



Position #2 Virendra TIWARI (India, IAG)  
Yi-Gang XU (China, IAVCEI)

Position #3 Andrew MACKINTOSH (Australia, IACS)  
Corina RISSO (Argentina, IAVCEI)

### Finance Committee Members

Position #1 Archana BHATTACHARYYA (India, IAGA)

Position #2 Priscilla GREW (USA, IAVCEI)

**Position #3 vacant**

As there is still one vacant position for the Finance Committee, **it is a matter of urgency to nominate candidates** from among the current or past accredited Council Delegates. The full list of Council Delegates who have served since 2002 is available [here](#). Please note that this list also includes a few colleagues who already passed away. No member of the Finance Committee may at the same time be a member of the Bureau or the executive body of the Union or of an Association or of a governing body of one of the Permanent Services or programs supported by the Union.

According to IUGG ByLaw 10c, **Council Delegates** may add further nominations for the Finance Committee until **15 July 2023** (three days prior to the elections on 18 July 2023).

If you have any question concerning the nomination procedure, please contact the [IUGG Executive Secretary](#).

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## 2. IUGG – General Assembly 2023: Updates

### *Accommodation*

Selected hotels at negotiated rates are now available [here](#). Rooms are available from 10 to 20 July 2023. All other dates are upon request and subject to room availability.

### *Childcare Service for Ages 1-12*

The IUGG is committed to providing a good meeting experience for attendees bringing their children to Berlin, therefore childcare facilities will be available at the conference venue CityCube from 12 to 19 July. If interested, please fill in the [form](#) and we will get back to you with further information.

### *Code of Conduct Policy*

IUGG opposes any discrimination or harassment based on such factors as age, citizenship, disability, ethnic origin, gender identity, language, political or other opinion, religion, or sexual orientation. The [IUGG General Assembly 2023](#) will follow the Anti-Harassment Guidelines to prevent any form of harassment or discrimination, and to ensure an inclusive atmosphere that encourages the free expression and exchange of scientific ideas and results. The code of conduct policy is available [here](#).

### *Field Trips and Tours*

The organisers of the [IUGG General Assembly 2023](#) have prepared an interesting selection of field trips and city tours which can be booked [here](#).



### ***Getting there***

No matter if you travel to Berlin by train, plane, or car, please find all relevant information about how to reach the convention centre [here](#).

### ***Registration***

Are you planning to attend the [IUGG General Assembly 2023](#) only for a short time? It is now possible to [register](#) also for a single day and four day period.

### ***Volunteer Opportunities***

Are you a student and wish to get free access to the [IUGG General Assembly 2023](#)? Become a volunteer by expressing your interest [here!](#)

For more information, please visit the [IUGG2023 website](#) or contact the [IUGG2023 Secretariat](#).

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## **3. IUGG/Associations – Be Aware of Misinformation**

Please be aware that phishing e-mails supposedly on behalf of the IUGG and Association Officers are circulating. Do not reply to these e-mails and do not open any attachments. In case of doubt, please contact the officer through his/her official e-mail address.

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## **4. IUGG and Partners – Joint Earth Day Statement**

IUGG celebrated Earth Day on 22 April 2023 together with its partners and published the following statement.



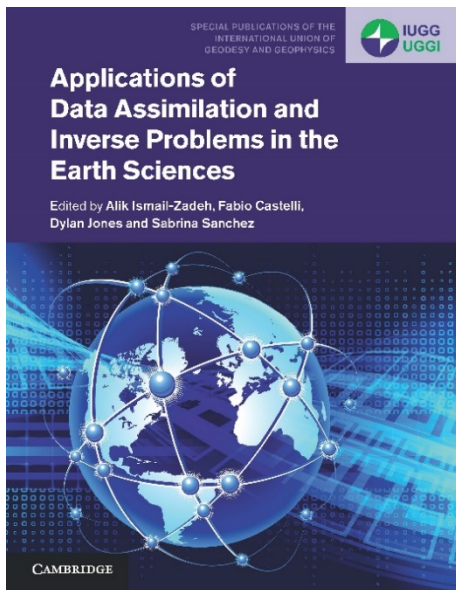
The global geoscience community celebrates Earth Day by encouraging informed, practical action. As people around the globe seek to understand societal challenges, Earth, space and planetary scientists provide information and stimulate innovation that can contribute to meaningful solutions. Geoscience expertise contributes to infrastructure and energy systems improvement, efficient resource use at all scales, and other applications that foster sustainable development. Geoscientists contribute to ever-evolving scientific knowledge and techniques that can lead to robust environmental, economic, and social action. In this way, geoscientists are co-working collaboratively for a better, more equitable future.

