IUGG IASPEI International Association of Seismology and Physics of the Earth's Interior

IASPEI Newsletter

December 2024

A MERRY HOLIDAY SEASON and a **HAPPY** and **HEALTHY NEW YEAR 2025** to **ALL OF YOU!**

IN THIS ISSUE

Foreword

Dear Readers,

I hope this Newsletter finds you all well.

In this last Newsletter in 2024, we have some information about the forthcoming Assembly in Lisbon, Portugal, a call for an IASPEI Medal awardee 2025, followed by some updates regarding the AfSC Assembly in Namibia in 2025. Further, we have two meeting reports and two new conference announcements.

Then, I must inform you with great sadness that three of our colleagues passed away. We remember them with obituaries.

All the best for a hopefully more peaceful 2025,

Johannes Schweitzer
Secretary General

Joint IAGA – IASPEI Scientific Assembly 2025

The abstract submission for the IAGA / IASPEI Joint Scientific Meeting to be held 31 August - 5 September 2025 in Lisbon, Portugal, is now open.

We encourage all authors to submit their abstracts via the IAGA / IASPEI 2025 website https://iaga-iaspei-2025.org/.

As earlier, IASPEI together with the LOC organizes an IASPEI School for Early Career Scientists in the week before the Assembly, this time, organized together with the IAGA School. Details about the program and how to apply for one of the participation places can be found on the Assembly website.

Important Dates

23 October 2024 – Abstract Submission Open
20 January 2025 – Registration Open
12 March 2025 – Abstract Submission Deadline

Mid-April 2025 - Abstract Acceptance / Travel Grants Notification / IASPEI School Acceptance

Please check the Assembly website for further details.

Call for IASPEI Medal 2025 nominations

The award of an IASPEI medal has been decided during the 2011 General Assembly in Melbourne.

The IASPEI medal is awarded for sustaining IASPEI goals and activities and for scientific merits in the field of seismology and physics of the Earth's interior. The IASPEI Bureau is in charge of taking the decision about who, among the candidates nominated at large, will be the medal recipient.

Until now, the IASPEI Medal has been awarded to Robin Adams (2013), Willie H.K. Lee (2015), Bob Engdahl (2017), Brian Kennett (2019), Barbara Romanowicz (2021) and Harsh Gupta (2023).

Nominations of candidates for the IASPEI Medal 2025 are due until **31 March 2025**. The Medal will then be presented during the Opening Plenary of the Assembly 1 September 2025.

Please send nominations attached with a CV of the candidate and a letter of motivation for the nomination to:

Johannes Schweitzer, IASPEI Secretary General (iaspei@norsar.no)

African Seismological Commission (AfSC) – 4th General Assembly February 24 – 28, 2025

The AfSC 4th General Assembly will be held in Windhoek, Namibia at Avani Hotel, February 24 – 28, 2025.

The Assembly will be hosted by the Geological Survey of Namibia (GSN). The Geological Survey of Namibia plays an important role in acquiring geoscientific data and other geoscientific research including earthquake monitoring for seismic hazard assessment.

More details can be found on the conference website: https://africa-admir.org/en/events/afsc

Updated Important Deadlines:

Abstract Submission	30 December 2024
Abstract Acceptance Notification	20 January 2024
Registration	30 December 2024

Michelle Grobbelaar, AfSC Secretary General

Report from EMSEV2024

EMSEV2024 was held in Chania, Greece, from October 6th to 9th, 2024. It was the first face-to-face meeting for EMSEV in six years (EMSEV 2020 was postponed for two years due to the coronavirus, and EMSEV 2022 in Taiwan was held remotely).

This year's meeting in Chania was organized by Professor Filippos Vallianatos of the University of Athens as the committee chair, with Professor Nicholas V. Sarlis as the vice-chair.

The meeting was attended by 70 people from 16 countries and regions, and there were 44 oral and 29 poster presentations.

Also worth mentioning is that a training course for young researchers was held for two days before the start of the EMSEV2024 entitled "Advances in Space and Ground base studies of Earthquakes and Volcanoes. New Concepts". Around 10 researchers participated in this event, and lectures were given on the latest research results and analysis methods.

