



**INTERNATIONAL UNION OF GEODESY AND GEOPHYSICS  
UNION GEODESIQUE ET GEOPHYSIQUE INTERNATIONALE**

## **The IUGG Electronic Journal**

**Volume 21 No. 10 (1 October 2021)**

This monthly newsletter is intended to keep IUGG Members and individual scientists informed about the activities of the Union, its Associations and interdisciplinary bodies, and the actions of the IUGG Secretariat, Bureau, and Executive Committee. Past issues are posted on the IUGG [website](#). E-Journals may be forwarded to those who will benefit from the information. Your comments are welcome.

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### **1. IUGG – The People at the Forefront (XXII)**



*Markku Poutanen, Secretary  
General of the IAG, 2019-2023*

#### **Markku Poutanen, Secretary General of the International Association of Geodesy (IAG), 2019-2023**

Markku Poutanen is the Secretary General of the International Association of Geodesy and a Research Professor at the Finnish Geospatial Research Institute (FGI) of the National Land Survey of Finland. He was Director of the Department of Geodesy and Geodynamics at the FGI from 2001 to 2019 and has been working at the FGI since 1985. He is President of the Nordic Geodetic Commission, and past President of EUREF, the IAG subcommission of the European Reference Frames, and the European Geosciences Union (EGU) Geodesy Division. He is a member of the Finnish Academy of Science and Letters and a corresponding member of the German Geodetic Commission.

#### **From astronomy to geodesy**

I started studying at the University of Helsinki in 1974 with a major in astronomy. I had no intention of moving to another field, but

somehow, it finally happened. Very soon during my studies, I ended up with a research group that studied the properties of asteroids and through that to the Lowell Observatory in Arizona, USA. At that time, numerous asteroids were found at the Lowell Observatory, and later a colleague named asteroid 3760 Poutanen. I myself had no part in finding the asteroid.

Getting funding was as difficult at the time as it is today. So, I next found myself in the stellar spectroscopy research group. The CCD camera was the latest new instrument, and our group had received funding to acquire one to record stellar spectra. I created software to control the camera, read data, and process the spectra. The entire hardware had to be integrated into the Crimean Astrophysical Observatory large telescope where we had observation time. One of the research topics was rapidly rotating stars and the detection of star spots on them from changes in the spectrum. My work was supposed to continue until the dissertation, but the opposite happened.

Instead of a few months of work on a part-time basis, and constant uncertainty, a permanent position as a civil servant was an attractive option. The Finnish Geodetic Institute was a state research institute whose research topics also included space geodesy. So, in 1985, I moved to the Geodetic Institute as a researcher.

### **Advent of GPS**

GPS receivers came into use about the same time I started at the Geodetic Institute. However, the first years I spent in classical geodesy, being involved in triangulation and baseline measurements. Then in 1989 there was the first pan-European GPS campaign, known as EUREF89. We had on loan the legendary TI4100 receivers, which was my first contact with the wonderful world of GPS. Since then, satellite positioning and reference frames have been an integral part of my job. The EUREF89 campaign was the beginning of the development of the European Reference Frame.



*Markku Poutanen (right) and Torbørn Nørbech of the Norwegian Mapping Authority in Finnish Lapland during the EUREF89 campaign 1989. Notice the instrument on the right that supplied power to the GPS receiver*

The 1990's was a decade of new explorations with GPS. The Baltic Sea Level campaign was an IAG project where GPS receivers were placed at tide gauges around the Baltic Sea. The Director General of FGI, Juhani Kakkuri was Leader of the project, and I as the Secretary had to organise all practical aspects, such as the logistics of running three large observing campaigns and coordination with data analysis groups. But this was very useful in many aspects as I obtained experience in organising international campaigns, GPS data analysis, and most importantly, a new topic for my PhD thesis which had been interrupted by my move to the FGI.

Many other things happened also at the same time. With the advent of GPS, our national coordinate system became obsolete. I participated in the measurement and creation of the new national system, but at the same time increased also international connections to both the Nordic Geodetic Commission and IAG and EUREF. This meant participation in different working groups, and then quite soon becoming the chair of such groups.

