

IAGA Annual Report for 2021

International Association for Geomagnetism and Aeronomy

February 07, 2022

1 Introduction

IAGA, the International Association of Geomagnetism and Aeronomy (AIGA - Association Internationale de Géomagnétisme et d'Aéronomie) is one of the eight Associations of the International Union of Geodesy and Geophysics (IUGG). It is a non-governmental body funded through the subscriptions paid to IUGG by its Member Countries. IAGA has a long history and can trace its origins to the Commission for Terrestrial Magnetism and Atmospheric Electricity, part of the International Meteorological Organisation, which was established in 1873.

IAGA is the premier international scientific association promoting the study of terrestrial and planetary magnetism, and space physics. IAGA is concerned with the understanding and knowledge that result from studies of the magnetic and electrical properties of:

- the Earth's core, mantle and crust
- the middle and upper atmosphere
- the ionosphere and the magnetosphere
- the Sun, the solar wind, the planets and interplanetary bodies.

More information on IAGA is provided on its websites: <http://www.iaga-aiga.org>.

2 Administration

Since 2015, IAGA is organised in six Divisions and four Inter-divisional Commissions. Each Division may form Working Groups in given specialised topics and elects officers to run the business of the Working Groups. The terms of office are linked to the IUGG General Assemblies. Lists of the Division/Inter-divisional Commission leadership and the Working Group names and officers can be found on the following website: <http://www.iaga-aiga.org/about/>. There were no changes to the IAGA Divisions, Commissions and Working Groups in 2021.

IAGA is administered by an Executive Committee (EC) on behalf of IUGG Member Countries in accordance with the Association's Statutes and By-Laws. The Executive Committee members are:

President: Mioara Mandea (France)

Vice-presidents: Alan Thomson (UK), Andrew Yau (Canada)

Secretary General: Monika Korte (Germany)

Treasurer: Aude Chambodut (France)

Members: Kusumita Arora (India), Loren Chang (Early Career Representative, Taiwan), Anna Kelbert (USA), Michael Kosch (South Africa), Huixin Liu (Japan), Klaus Spitzer (Germany), Ricardo Trindade (Brazil)

The EC had virtual meetings in February, June and December 2021 and communicated frequently by e-mail. Three additional virtual EC meetings were part of the Joint IAGA-IASPEI Scientific Assembly in August, which had to be held fully virtual due to the ongoing COVID-19 pandemic (see below).

IAGA communicates with Member Countries through National Correspondents nominated by appropriate National Bodies. Member Countries are represented at IAGA Assemblies by accredited Chief Delegates who may vote on matters, according to the voting rules set out in the Statutes and By-Laws, at meetings of the Conference of Delegates. Information on the EC members and National Correspondents are found at: <http://www.iaga-aiga.org/about/>.

3 Activities

3.1 The IAGA-IASPEI Joint Scientific Assembly 2021



The opening ceremony of the IAGA-IASPEI Joint Assembly 2021 was attended in person by selected local participants and streamed online for all others.

3.1.1 Science

IAGA and the International Association of Seismology and Physics of the Earth's Interior (IASPEI) had planned to have a joint scientific assembly in August 2021 in Hyderabad, India. In the midst of the preparations in 2020 it became clear that a normal in-person meeting would likely not be possible in summer 2021 due to the COVID-19 pandemic. The two associations and the local organisers decided together to organize the meeting as a virtual event on the originally planned dates.

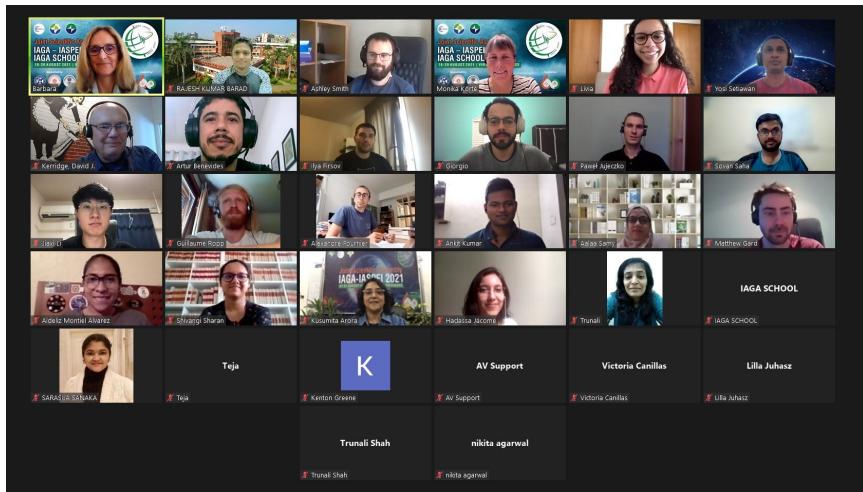
Thus, the virtual Joint IAGA-IASPEI Scientific Assembly was held August 21-27, 2021 hosted by the Indian National Academy (INSA) and the CSIR-NGRI with support from other Earth science institutes of the Department of Science & Technology, Gol, CSIR and the Ministry of Earth Sciences, Gol. Our Indian colleagues have done a tremendous job in working with a professional conference organizer to set up the fully virtual environment in less than a year. The meeting attracted 828 participants, over 500 from IAGA and nearly 300 from IASPEI. The participants came from 56 countries and included over 200 students. These numbers are quite satisfying, although a somewhat higher participation was originally expected for a normal meeting.