During the meeting, we organized the business meeting. At the meeting, the location for the 2026 EMSEV General Assembly was discussed, and it was decided that it will be held in Kumamoto, Japan in August 2026, because 2026 is the 10th anniversary of the Kumamoto Earthquake (M7.3) and the 15th anniversary of the devastating Tohoku Earthquake with M 9.0. Furthermore, Kumamoto is also the nearest city to the extremely active Aso Volcano.

Concerning the Bureau members, more than 20 years have passed since EMSEV was established, and in order to rejuvenate the bureau members and improve gender issues, we have decided to add six new bureau

members. You can view the minutes of the business meeting from the following link.

https://www.emsev-iugg.org/BM/EMSEV2024BMminutes.pdf

We are grateful for the continuous support we have received from IUGG, and we would also like to express our sincere thanks to the three mother associations (IAGA, IASPEI, and IAVCEI) for their assistance.

EMSEV Chair: Toshiyasu Nagao (Japan)
Vice Chairs: Valerio Tramutoli (Italy), Qinghua Huang (China)
Secretary: Jann-Yenq Liu (China-Taipei)

Report from the Second Technical Meeting on Legacy Data from Nuclear Tests

A group photo of meeting participants in Vienna

The Second "Technical Meeting on Legacy Data from Nuclear Tests" was held from 18 to 20 September 2024 at the Vienna International Centre, Vienna, Austria. As the previous one (see the IASPEI Newsletter, December 2023), it was organized and sponsored by the Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO).

These meetings show the renewed interest of the CTBTO in the preservation and use of the old analog records for present research (seismic, but also those from radionuclide analysis and any other used for nuclear explosion detection).

Sessions were organized around three main topics already proposed in 2023: (1) How to Recover and Digitize historical records? (2) What data inventories are currently available? Where should a legacy data repository reside? And (3) What can historic records teach us? What insights do new methods (*e.g.*, machine learning) give us from looking at old data?

The meeting was held in a hybrid format with a total of 49 participants: 33 presential, 10 online, as well as 6 members of the CTBTO staff. A total of 18 oral presentations and 5 posters were delivered. 3 breakout sessions, with vivid and interesting discussions and a final group discussion completed the meeting program.

The first breakout session was devoted to reviewing the progress since last year's meeting and exploring new topics. The following questions were proposed as a quiz for all participants and responses collected: If this is your first time attending, what problems are you hoping to find solutions for? What progress have you made since last year's workshop? What new tasks are you now doing because of what you learned last year? What tasks have you stopped doing because of what you learned last year? What tasks do you still perform, but differently, because of what you learned last year? What key lessons did we take away from last year's workshop?

The second breakout session was devoted to analyzing the results collected in the previous session. There is agreement that the participants (and all those that want to join the group) should maintain a more frequent contact, not just once a year, in the meeting. In this way it was proposed to use the "mattermost" platform as a way to maintain contact online. Those interested to join should send an email to info@legacy-seismograms.eu.

The third session was devoted to a discussion of a first draft proposal of "Legacy Metadata"

elaborated by the "CTBTO PrepCom Legacy Metadata Committee Report". It is very similar to the FOLDS project, already under development inside the FDSN (https://www.fdsn.org/media/wg/II/2023/WG2-2023-LegacyData-Ahern.pdf). We hope we can merge the efforts in a near future.

More information about the meeting can be found at https://ctnw.ctbto.org/ctnw/event/10279 and at https://www.ctbto.org.

Let's remember that the group of experts participating in these meetings is not a closed one, it is open to new collaborators, interested in the topic and able to apport new knowledge to it. At present there is a distribution list facilitating the circulation of information. Those interested in joining the group, please contact Megan Slinkard (Megan.SLINKARD@ctbto.org).

From the available information, next year 2025 (80th anniversary of the Trinity NE) will not be a specific meeting devoted to the topic of legacy data. Instead, a special session will be held inside the "CTBT: Science and Technology Conference 2025 (SnT2025)", Vienna, 8 – 12 September (https://conferences.ctbto.org/event/30/) also organized by the CTBTO. Everybody interested in the topic is welcome.

