

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 26th General Assembly of the International Union of Geodesy and Geophysics which was held from June 22 to July 2, 2015 in Prague, Czech Republic, and more

specifically about the IAGA participation. The meeting was characterized by the central theme: "Earth and Environmental Sciences for Future Generations".

Some major decisions taken during the Assembly by the IAGA Conference of Delegates and the Executive Committee are reported. As the IUGG meeting represented the moment to renew the IAGA Executive Committee and its president, I would like to take this opportunity and to deeply thank Kathy Whaler for the tremendous leadership shown during her four years as IAGA President. I also owe a deep debt of gratitude to the rest of the Executive Committee members who have completed their terms of office. I would also like to record my personal thanks to those who have served as Division Officers or members of our other Committees, for their dedication and commitment.

This issue also contains reports on IAGA activities of different kinds and provides information about deceased IAGA scientists. In its present form - IAGA News contains brief summaries of different activities and topics; the reader is referred to the IAGA website (<http://www.iugg.org/IAGA>) for more details.

IAGA News is distributed – in its electronic form

Contents

| | | |
|----------|---|-----------|
| 1 | Message from the President | 2 |
| 2 | The 26th IUGG General Assembly | 3 |
| 2.1 | Participation | 3 |
| 2.2 | Report of the 1 st Conference of Delegates | 3 |
| 2.2.1 | Reports | 4 |
| 2.2.2 | Business | 6 |
| 2.3 | Report of the 2 nd Conference of Delegates | 6 |
| 2.3.1 | Reports | 6 |
| 2.3.2 | Business | 7 |
| 3 | Executive meetings (IAGA and IUGG) | 7 |
| 3.1 | New Leadership of Divisions and Commissions | 7 |
| 4 | 2015 IAGA Awards | 8 |
| 4.1 | IAGA Award for Interdisciplinary Achievements - Shen Kuo | 8 |
| 4.2 | IAGA Long Service Award | 9 |
| 4.3 | IAGA Young Scientist Award | 10 |
| 5 | Reports on Meetings: IAGA- | |
| | Sponsored or for IAGA interest | 11 |
| 5.1 | International Workshop and School on Solar system plasma turbulence | 11 |
| 6 | In Memorium | 12 |
| 7 | General information about IAGA | 18 |
| 7.1 | IAGA books series published by Springer | 18 |
| 7.2 | IAGA website | 19 |
| 7.3 | IAGA contact | 19 |

IAGA on the Web

Information on IAGA is regularly updated at the IAGA site:
<http://www.iugg.org/IAGA/>

– to the National Correspondents in the Member Countries, to all IAGA officers and to IAGA scientists who have attended recent IAGA assemblies. Please be free to distribute IAGA News around, mainly to the national policy makers and leaders, whose decisions can affect the activities of IAGA.

Mioara Manda
(Secretary-General)

1 Message from the President



It has been my great honour to be elected to serve the community as the IAGA President for the next four years. At the same time, I am very much pleased to express my personal thanks to the previous President, Kathy Whaler, all the members of the previous EC and all those who actively contributed to the present state of IAGA.

Not only the Division, Working Groups and Committee officers, but also tens of those who contributed to compilation of the scientific programme at the IAGA Assemblies and/or organised the numerous IAGA-sponsored topical meetings. Without their enthusiasm and commitment IAGA would never be as healthy and vital as it is now. This is well reflected in the character, performance and activities of the Association; it is not passive, closed society, but is active, with good drive and a will to further develop itself. This is well reflected for instance in the upgrade of the Working Group on electromagnetism to a new division.

As regards the scientific life of IAGA during this year, I have to emphasize the General Assembly, which took place within the XXVI IUGG General Assembly in my hometown, Prague. I had the opportunity to gain a lot of experience from my role of the Chair of Scientific Programme Committee. I know well that the programme was not ideal. However, I am very confident that along with the Secretaries General of all the eight IUGG associations and my local co-workers, we did our best

to accommodate most of the relevant requests from the scientific community. I am proud to say that IAGA was the most active association, leading six and involved in seven other joint inter-association symposia. The IAGA scientific programme consisted of 37 symposia (109 sessions), with almost 900 presentations (16% of the total). Some 534 participants (18% of total) chose IAGA as their primary affiliation. Janet Kozyra gave an excellent and well-received Union Lecture entitled "The Whole-System Approach to Extreme Space Weather". Dan Baker was awarded our prestigious Shen Kuo medal; Hans-Joachim Linthe and John Riddick were awarded our medal for outstanding long services to IAGA. Four young colleagues, Erin Dawkins, Maria Mendakiewicz, Israel Silber and Remi Thieblemont were granted the IAGA Young Scientist Award. Last but not least, the second IAGA Summer School, organised in excellent way by Monika Korte, was again a great achievement.

