

IAGA, the International Association of Geomagnetism and Aeronomy,
is the premier international scientific association promoting the study of terrestrial and planetary magnetism and space physics

Foreword



This issue of IAGA News contains information about the IAGA activities over the year 2012, with a forward look at preparations for the XIIth Scientific Assembly of our Association, which will take place in the colonial city of

Mérida in Yucatán, Mexico, between August 24th and 31st, 2013. I look forward to see you at the forthcoming Scientific Assembly in Mérida.

This issue also contains reports on IAGA activities of different kinds and provides information about recently deceased IAGA scientists. In its present form, IAGA News contains only brief summaries of different activities and topics; the reader is referred to the IAGA website (www.iugg.org/IAGA) for more details. Information on activities at Division level can be found on each Division's website.

IAGA News is distributed – in its electronic form – to the National Correspondents in the Member Countries, to all IAGA officers and to scientists who have attended recent IAGA assemblies. Please feel free to distribute IAGA news around, especially to national policy makers and leaders, whose decisions can affect the activities of IAGA scientists.

Mioara Mandea
(Secretary-General)

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IAGA on the Web

Information on IAGA is regularly updated at the IAGA site:

<http://www.iugg.org/IAGA/>

1 Message from the President



As you will see from later in this Newsletter, IAGA has had a busy year despite not hosting an Assembly. I'm pleased that, once again, we have supported a wide range of workshops and meetings that have involved a good number of scientists from developing

world countries, and young scientists. I look forward to presenting awards honouring young scientists at the forthcoming Scientific Assembly in Mérida.

On our way to the Fall AGU meeting, the Vice-President and I visited Mérida for a couple of days with two of the Local Organising Committee and the very experienced Conference Organiser they have chosen. We were both impressed by the rooms and facilities we will use, and by the immense warmth of the people we met. Although a large city, Mérida has a compact centre near the Assembly venue which is easy to navigate around, with wonderful old buildings reflecting its commercial status in colonial times. We found a wealth of good bars and restaurants within a short and safe walk of the Assembly venue, as well as those on offer at the Assembly hotels. Mérida has some excellent museums, and there are a number of cultural and natural heritage sites close by which will be attractive to both delegates and accompanying persons. We are confident that the Assembly will be both scientifically successful and make an attractive venue, and I encourage you all to add it to your plans for next August. We also investigated accommodation and social activities for the smaller inaugural Summer School which will precede the Assembly. We hope that this, together with the awards for Young Scientists, will encourage greater numbers of younger scientists to get involved in IAGA activities. They will provide the scientific 'life blood' of the Association into the future. I flew in to Cancun direct from the UK (there are both scheduled and charter flights from a number of European and North American airports) and took a scheduled bus to

Mérida along a safe and well-maintained motorway; for the Assembly, the LOC will organise extra bus services from Cancun, making the journey even easier. The Vice-President flew into Mérida airport (via Mexico City, though there are also direct flights from some North American cities), which is only 20 minutes or so from the Assembly venue.

At the IUGG General Assembly in Melbourne last year, we agreed to investigate holding a joint Scientific Assembly with IAMAS since there are significant areas of scientific overlap with most Divisions. We subsequently found that IAMAS were already in discussions with IAPSO about holding a joint Assembly with them, so we are now investigating holding a three-Association Joint Assembly (which would be a first for IAGA, if not for IUGG Associations in general) in 2017! The SG recently represented IAGA at a meeting of the three Associations at which preliminary discussions took place, when it became clear that there is a strong commitment to facilitating this if at all possible. Needless to say, we would maintain the strength of our scientific programme for the Assembly in areas without links to IAMAS science. We will shortly be establishing a site evaluation committee, since planning a long way ahead will be necessary if this is to become a reality.

A while ago, we started discussions with IASPEI and IAVCEI concerning two of their joint Commissions where there is IAGA science interest. I'm pleased to report that we have now agreed that the former IASPEI-IAVCEI Joint Commission for the Physics and Chemistry of Earth Materials will now be a IASPEI-IAVCEI-IAGA Joint Commission, each Association having nominated two representatives. Many thanks to those of you who volunteered yourselves or nominated colleagues in response to my requests via some of the electronic mailing lists to suggest suitable names.

I look forward to seeing as many of you as possible at our Assembly next August. In the meantime, best wishes for a peaceful and productive start to 2013.

Kathryn Whaler
(President)

2 EC Activities

2.1 EC meeting

The IAGA EC meeting was organized on Saturday 28 April 2012 (0900-1700) at ZAMG - "Julius Hann Haus" Vienna, Austria. The EC would like to thank ZAMG and Barbara Lichter for hosting this meeting. EC members present were M. Manda, E. Petrovsky, J. Forbes, T. Iyemori, M. Korte, L. Szarka, and A. Yau; absent were K. Whaler, A. Bhattacharyya, I. Cairns, E. Friis-Christensen. NB: Skype contact with AB was possible for a short time. LS participated in the morning session.



Administrative matters

MEDALS AND AWARDS

During the meeting, designs for the two medals were discussed. The EC slightly modified the design of the IAGA Long Services medal and agreed with the proposed design for the new Shen Kuo medal. Further steps towards the production of medals were discussed.