Raphael De Plaen and Josep Batlló

International Symposium on Earthquake Forecasting to Commemorate the 50th Anniversary of the 1975 Haicheng M7.3 Earthquake

International Wisdom and joint action for Earthquake Forecasting

Earthquake prediction remains a grand scientific challenge. However, in the long trip of earthquake prediction, there were some remarkable achievements, among which was the successful prediction of Haicheng M 7.3 earthquake in Liaoning Province, Northeast China, on February 4, 1975. This was the first successful imminent prediction of a large earthquake which played an important role in the mitigation of regional earthquake disasters. The prediction itself had shown that, facing the threat of earthquakes, science and technology can at least do something constructive and contributive. Half a century has passed, there have been significant advances in both the study on the predictability of earthquakes and its application for Disaster Risk Reduction (DRR) and new technologies which are potentially useful for the monitoring and modeling of earthquakes and the assessment of seismic hazards at different spatio-temporal scales. Taking the opportunity of the 50th anniversary of the successful prediction of the Haicheng earthquake, to promote the modernization of earthquake prediction for earthquake DRR, China Earthquake Administration (CEA), in cooperation with International Association of Seismology and Physics of the Earth's Interior (IASPEI), APEC Cooperation for Earthquake Science (ACES), Collaboratory for the study of earthquake predictability (CSEP) China Center (CN-CSEP), Young Earth Scientists Network in China (YESChina) and UNESCO International Geoscience Program (IGCP) 724 Project, is planning the International Symposium on Earthquake Forecasting to Commemorate the 50th Anniversary of the 1975 Haicheng M 7.3 Earthquake on 8 – 11 July, 2025 in Shenyang, Liaoning, China.

The Symposium will focus on the characteristics of global large earthquakes and the practices of earthquake forecasting, consisting mainly of the research work on recent destructive earthquakes, discussion on typical scientific problems, and innovative achievements of earthquake forecasting and risk assessment. The preliminary themes include **Regional dynamic models of large earthquakes**, **Dynamic process of in-situ recurrence of large earthquakes**, and **Earthquake hazard and risk assessment**.

On behalf of the organizer of the Symposium, **we are honored and pleased to invite earthquake scientists to participate in the international symposium. Any topics related to the research and technique methods of earthquake forecasting and prediction would be welcomed.**

For more information, please visit: https://www.ief.ac.cn/hceq50.

CTBT: Science and Technology Conference 2025 (SnT2025)

The Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) relies on innovation to enhance the capabilities of the Comprehensive Nuclear-Test-Ban Treaty's verification regime and to help move the Treaty closer to universalization and entry into force.

SnT2025 will be a hybrid conference scheduled to take place simultaneously at the Hofburg Palace in Vienna, Austria, and online, creating a worldwide like community to support broader outreach and global inclusiveness!

As the eight event in the CTBT: Science and Technology Conference series, SnT2025 will bring together over 1000 scientists, technologists, academics, researchers, civil society representatives, youth, journalists, representatives of the CTBTO's policy making organs and from International Organizations in-person and online to discuss the science and technology behind CTBTO's mandate to end nuclear testing, and the state-of-the-art verification system it built to monitor the globe for nuclear tests.

The conference will host presentations, highlight talks and panels about latest developments in the application of seismic, hydroacoustic, infrasound and radionuclide technologies, at global, regional and local scales, for CTBTO purposes as well as for broad scientific studies.

CTBTO invites scientists, researchers, engineers, experts, and policy professionals working in the areas of nuclear non-proliferation and disarmament and the scientific fields that support the work of CTBTO that wish to participate in-person or online to register and submit abstracts for this hybrid conference.

You can find detailed information about registration and abstract submission process on the SnT2025 conference page and learn about the conference themes and discussion topics for SnT2025 in the conference brochure (https://indd.adobe.com/view/0336a311-1495-4540-bbcc-8b6c60348b3e).

Location and dates:
- September 8, 2025 – September 12, 2025
- Hofburg Palace, Vienna, Austria & online

Website: https://ctbto.org/SnT2025

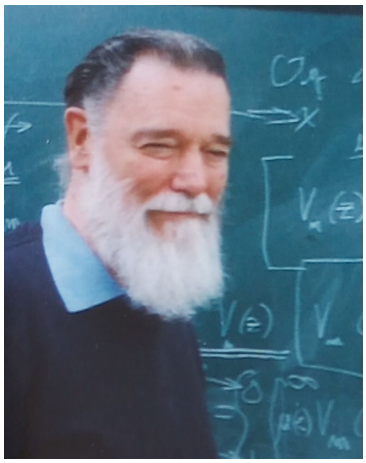
Deadlines:
- Registration will remain open until the opening of SnT2025
- Abstract submission is 14 January 2025

Looking forward to your participation at SnT2025!

