau and business meetings in 2021
- TF/CC held virtual meetings and conferences
- 3 in-person workshops were held in Ascona, Switzerland August 2021, and in Paris and Heviz, Hungary in November 2021
- ILP was strongly represented at the international DEEP-21 Conference, held virtually from Beijing with Key Note talk by ILP President and a key symposium for CC4 on Global Geosciences Transects
- Sponsorship of the 1st meeting of the Mediterranean Geosciences Union (MedGU) for the participation of three young scientists
- A new Task Force was approved: 2021-TF8- Lithospheric Heat Flow- Global Data Assessment Project.

HT mentioned that the Evgenii Burov Medal 2021 was awarded to Dr. Thosten Becher from University of Austin, Texas, USA.

HT presented ILP's Work Plan for 2022 as follows:

- Provide active support to the new TF/CCs
- Promote strong presence at international meetings
 - Several TF/CC sessions at EGU-22 in Vienna, AGU 2022 in Chicago
 - Cermak7 in Potsdam is organized by TF8
- Disseminate results through Special Volumes on the results of ILP research
- 40th anniversary volume of Geol. Soc. London SP
- Activate more research councils to provide annual contributions
- Involve and promote more young researchers

JL asked whether ILP would integrate geophysics, geology, petrology and other relevant disciplines. HT responded that ILP is more than geophysical program and its

scientific activities involves full range of geoscientific methods and geological surveys are strong components in ILP.

7.b. UNESCO - IGCP

Özlem Adiyaman (OA) reported that IGCP Secretariat at UNESCO has submitted the 2021 annual report of IGCP to IUGS and updates IGCP websites regularly. OA extended her thanks to IUGS Secretariat in Beijing for its assistance in preparing the 2021 annual report of IGCP.

In 2021, there are 57 ongoing IGCP projects led by 326 project leaders from 92 countries. The 57 projects include 6 projects of the theme “Geoheritage for Sustainable Development”, 5 projects of the theme “Geodynamics”, 12 projects of the theme “Global Change”, 9 projects of the theme “Hydrogeology”, 11 projects of the theme “Earth Resources” and 14 projects of theme “Geohazards”. “Geoheritage for Sustainable Development” is a new special topic for 2021. Among the 57 IGCP projects, 14 projects are led by African scientists.

OA pointed out that since 1971, IGCP projects are led by more and more co-leaders, which indicates IGCP is expanding its international influence. A diagram of genders of IGCP project leaders since 2016 shows an increasing involvement of women scientists from 21% women leaders or co-leaders in 2016 to 40% in 2021.

In 2021, total number of 84 capacity building IGCP events, including 51 online/digital events and 16 field trips, were organized to outreach more than 5,500 scientists from 126 countries.

Since 2015, the percentage of scientists from developing countries has increased from 42% to 47%, the percentage of female project participants increased from 24% to 32%, the number of project participants increased from 3558 to 5778, number of African project leaders increased from 15 to 57, number of African countries participating IGCP projects increased from 8 to 32, and percentage of women as project leaders increased from 19% to 40%. This shows that IGCP projects are responding to UNESCO’s main priorities, namely Africa and gender equality.

OA reviewed the 7th IGCP Council Session, which was held on March 14th to 15th, 2022 in hybrid way. A new special topic for project proposal call for 2022 is “Enhancing societal Acceptance of the Sustainable Development of Earth’s Geological Resources”. The Council received 27 new project proposals and among them, 10 proposals are aligned with the call and were evaluated. The Council received annual reports from 31 projects and 15 annual reports requested new funding and were evaluated. 23 projects transferred their 2021 funding allocation (amount of 167,585 USD) to 2022 due to the pandemic.

OA reviewed that the number of new IGCP projects and leaders as well as the number of active IGCP projects and leaders have increased over the past couple of years.

In 2022, there will be 60 active IGCP projects, including 5 new projects and 55 ongoing projects. Among the 5 new projects, 3 projects are with funding and 2 projects are without funding. Among the 55 ongoing projects, 52 projects will be eligible for funding while 3 projects will continue without funding. 13 projects will not receive additional funding as they didn't spend their 2021 funding and 12 projects will receive new funding in 2022. 23 projects transferred their 2021 funding allocation (167,585 USD) to 2022. IGCP's Budget for 2022 is 282,400 USD.