**Earth Day 2023**

AFRICAN GEOPHYSICAL SOCIETY | NAGI | AGU | AGU ADVANCING EARTH AND SPACE SCIENCE | COES | IAGLR | GEOLOGICAL ASSOCIATION | EGU | geochemical society | GEOLOGICAL ASSOCIATION | THE GEOLOGICAL SOCIETY OF AMERICA | The Geological Society | IUGG UGGI | IUGS | IUGG UGGI | IUGG UGGI | IUGG UGGI | IUGG UGGI

## 5. IUGG – Special Publication Series: Applications of Data Assimilation and Inverse Problems in the Earth Sciences

Special Publications of the IUGG are a series of books co-published by the IUGG and Cambridge University Press (CUP). Volumes in the series present major scientific developments and achievements derived from programs, assemblies, and symposia run by the Union, and provide researchers and graduate students with authoritative insights into state-of-the-art research across the Earth Sciences. The new book [Applications of Data Assimilation and Inverse Problems in the Earth Sciences](#) provides a comprehensive reference on data assimilation and inverse problems, as well as their applications across a broad range of geophysical and geodetic disciplines.



With contributions from world leading researchers, this book covers basic knowledge about geophysical inversions and data assimilation and discusses a range of important research issues and applications in atmospheric and cryospheric sciences, hydrology, geochronology, geodesy, geodynamics, geomagnetism, gravity, near-Earth electron radiation, seismology, and volcanology. Highlighting the importance of research in data assimilation for understanding dynamical processes of the Earth and its space environment and for predictability, it summarises relevant new advances in data assimilation and inverse problems related to different geophysical fields. Covering both theory and practical applications, it is an ideal reference for researchers and graduate students within the geosciences who are interested in inverse problems, data assimilation, predictability, and numerical methods.

The book is co-authored and edited by Alik Ismail-Zadeh (Germany), Dylan Jones (Canada), Fabio Castelli (Italy), and Sabrina Sanchez (France). This is a contribution of the IUGG Commission on Mathematical Geophysics (CMG). More information on the content of the book and its authors can be found at the CUP's [webpage](#).

Alik Ismail-Zadeh, book editor and CMG chair

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## 6. IAG/IASPEI – Workshop for SAR in Geodesy: Report

The Workshop for Synthetic Aperture Radar (SAR) in Geodesy took place in Espoo, Finland from 13 to 14 March 2023. There were 130 participants in total, 42 were on-site in Espoo and some 40-50 online, depending slightly on the time of day. All on-site participants were from Europe, mostly from Nordic and Baltic countries, but among the online participants there were people from Africa, Asia, and Europe.

The workshop started on Monday after lunch with presentations about experiences and results from work done with active and passive SAR reflectors by German colleagues. After the coffee break a colleague from ESA presented their views on how the satellites and the SAR products are planned to evolve. There was also some discussion at the end of the day. The workshop dinner saw some lively discussions about the workshop topic, but was also valuable from the general networking point-of-view. Tuesday started with a presentation about TU Delft's work on the topic and the workshop ended with discussion on where we are now, what we would like to do in the future and what kind of

opportunities the SAR technique holds for geodesy. The workshop was very well received and timely, as SAR usage is growing.

More information about the workshop can be found [here](#).

The meeting was supported through the IUGG Grants Program.

Maaria Nordman  
on behalf of the Local Organising Committee

## 7. IAVCEI/IASPEI – Discovering Patascoy, An Unknown Holocene Volcano: Report

The meeting was held on the slopes of the Patascoy Mountain, located  $0.9442^{\circ}$  N,  $77.0725^{\circ}$  W, in Colombia. In order to reach Patascoy it was necessary to travel by boat for almost five hours. The meeting was split into two parts, one devoted to talks and discussions before travelling to Patascoy, and a second part held on its slopes, where it was necessary to condition the place and to build an auditorium in the middle of the jungle (see picture). The 29 meeting participants included scientists, students and community members from Italy, Peru, Ecuador, and Colombia.