The SnT2025 Team

Obituaries

Fred Schwab (1934 – 2023)



Fred Schwab, born February 12, 1934, a theoretical seismologist, passed away within an age of 89 on August 7, 2023. He was appointed by Leon Knopoff in the 1960s to pursue synthetic seismology, a subject to which he devoted his whole career. He developed a reputation as a meticulous developer of seismic tools.

Throughout his career virtually every synthetic seismology program was limited to models having either a flat earth or a perfectly spherical one. However, Fred was interested in the seismic shaking in regions such as the Himalayas and so developed ingenious methods to sum normal nodes modes in regions of vastly different surface curvature, at the same time taking into account anisotropy and attenuation.

His expertise was an important resource for students in the EPSS seismology group, but in addition, he developed a significant international reputation. In the mid-nineties, he was involved in a major United Nations program based in Trieste to teach seismic procedures including scientists in developing countries.

Giuliano Panza, Professor at the University of Trieste, noted that the size of the task group, for which Fred was the leader: "included approximately 140 researchers at 40 local centers in 23 different countries." Professor Panza also goes on to say "I have been very happy to have the possibility to internationally acknowledge Fred as one of my mentors."

Fred's goal was to develop tools for the reduction of loss of human life and property damage caused by earthquakes. He leaves behind the basis for the continuation of his work by the researchers who benefited from his teaching. He is missed by those with whom he interacted.

Paul Davis, UCLA, California, USA

Stuart Crampin (1935 – 2024)

Prof. Stuart Crampin, born 23rd October 1935, peacefully passed away on 3rd May 2024 at his home in Glasgow, surrounded by his family. Stuart was a seismologist who achieved international acclaim for his research on the theory and applications of seismic wave propagation in anisotropic media, particularly those exhibiting stress-aligned crack-anisotropy, first at the British Geological Survey, and latterly at the University of Edinburgh.

Stuart's university career began at the University of London, followed by Cambridge

where he was later awarded a ScD. During his studies he suffered a serious climbing accident, and it was several months before he was ready to resume work. At this point he decided to change his research topic to one that was little known, to allow him to progress more slowly. Prof. Markus Båth of Uppsala University had observed surface waves from large earthquakes exhibiting anisotropic characteristics. With Markus's encouragement, Stuart joined him in Uppsala for two years and began the research work which would last his lifetime – seismic wave propagation in anisotropic media. This would become an indispensable tool for earthquake and exploration seismology.

After joining the British Geological Survey (then the Institute of Geological Sciences) as Gassiot Fellow in 1966, Stuart became involved in organising earthquake detection and analysis using small networks of seismometers in Scotland, Iran, and Turkey. His collaboration with Dr Balamir Uçer in Turkey, the first of many successful international collaborations, initiated the MARNET seismic network around the Marmara Sea which was the basis for later projects in Turkey investigating stress-aligned crack-anisotropy using local earthquake data.

Stuart's first work on anisotropy was mainly theoretical. With Colum Keith, he devised computer algorithms to describe the behaviour of seismic body waves through, and at interfaces with, anisotropic media. This provided the knowledge that seismic body wave seismograms would give diagnostic information on the type of anisotropy the body waves encountered, and in particular shear waves would exhibit birefringence and polarization alignments characteristic of that anisotropy. Stuart's crucial insight was that the ubiquitous cracks and pore spaces in the Earth's crust would tend to be aligned by the stresses they are subjected to, and thus possess seismic anisotropy capable of being analysed and described most effectively by shear wave studies. This type of anisotropy he called extensive dilatancy-anisotropy, or EDA. With Dr Russ Evans and others, he conducted a series of earthquake monitoring projects in Turkey, which first demonstrated the existence of EDA in the early 1980s; since then, EDA has been observed worldwide in many studies.

