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IAG AIG  
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# Newsletter

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The *IAG Newsletter* is under the editorial responsibility of the *Communication and Outreach Branch (COB)* of the IAG.

It is an open forum and contributors are welcome to send material (preferably in electronic form) to the IAG COB. These contributions should complement information sent by IAG officials or by IAG symposia organizers (reports and announcements). The *IAG Newsletter* is published monthly. It is available in different formats from the IAG new internet site: <http://www.iag-aig.org>

Each *IAG Newsletter* includes several of the following topics:

- I. news from the Bureau Members
- II. general information
- III. reports of IAG symposia
- IV. reports by commissions, special commissions or study groups
- V. symposia announcements
- VI. book reviews
- VII. fast bibliography

## Meeting Announcements

### ***Geodesy Capacity Development Workshop for Europe on Transitioning to a Modern Geospatial Reference System***

*February 17-21 2025, UN Campus, Bonn, Germany*



The United Nations Global Geodetic Centre of Excellence (UN-GGCE) invites surveying and geodetic professionals working for, or with, Member State government agencies in Europe to participate in its Geodesy Capacity Development Workshop, in Bonn, Germany. This workshop will assist participants understand how to collaborate with colleagues in government to transition to a modern Geospatial Reference System (GRS).

The [Concept Note](#) provides more information on the workshop objectives, provisional agenda, target audience and the application process.

Please note, this workshop is focused on surveying and geodetic professionals working for, or with, Member State government agencies in Europe. Workshops for the Africa, Americas, Arab States and Asia-Pacific regions are currently in development and will take place later in 2025. We will provide more information on those workshops in the coming months.

APPLY HERE:

[https://docs.google.com/forms/d/e/1FAIpQLSeqktb-nZkLw7dXWTXvebpT89EGIM\\_Y5poBqabA0TIIFJkWIQ/viewform?usp=sharing](https://docs.google.com/forms/d/e/1FAIpQLSeqktb-nZkLw7dXWTXvebpT89EGIM_Y5poBqabA0TIIFJkWIQ/viewform?usp=sharing)

Nicholas James Brown

### ***IAU Symposium 401: Advancing Reference Systems, Ephemeris, and Standards***

Dear Colleagues,

It is our pleasure to announce that the International Astronomical Union (IAU) Symposium “Advancing Reference Systems, Ephemeris, and Standards: from the Earth and the Moon to Solar System Bodies” (IAUS 401) will be held from 4 to 9 August 2025 at the National University of La Plata (UNLP), La Plata (Argentina).

Reference systems and their standardization are of paramount importance to many fields of astronomy. Some examples are the reduction of ground-based observations, space astrometry, astrophysics missions, and space missions to solar system planetary bodies and beyond. The concept of a reference system and its realization requires the convergence of reference frames, ephemeris, and time scales to be developed respecting associated standards, thus fulfilling one of the IAU strategic goals as the provider of astronomical standards and their use.

The IAUS 401 will provide a forum to discuss the latest results and prospects in these fields, and thus facilitate the coordination of common standards across agencies and organizations.

The IAUS 401 is structured in six key topics:

1. Earth rotation models and Earth Orientation Parameters (EOP)
2. Celestial and terrestrial reference systems/frames
3. Reference systems/frames for the Moon and other solar system bodies
4. Time scales and time metrology
5. Ephemerides of solar system objects
6. Astronomical standards

The IAUS 401 registration, abstracts submission, and IAU travel grants application will start at the beginning of November. The symposium will be in hybrid format, to welcome both in-person and on-line participation.

For additional information and contact details please refer to IAUS 401 website:

<https://iaus401.fcaglp.unlp.edu.ar/>

We are looking forward to seeing you in La Plata.

Sincerely,

Alberto Escapa, on behalf of the SOC and the LOC

## ***Meetings Calendar***

### ***IAG Sponsored Meetings***

#### **6th Joint International Symposium on Deformation Monitoring (JISDM)**

*April 7 – 9, 2025, Karlsruhe, Germany*

URL: <https://jisdm2025.gik.kit.edu/>

#### **IAG Scientific Assembly 2025**

*September 1 – 5, 2025, Rimini, Italy*

URL: <https://eventi.unibo.it/iag2025>

### ***Geodesy Related Meetings***

#### **Geodesy Capacity Development Workshop for Europe**

*February 17 – 21, 2025, Bonn, Germany*

URL: <https://ggos.org/2024/10/16/ggce-workshop-europe-reference-system/>

#### **2025 Glacial Isostatic Adjustment workshop: Advancing Models and Observational Constraints**

*June 2 – 6, 2025, Sydney, British Columbia, Canada*

URL: <https://polenet.org/2025-gia-workshop/>

#### **IAU Symposium 401: Advancing Reference Systems, Ephemeris, and Standards**

*August 4 – 9, 2025, La Plata, Buenos Aires, Argentina*

URL: <https://iaus401.fcaglp.unlp.edu.ar/>

## Reports

### ***The 12th International Workshop on TibXS (Multi-observations and Interpretations of Tibet, Xinjiang and Siberia) held in Kashgar (Kashi), China***