EC adopted the name YSA "Young Scientist Award" for what has previously been known as the Young Scientist Travel Award. This award will fund the attendance at the subsequent SA or GA of the five best young scientists, selected by the EC from the names submitted by the organisers of Workshops and Topical Meetings.

IAGA WEB SITE AND IAGA NEWS

EC expressed its satisfaction with respect to the IAGA website and IAGA news formats. It has been suggested that a short description of divisions / commissions be included on the web.

INTER-DIVISIONAL WG ON NEW SCIENTIFIC CHALLENGES

At this point no specific new scientific challenges have been suggested. However, an inter-divisional WG on Education and Outreach (EO) has been widely discussed, and the decision to set up a Commission on EO was agreed.

INTER-ASSOCIATION WGS

Mioara Manda presented the Inter-Association WGs in which IAGA is involved. She had revisited this aspect with the other SGs, and the new WGs and officers are indicated on the IAGA website.

Scientific matters

IAGA MODELS AND DATA BASES

Links to different existing models are to be upgraded. WGs I.3 and I.4 will be contacted and the situation regarding the paleomagnetic data bases was being analysed.

PLANNING FOR THE IAGA SCIENTIFIC ASSEMBLY IN MÉRIDA 2013

The EC discussed the status report sent by Harald Böhnel (LOC Chair). The program was in a good form... and a visit to the Assembly website (<http://www.geociencias.unam.mx/iaga2013/>) gives the latest news, including the second circular.

PREPARATIONS FOR IAGA2017

Mioara Manda reported on a meeting between Hans Volkert IAMAS SG, Athena Coustenis IAMAS President, Mioara Manda IAGA SG, and Eugene Morozov IAPSO President concerning the proposal to organise a joint IAGA/IAPSO/IAMAS SA in 2017. EC strongly supported the idea and encouraged further discussions.

IAGA'S VISIBILITY

The new flyer has to be designed with inputs from Divisions. T. Iyemori showed some ideas. It is an ongoing task from Melbourne, and he was encouraged to continue the search for a better design.

Some discussions took place about how the IAGA meetings can be promoted at EGU.

2.2 Other achievements

1 – IAGA memory ... is available

The IAGA Newsletters, originally published as hard-copies, are all scanned and available on the IAGA website. This is a nice realisation of the plan to put together all volumes and to have the

complete IAGA memory on-line!

2 – Re-definition and re-invigoration of the “Joint Commission for Physics and Chemistry of Earth Materials”

This was previously a Joint Commission of IASPEI and IAVCEI, but will now also include IAGA participation. The Associations have used this as an opportunity to re-invigorate the Commission.

The full team is

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The first serious task will be to develop an interesting program for the 2015 IUGG General Assembly.

3 – 2017 Scientific Assembly

Subsequent to preliminary discussions in Melbourne, and at the EC Meeting during EGU, a meeting was organised in Paris on 15-16 November 2012, with representatives of IAGA, IAMAS and IAPSO, to prepare a call for a joint Assembly in 2017. The indications are that all three Associations will have to appoint a joint site evaluation committee to progress the proposal.

3 Preparation for the IAGA XIIth Scientific Assembly

Time and Place

The XIIth Scientific Assembly will take place in the colonial city of Mérida in Yucatán, Mexico, between August 24 and 31, 2013. The scientific sessions will be held from Monday to Saturday, August 25-31. Registration and all lecture and poster halls are within two neighboring hotels, Fiesta Americana and Intercontinental, close to the city center.



Local Organising Committee

The Local Organising Committee (LOC) is chaired by Harald Böhnelt from the Centro de Geociencias of the Universidad Nacional Autónoma de México in Querétaro. The technical organizer is Angelica Luna from Luna Maya DMC & Meetings Planner. There are two co-chairs: Román Pérez and Mario Rebolledo, assisted by Roberto Molina, Secretary, Jorge Arzate, Treas-

surer, Luis Alva, excursion manager, Jesus Silva, technical editor, Emilio Nava and Juan Manuel Lopez, responsible for computing and internet, Blanca Mendoza, sponsors contact, and Victor de la Luz for the web site. Further LOC members are: Ernesto Aguilar, Xochitl Blanco, Cecilia Caballero, Edgardo Canonn, Gerardo Cifuentes, Americo Gonzalez, Esteban Hernandez, Hector Lopez, Dolores Maravilla, Juan Julio Morales, Mario Rodriguez, Jose Romo, and Vsevolod Yut-sis. There is also an Advisory Committee consisting of Mexican scientists and academic institution directors.

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Scientific Program

The scientific program consists of 55 symposia covering all areas of IAGA science. Descriptions of the symposia and information about abstract submission, registration, visa, hotels and many other things can be found in the Second Circular at the above IAGA 2013 web site. Oral sessions are organized between 08:30 and 12:00 and between 13:30 and 17:00. Poster sessions will be between 17:00 and 19:00. Two Association Lectures, for all participants, will be given in the mornings of Tuesday and Thursday on *A survey of geomagnetic field variations over the past 10 thousand years: evolutionary trends from the dipole to the South Atlantic Magnetic Anomaly* by Cathy Constable and *The three-satellite geomagnetic field mission, Swarm* by Eigil Friis-Christensen.

Other Meetings during the Assembly

The Conference of Delegates will meet on Monday and Friday and the Executive Committee will meet four times during the week.