*(a) basement of the building and (b) finished meeting room with participants of the workshop*

The first part of the meeting was held on the shore of La Cocha Lake on 20 January, where several talks were given by some of the participants of the workshop, followed by discussions. The discussions allowed the participants to be introduced to and understand the physical environment they were to face and the little scientific knowledge that we have about Cerro Patascoy. On the next day, on the boat trip to Patascoy, a massive white pyroclastic fall deposit, identified the year before during a preliminary exploratory trip, on walls eroded by the river, was reached. We stopped near to it in order to collect samples which will later be used for chemical analysis and dating. On 22 January, we split between a group who attempted to reach the top of the Cerro Patascoy, and a group who visited the El Silencio o El Trueno Lake. The first group departed in the early morning with the aim to reach the top of the mountain after about five hours of walking. During the journey they collected samples and confirmed that most of the little exposed deposits are actually granite. Unfortunately, a landslide affected the already difficult trail making it impossible to climb to the mountain. So, they were forced to return to the base camp. The second group departed in the morning reaching the El Trueno Lake, examining the morphology and landscape of the surroundings of the lake, identifying possible domes, and observing if the lake could be the result of a phreatic explosion.

On 23 January the team split in groups to explore eroded scars left by the La Joya River and along the road built to connect the landing stage on the Guamuez River with the base camp, in order to collect samples and to do a first visual analysis of them. Late in the afternoon the whole group of participants met in the cabin built for meetings in order to discuss the outcomes of the expedition based on the visual analysis of the samples, the landscape and satellite images. The undergraduate students joined both the trip towards the top of the mountain and the lake, as well as the discussions, openly questioning the science behind the preliminary conclusions. At the end of the discussions, we shared the preliminary conclusions with the community of peasants and indigenous people using non-technical language, that is more accessible for them. The last day was for the return trip by boat.

The preliminary conclusions suggest that Patascoy is not an ancient, eroded caldera as most of the outcrop rocks are granites and there is no evidence of ignimbrite deposits in the region, at least for the last 20,000 years, and the structures are likely the result of tectonic stresses. The volcanic deposits found in the area are both pyroclastic fallout and flow deposits. In particular fallout deposit outcrops were found in two locations along the river (~5-6m) and along the trail to the base camp coming from the river (~9m). In the latter location, on the top of the fallout deposits, there are also deposits of a volcanoclastic flow (~2m). Several potential sources of these deposits were discussed during the workshop, including distal volcanoes like Soche at the border with Ecuador or El Estero volcano, but on the basis of the distance and variation of thickness among the outcrops and because the presence of a flow deposit on the most proximal found deposit, the conclusion was that the source has to be near the Patascoy slopes. This can be the Cocha del Trueno or the nearby El Alcalde hill, which looks like a potential dome. A better idea may be obtained after the analysis of the field data and the ongoing laboratory analyses. The expedition resulted in a challenge for the visiting vulcanologist who decided to continue studying the geology of those areas and volcanoes not previously studied by promoting international collaboration among the participants.

#### ***Accomplishment of the goals***

Five of the six objectives of the expedition stated on the proposal were accomplished. The remaining one is the study of the impact of the eruptions on environmental services in the surrounding tropical rainy Amazon forest.

#### ***Accomplishment of the expected results***

Two of the expected results stated in the proposal remain in progress, which are improvement of the understanding the impact of the volcanic eruptions on the ecological services, and to work on a paper to publish the outcomes. We learn that Patascoy could not have caldera-forming eruptions, but a granite-based formation. However, anecdotal references from the participant stakeholders and drawings from Alphonse Stübel in 1869 show volcanic activity from a volcano in the sector. It is likely that the complex fault system closed and are responsible for the Patascoy formation. The caldera hypothesis is unlikely, thus there was no need to characterise it. During the session devoted to show the preliminary results to the stakeholders, they seemed to be happy with them, pointing out that “if Tayta Patascoy is not responsible for the volcanic deposits, it was his relatives”.

The project was supported through the IUGG Grants Program.