My aim and vision is that IAGA will continue its mission with even more enthusiasm and clear message to the community. It has great potential to become the scientific shelter of primary importance to all dealing with geomagnetism and related subjects in a broad sense. In particular young colleagues should become aware of IAGA and should be proud to be part of our big family. We will carry on building this part of the community by continuing the IAGA Summer Schools and awarding excellent student performance at IAGA-sponsored meetings. Active young scientists will be offered more space in the organisation of the IAGA activities. Finally, I see great potential for further interdisciplinary involvement of IAGA through its active cooperation with, e.g., the European Space Agency toward the Swarm mission data and services, or the World Meteorological Organisation with respect to space weather. IAGA already has very strong representation in the newly established IUGG Union Commission on Planetary Sciences.

The role of President represents a big challenge for me and expression of your trust in my skills and abilities. I am well aware I can't complete the mission alone. However, I am sure I can rely on the newly composed Executive Committee and a whole cohort of active colleagues.

Eduard Petrovský
(President)

2 The 26th IUGG General Assembly, Prague, Czech Republic

2.1 Participation



The Scientific Program of IUGG 2015 involved more than 4300 participants from 90 countries. Almost 5400 contributions out of more than 5700 submissions were presented, in a total of 202 symposia and workshops, divided into 639 sessions. Among the presentations at the General Assembly were 9 Union lectures, 476 invited presentations, 2682 oral presentations, and 2211 poster presentations. One of the 9 Union Lectures was given by Janet U. Kozyra (USA), an excellent and well-received lecture entitled "The Whole System Approach to Extreme Space Weather". It is important to note that the financial budget of the meeting was able to fully or partly support the attendance of 619 participants, mainly young scientists from developing countries.

The total number of scientists attending the IUGG General Assembly was a record high (3704) the distribution of the participants between the eight Associations and "Union and others" was as follows (the first figure give a unique affiliation to one association, the second a double affiliation, with another association or IUGG):

| | |
|--|----------|
| Int. Assoc. of Cryospheric Sciences | 183 + 6 |
| Int. Assoc. of Geodesy | 481 + 11 |
| Int. Assoc. of Geomagn. & Aeronomy | 534 + 22 |
| Int. Assoc. of Hydrological Sciences | 314 + 6 |
| Int. Assoc. of Meteorology & Atm. Sci. | 497 + 12 |
| Int. Assoc. of Phys. Sci. of the Ocean | 300 + 3 |
| Int. Assoc. of Seismol. & Phys. Earth's Int. | 444 + 8 |
| Int. Assoc. of Volcan. & Chem. Earth's Int | 268 |
| Union (IUGG) and others | 683 |

With respect of the IAGA participants, the

"Top 5" participating delegations were:

| | |
|----------------|----|
| USA | 86 |
| Japan | 49 |
| Czech Republic | 48 |
| Russia | 47 |
| UK | 37 |

The IAGA presence was remarkable, as IAGA scientists were involved in organising 7 from the total of 11 Union symposia, and led 6 Inter-Association symposia; the IAGA only part of the meeting consisted of 43 symposia, sub-divided into several parts, spanning the full range of IAGA science interests.

The IAGA programme efficiently run in over the first part of the meeting, was held in a conference centre which provided an excellent space for poster viewing and the exhibition, as well as plenty of varied sized rooms for oral presentations. This gave us the chance to catch up with latest developments in our own research specialities, as well as take in some of the more inter-disciplinary topics.

The meeting provided many opportunities for scientists to discuss different topics, over breaks, poster sessions, and the IAGA special dinner party!

Report of the Meetings of the IAGA Conference of Delegates

2.2 Report of the first Conference of Delegates: Tuesday 23 June 2015, 12:00 – Terrace II



The Secretary General conducted a Roll Call of the Chief Delegates from all IAGA member countries. This established that 27/30 Chief Delegates (with/without voting rights) were present from the 48 voting member countries that had sent

accreditation letters. A quorum of Delegates (at least half) was therefore present and the meeting could proceed.

The agenda was approved and the President called the meeting to order and welcomed all the delegates.

Moment of remembrance for IAGA members deceased

The President led the remembrance of 16 deceased members over 2013-2014 period, and the delegates stood for a minute of silence.

Approval of the Minutes of the 2013 Conference of Delegates

The minutes of the 2013 CoD were approved unanimously.

Presentation of IAGA Medals

The Shen Kuo Medal for interdisciplinary achievements was presented to Dan Baker, who responded briefly. The delegates gave him a warm round of applause. The other IAGA awards will be presented at the IAGA Dinner on Sunday, June 28.