All Working Groups and the Divisions and Commissions will hold their business meetings during the week of the Assembly. Because of the

few days available, most working group business meetings will take place during lunch breaks, when the participants will be provided with free sandwich lunches. Another result of the short time available is that the opening ceremony will take place on Sunday at 18:00 and the closing ceremony on Saturday at 17:30. On Sunday after the opening ceremony there will be a welcome reception, and on Wednesday evening the IAGA banquet will take place. On Tuesday, Thursday and Friday at 20:00 public lectures will be offered.

Social Program

The social program will include activities the Sunday before and after the meeting, evening events, and excursions to archeological sites and other points of interest. All activities within the city of Mérida are free of charge, while outside excursions will have a cost. Details will be published on the IAGA 2013 web page.

Harald Böhnell
(On behalf of the Local Organising Committee)

4 Reports on Meetings: IAGA-Sponsored or of IAGA interest

4.1 The 13th International Symposium on Equatorial Aeronomy Workshop March 12-16, Paracas, Peru

The 13th International Symposium on Equatorial Aeronomy (ISEA13) was held on March 12-16, 2012 in Paracas Peru. ISEAs take place every three to four years. They are a major gathering of scientists around the world interested in the low-latitude atmosphere and ionosphere, and their coupling to other latitudes and altitudes. Each ISEA meeting represents an opportunity for researchers to share their most recent results and discuss possibilities for future campaigns and experiments.

The objective of the symposium is to bring together the leaders in the field of equatorial, low-, and mid-latitude aeronomy to advance our knowledge of these regions of the Earth's atmosphere. Topics for the workshops cover a wide range of research areas, reflecting the need to study

the Earth's ionosphere/atmosphere system in a coupled sense. ISEA13 participants joined the celebration of two important events: the 50th Anniversary of the Jicamarca Radio Observatory (JRO) and also the first ISEA meeting — ISEA1 — which took place in Huaychulo, Peru, in 1962. The celebration for JRO's 50th anniversary was held on Saturday March 17th 2012 in the observatory grounds. The celebration program included a detailed tour of the facilities with the Jicamarca scientists and technicians and frequent users participating as 'tour guides'. The celebration program was attended by approximately 150 guests, partially overlapping the 150 participants of ISEA13. The participants of ISEA13 included 25 students and representatives from 23 countries. Also, 120 oral talks were presented and 95 posters were displayed during two poster sessions. The oral and poster presentations were aligned with the following eight topical sessions: (1) Irregularity Physics, (2) E and F region coupling (low and mid latitude coupling), (3) Wave propagation between low/middle atmosphere and ionosphere, (4) Plasma neutral coupling, (5) Low and mid latitude Aeronomy and Electrodynamics, (6) Ionospheric storms and Space weather effects at low and mid latitudes, (7) New techniques, experiments, campaigns, and results, and (8) Future trends and challenges. More information about ISEA13, including access to the program and abstracts, can be found at <http://jro.igp.gob.pe/isea13>.

On the basis of papers presented at ISEA13, two young scientists were nominated for IAGA's 'Young Scientists Presentation Award'. They were (in order) Henrique Aveiro, Cornell University, Ithaca, NY, USA, Ph.D. Student, and C. Vineeth, Space Physics Laboratory, VSSC, ISRO, TRIVANDRUM, INDIA, Researcher.

ISEA13 was supported by the US National Science Foundation (NSF), the US Air Force Office of Scientific Research (AFOSR) and the Southern Office of Aerospace Research and Development (SOARD), Scientific Committee On Solar-Terrestrial Physics (SCOSTEP) and Climate And Weather of the Sun-Earth System (CAWSES), the International Association of Geomagnetism and Aeronomy (IAGA), the International Union of Radio Science (URSI), and the Consejo Nacional De Ciencia Y Tecnología del Perú (CONCYTEC).

In addition, ISEA received support from private companies in Peru. Most of this was devoted to support the participation of young scientists and researchers from developing countries. The results of the workshop will be published in a special issue in the Journal for Atmospheric and Solar Terrestrial Physics. The deadline for submission of papers was July 31st, 2012.

Ethiopia was chosen as the site of the next ISEA meeting to be held in the 2015/2016 time window.

Jorge Chau
(On behalf of the Scientific Committee)

4.2 XVth Workshop on Geomagnetic Observatory, instruments, data acquisition and processing June 4-14, San Fernando, Spain

Every two years, IAGA runs a workshop on Geomagnetic Observatories, which brings together representatives from the international geomagnetic observatories network in order to perform instrumental calibrations, exchange information about observations of the Earth's magnetic field, latest instrumental development, and data processing. In August 2009, IAGA asked San Fernando geomagnetic observatory to assume the responsibility for the organization of this event. The aforementioned symposium was attended by 120 researchers from five continents.



The scheme followed during its development was as follows:

Measurement sessions at the Geomagnetic Observatory between 4 and 8 June: 113 absolute geomagnetic measurements were made using Fluxgate D / I, and a total of 9 proton and

two variometer magnetometers were calibrated. Several demonstrations with prototype magnetometers were performed.

