

IASPEI Newsletter

July 2022

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and workshops with IASPEI related topics. This list can only be complete and correct when I receive information about such events and can update the Meetings Calendar of future Newsletters.

All the best and stay healthy,

Johannes Schweitzer
Secretary General

Foreword

Dear Readers,

I hope this Newsletter finds you all well.

In this issue we update some information regarding the forthcoming IUGG GA in Berlin, in 2023, publish a call for IUGG award nominations and inform you about the possibility of internships at the ISC and an updated joint statement of SSA and AGU regarding the CTBT. The IHFC had a Meeting in Potsdam and sent us a report.

Then, I must inform you with great sadness that one of our colleagues passed away. We remember him with an obituary.

The still ongoing COVID-19 pandemic strongly influenced our international cooperation and Association activities. If you plan to participate in any events in 2022, please regularly check the corresponding webpages in our Meetings Calendar.

Please do not forget to send me information or corrections about international conferences

IUGG General Assembly 2023



The 28th IUGG General Assembly (IUGG2023 GA, <https://www.iugg2023berlin.org>) will be held from 12 to 19 July 2023 at the City Cube in Berlin, Germany. The IUGG GA is one of the world's most important geoscientific events, with more than 5000 participants. It takes place every four years.

Since some Assemblies, IASPEI activities are concentrated in the 2nd half of the Assembly. So, all IASPEI Symposia and all Joint Symposia with IASPEI participation are scheduled from Friday 14 to Wednesday 19 July 2023.

Updated important dates for Assembly participants:

- 30 September 2022
Call for abstracts, travel grants, and registration opens
 - 14 February 2023
Abstract submission closes
 - 17 March 2023
Information on abstract acceptance
 - 28 April 2023
Early bird registration closes
 - 12 Mai 2023
Publication of program
-

IUGG Awards 2023 – Call for Nominations

IUGG Fellowships (Honorary Memberships) are a tribute to individuals who have made exceptional contributions to international cooperation in geodesy or geophysics and attained eminence in the field of Earth and space sciences. The deadline for submission of nominations for IUGG Fellowships is 20 September 2022. Nominations will be examined by the IUGG Fellow Selection Committee, which is chaired by Andrew Yau (Canada). IUGG Fellowships are bestowed on up to 10 individuals. Details on IUGG Fellowships, including the procedure for nomination, eligibility criteria, and technical requirements, can be found [here](#).

The IUGG Gold Medal is the highest honour awarded by the International Union of Geodesy and Geophysics. The medal was established in 2013 to recognise Earth and space scientists for outstanding contributions to geodesy and geophysics and for unselfish international cooperation in research. The deadline for submission of nominations for the IUGG Gold

Medal is 20 October 2022. The nominations will be considered by the IUGG Gold Medal Committee, chaired by Tom Beer (Australia). The Gold Medal is awarded to one individual. Details on the IUGG Gold Medal, including the procedure for nomination, eligibility criteria, and technical requirements, can be found [here](#).

Please take this opportunity to recognise colleagues for their contributions to the Earth and space sciences and international research cooperation.

For more information, please contact the [IUGG Secretariat](#)

Visiting scientists at the International Seismological Centre (ISC)

Since the ISC's early days, its Working Statutes (now the Bye-laws) allowed to provide short-term facilities to scientific staff coming to the ISC to work with ISC data and study ISC procedures, providing only that this in no way hinders the ISC operations and that the expenses of such visitors, including travel and accommodation, are met from the resources of Member-organizations that send this staff to UK.

In the past, we had colleagues from several countries (South Korea and Mongolia were the latest) working at the ISC under such arrangement. In principle, if a research institution wishes to send and fund a qualified seismologist with a good working level of English to work at the ISC, then we can propose a project of mutual interest that would help ISC to further excel its data or procedures and for the incoming person to receive training whilst working with the ISC staff.

Dmitry Storchak, dmitry@isc.ac.uk, ISC Director, <http://www.isc.ac.uk/>

SSA-AGU Updated Position on Comprehensive Nuclear-Test Ban Treaty

In April, the Seismological Society of America and the American Geophysical Union updated their joint position statement on the Comprehensive Nuclear-Test-Ban Treaty (CTBT), first adopted in 1999.

The CTBT is an international agreement to ban all nuclear explosions and impede development of nuclear weapons. Although it has now been signed by 186 nations, it is not yet in force because it has not been ratified by the requisite countries. When all of its verification provisions have been fully implemented, SSA and AGU are confident that the combined worldwide monitoring resources will meet the verification goals of the CTBT.