As funding from Jeju Province Development Corporations (JPDC) will end in 2023, UNESCO is working hard for new fund-raising opportunities and OA called for IUGS's assistance in raising fund for IGCP projects. OA pointed out that as IUGS was planning to pay 60,000 USD in 2020 and 60,000 USD in 2021, but has spent around 45,000 USD for IGCP, and there should be at least 75,000 USD transfer from previous two years to 2022. OA suggested IUGS consider increasing IUGS contribution to IGCP and carrying over unspent funds from 2020 and 2021 to 2022.

OA reported the work of IGCP Secretariat in 2022, including:

1. Management of 60 IGCP projects in collaboration with IUGS Secretariat and Treasurer
2. Renewal of three new IGCP Council members
3. 2022 call for project proposals: Enhancing Societal Acceptance of the Sustainable Development of Earth's Geological Resources".
4. Capacity building and short courses activities approved by IGCP Council
5. IGCP 50th anniversary Conference: Future of Geosciences, 3-4 October 2022, UNESCO HQ
6. Earth Futures Film festival
7. 1st International Diversity Day, 6th October 2022
8. New logo for next 50 years of IGCP

JL congratulated on the increasing influence and outreach of IGCP projects.

7.c. DDE

Jennifer McKinley (JM) reviewed that DDE was endorsed by IUGS Executive Committee in 2018 and was launched as the first big science initiative of IUGS in 2019. DDE had been preparing global launch at the 36th IGC in New Delhi, but due to the Covid-19 Pandemic, the 36th IGC was cancelled, and DDE developed and progressed via online meetings since then.

JM mentioned that in 2021, as national events GSA and AGU permitted face-to-face interactions, a process to launch DDE-USA was initiated. DDE held administrative meetings including 4 Executive Committee (EC) meetings, 2 Governing Council (GC) meetings and 1 Scientific Committee (SC) meeting. DDE kept regular communication of secretariat staff from China, France, USA and UK. 4 DDE projects are financed with grants of 40,000 to 50,000 USD over 2 to 3 years and 1 project to develop a DDE China node is fully funded by China Geological Survey (CGS). 10 Working Groups and Task Groups (WTGs) received 5,000 USD for their DDE related activities.

JM reported that DDE White Paper is in progress of publication. DDE website is restructured and webmaster has been appointed. Three female members in SC have been appointed.

JM introduced the objectives, plan, architecture of DDE and the DDE Deep Platform Elements.

JM mentioned the outlook of DDE as follows:

- DDE Forum on June 8, 2022, which is a first face-to-face event after 3 years and jointly sponsored by IUGS, UNESCO and DDE. The Forum will be held at UNESCO Headquarters in Paris, France. The DDE Forum will focus on IUGS 60th Anniversary, DDE achievements and outputs.
- Scientific symposium on data-driven discovery on June 9th to 11th in Orleans, France.
- DDE plans its representation in several international, regional and national events.
- Kunshan City Government continuing support to the Secretariat and establishment of a Seed Grant Facility.
- Catalytic support to WTGs of 5,000 USD per year will continue with those WTGs showing excellent results.
- Nomination and election of a new Chair for the Governing Council (GC).
- DDE initiative on geothermal energy mapping, led by DDE petroleum geology (renamed as Energy) working group, plans to deliver outputs coincident with the end of the UN Decade on Sustainable Energy.
- Collaboration between DDE and the Geodata Science Journal will produce two special issues covering themes such as:
 - New datasets/databases; new tools for data processing and analyses; recent progress in data mining and knowledge discovery
 - AI aided data-driven discoveries and transdisciplinary research

JM reviewed the organizational structure of DDE, including DDE Board, Governing Council, Executive Committee, Science Committee, Working Groups, Task Groups, and the Secretariat.