The scientific sessions were at Baha Sur Hotel in San Fernando between 11 and 13 June. They were structured as follows:

Topic I: Absolute measurements. Topic II: Magnetometers. Topic III: Observatories. Topic IV: Networks, surveys, repeat stations and satellites. Topic V: Data processing and management. Topic VI: Applications. Scientific highlights

During these sessions a total of thirty-nine presentations in oral format, and fifty-seven in poster format were made. To complement them two invited lectures were presented. The first one discussed space weather and the use of observatory data for these kinds of applications, given by Alan Thomson. The second was focused on innovative instruments and/or observation systems, presented by Monika Korte. INTERMAGNET took advantage of the event and carried out a meeting in round table format at the conclusion of the workshop, covering certain technical issues such as the 1-second sampling rate, and the generation of quasi-definitive data that could support the Swarm space mission. Additionally a press conference was held and several media were accredited (radio and television) during the event.

The next workshop will be organised in 2014 and hosted by Hyderabad magnetic observatory staff.

Manuel Catalan
(On behalf of the Scientific Committee)

4.3 13th Castle Meeting on Paleo, Rock and Environmental Magnetism June 17 – 23, Zvolen, Slovakia

This meeting was already the 13th in a series of biennial meetings, held since 1988. Although the meeting was held at the same time as the traditional specialised rock-magnetic workshop in Santa Fe, USA, it was attended by 55 active participants from 24 countries worldwide (including North and South America and Asia). 15 participants had the status of PhD students. Student presentations were evaluated by a board of 5 experienced researchers, covering all subject fields of the meeting. Posters and oral presentations

were evaluated equally. At the official closing ceremony, 5 students got Certificates of Excellence for outstanding student presentation (K.L. Kapper from Zurich; M. Neres, S. Fernandes and A. Lopes from Lisbon and C. Garcia-Lasanta from Zaragoza). Cristina Garcia-Lasanta from the University of Zaragoza (Spain) is nominated for the IAGA Young Student Award for her presentation entitled "Paleomagnetism applied to basin geometry reconstruction in the Triassic red beds of the Castilian Branch (Iberian Range, NE Spain)". The board members emphasized and appreciated that the performance of all the students was at a very high level.



The scientific program consisted of several blocks of oral presentations, each of them consisting of 3-4 talks, and 2 afternoon poster sessions. The sessions were chaired by two chair-persons, one of them being as a rule a PhD student. Some 40 talks were given

and during the two poster sessions, about 20 posters were presented, each of them having a short oral introduction. In addition to the scientific program, a half-day tour of the region was undertaken. The tour included an excursion to Banska Stiavnica, a town on the UNESCO list of cultural treasures, where we visited a mining museum. Banska Stiavnica is well known for silver and gold mining and the first mining university in the world was established there. In the evening, a barbecue took place on top of Polana mountain, which represents a "benchmark" in Slovak cultural history. During the barbecue, a performance of Slovak folk music was organized. On the other evenings, we had nice opportunities to taste Slovak wine from part of the famous Tokai region and to listen to sounds of traditional Slovak folk musical instruments.

A public lecture entitled "Geomagnetic field and its importance for the life on Earth" was given by Eduard Petrovsky at the library of Technical University in Zvolen, with an audience of 20 from the university as well as the general public.

IAGA financial support was provided to five participants from Ukraine, Romania, China, Estonia and Italy. Financial support, provided by the sponsors listed below, is much appreciated, and contributed significantly to the success of the meeting. The meeting was perfectly organised by colleagues from the Geophysical Institute of the Slovak Academy of Sciences in Bratislava.

The next, 14th, meeting will be held in 2014 in Evora, Portugal. This is the first time the meeting will take place outside the former Czechoslovakia. Out of 3 bids (Belgium, Bulgaria and Portugal) presented at the meeting, Evora in Portugal got the highest number of votes. We are looking forward to the next fruitful and successful meeting.

Eduard Petrovsky
(On behalf of the Scientific Committee)

4.4 39th Scientific Assembly of the Committee on Space Research July 14-22, Mysore, India

The 39th Scientific Assembly of the Committee on Space Research was organized in Mysore, India from 14 to 22 July. The hosts for COSPAR 2014 were the Indian Space Research Organisation (ISRO) and the Government of India Department of Space. The venue for the Assembly was the N.R. Narayanamurthy Centre of Excellence on the campus of the Indian IT company Infosys.

According to figures supplied by the entity in charge of processing submissions, 3504 abstracts were submitted by 2620 authors for the 114 events comprising the core Mysore scientific program, and a total of 2129 scientists, students, exhibitors, and press participated in the 2012 Assembly. This figure is comprised as follows: 1620 full participants, 346 students, 85 exhibitors, and 78 representatives of the press. When special invitees, volunteers, LOC staff, accompanying persons and participants in the opening ceremony and social events are tallied the total number reaches 2838 with another approximately 1000 locals attending a public lecture. The figures from Mysore make COSPAR 2012 the Committee's most successful congress held to date in Asia.

In addition to the core scientific program of 114 scientific events, a number of special events

enlivened the Assembly including six interdisciplinary scientific lectures, the presentation of the "Global Road Map for the Next Decades" formulated by the COSPAR Working Group on the Future of Space Astronomy, and a space agency round table organized by ISRO. Participants and the public were also invited to attend a general lecture on Exoplanets organized at the University of Mysore.