Realising the significance of his studies for characterising aligned cracks and pore space in the sub-surface., Stuart persuaded the oil industry to commission a research project devoted to this purpose. Founded in 1986, the Edinburgh Anisotropy Project, led by Stuart and later Drs. Xiang-Yang Li and Mark Chapman, was extraordinarily successful throughout its long duration in developing innovative techniques for oil reservoir description.

Latterly, Stuart returned to his interest in earthquake seismology, helping to establish stress monitoring sites in Iceland, and working on the possibility of stress-forecasts for earthquakes using temporal changes in shear-wave splitting. He also continued to work on theoretical models for understanding of fluid-rock deformation in the Earth's Crust.

A prolific researcher, Stuart published over 300 papers in collaboration with a large number of staff and PhD students whom Stuart motivated and supervised; all of them will readily attest to his enthusiastic and committed support. He also organised several sponsored international anisotropy workshops and symposia, the first of which was in the former Soviet Union in 1982.

Stuart was an Honorary Fellow and Honorary Professor at Edinburgh University, and a Fellow of the Royal Society of Edinburgh. Among many honours and awards, Stuart received the Price Medal of the Royal Astronomical Society and the Virgil Kaufmann Gold Medal from the Society of Exploration Geophysicists.

Brian Baptie, BGS, Edinburgh, UK

Dragutin Skoko (1930 – 2024)

A fellow of Croatian Academy of Science and Arts, and professor emeritus of the Geophysical Department at the Faculty of Science, University of Zagreb, seismologist Dragutin Skoko passed away on September 6, 2024. He was born on July 24, 1930, in Karlovac, where he attended high school. At the Faculty of Science in Zagreb, he completed his studies in physics-geophysics in 1954 and earned his PhD in 1969 with the thesis A Contribution to the Determination of Earthquake Magnitude. He spent two extended study periods in Japan (1964/1965 and 1971/1972).

Starting in 1958, he worked as an assistant and, from 1969, as an assistant professor at the Geophysical Institute of the Faulty of Science. He became a full professor in 1980. He taught a wide range of courses at all levels of studies of geophysics, some of which were entirely new. He also taught at the postgraduate studies at the Faculty of Mining, Geology, and Petroleum Engineering in Zagreb and at the University of Skopje. He mentored several dozen master's theses, ten master's dissertations, and seven doctoral theses.

Dragutin Skoko retired in 2000, and the following year he was appointed professor emeritus at the University of Zagreb. He was highly active in scientific research, particularly in seismology, publishing dozens of scientific papers (including several in leading international journals in the field), ten review papers, and two books. He led numerous seismological research projects in Croatia and was the project leader for Croatia in international projects realized under UNDP/UNESCO, including Survey of the Seismicity of the Balkan Region (1970 – 1976) and Seismic Risk Reduction of the Balkan Region (1985 – 1990). He was also the initiator of the construction of the new building for the Geophysical Department on Horvatovac, which was realized as part of these international projects. On his initiative, the Seismological Service at the Geophysical Department of the Faculty was founded in 1985.

During his career, he held many positions, including serving as the deputy dean for finance at the Faculty of Science on two occasions and as the head of the Department of Geophysics, Faculty of Science for two terms. He became an associate member of the Croatian Academy of Sciences and Arts (CASA) in 1975 and a full member in 1991. He was the president of the Scientific Council for Oil at CASA, the president of the Scientific Council for Remote Sensing and Photointerpretation at CASA, the president of the Croatian Commission for Geodesy and Geophysics at CASA (for two terms), and a representative of Croatia in the European Seismological Commission. He was also a member of the Editorial Board of the scientific journal Geofizika from its inception.

For his scientific work, he received several awards and recognitions, including the Award Nikola Tesla for contributions to science in technical and biotechnical sciences (1983) and a Plaque of Appreciation from the International Association of Seismology and Physics of the Earth's Interior in Istanbul (1989).

Dragutin Skoko raised several generations of seismologists in Croatia and neighboring countries, and selflessly championed the development of seismology and geophysics in Croatia. We will remember him as a kind and

patient colleague, creative leader, and a brilliant lecturer.