DDE now has 16 founding members, including Russian Federal Geological Foundation (FBGU) and Russian Geological Research Institute (VSEGEI). As IUGS has published the statement on freezing all activities with the Russian Federation, DDE is wondering whether it is appropriate to have the DDE Forum where all founding members attend in this June, including FBGU and VSEGEI.

HT referred that the Committee for Freedom and Responsibility in Science (CFRS) of International Science Council (ISC) recommended ISC to maintain scientific dialogue with Russian and Ukraine scientific institutions and individual scientists. ISC will make its final decision on March 24th and then give recommendation to its member organizations.

Claudia Mora (CM) asked whether DDE is having any collaboration with Commission on the Management & Application of Geoscience Information (CGI). JM responded that the DDE project- Geoscience knowledge System Standardization Project is jointly initiated by DDE and CGI.

7.d. Task Group on Isotope Geology

SF reported that the Task Group on Isotope Geology (TGIG) is a joint program between IUGS and International Union of Pure and Applied Chemistry (IUPAC). TGIG doesn't request budget from IUGS for the year of 2022.

8. International Geological Congress (IGC)

8.a. Virtual 36th IGC, March 2022

JL reported that the Virtual 36th IGC will be held on March 20 to 22, 2022. During the virtual 36th IGC, the IGC cup will be handed over to the Organizing Committee for the 37th IGC.

8.b. 37th IGC in 2024 (Busan)

Daekyo Cheong (DK) reported that to develop the preliminary masterplan outlined for IGC 2024, the LOC Executive Committee (EC) held several meetings, including 1st LOC Plenary Meeting on July 16, 2021, 5th LOC EC Meeting on December 21, 2021 and 6th LOC EC Meeting on February 15, 2022.

To strengthen cooperation of the LOC with new leadership in GSK and KIGAM, the LOC EC had a meeting with new President of KIGAM, Lee Pyeong-koo and new President of GSK, Kee Weon-seo, a meeting with new Vice President of KIGAM, Hwang Se-ho, and visited Busan City to discuss major tasks this year.

DK mentioned that the field trip courses of 37th IGC will be finished and uploaded on website until the first half of 2023. There are 25 field trip routes from South Korea, 10 from China, 10 from Japan, 1 from Mongolia and the other ones from Taiwan, China.

DK reported that the 37th IGC LOC had signed MOUs with Pusan National University and Pukyong National University for mutual cooperation related to 37th IGC on March 11, 2022.

DK presented the progress roadmap in 2022 and 2023 as follows:

December 2022: Call for theme and session; Confirmation of the subjects for plenary session

June 2023: Announcement of field trip courses

August 2023: International Forum for Busan UNESCO Global Geopark

DK displayed the latest promotional video of the 37th IGC.

Hiroshi Nishi (HN), the Chair of the Japanese IUGS Committee, gave his comment regarding the field trips of the 37th IGC. HN pointed out that the arrangement for the 37th IGC field trips are causing concern in the earth and planetary science community in Japan in terms of two main issues:

1. The Geological Society of Japan submitted outlines of 10 possible field trips that could be held in Japan, but there is not yet any agreement on the Korean side to use the internationally recognized geographic term “Japan Sea” in the field trip guides and associated information.
2. Takeshima Island (Excursion K-23) is located in a region that is the focus of international political disagreement about sovereignty between Japan and Korea since 1952.

HN pointed out that it is important that the management and organization of the IGC programs are arranged in align with internationally agreed standards and are beyond international political disagreements. HN called for avoiding any politically sensitive issues.

DK responded that Korea and Japan already had several talks concerning the issues raised by HN since last year. As for the first issue, DK mentioned that “Japan Sea” and “Eastern Sea” have already been used both by Korea and Japan and the use of the geographic term should not be a big problem. As for the second issues, DK responded that more discussion between the two countries is needed.

JL responded that EC members will discuss on the two issues proposed by the Japanese IUGS Committee at the closed session.

8.c. 38th IGC in 2028 – Action to take

JL pointed out that based on the IUGS Statement on the Russian Federation's Invasion of Ukraine, IUGS EC is planning to remove the offer to host the International Geological Congress in St. Petersburg, Russia in 2028. JL would like to know meeting participants' opinion on this.