A large number of organizations, including international scientific unions and committees, inter-governmental entities, national space agencies, and private companies, sponsored many of the congress' scientific events or the Assembly scientific program in its entirety. COSPAR gratefully acknowledges the sponsorship of these organizations and in particular the financial support for needy participants provided by many of them, including IAGA.

The program book and abstracts for COSPAR 2012 may be found at <http://www.cospar-assembly.org> under menu options "Scientific Programs" and "Downloads".

COSPAR Secretariat

4.5 21st EM Induction Workshop July 25-31, Darwin, Australia



After 20 successful Workshops in 20 different countries, the 21st EM Induction Workshop was held in Australia for the first time from 25th to 31st July, 2012. These Workshops are held every two years, and are organised by Working Group I.2 of IAGA. The venue for the Workshop was the small, northernmost city of Darwin, with a population of about 125,000. It is a very multi-cultural and young city, with a rapidly growing economy. The Workshop was held in the dry season, with

daytime temperatures hovering about 30°C dropping to 20°C overnight.

Despite the high Australian dollar, and the long distances that many of the delegates travelled, attendance at the Workshop continued the steady growth in numbers over the last two decades. Just over 260 delegates attended from over 30 countries around the world, with approximately half of these delegates being students and early career researchers. The delegates submitted a very healthy 265 abstracts between them, which is very positive for the long-term future of the scientific discipline. Single-session presentations were made in the mornings, followed by posters in the afternoons. A total of 41 oral presentations were made over the five working days of the Workshop. A feature of these Workshops is that all posters are on display for the entire week, allowing delegates to get to see the whole range of activity.

Review paper presentations have been a very successful feature of the Workshops over many years. In Darwin, ten reviews were given by a combination of senior, experienced scientists, and early career researchers at the cutting edge. The review papers present an excellent overview of the state of the art in various disciplines, which are highly valued by the whole community and particularly for students new to the field. In Darwin, the reviews ranged from theory, modelling and computing; petrophysics and rock properties; and exploration for minerals, petroleum, energy and water. The EM community at these Workshops is drawn from many sectors, including Universities, Industry Government research laboratories, National Research Agencies and Geological Surveys. The community significantly supported the Workshop through generous sponsorship. Thirty different companies and institutions supported the Workshop, with funds primarily to students to attend the Workshop. In particular, over 50,000 AUS was refunded directly in the form of cash payments, registration waivers and accommodation support to 49 students and early career researchers. Another 30,000 AUS of sponsorship significantly subsidised all the student and retiree registrations.

A great tradition of the Workshops is to mingle the science and social programs. With a benign climate and a small city footprint, Darwin was an

excellent location. Social events included a one-day excursion to Litchfield National Park (including swimming in various waterholes); a night at the world-famous deck-chair cinema which is an outdoor venue when the sun goes down; a visit to the Mindil Beach Markets and the sunset over the ocean; and the final night dinner outside at the Darwin Sailing Club on a beautiful warm evening. We hope that the delegates left with a combination of inspiring science, networking amongst friends in our community, and a positive view of their time in Australia.

The 22nd Workshop is being planned for Weimar, Germany, 24-30 August, 2014; we are looking forward to this!

Graham Heinson
(Chair of the Organizing Committee)

4.6 5th VLF/ELF Remote Sensing of Ionospheres and Magnetospheres (VERSIM) workshop September 3-6, Sao Paulo, Brazil

The 5th VLF/ELF Remote Sensing of Ionospheres and Magnetospheres was held at the Presbyterian Mackenzie University, São Paulo, Brazil, on September 3-6, 2012. Local institutional support came from the Center for Radioastronomy and Astrophysics Mackenzie (CRAAM) part of the Engineering School, and the National Institute for Space Research (INPE).

The meeting was attended by 58 participants from the five continents, including researchers and students. This was the first VERSIM Workshop held outside Europe. 56 papers in the form of talks and posters were presented during scientific sessions focused on: (i) sub-ionospheric propagation, observations and modeling; (ii) VLF chorus emissions and quasi-periodic emissions; (iii) triggered emission and wave-particle interactions; (iv) induced emissions and diagnostic in optical and radio range; (v) VLF data sets and campaigns; (vi) A Geophysical approach to assess Natural Disasters and Space Weather impacts on Earth.

The meeting was intended to bring together experts in the area of VLF research, from well known scientific institutions. A specific achievement of the workshop was the great inter-

action between scientific professionals and regional students from Brazil, Peru, Ecuador and Uruguay. The Scientific Programme Committee recommended Ilya Kuzichev, from the Space Research Institute of Russian Academy of Science, Moscow, to receive the IAGA young scientist award.

The Scientific Organizing Committee finally recommended a next edition of the VERSIM Workshop to be organized in 2014, in Dunedin, New Zealand.

Jean-Pierre Raulin
(Chair of the Organizing Committee)

4.7 7th IAGA/ICMA/CAWSES Workshop on Long Term Changes and Trends in the Atmosphere September 11-14, Buenos Aires, Argentina

The 7th IAGA/ICMA/CAWSES Workshop on Long Term Changes and Trends in the Atmosphere was attended by 54 participants. There were 46 oral talks, of which 12 were invited. There were also 14 poster presentations. Talks and poster sessions were followed by lively discussions and participants were able to interact and make contacts.