The 12<sup>th</sup> International Workshop on TibXS (Multi-observations and Interpretations of Tibet, Xinjiang and Siberia) was successfully held on 15-18 August 2024 in Kashgar (Kashi), Xinjiang, China. The conference brought together nearly 120 renowned scientists and graduate students from about 30 universities and research institutes in China, including University of Chinese Academy of Sciences, APM Chinese Academy of Sciences, Wuhan University, Yang Ming Chiao Tung University, SHAO Chinese Academy of Sciences, Chinese Academy of Surveying & Mapping, Sun Yat-sen University, Tongji University, Huazhong University of Science and Technology and so on. Additionally, experts from Istanbul Technical University and Kocaeli University contributed to the event.



Group photo of participants

Hosted by the School of Earth and Planetary Sciences at UCAS, this year's workshop featured a diverse range of topics in geodesy and geophysics, organized around six main themes: (1) Multi-observations and interpretations over Tibet and Siberia regions; (2) Applications of time-varying gravity field; (3) Crustal deformation mechanisms and applications; (4) Satellite altimetry and applications; (5) Classical and state-of-art physical geodesy; (6) Earth and planetary dynamics. Approximately 50 oral presentations and nearly a dozen posters were showcased, with three graduate students awarded the first prize for outstanding papers and five receiving second prizes.

Initiated in 2009 by Chinway Hwang and Wen-Bin Shen under the auspices of IAG SC 2.6 and SC 2.4e, the TibXS international workshop series has been held 12 times across various cities in China. It consistently addresses critical issues related to Tibet, Xinjiang, and Siberia, focusing on geodetic observations, regional gravity field modeling, mass redistribution, geodynamics, cryospheric processes, and related topics. Over the years, the workshop has drawn participants from across China, as well as international colleagues from countries such as Japan, the USA, Turkey, Germany, Russia, Spain, Korea, and many others.

The next TibXS workshop is scheduled for August 11-15, 2025, in Lijiang, Yunnan, China. We cordially invite international scientists to join us at this event. If you're interested in attending, please don't hesitate to contact Tao Jiang at [jiangtao@casm.ac.cn](mailto:jiangtao@casm.ac.cn) for more information.

Prepared by Shuang Yi and Tao Jiang  
China National Committee for IAG  
Local Organization Committee of the 12<sup>th</sup> TibXS international workshop

## 20<sup>th</sup> Geodynamics and Earth Tides Symposium (G-ETS)

The international Geodynamics and Earth Tides Symposium (G-ETS) is one of the important series of meetings under the International Association of Geodesy (IAG), held every four years and has been ongoing since 1957. The 20th G-ETS symposium was organized by the local organizing committee from the University of Strasbourg and the CNRS institute, under the umbrella of the IAG Sub-Commission 3.1. It took place in August 25 - 30, 2024. More details on the 20<sup>th</sup> G-ETS can be found at <https://g-ets2024.sciencesconf.org/>.



The G-ETS addresses the entire range of tidal phenomena and dynamics of the Earth, both on the theoretical as well as on the observational level. The Earth tides affect many types of high precision instrumentation, be it measurements of position, deformation, potential field or acceleration. The tidal phenomena influence both terrestrial and satellite-borne acquisitions. The tidal potential is a driving force which Earth's response can be observed as surface deformation, variations in Earth's orientation and rotation parameters and gravity field variations. The Earth's tidal response gives information on its rheology. Instruments sensitive enough to detect the tidal signal, record a large range of periodic and aperiodic phenomena such as ocean and atmospheric tidal loading, ocean, atmospheric and hydrospheric non-tidal effects, deformation related to the earthquake cycle and even to gravitational waves, as well as plate tectonics and intraplate deformation. The periods range from seismic normal modes over to the Earth's tides and the Chandler Wobble and beyond, ending at the nutation period. Thus, the time scales range from seconds to years and from local to continental spatial scales.



Fig. 1 Group picture of the G-ETS2024 participants

During the 20<sup>th</sup> G-ETS, the number of participants on site reached 89 people, coming from all over the globe. The countries the most represented were China, Germany and France (see Table 1).