SF reviewed the visit IUGS Bureau members made to St. Petersburg in 2018. SF mentioned that IUGS approved St. Petersburg as the host city of the 38th IGC in 2028 as Russia's bid is the only one that IUGS received before the bidding deadline. SF suggested sending the call for bids as soon as possible if IUGS removes the offer to host the 38th IGC in St. Petersburg.

Joel Gill (JG), the Secretary of Foreign and External Affairs of Geological Society of London (GSL), pointed out that GSL fully supports IUGS's intention of identifying new location of the 38th IGC and this decision should be made immediately. GSL appreciated IUGS and ISC Statements on the Russian Federation's Invasion of Ukraine and hoped that IUGS's policy on the host of 38th IGC can ensure an open IGC of free scientific discussion, which can include marginalized groups all over the world.

Dolores Pereira (DP) pointed out that IUGS's Statement on the Russian Federation's Invasion of Ukraine should be followed.

Qiuming Cheng (QC) pointed out that IUGS may make the decision on the host of the 38th IGC next year or even 2024 as there is still 7 years before the convening of the 38th IGC and the situation is ever-changing.

Nick Mortimer (NM), the representative of New Zealand National Committee for Geological Sciences suggested IUGS make decision sooner rather than later as the lead time of IGC is considerably long.

Jennifer McKinley (JM) agreed with JG and NM and commented that decision on the host of the 38th IGC should be made as soon as possible to avoid any reputation risk of IUGS.

Claudia Mora (CM) pointed out that IUGS should make it clear that IUGS is only against the action of Russian government and its actions are not directed to the Russian scientists.

Hassina Mouri (HM) suggested IUGS make the decision by the end of this year as the situation is ever-changing.

9. Gender Equality in IUGS

Marie-Francoise Roy (MR) made a report titled with *The Gender Gap in Science Project – The Standing Committee for Gender Equality in Science*. The project is funded by International ISC, led by International Mathematical Union (IMU) and International Union of Pure and Applied Chemistry (IUPAC) with a duration from 2017 to 2019. MR introduced a book Gender Gap in Science Book with 239 pages, freely available on zenodo.

The project includes three parts as follows: global survey of scientists, analysis of academic publications, and database of good practices. Summary of the project has been accomplished in English, French, German and Spanish, as well as Chinese. Standing Committee for Gender Equality in Science (SCGES) was established in 2019, including IUGS among 19 unions. Global survey of scientists involved 32000 answers from 130 countries in 8 languages. It is concluded that experiences of women in both educational and employment settings are consistently less positive than those of men. Over a quarter of women respondents across the sciences reported personally experiencing sexual harassment at school or work.

Three types of recommendations have been provided, including recommendations for instructors and parents, for scientific and educational organizations and for scientific unions and similar worldwide organizations. Scientific unions and similar worldwide organizations should work to change culture and norms, promote best practices, increase visibility of female scientists, and create committees for women in science.

10. IUGS Public Outreach in 2022 and Discussion of 60th Anniversary Activities

JL informed that the IUGS EC agreed to extend a series of celebrations for the IUGS 60th anniversary last September and hired SG to help put all these activities in place, aiming to increase the social outreach and visibility of IUGS.

JC introduced the IUGS@60 Project Lead SG, who has been devoting 2.5-4 days per week to the web support from last November to this March. IUGS has been making efforts to improve its overall network for international outreach. JC elaborated on the IUGS@60 Project Team's perceived task to create a number of high-impact IUGS@60 celebratory events so as to raise the public profile of IUGS, to help showcase the world-class science conducted by the IUGS's constituent groups, to highlight our support for diversity, gender balance and youth participation, and to signal to the world that IUGS would like to play a prominent role, along with

colleagues in other environmental sciences, in helping accelerate the search for solutions for a more sustainable future.

IUGS@60 got to celebrate that working together we have a chance of making a positive difference, creating a more sustainable planet for future generations. Examples of the types of help the IUGS@60 team are able to offer during 2022: creating simple videos and flyers for all core IUGS groups, posting IUGS material which is relevant to the IUGS@60 celebrations, generating ideas for events, creating celebration logos, organize and deliver IUGS@60 bespoke SDG's / climate related events that bring together different groups, organize discipline-relevant events which are aimed at engaging core IUGS community, help advising on social media and stakeholder mapping, help generating a common reference system to allow IUGS groups to keep IUGS and each other up-to-date about coming events that they would like promoted.