The participants were: 9 from USA, 5 from Russia, 1 from Peru, 1 from Mexico, 1 from Japan, 2 from India, 8 from Germany, 1 from France, 1 from Czech Republic, 2 from Chile, 1 from Brazil, and 22 from Argentina. Young scientists participating were Rustam Khaitov (Russia) who is 24 years old, Claudio Scheffler (Argentina) also 24, Elena Savenkova (Russia) who is 26, Enrique Rojas Villalba (Peru) who is 25, and Tsuchiya Chikara (Japan) who is 27.

The Workshop included also general discussion about open problems and preparation of a new SCOSTEP project in the area of climate change in the higher levels of the atmosphere. This new project is going to be a continuation of a CAWSES-like activity of SCOSTEP, which will end by the end of 2013, due to their close scientific linkages of TRENDS related research.

Special thanks to IAGA for its important financial support to this 7th Trend Workshop 2012, which, together with the contributions

from ICTP, SCOSTEP, CONICET and FONCYT, made it possible to provide more than 10 participants with full or partial support for travel costs.

Ana G. Elias
(Chair of the Organizing Committee)

4.8 4th International High Energy Particle Precipitation in the Atmosphere (HEPPA) Workshop October 9-12, Boulder, Colorado, USA

In recent years it has become increasingly apparent that there are many common mechanisms by which variations in solar irradiance and energetic particle precipitation (EPP) affect the atmosphere. The HEPPA/SOLARIS 2012 meeting brought together the High Energy Particle Precipitation in the Atmosphere (HEPPA) and SOLARIS (Solar Influences for SPARC (Stratosphere/Troposphere Processes and their Role in Climate)) communities for their first joint meeting. This workshop, which was held 9-12 October 2012, followed three previous HEPPA workshops in Helsinki, Finland (2008), Boulder, Colorado, USA (2009), and Granada, Spain (2011).

HEPPA/SOLARIS 2012 brought together 80 participants from ten different countries. The workshop consisted of invited tutorials that were targeted at a level appropriate for scientists and students from various disciplines, as well as contributed posters. A total of 14 tutorials and 56 poster presentations were given during the 4-day meeting. In addition, on the fourth day of the meeting, parallel HEPPA and SOLARIS model/measurement inter-comparison working group sessions were held. Presentations were grouped according to five broad topics that included (1) Solar and particle variability; (2) Solar and particle effects on the stratosphere and above; (3) Solar and particle effects on the troposphere; (4) Atmosphere and ocean/atmosphere coupling; (5) Tools for assessing solar and particle influences.

Significant advances have been made recently in our understanding of solar irradiance and particle influences on the atmosphere and climate. Global models increasingly include solar cycle variations in both total solar irradiance and spectral solar irradiance. There is more recognition of the

importance of not only the “top-down” solar mechanism but also the “bottom-up”, or ocean-atmosphere coupling, mechanism. A new value of the solar constant, based on NASA satellite observations, is now accepted. There have been improvements in calculations of EPP ionization rates and of both simulations and measurements of the chemical effects that follow atmospheric ionization. Some recent data analysis and modeling studies suggest that EPP induces coupling of different atmospheric regions, and might affect even surface temperatures by triggering wave-mean flow interactions. Ionization from galactic cosmic rays (GCR) has been included in global models, and measurements at CERN show that it is possible for GCR to stimulate aerosol nucleation at tropospheric temperatures. There was also substantial discussion about future work and the outstanding questions. Predictions of solar cycle and longer effects on climate are problematic. Much of our knowledge is based on the last three solar cycles, but we do not know how representative these cycles are. There are disagreements in the measurements of spectral solar irradiance variations over the solar cycle. Measurements of the sources of EPP at different energies are severely lacking. Substantially more work must be done to understand the precise coupling mechanisms that are triggered by either solar irradiance or EPP forcing. With the demise of ENVISAT the community lacks global measurements of the most important atmospheric trace constituents for unraveling the effects of EPP. The investigations of GCR effects are really just in their infancy.

The next HEPPA workshop is scheduled for May, 2014, in Karlsruhe, Germany. The next joint HEPPA/SOLARIS workshop will be held in 2015 at a location TBD.

Cora E. Randall
(Chair of the Organizing Committee)

5 In Memorium

John Samson (1945 – 2012)

John was born on August 8, 1945, in New Westminster. He passed away after a short illness on February 7, 2012, at the age of 66 in Edmonton, Alberta.

John gained his Bachelor (1967) with Honours and Master (1968) degrees in Physics-Geophysics at the University of British Columbia. After this he attended the University of Alberta, receiving his PhD in 1971. Post-doctoral research at the University of California, San Diego, followed. In 1973, John returned to Canada where he worked for five years in Ottawa at the National Research Council in laser and plasma physics.

In 1978, John joined the University of Alberta's Department of Physics as an assistant professor, eventually becoming department chair from 1996 through 2004. During his two terms as chair, John spearheaded the renewal of the department, overseeing one of the largest recruitment drives in its history. He also advanced high performance computing within the university, which is now represented through infrastructure that is at the forefront of technology in Canada.

John was a pioneer in time series analysis, ULF plasma waves, and magnetic substorms. His contributions to space science are known around the world, and widely appreciated by the many colleagues he interacted with throughout his career. His expertise in substorms and in analyzing the optical and magnetic signatures of the aurora borealis, brought him in contact with the 2007 THEMIS mission. John was the principal investigator for Canada's CANOPUS experiment.