### **Head of the Department**

I was appointed as the Head of the Department of Geodesy and Geophysics of FGI in 2001. This task lasted until 2019 when I became the Secretary General of IAG. It is too cumbersome to perform both of these duties, hence I switched to a new post of Research Professor with no administrative tasks.

Many significant things happened in our department over the past two decades. Finland's new height system was completed and was adopted, the national GNSS network expanded, and more and more stations became part of the European permanent GNSS network. Metsähovi Geodetic Research Station also received significant funding for the renewal of its equipment, including a new satellite laser ranging system, a radio telescope for geodetic VLBI observations, and two superconducting gravimeters. Administrative work increased as well, and the biggest change took place in 2015 when the Geodetic Institute was transferred to the National Land Survey of Finland. During recent years, less and less time has been left for research, but after stepping down from the post of the Head of Department the situation has improved.

I have been in many international positions over the years. Perhaps the reason was that I could not say no at the right time, but overall they have been wonderful experiences. One of the most interesting was the Presidency of the Geodesy Division of the European Geosciences Union (EGU). During this time I also became acquainted with other fields of geoscience and learned to better understand interdisciplinary connections.

I have been involved with the IAG since the early 1990s, from being secretary of the Baltic Sea Level Working Group, to the chairmanships of subcommission 3.2 Crustal Deformations and the subcommission of the European Reference Frames (EUREF). Recently I have also been involved with tasks related to United Nations. I chaired the United Nations Committee of Experts on Global Geospatial Information Management in Europe (UN-GGIM: Europe) working group of Geodetic Reference Frame in Europe (GRF: Europe), and I am a member of the UN Subcommittee on Geodesy. At the national level, I have been a member of several National Committees related to the ISC (International Science Council), National delegate to the IAG, and have chaired the National Committee of International Union of Geodesy and Geophysics (IUGGs) and the National Committee on Arctic and Antarctic Research. These have given me an excellent overview on science policy, also at the national level. Teaching geodesy and satellite positioning at two universities has meant that I have contact with the young generation and have the opportunity to recruit new people through this.

### **Secretary General of IAG**

Like many other things in my life, I became the Secretary General of the IAG by chance. Zuheir Altamimi, the current president of the IAG, came in 2018 during an evening reception of the EUREF Symposium in Amsterdam to ask if I would be interested in applying for the post of IAG Secretary General. Well, here I am! I was thinking at that time about the future, and possible retirement, but becoming the IAG Secretary General was not in my plans. But such an interesting invitation could not be ignored, especially since I had been in close contact with the IAG for thirty years.

The journey continues. Over the decades, many colleagues have become friends. The COVID-19 pandemic, which has disrupted normal patterns, has presented its own challenges for scientific and personal communications. Maybe this will be gradually overcome and we will get back to normal life before the next IUGG General Assembly 2023. But the pandemic has also taught us how important people-to-people contacts are in science.



## 2. IUGG – Business Meetings 2021

Due to the ongoing COVID-19 pandemic, the 2021 meetings of the IUGG Bureau, Executive Committee (EC), Finance Committee (FC), and the Scientific Programme Committee (SPC) for the XXVIII IUGG General Assembly ([IUGG2023](#)) were held online.

The FC (incl. its chair and two members) met with the IUGG Treasurer and its consultant on 23 August 2021 to discuss the IUGG financial report, to review the IUGG accounts, and to take an overview of administrative matters and membership, IUGG grants, and allocations.

The Bureau (President, President-Elect, Secretary General, Treasurer, Executive Secretary, and three members at large) met together with the Chair of the Local Organizing Committee (LOC) for IUGG2023 on 31 August 2021 to prepare for the upcoming IUGG EC Meeting. The IUGG EC Meeting was held on 15 and 16 September 2021. The EC is comprised of the IUGG Bureau, the immediate Past President of IUGG, and the Presidents of the Union Associations. The Association Secretaries General, the Chairs of the FC, the LOC, the SPC for IUGG2023, and representatives from the professional conference organizer (C-IN) and the venue of IUGG2023 (Messe Berlin) were invited to attend the EC Meeting.