JL emphasized that the IUGS@60 events wanted to engage not only the close IUGS family, but also a broader IUGS and the geoscience community and all of society. The IUGS@60 team primarily favors option to develop events and actions that bring core IUGS communities together as well as different global members. In order to get the 'celebrations' message out there, the IUGS@60 team intends to bolster the IUGS social media capabilities to explore new methods of showcasing IUGS expertise via website, social media channels like Twitter, Facebook, Instagram, Hashtags and LinkedIn, video conferencing/discussion panels platform and physical events.

JL released a short presentation with clear mission for IUGS's focus to address the most pressing environmental challenges faced by humanity in the new year address. INHIGEO has researched and documented IUGS's, IGC's and geoscience's history through various lenses. The IUGS@60 team is keen to work with INHIGEO to promote the wonderful celebratory work, and help create infographics/summary videos to help air the research carried out by the Secretariat to map the evolution of IUGS.

In December 2021, Stan Finney sent requests to all commissions, task forces and programs to create a short video about their work as a means of practically contributing to the 60th anniversary activities. By now, five constituent bodies have almost finished videos, including TeckTask, DDE, INHIGEO, IFG and RFG. Some flagship themes for 2022 have been chosen to showcase IUGS, including Georevolution Africa, Whose Resources, Decoding an Evolving Earth, Big Science, Geoscience Communication, Essential Role of Geoscience in Addressing Global Challenge, Geoheritage, Geoscience Solution for the Global Community and Energy Landscapes.

A new IUGS60.org website has been created as well and younger earth stewards are involved in most events. Efforts have been made to the design of logos for IUGS@60.

Cartoon technology has been applied in the webpage of Energy Transition Series, which has been well received by the young generation. A quarterly IUGS@60 Newsletter to give full-airing to IUGS events is in process.

Achievements have been yielded in Energy Transition Series and the IUGS Event: Women in Geoscience. An IUGS survey is conducted to encourage uptake of free services and event participation opportunities. With the help of the Secretariat, the IUGS stakeholder mapping has been accomplished to improve links and encourage reciprocal social media posting. The IUGS Gallery 1 for showcasing Planet Earth under the Arts and Recreational Geoscience was accomplished in this January while Gallery 2 is still open for more submission. The first Geoscience quiz was published in this January and next quiz will be released this May.

Up to now, the IUGS@60 team have received huge appreciation and lots of likes and retweets on social media, owing to all the above-mentioned celebration activities. IUGS twitter accounts have grown more than 250 people in 2 months. Large volumes of traffic coming to the IUGS60.org website around the event (1.5k in a few days for Women in Geoscience) and large signups and attendance of conferences (Energy Transition) have been registered.

The IUGS World Water Day Event will be held on March 22nd. A number of events for international days are to be decided, including World Environment Day, World Oceans Day, World Geodiversity Day, International Day for Disaster Risk Reduction, World Tsunami Awareness Day and World Soil Day. Events on the Earth Day is in process, inviting many well-known talkers to help raise the profile of IUGS and geoscience. Other projects the IUGS@60 team are planning are as follows: African-lead initiative for the end of the year, SEG-SGA Student Chapter Meeting, 2022 GAC-MAC Annual Conference in April, Earth Futures Festival, the First 100 IUGS Geological Heritage Sites led by International Commission on Geoheritage, and IUGS Extinctions Event.

IUGS has been working together on a number of co-sponsored IUGS@60 events and promoting the IGCP projects in all IUGS events.

The IUGS@60 team is keen to hear from all of the IUGS groups, if they can help your group organize an IUGS@60 event or support any of the activities you have planned for 2022. Answers to the IUGS@60 survey will be reviewed and respondents will be in contact shortly. The year of 2022 will definitely be a year where IUGS geoscience shines.