Topics presented during the G-ETS2024 were divided into the hereafter six sessions:

- Session 1. Tides and non-tidal loading in space geodetic and subsurface observations
- Session 2. Geodesy for hazard monitoring (seismo- and volcano-geodesy, etc.)
- Session 3. Monitoring of subsurface fluids (hydro-geodesy, hydro-gravimetry, geothermal monitoring, etc.)
- Session 4. New technologies, software and innovative concepts (cold-atom gravimetry, gradiometry, etc.)
- Session 5. Time variable gravity and mass redistribution (glacial isostatic adjustment, ice mass changes, ocean dynamics, etc.)
- Session 6. Temporal variations of the Earth's rotation

In Table 2, we can see the repartition of the contributions into oral or poster and per session, knowing that each session proposed one invited talk.

Country	Count
Algeria	4
Argentina	1
Australia	1
Belgium	2
Canada	1
China	16
Colombia	1
Czech Republic	1
Finland	5
France	13
Germany	15
Italy	6
Ivory Coast	1
Japan	1
Poland	4
Romania	1
Russian Federation	1
Slovakia	2
Spain	2
Sweden	2
Switzerland	1
Taiwan	2
USA	6
<b>Total:</b>	<b>89</b>

Table 1. Number of participants per country

Sessions	Oral	Poster	Total contribution
Session 1- Tides and non-tidal loading	17	10	27
Session 2- Geodesy for hazard monitoring	12	12	24
Session 3- Monitoring of subsurface fluids	10	6	16
Session 4- New technologies, software and innovative concepts	6	4	10
Session 5- Time variable gravity and mass redistribution	11	3	14
Session 6- Temporal variations of the Earth's rotation	5	2	7
<b>Total:</b>	<b>61</b>	<b>37</b>	<b>98</b>

Table 2. Number and type of contributions per session

Following the 2024 G-ETS, an open-call for contributions within the G-ETS topics will be made for publications in special issues in *Pure and Applied Geophysics*, or in *Geodesy and Geodynamics*.

### The 2024 Paul Melchior's medals

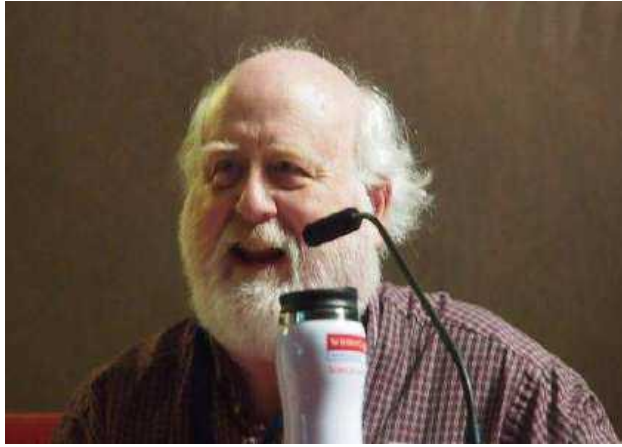
The Paul Melchior's medal awards some outstanding scientists who have had an extraordinary experience and influence in the Earth Tidal Community. The medal is awarded every 4 years at the international Geodynamics and Earth Tides Symposium (G-ETS). The medal is named after Professor Paul Melchior, the 1st winner of this award in 1997 and a scientist of international renown for his work on terrestrial tides.



During the 20th edition of the G-ETS meeting that took place in Strasbourg in August 2024 (<https://g-ets2024.sciencesconf.org/>), the Paul Melchior's medal was presented to two awardees: Professor Duncan Carr Agnew (San Diego, USA) and Professor Jacques Hinderer (Strasbourg, France).

The previous awardees are:

1. Paul Melchior (1997, Brussels, Belgium).
2. Hans-Georg Wenzel (2000, Mizusawa, Japan).
3. John Goodkind (2004, Ottawa, Canada).
4. Bernard Ducarme, Tadahiro Sato (2008, Jena, Germany).
5. Houtze Hsu (2013, Warsaw, Poland).
6. Trevor F. Baker (2016, Trieste, Italy)
7. David J. Crossley, Gerhard Jentzsch, Walter Zürn (2021, Wuhan, China)



Pr. Duncan Agnew has deeply marked the tidal international community by well-known contributions. Among them, we must cite his famous review paper on “Strainmeters and Tiltmeters” published in 1986 and the freely available SPOTL-package (“Some Programs for Ocean Tidal Loading”) published in 1997. Before that, D. Agnew has been deeply involved in the IDA project (“International Deployment of Accelerometers”) through deployment, operation, maintenance, as well as with data acquisition, distribution, and analysis. The IDA network has provided a vast amount of data used in inversions for the 1D and 3D structures of the Earth through normal mode seismology. For the whole length of

his career, starting during his PhD, D. Agnew was involved with the Piñon Flat Observatory (PFO), located in California working with a laser strainmeter. Since then, he has become a leader in tidal strainmetry besides numerous other scientific interests, like studies of the Earth’s varying rotation. Finally, we must mention his recognized editorial responsibility for the Geophysical Journal International.