Gustavo Córdoba  
on behalf of all participants

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## **8. IAVCEI/IASPEI – Paper Volcanoes Lab: A Way to Engage Early Childhood and Primary School Children on Earth Science: Report**

### ***Overall aims of the project***

The Paper Volcanoes Laboratory (PVL) is an experience-based program enriched with pedagogical elements, created within the National Institute of Geophysics and Volcanology (INGV) Educational Group, to help young children become familiar with natural hazards such as volcanic eruptions. The IUGG grant aims to enhance the educational experiences of (pre) primary school aged children in Africa by connecting them with an understanding of volcanoes and to their cultural significance.

### ***Research ambition***

1) to connect with teachers and volcanologists in African countries to share the experience and to create the *Paper Volcanoes Toolkit* for Africa. 2) to support early career geologists in Africa to deliver scientific results at national and international levels.

### ***Motivation***

Most of East Africa's volcanoes are currently dormant but they could erupt in the future. About 25% of Africa's volcanoes had eruptions in the last 100 years. This highlights the need for communicating preparedness, resilience and response, and for the preparedness of young children, learning settings and communities. Kenya's volcanism allowed the country to put in place a mature geothermal energy program utilising heat from volcanoes. Although the knowledge of volcanism of the region is limited to specialists, the rural communities and native culture hold in their history and stories the knowledge of volcanism.

### ***Methods***

The project employs a comparative case-study methodology to explore the implementation of the PVL in the chosen African settings and evaluate the benefits of the *Paper Volcanoes Toolkit* (PVT) which has been successful in diverse pre-schools in Italy and New Zealand, and to connect with local researchers and teachers in Kenya. On 6 April 2022 a preparatory pilot involved a cohort of four teacher students (Turkana University College) who studied and experimented with the PVT, and the results were presented at [COV11](#). In September 2022 a more extended pilot consisting of four workshops involving stakeholders, teachers, and elders was run. The workshops were designed to enable teachers to learn, share ideas, connect with geoscience specialists and sociologists, and to find strategies to allow children to be active learners. Starting from a volcanic rock from Turkana we connected with traditional stories told by the elders while the hands-on experience of the PVL helped them to learn different ways to communicate information about volcanoes to children. Alternative materials to be used by teachers in rural schools, where getting paper may be challenging, were explored as well. Foundations were set to create a *Paper Volcanoes Laboratory Toolkit* linked to local tradition, to create a new way to comprehend volcanoes and maintain unity with Turkana cultural identity and their views of science and the Kenyan curriculum.

### ***Who is involved***

The team is multidisciplinary and included Dr. Stefania Amici (PI), from the Italian National Institute of Geophysics and Volcanology, a researcher specialised in natural hazards communication to children; Professor Marek Tesar (CO-I) Head of School of Learning Development and Professional Practice, and the Associate Dean International at the Faculty of Education and Social Work, University of Auckland; Professor John Ng'asike (CO-I) Kenyatta University in the Department of Early Childhood Studies; Anny Bertoli (CO-I) a PhD candidate in learning development at University of Auckland; Simon Eleman and Peter Emase, early career geologists from University of Nairobi; Roberto Sulpizio (Lead Applicant) – IAVCEI Secretary-General.



*Onsite participants of the two days formative event for teachers*

***Interested in teaching and learning volcanology in Africa?***

We will present the results of the project and the next steps at [IUGG2023](#) in Berlin. Feel free to get in contact with [stefania.amici@in.gov.it](mailto:stefania.amici@in.gov.it).

The project was supported through the IUGG Grants Program.

Stefania Amici  
on behalf of all participants

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## **9. Meeting Announcement**

### ***6th World Landslide Forum “Landslides Science for Sustainable Development”***



I would like to cordially invite you to be actively involved in the 6th World Landslide Forum “Landslides Science for Sustainable Development” ([WLF6](#)) that will be held at the Palazzo dei Congressi in Florence, Italy, from 14 to 17 November 2023.

The event is jointly organised by the International Consortium on Landslides (Kyoto, Japan), the International Programme on Landslides (IPL), and the UNESCO Chair on Prevention and Sustainable Management of Geohydrological Hazards at the University of Florence.

The Forum is focused on Landslide Science for Sustainable Development, as a contribution to the Kyoto 2020 Commitment for global promotion of understanding and reducing landslide disaster risk (KLC2020).



Scientists, stakeholders and policy makers working in the area of landslide analysis, landslide disaster investigation and risk reduction are encouraged to share their work with the global community by submitting abstracts and presenting their work at the WLF6.