The backbone of the treaty is an International Monitoring System that includes seismic, hydroacoustic, radionuclide and infrasound sensors. The seismic component includes 170 seismographic stations globally. As of 2021, 89% of this network has been built and certified. The network can detect seismic events of magnitude 4 or larger and locate them within 1000 square kilometers. The IMS was able to detect and report on the six declared nuclear tests in North Korea between 2006 and 2017.

The updated position statement by SSA and AGU reiterates the treaty's importance to global security as well as scientific studies of earthquakes and natural hazard mitigation.

A high-quality and well-maintained global network of seismometers and other geophysical instrumentation is vital for detecting and characterizing both open and clandestine nuclear explosions, as well as earthquakes and other natural hazards, such as the explosion of the volcano Hunga Tonga-Hunga Ha'apai.

You can read the updated statement here: <https://www.seismosoc.org/us-government->

[relations/ssa-agu-joint-statement-expand-sustain-ctbt-june-2017/](https://www.seismosoc.org/us-government-relations/ssa-agu-joint-statement-expand-sustain-ctbt-june-2017/)

Peggy Hellweg, SSA President

Report on the IHFC Čermák7 meeting



The Čermák7, the “7th International Meeting on Heat Flow and the Thermal Structure of the Lithosphere”, was held from 20 to 22 June 2022 in Potsdam, Germany, hosted by the GFZ German Research Center for Geoscience under the auspices of the International Heat Flow Commission (IHFC) of the IASPEI/IUGG. The meeting, which was held both as a conference and a workshop, was organized for researchers, students, and industry experts to show and discuss recent results and developments in heat-flow determination and interpretation, experimental petrophysics, geothermal exploration, and lithosphere studies.

The conference activities included oral presentations and a poster session, covering a broad spectrum of subjects in the field of heat flow studies. Moreover, social events were held, accompanied by plenary lectures. The workshop focused on the basic workflow of a new quality scheme and specific scoring characteristics for heat flow data.

The specific areas addressed included petrophysical properties of rocks, deep

borehole logging, perturbation effects on heat flow, thermal observations and models for different regions, methods and infrastructure on heat flow exploration, conductive and advective heat transfer, heat production, and the global heat flow database.

The one-day workshop continued the work on the development of a new quality scheme for the Global Heat Flow Database that was started as an online workshop series already in November last year.

Additionally, a business meeting (BM) of the IHFC was held on Tuesday evening. The BM addressed several issues: (i) the rules about member nominations and election, (ii) the structure of working groups within the IHFC, (iii) the preparation of a special issue to collect posters and presentations from the Čermák7, (iv) the ongoing activities and the proposal for summer school on heat-flow determination hosted by GFZ a week before the 2023 IUGG meeting in Berlin.

The Cermak 7 meeting was a great success as confirmed by the number of contributions and participants, with a total of 26 short oral presentations, 22 posters, and 2 plenary lectures delivered during the conference. 60 people from 19 countries attended the meeting, including students, early-career scientists, industry experts, and several retired experts, who worked and contributed over the last decades to the field of heat flow research and expanded our understanding of terrestrial thermal processes. Among them, Dr. Vladimír Čermák, of the Geophysical Institute of the Czech Academy of Science, whose name was adopted for the conference series and the meetings ahead, organized under the auspices of the IHFC. The meeting renewed the successful Czech castle meetings, which were organized by him between 1982 and 2006.

The meeting was mainly sponsored by the German Research Foundation (FKZ: 497970604) and the IUGG. For more information please visit: <http://cermak7.ihfc-iugg.org>

Sven Fuchs, Ben Norden, Angela Spalek, Florian Neumann

Obituary

Peter Hale Molnar (1943 – 2022)



Peter Hale Molnar has left his beloved Earth on June 23 of this year 2022 at age 78.

He was and will be forever a gentle giant in the field of physics of the Earth. While his home base was in the US, he was a true global citizen. Foremost, he was a deeply human being, a *mensch*, as New Yorkers would say, where he lived and tirelessly worked his early formative graduate academic years, completing in 1970 his PhD at Columbia's Lamont-Doherty Earth Observatory. He worked largely in seismology, using it as a tool that allowed him to advance the basic

understanding of the physical processes that drive the tectonics of *rigid* plates.