Josip Stipčević, University of Zagreb, Croatia

Meetings Calendar

We report below forthcoming meetings relevant to the interests of IASPEI scientists. If you are aware of events not listed below or changes regarding these events, please inform the Secretary General. The meeting calendar is also available on the IASPEI website.

2025

4th AfSC General Assembly
February 24 – 28, 2025, Windhoek, Namibia
URL: https://africa-admir.org/en/events/afsc

SSA Annual Meeting 2025
April 14 – 18, 2025, Baltimore, MD, USA
URL: https://www.seismosoc.org/meetings/past-and-future-ssa-annual-meetings

2025 Glacial Isostatic Adjustment Workshop
June 2 – 6, 2025, Sidney, British Columbia, Canada
URL: https://polenet.org/2025-gia-workshop/

International Symposium on Earthquake Forecasting to Commemorate the 50th Anniversary of the 1975 Haicheng M7.3 Earthquake
July 8 – 11, 2025, Shenyang, Liaoning, China
URL: https://www.ief.ac.cn/hceq50

IASPEI 43rd Scientific Assembly as 4th Joint Assembly with IAGA
August 31 – September 6, 2025, Lisbon, Portugal
URL: https://iaga-iaspei-2025.org

SnT2025
September 8 – 12, 2025, Vienna, Austria
URL: https://conferences.ctbto.org/event/30/

SSA Fall Topical Meeting 2025: Environmental Seismology: Planning for the Planet's Future
October 14 – 17, 2025, Denver, Colorado, USA
URL: https://www.seismosoc.org/environmental-seismology/

AGU Fall Meeting
December 15 – 19, 2025, New Orleans, Louisiana, USA
URL: https://www.agu.org/Fall-Meeting

2026

SSA Annual Meeting 2026
April 14 – 17, 2026, Pasadena, California, USA
URL: https://www.seismosoc.org/meetings/past-and-future-ssa-annual-meetings

12th SCAR Open Science Conference
August 8 – 18, Oslo, Norway

VI LACSC General Assembly
August 10 – 14, 2026, Morelia, Mexico

40th ESC General Assembly
September 6 – 11, 2026, Istanbul, Türkiye

AGU Fall Meeting
December 7 – 11, 2026, San Francisco, California, USA
URL: https://www.agu.org/Fall-Meeting

2027

IASPEI 44th General Assembly
IUGG 29th General Assembly
2027, Incheon, Rep. of Korea

General Information about IASPEI

The **I**nternational **A**ssociation of **S**eismology and **P**hysics of the **E**arth's **I**nterior [IASPEI] is one of the eight Associations of the **I**nternational **U**nion of **G**eodesy and **G**eophysics (IUGG, http://www.iugg.org/).

The other seven IUGG Associations are:

- International Association of Cryospheric Sciences (http://www.cryosphericsciences.org/)
- International Association of Geodesy (http://www.iag-aig.org/)
- International Association of Geomagnetism and Aeronomy (http://www.iaga-aiga.org/)
- International Association of Hydrological Sciences (https://iahs.info/)
- International Association of Meteorology and Atmospheric Sciences (http://www.iamas.org/)
- International Association for the Physical Sciences of the Oceans (http://www.iugg.org/iapso/)
- International Association of Volcanology and Chemistry of the Earth's Interior (https://www.iavceivolcano.org/)

Scientific Assemblies

IASPEI holds an Ordinary General Assembly every four years in conjunction with each Ordinary General Assembly of IUGG. In the middle between the General Assemblies, IASPEI holds a Scientific Assembly, sometimes as joint meeting with one of the other IUGG Associations.

Participation in IASPEI Activities

Since July 2015, all scientists participating in IASPEI activities are counted as members of IASPEI (see http://www.iaspei.org/about/statutes-and-by-laws).
IASPEI welcomes all scientists throughout the world to join in seismological research.

IASPEI is subdivided into several Commissions, some of which have working groups for the study of particular subjects in their general areas of interest. On occasion, these internal IASPEI groups issue their own newsletters or circulars, and many maintain their own websites. At the IASPEI Assemblies, the groups organize specialist symposia, invite scholarly reviews and receive contributed papers that present up-to-the-minute results of current research. The IASPEI website gives, or provides links to, information on the range of IASPEI activities.