*Participants of the IUGG EC Meeting on 16 September 2021*

The EC Meeting started with a welcome speech given by Charlotte Krawczyk, director of the German Research Centre's (GFZ) Geophysics Department. The GFZ acts, on behalf of the German National Committee, as the host of IUGG2023. The IUGG President, the Secretary General, the Treasurer, the Chair of the FC, and the Presidents of the Union Associations reported on activities since the last EC Meeting (Montreal, Canada, July 2019). The IUGG President-Elect reported on the activities of the Union Commissions. The IUGG Executive Secretary reported on the newly established Union Committees. Other topics on the agenda included: (i) preparations for IUGG2023 in Berlin (LOC Chair Harald Schuh and SPC Chair Jürgen Müller reported on the activities of their committees), (ii) IUGG's involvement in international programmes and collaboration with other organisations, and

(iii) IUGG's involvement in activities of the International Science Council (ISC). In addition, there was time for open discussion.

On 15 September 2021, a few members of the IUGG Bureau and the LOC met with representatives from Messe Berlin and C-IN for an on-site tour of the IUGG2023 venue. The members of the EC and the Association Secretaries General were invited to join an online discussion afterwards.

The SPC for the IUGG2023 met on 16 September 2021. The SPC is comprised of the Chair (Jürgen Müller), the IUGG Secretary General, and the Association Secretaries General. The Chair, the Vice Chair of the LOC and a representative of C-IN were invited to join the SPC Meeting. The tentative draft of the science programme was discussed, including topics for Union and inter-Association symposia.

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### **3. IACS – Action plan to implement IUGG Resolution 1 (2019): Reducing the Carbon Footprint by the Research Community**

On 6 September 2021, the International Association of Cryospheric Sciences (IACS) adapted an action plan to reduce its carbon footprint. As a constituent organisation of IUGG, IACS hosts a major in-person scientific meeting every two years, one of which is in conjunction with the General Assembly of IUGG held every 4 years. In-person meetings bring many benefits, including networking opportunities and time for in-depth discussion of scientific and administrative issues. IACS supports the continuation of air travel to these bi-annual meetings, although IACS will work to reduce the overall carbon footprint of these meetings with specific actions, including:



- Meeting locations should be optimised to reduce travel (for example by holding meetings at or near transport hubs or global population centres).
- IACS Assemblies should encourage and facilitate more online engagement to complement the in-person programme.
- IACS encourages the use of ground transportation instead of air travel, in particular if the meeting site can be reached in under eight hours by ground transportation.
- From 1 January 2022, IACS will participate only via video-conference for any stand-alone IUGG business meetings not held during an IUGG General Assembly. In-person participation may be supported only in exceptional cases if the business meeting site can be reached by train or other ground transportation.
- IACS will continue to hold its annual bureau meetings via teleconferencing or as hybrid meetings.

Read full plan with background [here](#).

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#### 4. IAPSO – Call for Best Practice Study Groups



International Association  
for the Physical Sciences of the Oceans

proposers of Best Practice Study Group proposals will be notified by 31 December 2021 of the success or otherwise of their proposals.

The International Association for the Physical Sciences of the Oceans (IAPSO) is inviting applications for Best Practice Study Groups for the period 2022-2023. Each group will receive up to US\$12,000 towards the costs of a meeting. Proposals should reach the IAPSO Secretary General via e-mail by **15 November 2021**. The

##### **Purpose of an IAPSO Best Practice Study Group**

An IAPSO Best Practice Study Group will address an issue whose resolution will assist in the conduct of oceanographic research. In carrying out oceanographic research, a choice must frequently be made between a few options for measuring data, analysing data, processing software, or modelling a system. The reasons for choosing between competing methods are often not well documented and the relative strengths and weaknesses of these routes are usually not published or well known.