Peter died in the Rocky Mountain small township of Lyons, Colorado, with his beloved wife Sara Neustadt by his side, when pancreatic cancer led this ever restlessly searching mind to come to peace and rest forever. As a scientist, Peter Molnar has captured the attention, inspired, and collaborated with, so many colleagues, students, and mentors alike, and partnering with them, transformed them into dear friends; spread all around the world, they came from highly diverse disciplines and many nations. Now we mourn together, with his colleagues and students at the University of Colorado at Boulder. There, for more than two decades of his stellar, global scientific career he was a distinguished professor of Geophysics, and a fellow at the Cooperative Institute for Research in Environmental Sciences (CIRES).

Peter Molnar attended Oberlin College where, in 1965, he finished with a degree in Physics. After his graduate studies and PhD at Columbia (1965-1970), he became a post-doc at the University of California in San Diego; it included an extended exchange scientist visit in Tajikistan (then USSR). In 1974, he accepted a professorship at MIT. Being the ever-restless researcher, and not called to teaching in the classroom, he resigned from his MIT professorship in 1986; he stayed on at MIT as a senior research associate, while exploring collaborations during visiting appointments in France (Grenoble, Montpellier), the UK (Oxford), and back in the US, at Caltech and UC Santa Barbara. It took the offer from a true mountain state for Peter to accept again a full professorship in the Geological Sciences at the University of Colorado Boulder, combined with being a Fellow of CIRES, starting in 2001. This became the base, and backyard Atlas, from which he explored the workings of the Earth for the next 21 years.

And what an exploration it was! Already as a student at Lamont, he refined with colleagues the motions of tectonic plates, e.g., in and around the Caribbean plate. But soon he

realized that the tectonics of *rigid* plates had, while a most insight-providing concept, served its time. He soon turned to the deformation of earthly matters of, in, on, and around *continents* and to the physical processes that form mountains, and plateaus behind them. Based on his earlier research, mostly with Paul Tapponier mapping in space and time as India plows into Eurasia like a quasi-rigid indenter, that pushes slivers of Eurasia largely by transform motions aside, he showed how all this collision leads to the rising of the Himalayas, and the formation of the uplifted Tibetan Plateau. He was good describing all this with carefully assembled data and observations but was not satisfied until he would *understand* the underlying physics and dynamics, the role of gravity and stresses, and the rheological material properties of the various portions of crust, lithosphere and mantle under these dynamic conditions.

Peter's strength was getting complex physical processes reduced to the *essential* physics. With Dan McKenzie he shared their skepticism of complex computational models with too many parameters to play. He and Dan, whom he often mentioned as an inspiring mentor, became ardent philosophers of science and pondered: What does it *really* mean to *understand* nature and its seemingly complex processes? Peter became an expert in reductionist understanding, homing in on just a few key processes. The simpler the applicable equations, the better, and only good if testable against the best observational data.

As soon as he became convinced that the puzzle of rising Tibet, and understanding the role of rheology of crust, lithosphere and mantle under different dynamic conditions had been essentially solved (he never was entirely sure of that), he turned to new questions. He persistently worked with great impact on the intersection of mountains and climate.

Through early interactions, with climate scientists from Lamont and around the world, he and others jointly noted that the timing of changes in the Indian monsoon had to have something to do with the rising of Tibet and Himalayas. He needed to *understand* that

connection. He joined with paleoclimate experts, oceanographers, and geochemists to unravel this new puzzle, and they largely succeeded, with painstaking data collection and cooperative analyses. Again, Peter trusted his physical intuition more than complex climate models with too many free parameters to fit sparse data constraints. Soon, Peter found himself immersed in yet other Earth processes: how did the emergence of land in Panama, the Bering land bridge, and of the Indonesian Islands separating the Pacific from the Indian Ocean, influence global patterns of ocean currents; and how were these changes connected to changes in the global climate? What was the chicken, what the egg? Did the aridification of Tibet, of portions of India and other continents deliver via sandstorms, or erosion from icy mountains produce abundant ferric minerals, that when transported into the oceans, accelerated the growth of CO₂-consuming ocean biomass, thereby rapidly extracting CO₂ from the atmosphere, causing global cooling and the formation of large ice masses on continents: the waxing and waning of glacial periods. While researching and pondering these fundamental questions, he still found time to focus on smaller processes with potentially large consequences: how do islands in large oceans enhance precipitation and what is their effect on El Niño and global climate?