More information is available [here](#).

Nicola Casagli, WLF6 Forum Chair

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## 10. Awards and Honours

### *International Association of Hydrological Sciences (IAHS)*

The winner of the 2023 Tison Award is **Gunther Liebhard** (Austria) for his work on the 2022 Hydrological Sciences Journal paper: [Partitioning evapotranspiration using water stable isotopes and information from lysimeter experiments, Hydrological Sciences Journal](#)

*The IAHS Tison Award, established in 1982, aims to promote excellence in research by young hydrologists. The Award is granted for an outstanding paper published by IAHS in a period of two years previous to the deadline for nominations. The description of the award is available [here](#).*

### *International Association of Seismology and Physics of the Earth's Interior (IASPEI)*

**Harsh K. Gupta** (India), IUGG President 2011-2015, was awarded the 2023 IASPEI Medal for his outstanding contribution to seismology and international cooperation.

**Congratulations!**

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## 11. Meeting Calendar

This calendar includes meetings which are planned to be organised in the next three months under the umbrella of IUGG, and major conferences of IUGG's partner organisations. The calendar is updated regularly and is also available [online](#). If you would like to add a meeting, or report changes, please contact the [IUGG Secretariat](#).

### **May**

- 2-5, IAVCEI, Naples, Italy, [International Workshop: Genesis and dynamics of large active calderas: the case of Campi Felgredi and the Campanian Plain](#)
- 12-16, IAGA, IAPS, Milan, Italy, [PLANCKS 2023](#)
- 14-20, IAVCEI, GFZ, Carlingford, Ireland, [IMPROVE Summer School on Geophysical data inversion and numerical forward modelling](#)
- 15-19, AGU, Agros, Cyprus, [Chapman on Hydrothermal Circulation and Seawater Chemistry](#)
- 21-26, JPGU, Chiba, Japan, [Japan Geoscience Union Meeting 2023](#)
- 22-26, IAGA, Sopron, Hungary, [19th IAGA workshop on geomagnetic observatories, data acquisition and processing](#)
- 22-2 June, WMO, Geneva, Switzerland, [19th World Meteorological Congress](#)
- 24-26, IAG, Gothenburg, Sweden, [EUREF Symposium 2023](#)
- 28-2 June, AGU, Berlin, Germany, [Chapman on Advances in Understanding Alfvén Waves in the Sun and the Heliosphere](#)

## **June**

- 12-15, AGU, Washington DC, USA, [Chapman on Climate and Health in Africa](#)
- 13-14, GEO, Geneva, Switzerland, [GEO Symposium 2023](#)
- 19-23, CTBTO, Vienna, Austria, [CTBT: Science and Technology \(SnT2023\)](#)
- 26-30, IAMAS, Brisbane, Australia, [International Conference of Nucleation and Atmospheric Aerosol \(ICNAA\)](#)

## **July**

- 3-7, IACS, IUGG, Gävle, Sweden, [2023 Glacial Isostatic Adjustment Training School](#)
- 3-7, IASPEI, ILP, GFZ, Potsdam, Germany, [Heat Flow Summer School 2023](#)
- 3-7, ICTP, EAI FR, IUGG, Kigali, Rwanda, [Joint ICTP-EAI FR-IUGG Workshop on Computational Geodynamics: Towards Building a New Expertise Across Africa](#)
- 8-9, IASPEI, ILP, GFZ, Potsdam, Germany, [Workshop on Heat Flow in Antarctica](#)
- 10-11, IASPEI, ILP, GFZ, Potsdam, Germany, [Workshop on Heat Flow in Africa, South- and Central America](#)
- 10-11, IAHS, GFZ, Potsdam, Germany, [Panta Rhei Symposium](#)
- 11-20, IUGG, Berlin, Germany, [IUGG General Assembly 2023](#)
- 14-20, INQUA, Rome, Italy, [21st INQUA Congress](#)
- 20-22, IAGA, Neustrelitz, Germany, [Workshop on Current Challenges in Data Assimilation for Geospace Systems](#)
- 24-27, IUGG, IASPEI, IAVCEI, Nyeri, Kenya, [1st International Workshop of the Network for African Volcanologists](#)
- 30-4 August, Singapore, [AOGS Annual Meeting 2023](#)

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