John's mentorship of students and postdoctoral fellows, together with his scientific achievements, helped to mold a new generation of scientists who continue to advance his ideas.

Robert Rankin
(University of Alberta, Canada)

Hagai Ron (1944 – 2012)

Hagai Ron was born in 1944 in Palestine. He passed away on 10 September 2012. After completing his Ph.D. at the Hebrew University of Jerusalem in 1984, he was a postdoctoral scholar at Stanford University, specializing in paleomagnetism and structural geology. He returned to Israel in 1987, building the first paleomagnetic laboratory in Israel at the Geophysical Institute of Israel. In 2001, he moved with his lab to the Hebrew University of Jerusalem, where he worked until his retirement earlier this year.

Hagai was active in paleomagnetism and tectonics for more than 25 years. In that time he authored or coauthored more than 60 papers on a range of topics. A major part of his work was devoted to the tectonics of strike-slip environments, providing quantitative constraints on the amount and sense of block and fault (and stress) rotations occurring in regions of distributed strike-slip faulting. Through careful paleomagnetic analysis, Hagai was able to demonstrate the utility of simple models in simple regimes, in solving the puzzle of more complex regimes. His paleomagnetic work established that a combination of two simple models can explain many apparently complex observations.

Throughout his career Hagai's interest in the topic continued, while he also worked on several other major research themes where he came up with innovative ideas. He made significant contributions to the timing of hominid dispersal out of Africa, having established the date of the oldest discoveries in Israel. In an effort to define a paleosecular variation record from the Lisan formation he instead demonstrated the limitations of such a record due to the growth of greigite during diagenesis. In recent times, he championed the use of Israeli and Jordanian archeological materials for the study of paleointensity variations in the southern Levant.

Hagai collaborated extensively with the international scientific community, particularly in the United States and Germany. He was an excellent mentor for his graduate students, who remember his thoughtful attention with gratitude. His collaborators found him to be a man full of great ideas, yet always humble. He will be missed.

A more detailed version of this tribute can be found in *Eos*, 93, No. 47, p 475, November 2012.

Lisa Tauxe
(Scripps Institution of Oceanography, University of California, San Diego, La Jolla – USA)

Tom Mullender (1945 – 2012)

Tom Mullender died July 21, 2012 at the age of 67 years from the consequences of a major traffic accident he was involved in on June 26. Although he formally retired two years before as technician, electronician and gifted instrument designer at the Paleomagnetic Laboratory Fort Hoofddijk

(Utrecht University, The Netherlands), he continued to be very much involved, and was seen working daily at the laboratory.

For more than 40 years Tom was a foremost instrument innovator, continuously improving and finding novel solutions. He has designed and upgraded rock-magnetic and paleomagnetic equipment, from building electronic interfaces for spinner magnetometers, designing a fluxgate spinner magnetometer that operated at high-and-low temperatures, modifying the classic horizontal translation Curie balance into an ultrasensitive instrument, writing software to generate first-order-reversal-curve diagrams, and many other smaller items. Importantly, he was the stimulating person in perfecting the fully automatic, robot-assisted SQUID magnetometer system in the Utrecht laboratory, which is unique in the world. Sadly it was not given to him to see the final step of this automation process: performing fully automatic stepwise thermal demagnetization. A gifted designer and perfectionist, indeed. But also a warm and very helpful person, highly appreciated by the many students and visitors of the laboratory of the years. He is survived by Simon, his son. He was a very special person. He will be missed.

Mark Dekkers
(Utrecht University, The Netherlands)

John B. "Jack" Townshend (1927 – 2012)



Jack Townshend, geophysicist and dedicated public servant, died on 13 August 2012 in Fairbanks, Alaska. He was 85. Jack's career with the Federal Government, most of it with the national magnetic observatory program,

spanned more than six solar cycles of time, and he retired only days before his death. The duration of Jack's career encompassed an important period in the history of the advancement of our understanding of the Earth. Jack's career of contributions, his life, and his personality are worthy of retrospective celebration.

In 1946, at the age of 19 and having only modest educational credentials, Jack was hired by the U.S. Coast and Geodetic Survey (CGS) to support analog-photographic magnetic-field measurement at the Cheltenham observatory in Maryland. In 1956, operations were transferred to the new Fredericksburg observatory in Virginia, a facility that was constructed under Jack's supervision and according to his design. During the International Geophysical Year, 1957/1958, Jack trained domestic and foreign observatory workers, and he supervised the calibration of their magnetometers. With the arrival of the space age, Jack provided support for the operation of the coil facility at Fredericksburg for calibrating magnetometers used by NASA on early satellite missions. In 1963, Jack was appointed Chief of the CGS College Magnetic and Seismological Observatory at the University of Alaska Fairbanks (UAF). Because of their high quality and continuity, magnetic data from the College observatory played an important role in the development of theories of magnetic storms and auroral substorms by Sydney Chapman and Syun-Ichi Akasofu. After the M9.2 Alaska earthquake of 27 March 1964, Jack served as the local Alaska spokesman for the CGS on this important event.