In 2014, Peter Molnar was awarded, for his overarching work, the prestigious international Crafoord Prize in Geosciences

Peter's mind never rested. I had a few Email exchanges with him once he was diagnosed with the deadly cancer. Few years earlier, in the fall of 2018, he had taken time out to attend in New York a gathering of my family where he learned that my artist wife had just a few more weeks to live because of advanced pancreatic cancer. I quote from one exchange, dated January 9, 2022, just weeks after he himself had been diagnosed with the same deadly disease. His zest to *understand*, blended with his characteristic humble modesty and concerns for humanity, persisted in the face of his earthly life surely coming to the foreseeable end:

"Science has helped us so much (e.g., modern medicine) that it is hard to see it as evil. Then, social media might take us down. I feel like the next couple of generations are living on the brink of potential disaster. "Understanding" is a topic that I ponder often. How do we know when we have it, or some, and how to know when we have more of it? There is an emotional side to it. My own interests are more mundane. How does rainfall over islands affect the upper troposphere? For this is crucial to El Niño, I think. Why is there the big pressure gradient between subtropical deserts and subtropical high pressures over adjacent oceans? How do we test removal of mantle lithosphere in regions like the Andes and Tibet? No shortage of stuff to do. If I were only smarter, maybe I could do this. Peter"

Klaus H. Jacob; Lamont-Doherty Earth Observatory, Columbia University, New York

Meetings Calendar

We report below titles, dates, places and websites of the 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.

2022

19th Annual Meeting AOGS

August 1 – 5, 2022, (virtual)

URL: <https://www.asiaoceania.org/aogs2022>

3rd European Conference on Earthquake Engineering and Seismology

September 4 – 9, 2022, Bucharest, Romania

URL: <https://3eceeds.ro/>

LACSC 4th General Assembly

October 3 – 5, 2022, Quito, Ecuador

URL: <http://www.lacsc2022quito.com/>

ASC 14th (hybrid) General Assembly
AfSC 3rd (hybrid) General Assembly
October 10 – 13, 2022, Hurghada, Egypt
URL: <https://asc2022.com/>

STATSEI 12: International conference on statistical seismology
October 17 – 21, 2022 Cargèse, France
URL: <https://statsei12.sciencesconf.org>

Deep Earth Doctoral School
October 24 – November 4, 2022, Les Houches, France
URL: <https://deepearthschool.github.io/>

XXth General Assembly of WEGENER
October 25 – 29, 2022, Marrakech, Morocco
URL: <https://wegener2021.sciencesconf.org>

AGU Fall Meeting
December 12 – 16, 2022, Chicago, USA
URL: <https://www.agu.org/Fall-meeting-2022>

2023

EGU General Assembly 2023
April 23 – 28, 2023, Vienna, Austria

IUGG 28th General Assembly (IASPEI 42nd General Assembly)
July 2023, Berlin, Germany
URL: <https://www.iugg2023berlin.org/>

20th Annual Meeting AOGS
July 30 – August 4, 2023, Singapore

AGU Fall Meeting
December 11 – 15, 2023, San Francisco, USA

2024

EGU General Assembly 2024
April 14 – 19, 2024, Vienna, Austria

AGU Fall Meeting
December 2024, Washington, USA

2025

IASPEI 43rd Scientific Assembly as Joint Assembly with IAGA
2025, Lisbon, Portugal

AGU Fall Meeting
December 2025, New Orleans, USA

2026

AGU Fall Meeting
December 2026, San Francisco, USA

General Information about IASPEI

The International Association of Seismology and Physics of the Earth's Interior [IASPEI] is one of the eight Associations of the International Union of Geodesy and Geophysics [IUGG].

The other IUGG Associations are:

Int'l Association of Cryospheric Sciences [IACS]
Int'l Association of Geodesy [IAG]
Int'l Association of Geomagnetism and Aeronomy [IAGA]
Int'l Association of Hydrological Sciences [IAHS]
Int'l Association of Meteorology and Atmospheric Sciences [IAMAS]
Int'l Association for the Physical Sciences of the Oceans [IAPSO]
Int'l Association of Volcanology and Chemistry of the Earth's Interior [IAVCEI]

Scientific Assemblies

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

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, many 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 web site gives, or provides links to, information on the range of IASPEI activities.

The IASPEI Website

IASPEI can be found on the web at:

<http://www.iaspei.org/>

Contacting IASPEI

The Secretary-General is the main point of contact for all matters concerning IASPEI.

Dr. Johannes Schweitzer / IASPEI
c/o NORSAR
Gunnar Randers vei 15
PO Box 53, N-2007 Kjeller
Norway

E-mail: iaspei@norsar.no