Where it is thought beneficial to bring together experts in competing methods to make detailed comparison then IAPSO may be willing to fund such a face-to-face meeting. There should be a definite prospect that such detailed comparison and discussions will result in an agreed position statement or guideline that outlines the relative strengths of the methods, procedures or software. These will help oceanographic researchers to make the best choices to, for example, analyse their data.

IAPSO seeks to support two IAPSO Best Practice Study Groups in the 2022-2023 period. Each IAPSO Best Practice Study Group should arrange a meeting of several days duration where consensus should be sought regarding the pros and cons of different techniques. Ideally, this consensus will result in a short technical guideline that will assist oceanographic researchers in making the best choices to, for example, analyse their data.

IAPSO recommends the successful groups make use of the repository of the IOC Ocean Best Practices System (<https://www.oceanbestpractices.org/>) to survey existing documentation and experts related to the BP topic. We expect that the final documentation created by the group will be made accessible via the IOC Ocean Best Practices System and undergo the GOOS endorsement process.

##### **Details of grant**

A successful study group will receive up to US\$12,000 towards the costs of a meeting to be held in the period 2022-2023. Each IAPSO Best Practice Study Group will involve a single meeting of several days duration.

##### **Criteria for selection**

The following criteria will be used in the evaluation of the proposals:

- Does the proposal attempt to put forward best practices for a modelling, data collection, or data processing step or method in which researchers currently have a choice between various options?
- Is there reason to think that a face-to-face meeting of specialists in these procedures might lead to progress in understanding the relative strengths of the options?
- Is it reasonable to expect that a summary Guideline document will arise from such a face-to-face Study Group; a document that outlines the relative strengths of the analysis options?
- Is there reason to expect that if such an IAPSO Best Practice Study Group did agree on and publish such an IAPSO Guideline, that most practising ocean researchers would agree that the recommended method is preferred and would adopt this recommendation?



- Will the use of this recommendation advance an important aspect of the physical or chemical sciences of the ocean?

Preference will be given to groups who intend to hold meetings in association with the IAPSO assemblies and/or present their results at the IAPSO assemblies.

### **How to Apply**

A brief application of a few pages, which describes how the above criteria will be addressed by the study group, should be submitted. The application should include a list of potential attendees, as well as a budget indicating how the funding from IAPSO will enable the meeting to occur.

Send applications by e-mail to the [IAPSO Secretary General](#) by **15 November 2021**.

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## **5. Chinese Annual Geodetic General Assembly (CAGGA) 2021 – Report**

The Chinese Annual Geodetic General Assembly 2021 was successfully held on 17 and 18 July 2021 in Qingdao, China. This year's assembly was jointly organised by the China National Committee of IAG (CNC-IAG) and the Geodesy and Navigation Committee of the Chinese Society for Geodesy, Photogrammetry and Cartography (CSGPC).

More than 500 participants from universities, institutes and other organisations all over the country gathered in the beautiful seaside city of Qingdao to exchange their scientific achievements, ideas and visions. The General Assembly was composed of the following five parallel sessions: (1) Precise positioning and reference frame; (2) Navigation, positioning and location based service; (3) Earth gravity field and vertical datum; (4) Geodetic monitoring and geodynamics; (5) Marine geodesy. Four keynote speeches were delivered, over 150 orals and 50 posters were presented, which reflected the latest achievements and progress in the Chinese geodetic community over the last year.



*Participants of the Chinese Annual Geodetic General Assembly 2021.*

Tao Jiang, Shuqiang Xue and Yamin Dang from CNC-IAG

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## 6. International Mountain Conference 2022 – Call for session proposals

The IUGG sponsored International Mountain Conference 2022 ([IMC2022](#)) will take place from 11 to 15 September 2022 in Innsbruck, Austria. IMC2022 builds upon the previous mountain conferences and aims to continue this scientific conference series exclusively targeted towards mountain-research. Hosted in the Alps, IMC2022 provides an excellent opportunity for experts from different disciplines to discuss mountain-related issues in a cross-disciplinary setting with flexible session formats. The key goal of the conference are to synthesise and enhance our understanding of mountain systems, in particular their response and resilience to global change.