Over the years that followed, many things changed for the Geomagnetism Program. In the 1970s, the Program was transferred to the US Geological Survey (USGS). In the 1980s, magnetic-field data began to be collected and disseminated in real-time. But modern digital data acquisition systems did not provide Jack with the tangible satisfaction he obtained from analog systems. Still, Jack kept himself relevant. His participation in the U.S./U.S.S.R. Joint Nuclear Verification Experiment (1988) earned him an appreciative letter from President Bill Clinton. Under terms of a creative agreement that Jack initiated between the USGS and the UAF, in 1996 the College Observatory was moved to a new and larger site where high-quality geophysical data of many types could be collected. This facility is now named in Jack's honor. Jack's contributions to science were recognized by many agencies and many individuals, including the Long Service Scientific Award which he received from the International Association of Geomagnetism and Aeronomy in 1989. The greeting that Jack used to have on the answering machine of his office telephone

was "Yesterday is history, tomorrow is mystery, but today, the present moment, is a gift". He certainly lived his life according to that sentiment. Jack is survived by his wife, Frieda, whom he married in 1952, three children, eight grandchildren, and two great-grandchildren.

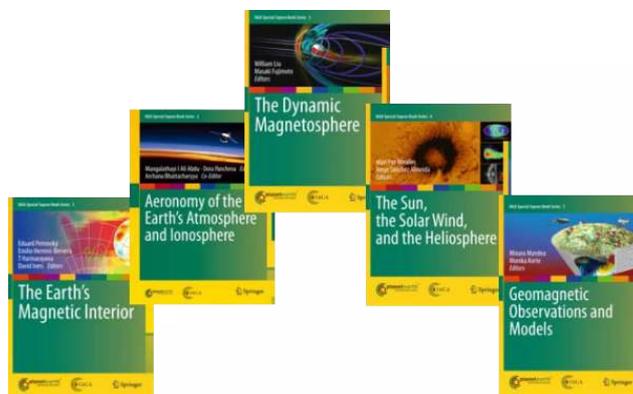
A more detailed version of this tribute can be found in *Eos*, 93(5), 524-525, 2012.

Jeffrey J. Love and Carol A. Finn
(USGS Geomagnetism Program, Denver, Colorado – USA)

6 General information about IAGA

6.1 IAGA books series published by Springer

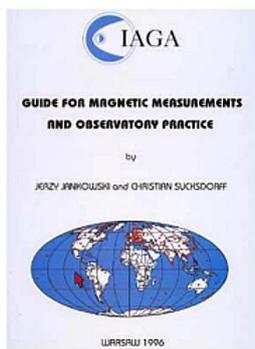
One of the most important achievements of IAGA during the last two years was to publish, with Springer, a series of five books, representing results obtained by the IAGA five Divisions over recent years. As well as providing useful reference texts, the income to IAGA from Springer for this venture was used to support scientists to attend the last SA in Sopron, Hungary. The previous Secretary-General devoted considerable time and effort to seeing this project through to completion, and the current Secretary-General would like to thank warmly everyone who showed support during the preparation of these manuscripts, and is grateful for the time taken by colleagues and friends to provide valuable information and data, comments and encouragement, as authors, editors or referees.



IAGA has published four practical guides to observation. These may be ordered from the Secretary-General and they are also available at the IAGA web site.

IGAG Guide for Magnetic Measurements and Observatory Practice

by J. Jankowski and C. Sucksdorff, 1996, 232 pages, ISBN: 0-9650686-2-5; Price: USD 50.



This Guide provides comprehensive information about how to organize and run a magnetic observatory and make magnetic measurements. The main topics are:

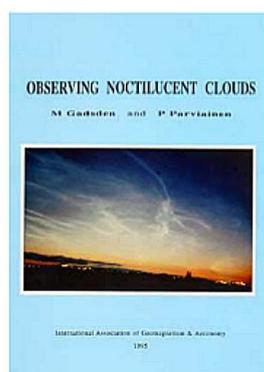
- A brief description of the magnetic field of the Earth
- Selection of observatory sites and layout
- Magnetometers
- Absolute magnetic measurements
- Recording of magnetic variations
- Data processing
- Testing and calibrating instruments

IGAG Guide for Magnetic Repeat Station Survey

by L.R. Newitt, C.E. Barton, and J. Bitterly, 1997, 120 pages, ISBN: 0-9650686-1-7; Price: USD 25.

This Guide provides a comprehensive description of the theoretical basis, operational details, and instrumentation for making magnetic repeat station survey measurements.

This manual and instruction book was



written by a group of active researchers, both professional and amateur. There are chapters giving practical advice for taking visual observations, photographing the clouds with film or with video equipment. A summary of observations from space is included, as well as comments on the connection between noctilucent clouds, seen from the ground, and the polar mesospheric clouds that so far have been measured only from orbit. Noctilucent clouds are seen in the summer months, shining in the poleward sky at night-time. Measurements show that the clouds are higher than any others. Lying at a height of 80-85 kilometers, the clouds mark a boundary between meteorology and space physics.

This book is beautifully illustrated with photographs, and will help everyone recognize and appreciate these "sailors in the summer night".

This guide is out of print but it is available at the web site using the link [ONC](#). (Prices do not include shipping and handling.)

6.2 IAGA website

Information on IAGA can be found at: <http://www.iugg.org/IAGA>

6.3 IAGA contact

The Secretary-General is the main point of contact for all matters concerning IAGA:

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