JL brought up the question whether this can serve as an analogue for an improved centralized IUGS engagement platform. JL is concerned that efforts made to engage in IUGS@60 may be mothballed next year.

LP made a comment that IUGS should attach more importance to quality rather than likes. HM suggested that the IUGS logo should be modified in consideration of gender balance and she showed a modified version of the IUGS logo. LD suggested IUGS activities should involve more politicians at the highest level. HK recommended that museum should be used as an important platform for IUGS public outreach. SF cited the instance of ICS to prove that global geoscience program should sustain itself with a small amount of money from IUGS initially and outside money where many people are involved in and contributing. JL emphasized that the question was whether IUGS wanted to have a larger global public representation at the cost of a certain money. JG, executive director of Geology for Global Development (GfGD), emphasized the importance of strategy and partnership in addition to resourcing. GfGD stands ready to increase partnership with IUGS to use their platforms to amplify the message of IUGS. CM suggested that IUGS needed a person who can coordinate and find other resources in long term. Only if we bring in people whose research passion and daily life are related to geoscience can IUGS sustain the project. Priorities should be given to the building of the IUGS commissions rather than visibilities.

SG noted that the geoscience should work together as a group with the leadership of IUGS. She strongly suggested that IUGS seize the opportunity to have a larger public representation and pull off all the resources of IUGS. SG expressed her gratitude for being given this great opportunity to work with super talented scientists at last.

EV pointed out that communication methods should be adopted on two levels and the targeted group should be determined at first.

EC77Act_02: EC to establish a short-term task force on the transition management of the IUGS public outreach activities.

QC highly appreciated the efforts and achievements made by the IUGS@60 team and hoped a new initiative could be established and find its way to continue.

11. Presentation of IUGS James M Harrison Medal to Peter Bobrowsky

SF reported that three IUGS medals were to be conferred during the original 36th IGC in 2020, including the IUGS Émile Argand Medal that recognizes the outstanding scientific contributions, IUGS James M. Harrison Award that recognized the distinguished service to IUGS and IUGS Early Career Award that recognizes the outstanding early-career research.

JL conferred the IUGS James M. Harrison Award medal on Dr. Peter Bobrowsky. Dr. Peter Bobrowsky, a geoscientist from Geological Survey of Canada, is recognized by the IUGS as the recipient of the IUGS James M. Harrison Award for his distinguished services to IUGS for so many years. Dr. Peter Bobrowsky served as Vice President of

IUGS from 2000 to 2004 and as Secretary General of IUGS from 2004 to 2012 and as IUGS Webmaster from 2008 to 2017. He also devoted his efforts to several IUGS international working groups.

The James M. Harrison Award was established in 2004 by the IUGS Executive Committee to honor individuals who served the Union in an extraordinary way for a sustained period of time. The name of the award celebrates and honors the late Dr. James M. Harrison (1915-1990), an internationally respected Canadian geologist who was the first IUGS President from 1961 to 1964.

PB expressed his gratitude for being given the James M. Harrison Award. He owed this award to the almost 20-years-long service to IUGS. He was grateful for establishing life-long friendship during the long services to IUGS. PB hold that he was very lucky to serve IUGS for 3 consecutive executive committees (12 years) sponsored by the government of Canada. And he was happy that there were still so many scientists willing to serve the IUGS voluntarily.

12. Reports from IUGS Adhering Organizations and Affiliated Organizations

SF reported on the responses of 25 adhering organizations to questions on the annual report template. Twelve adhering members gave detailed and valuable responses – Ireland, Slovenia, Kyrgyzstan, Costa Rica, Romania, Estonia, India, Lithuania, New Zealand, Poland, Japan, and Italy. SF mentioned that U.K., South Africa, Korea South and Germany failed to submit annual reports.

Patrick Cordier, Representative of International Mineralogical Association (IMA), reported that 2022 would be a year to celebrate mineralogy. These celebrations will be within International Year of Basic Sciences for Sustainable Development (IYBSSD 2022).