***The call for session proposals will be open from 4 October to 19 November 2021.*** More information can be found [here](#).

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## 7. AOGS Annual Meeting 2022 – Call for session proposals



Asia Oceania Geosciences Society

The Annual Meeting 2022 of the Asia Oceania Geosciences Society (AOGS) ([AOGS2022](#)) will take place from 5 to 10 June 2022 in Honolulu, Hawaii, USA. AOGS was established in 2003 to promote geosciences and their application for the benefit of humanity, specifically in Asia and Oceania and with an overarching approach to global issues. The Asia-Oceania region is particularly vulnerable to natural

hazards, accounting for almost 80% human lives lost globally. AOGS is deeply involved in addressing hazard related issues through improving our understanding of the genesis of hazards through scientific, social and technical approaches. AOGS Annual Meetings provide an opportunity of exchanging scientific knowledge and discussion to address important geoscientific issues among academia, research institution and public. Recognising the need for global collaboration, AOGS has developed good cooperation with other international geoscience societies and unions such as the European Geosciences Union (EGU), American Geophysical Union (AGU), International Union of Geodesy and Geophysics (IUGG), Japan Geoscience Union (JpGU), and the Science Council of Asia (SCA).

***The call for session proposals is now open and will close on 20 October 2021.*** Session proposals should cover topics that belong to one of the eight AOGS Scientific Sections: (i) Atmospheric Sciences, (ii) Biogeosciences, (iii) Hydrological Sciences, (iv) Interdisciplinary Geosciences, (v) Ocean Sciences, (vi) Planetary Sciences, (vii) Solar & Terrestrial Sciences, and (viii) Solid Earth Sciences. More information can be found [here](#).

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## 8. Awards and Honours

### *International Association of Cryospheric Sciences (IACS)*

**Regine Hock**, IACS President (2017-2021), was awarded the Richardson medal for 2021 by the International Glaciological Society ([IGS](#)) for her long-standing and ongoing service in support of glaciology within the IGS and much more broadly.

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

In July 2021, IAHS was pleased to award 13 SYSTA awards for the attendance at the [4th International Conference of the Great Rivers of Africa](#), 16-20 November 2021, Cotonou, Benin, up to the maximum award value of EUR 2,500.

The awardees for 2021 are **Kossitse Venyo Akpataku** (Togo), **Meriem Ameer** (Tunisia), **Rajae El Aoula** (Morocco), **Cheikh Faye** (Senegal), **Abderraouf Hzami** (Tunisia), **Bérenger Koffi** (Côte d'Ivoire), **Kan Martin Kouassi** (Côte d'Ivoire), **Djan'na Koubodana** (Rwanda/Benin), **Batablinlè Lamboni** (Togo), **N'diaye Edwige Hermann Meledje** (Côte d'Ivoire), **Rodric Merime Nonki** (Cameroon), **Frédéric Saha** (Cameroon), and **Pierre Jerome Zohou** (Benin).

*The IAHS Sivapalan Young Scientists Travel Awards (SYSTA) initiative was launched in 2018 and invites applications regularly. The aims of SYSTA are to: (1) strengthen attendance of IAHS meetings from financially disadvantaged countries to address the currently low attendance; and (2) foster high quality science among a new generation of hydrologists.*