Pr. Jacques Hinderer has continued the long-time tradition of time-varying gravity observations in Strasbourg (France). Starting from the first detection of the core resonance in gravity series by Lecolazet (1959) and its refined analysis by Lecolazet and Melchior (1977), J. Hinderer furthered studies of the Earth's global dynamics in a theoretical point of view. First, he extended Love's theory (1911) on the Earth's response to various forcing, producing landmark papers on the ‘Love numbers’ that characterize the Earth's global dynamics. After an initial decade of theoretical research, J. Hinderer turned his attention to observational aspects, actively contributing to the development of the global network of superconducting gravimeters, which are now the core of the IGETS (<http://igets.u-strasbg.fr/>), a service of the International Association of Geodesy. With numerous field

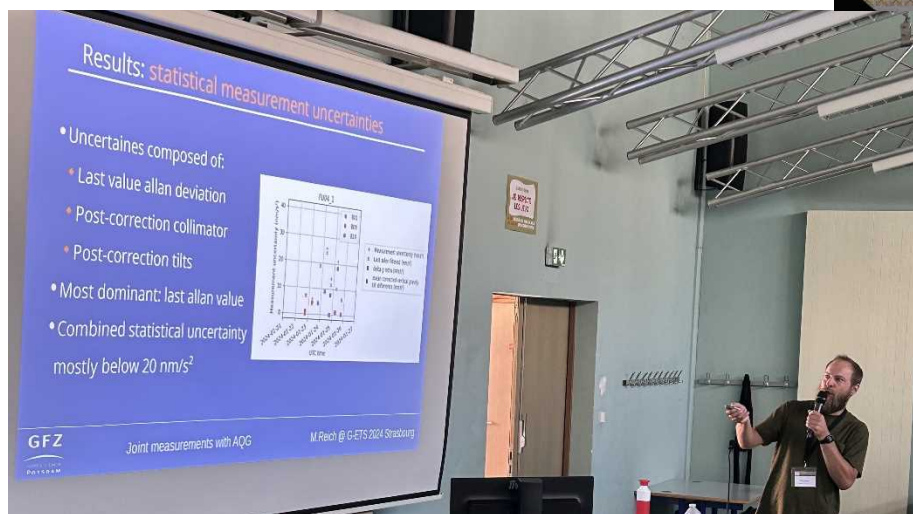
missions under his belt, he then turned to studies in hydro-gravimetry. With his leadership in the so-called ‘hybrid’ gravimetry, which combines simultaneous measurements made with several gravimeters, he eventually became involved in more applied studies with the gravimetric monitoring of geothermal reservoirs. Finally, we must mention some management responsibilities since J. Hinderer has been director of the research institute in Strasbourg for 8 years.

### **The 2024 G-ETS early-career scientist prize**

For its 20<sup>th</sup> edition, the G-ETS2024 scientific committee, under the umbrella of the Sub-Commission 3.1, has decided to promote and encourage early-career scientists by attributing for the first time a prize. The G-ETS early-career scientist (ECS) prize awards a scientist being a researcher within 10 years, or equivalent full-time working, of receiving a PhD. During the 2024 G-ETS, the decision was taken from the voting results by all G-ETS participants based on the following criteria:

- 1/ Novelty and quality of the research.
- 2/ Quality and design of the presentation.
- 3/ Ability to answer questions.

The 2024 G-ETS ECS prize was awarded to Dr. **Marvin Reich** (Potsdam, Germany) for his presentation entitled “LUH-JAQQM2024: Joint Measurements with Absolute Quantum Gravimeters at Leibniz University Hannover”. M. Reich has been working at the GFZ German research center for geosciences since 2011. He obtained his Doctorate in 2023 at the University of Potsdam with a dissertation entitled "Advances of hydrogravimetry - Terrestrial gravimeters as field tools for hydrological applications". After training in hydrology, M. Reich has turned to hydro-gravimetry. Beyond this main research field, he has extended his interests to quantum gravimetry with metrological perspectives as well as applied measurements in both lab and outdoors.



Dr. Marvin Reich, during his presentation at the 2024 G-ETS in Strasbourg (France)

Severine Rosat and Xiaoming Cui, chair and vice-chair of SC3.1