The program did not differ much from the originally planned one, and included 3 plenary talks, 8 joint sessions and 27 IAGA and 17 IASPEI symposia. It was preceded by the NGRI-CSIR Diamond Jubilee Symposium which celebrated the 60th anniversary of the institute with 8 invited lectures. Moreover, IAGA held its award ceremony where this year's Shen Kuo Medalist, Jay Johnson, gave a well-received lecture entitled "From microphysics to system science: approaches to understanding dynamics from the sun to Saturn". The Joint Assembly was preceded by the IAGA and IASPEI Schools for early career scientists and a GIFT workshop to educate teachers from India and surrounding countries on IAGA and IASPEI topics. All these also were organized for the first time in virtual formats. The International Association of Physics Students, IAPS, organized another virtual event (IAPS@IAGA) where early career scientists could discuss in small groups with international experts in different fields of IAGA sciences.

3.1.2 Business

Three executive committee meetings, two Conferences of Delegates and most of the Division, Commission and Working Group Business meetings were also held virtually as part of the Joint Scientific Assembly. Three resolutions were passed by the Conference of Delegates.

3.2 5th IAGA School 2021



“Group photo” from the virtual 5th IAGA School

The IAGA Schools aim at providing excellent early career scientists with a good basic understanding of a wide range of the scientific topics covered by IAGA. The fifth IAGA School was planned in the week before the IAGA-IASPEI Joint Assembly in Hyderabad, but like this Scientific Assembly had to be turned into a fully virtual format due to the COVID-19 pandemic.

It thus was held August 16-20, organized by IAGA’s Interdivisional Commission on Education and Outreach (ICEO) with assistance from the Joint Assembly local organisers. For lectures and part of the practicals the main conference software was used. However, in addition to gaining scientific knowledge, networking among the participants has always been an important aspect of the IAGA Schools. To mimic as best as possible the usual personal interactions, the Gather software (<https://gather.town>) was used for a social event and during breaks, and for distribution of information and further interactions an instant messenger group was set up. This combination of virtual tools worked well and the participants mostly gave quite a positive feedback.

The 5th IAGA School was attended by 34 students from 16 countries. Seven international lecturers provided 10 lectures of 90 minutes each, and practicals on three topics using, e.g., Jupyter notebooks with Python programs.

3.3 IAGA Awards

The **Shen Kuo Medal for interdisciplinary achievements** was given to Jay Johnson (USA). The Award recognizes and acknowledges outstanding scientists whose activities and achievements cross several fields of research covered by IAGA.

The **IAGA Long Service Award** in recognition of valued services to the IAGA community over many years was given to Nataliya Sergeyeva (Russia).

The **IAGA Early Career Award** is given to early career scientists who have made outstanding contributions at specialist meetings and topical workshops for which IAGA is a sponsor. Due to the fact that most of the regular topical workshops from 2020 were cancelled or postponed to 2022, there was only one recipient of the IAGA Early Career Scientist Award in 2021. It went to Man Hua (China), nominated from the VERSIM (VLF/ELF Remote Sensing of Ionosphere and Magnetosphere) workshop held online November 15-20, 2020.



Virtual IAGA Awards Ceremony: IAGA president Mioara Mandea and Secretary General Monika Korte (top left and right) with Shen Kuo Medalist Jay Johnson (USA) and Long Service Awardee Natalia Sergeyava (Russia)(bottom left and right)

3.4 Memorandum of Understanding with IAPS

On 18th of May 2021 IAGA has established a formal collaboration with the **International Association of Physics Students, IAPS**. IAPS is an international, student-run educational association, which aims to encourage physics students in their academic and professional growth by developing an ever-growing worldwide community within which peaceful relations are established in a collaborative, diverse and friendly social environment. The objective of the Memorandum of Understanding is to promote and strengthen collaboration between the two associations, by, e.g. organizing common online seminars or workshops at conferences.

The first collaborative activities included a talk by IAGA's 2015 Shen Kuo medalist Dan Baker at the 2021 PLANCKS (Physics league across numerous countries for kick-ass students) event, an exam-based physics competition for bachelor's and master's students, and a virtual meeting event for physics students with IAGA experts related to the Joint IAGA-IASPEI Scientific Assembly.

3.5 Publications and outreach

The latest issue of the annual IAGA Newsletter, nr. 58, was distributed in December 2021. It can be downloaded from the IAGA website <http://www.iaga-aiga.org/publications>. Current versions of a IAGA Flyer and Poster are also available on the website.

IAGA operates websites at <http://www.iaga-aiga.org> and is active on the following social media
www.facebook.com/IAGAandAIGA/
www.twitter.com/IAGA_AIGA
www.instagram.com/iaga_aiga/
<https://iaga-aiga.blogspot.com/>

4 Future activities

Current and future activities include the preparation of the programme for the 2023 IUGG General Assembly in Berlin and discussions on intensifications of collaborations with IAPS to attract the next generation of scientists to IAGA activities.

Monika Korte
IAGA Secretary General