### *American Geophysical Union (AGU)*

AGU announced its **Union Medallists, Awardees, and Prize Recipients** for their excellence in scientific research, education, communication, and outreach, as well as its **Section Awardees and Named Lecturers** who will be honoured for their sustained and unique contributions to advancing our understanding of Earth, its atmosphere and oceans, and planets and astral bodies beyond our own. The awardees will receive their honours at the 2021 AGU Fall Meeting. Among the 2021 Union Awardees, Section Awardees and Named Lecturers are the following scientists who have been active in IUGG: **Atalay Ayele** (Ethiopia), President of the IASPEI African Seismological Commission (AfSC, 2015-2018), was awarded the International Award; **Jacob Bortnik** (USA), Co-Chair of the IAGA/URSI Working Group VLF/ELF Remote Sensing of the Ionosphere and Magnetosphere (VERSIM, (2016-2019), was awarded the Joanne Simpson Medal for Mid-Career Scientists; **Athena Coustenis** (France), IAMAS President (2011-2015), was named the Eugene Shoemaker Lecturer; **Barbara Maher** (UK), Chair of the IAGA Working Group I-4: Rock Magnetism (2003-2007), was named the Edward Bullard Lecturer; **Jonathan J. Makela** (USA), Co-Chair of the IAGA Working Group II-E (2014-2015), was named the William B. Hanson Lecturer; **Joyce Penner** (USA), IAMAS President (2019-2023), was named the Jacob Bjerknes Lecturer; **John W. Pomeroy** (Canada), President of the IAHS International Commission on Snow & Ice Hydrology (ICSIH, 2006-2013), was named the Walter Langbein Lecturer; **Alan Robock** (USA), Member of the Union Commission on Climatic and Environmental Change (CCEC, since 2020), was named the Stephen Schneider Lecturer; and **Jiri Simunek** (USA), Secretary of the IAHS International Commission on Atmosphere-Soil-Vegetation Relations (ICASVR, 2003), was awarded the Hydrologic Sciences Award.

***Congratulations!***

## 9. Meeting Calendar

### October

- 3-9, IAMAS, Online, [Quadrennial Ozone Symposium 2021](#)
- 5-6, IAHS, Potsdam, Germany and Online, [Second International Conference on Natural Hazards and Risks in a Changing World](#)
- 11-13, IAG, Online, [GGOS Days 2021](#)
- 11-15, ISC, Online, [2nd General Assembly of the International Science Council](#)
- 18-29, IUGG, ICTP, CMG, IAGA, IASPEI, IAVCEI, Online, [Joint ICTP-IUGG Workshop on Data Assimilation and Inverse Problems in Geophysical Sciences](#)
- 20-22, IAHS, Victoria Falls, Zimbabwe and Online, [22nd WaterNet/WARFSA/GWP-SA Symposium on Integrated Water Resources Management for Sustainable Development in Eastern and Southern Africa](#)
- 20-22, IUPAP, Online, [30th General Assembly of the International Union of Pure and Applied Physics](#)
- 25-29, IAG, Online, [ILRS Virtual World Tour 2021](#)
- 26-28, SCOR, Online, [2021 SCOR Annual Meeting](#)
- 26-31, ILP, GFZ, AGU, Online, [International Symposium on Deep Earth Exploration and Practices \(DEEP-2021\)](#)

### November

- 2-6, WLF, Kyoto, Japan, [5th World Landslide Forum](#)
- 8-11, CODATA, WDS, Seoul, Rep. of Korea, [International Data Week 2021](#)
- 13-15, IAHS, IAHR, WMO, Cotonou, Benin, [5th IAHR/WMO/IAHS International Streamgauging Course](#) (in French)
- 15-16, CODATA, Online, [32nd CODATA General Assembly](#)
- 16-20, IAHS, Cotonou, Benin, [Hydrology of the Major African Basins](#)
- 17, IACS, Online, [Open Plenary Meeting](#)
- 23-26, GEO, Online, [GEO Week 2021](#)
- 29-1 December, IAG, Online, [SIRGAS Symposium 2021](#)

### December

- 13-17, AGU, New Orleans LA, USA, and Online, [AGU Fall Meeting 2021](#)
- 14-18, ICA, Florence, Italy, [30th International Cartographic Conference](#)

### Association Scientific Assemblies 2022-2023

- 29 May-3 June 2022, IAHS, Montpellier, France, [IAHS Scientific Assembly](#)
- 30 January-3 February 2023, IAVCEI, Rotorua, New Zealand, [IAVCEI Scientific Assembly](#)

### IUGG General Assembly 2023

- 11-20 July 2023, IUGG, Berlin, Germany, [IUGG General Assembly 2023](#)

The full IUGG Events Calendar 2021 can be found [here](#).

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