Mauro Soldati, President of International Association of Geomorphologists (IAG), reported that IAG was affiliated to both IUGS and International Geographical Union (IGU). The new IAG Executive Committee will be elected in the international conference in Portugal this September. MS expressed IAG's desire to strengthen links with IUGS in future and hoped for more geomorphologists-involved activities and programs carried out by IUGS.

Giuseppe Di Capua, Treasurer of International Association for Promoting Geoethics (IAPG), reported that IAPG is a multidisciplinary, scientific platform for widening the discussion and creating awareness about problems of Geoethics and Ethics applied to the Geosciences. IAPG has three more national sections in Afghanistan, Ukraine and Democratic Republic of Congo.

IAPG has been cooperating with the IUGS-Initiative on Forensic Geology (IFG), within a joint Task Group, to prepare a White Paper on Geoethics in Forensic Geology. IAPG

was a media partner of the UNESCO Lecture Series “Earth Materials for a Sustainable and Thriving Society”, co-organized by iCrag and IUGS. The International survey geoscience, partially funded by the IUGS, on the community's perception and awareness on the importance of the ethical and social aspects of geoscience research and practice was carried out. The Cape Town Statement on Geoethics supported by 27 geoscience organizations, available in 35 languages has been released. IAPG is also a member organization of the International Council for Philosophy and Human Sciences (CIPSH), to create a bridge between human sciences and geosciences. IAPG supports the session “Geosciences and geoethics: achieving UN Agenda 2030” at the Joint 91st congress of the Italian Geological Society and 95th congress of Italian Society of Mineralogy and Petrology to be held in Turin (Italy) and the session “Seismology, geoethics an society: risk communication at the service of risk reduction” at the 3rd European Conference on Earthquake Engineering & Seismology (3ECEEES), to be held in Bucharest (Romania)

Manuel Pubellier, President of Commission for Geological Map of the World (CGMW), informed that the creation of CGMW responded to a need of coordinating, first at the European level (1881) and then at the International one (1913), the geological mapping on a continuing basis between each International Geological Congress (IGC) traditionally held every four years. Maps that have been printed and/or digitalized are the Structural Map of the Caribbean at 1:4 M and the Metallogenetic Map of the Central America and the Caribbean. In addition to the long and fruitful partnership between the CGMW and the IUGS (the newest map being the Tectonic Map of the Arctic –TeMar, with the participation of the IUGS), CGMW is a founding member of the DDE which was initiated in 2018 under the umbrella of the IUGS, and participated to the launch of the programme in Beijing in 2019. It is fully involved in the DDE work with the spearheading the WG on the next digital map of the World at scale 1/5M.

JM, on behalf of the International Association for Mathematical Geosciences (IAMG), reported that the 21st annual IAMG Conference, scheduled for 2021 in Nancy, France was postponed and will now be held in Nancy in September 2022. The 22nd annual IAMG conference scheduled for 2022 in Trondheim has been deferred to 2023. IAMG has a very diversified and young council consisting of its Executive Committee, the immediate Past President, six Ordinary Council Members, a special IGC Councilor, and seven non-voting members comprising Editors-in-Chief and Co-Editors-in-Chief of its publications. IAMG continues to be involved in the Global Deep-time Digital Earth initiative (DDE). Currently the IAMG is contributing \$10,000 USD per year to this project. This involvement further strengthens the IAMG relationship with IUGS and other associations. An Encyclopedia of Mathematical Geosciences, an extensive reference work, is currently in progress. It will be published by Springer Nature Publishers very soon.

13. Closing of the Open Session

At the end of the opening session, JL expressed his gratitude for all the participants in person and virtually, the Secretariat for their active involvement in the IUGS activities, and French Geological Society for hosting this IUGS EC meeting. Besides, JL thanked the two councilors who ends their terms on the IUGS EC after this EC meeting in Paris, Silvia Peppoloni and Claudia Mora, for their hard work and contributions to IUGS. At last, JL thanked SF for all the document preparations and logistical management for this EC meeting.

ACTION LIST

Item	Description	Status
EC77Act_01	JL to produce a letter to support the leaders of the IUGS constituent groups to support geoscientists in Ukraine.	
EC77Act_02	EC to establish a short-term task force on the transition management of the IUGS public outreach activities.	