2.2.1 Reports

Report of the President (Kathy Whaler)

The President Kathy Whaler reported on the following:

IUGG held an Extraordinary EC meeting in Vienna, Austria, April 2015 to discuss changes to how the Union operates

- IAGA EC held a Telecon to discuss proposals and issues
- Secretary-General (SG) represented IAGA at the meeting
- As a result, consensus was reached and changes to the Statutes and By-Laws are to be proposed at this Assembly

IAGA has prepared revisions to its Statutes and By-laws, in particular to allow electronic voting; the proposals are in line with the proposed IUGG ones. Thanks to the SG, Alan Jones (Ireland)

and Michael Purucker (USA) who worked the proposed version.

- World Meteorological Organisation (WMO) has some established links with IUGG and are proposing that IAGA cooperates on Space Weather
- IUGG Post-2015 Framework for Disaster Risk Reduction (ICSU initiative)
- IUGG is considering a Union Commission on Planetary Sciences
- ICSU discussion paper on open access and evaluation by metrics
- Several changes to country IUGG membership and proposals for several organisations to become affiliate members of IUGG
- The new IUGG awards - two IAGA scientists received Early Career Awards: Johanna Salminen (Finland), Futoshi Takahashi (Japan)
- IAGA Bulletins on the website – thanks to the SG and Monika Korte

Report of the Secretary-General (Mioara Manda)

The Secretary General Mioara Manda reported on the actions of the Executive Committee since the previous Conference of Delegates in 2013. Her report included the following:

Nomination of liaison persons, IAGA EC nominates:

COSPAR: Andrew W. Yau (Canada)
SCOSTEP: Vladimir Kuznetsov (Russia)
CODATA: Alexei Gvishiani (Russia)

IUGG Commissions:

CMG Matthias Holschneider (DE)
GRC Alan Thomson (UK)
SEDI Cathy Constable (US) /
Dominique Jault (France)
UCDI Anatoly Soloviev (Russia)
WGH Edward W. Cliver (US)

Topical meetings

The work done as member of the WG of the IUGG to propose a "Visioning and a Strategic plan for

IUGG 2016-2023", and as member of the Ad-Hoc Committee on IUGG - GEO, were mentioned.

Preparation of the IUGG 2015 meeting:

- Meeting in February 2015 (Prague)
- Scientific Program (with Division Leaders - many thanks)
- Grants
- Venues

Report of the Finance Committee (Michel Menvielle)

László Szarka presented the Financial Committee Report on behalf of the Financial Committee Chair, Michel Menvielle. The report was prepared on the basis of an external audit made by an Accountant and Auditor, Registered to the Order of Chartered Accountants of Paris - Ile de France, following the procedure used in France for analysis and certification of financial results of industrial and commercial companies.

The IUGG requirement has been fulfilled by the external audit carried out in March/April 2015. The resulting documents from the audit were presented. The concluding recommendations of the Auditor translated from the original French document are: "In our opinion, the financial statements present fairly, in all material respects, the financial position of IAGA for the period 2011 to 2014, as required by the accounting standards applicable to the preparation of such financial statements. I recommend that the financial statements be approved and that the General Assembly gives full discharge to the Executive Committee of his mandate for the years 2011-2014".

Recommendations:

- The Finance Committee recommends pursuing the current policy that results in maximizing the percentage of IAGA income that is dedicated to supporting scientific activities through sponsoring the symposiums and participation at IAGA Assemblies.
- The Springer contract enabled the Sopron LOC (2009 IAGA Scientific Assembly) to support the participation of scientists at the Sopron Scientific Assembly. Therefore

the Finance Committee urges IAGA EC and the LOC of the forthcoming IAGA Scientific and General Assemblies to investigate the possibility of similar contracts.

Decision: The CoD unanimously gave discharge to the Secretary General and the EC for the 2011-2014 period.

Decision: The Provisional IAGA budget presented by the Secretary General was unanimously accepted.

Brief Report on the 2nd IAGA Summer School (Monika Korte)

Monika Korte reported briefly on the Second IAGA Summer School held from June 15-21. The Summer School was very successful, based on feedback received to date. Twenty-two students from 14 countries (of 13 nationalities) participated; most were nominated by Division and Working Group Chairs. Seven lectures, followed by practical and computational exercises, by distinguished experts covered a large variety of IAGA topics. The students stayed in same hotel, and this greatly prompted friendship and networking among them.

Report of the Nominations Committee (Jan Lastovicka)

Jan Lastovicka presented the report of the Nominations Committee on behalf of the Committee Chair, Charles Barton. The criteria for nominated candidates were:

- eligibility
- geographical and Division diversity

One proposed candidate for EC membership turns out not be eligible due to her country of origin being in observer status at present. This candidate was deleted from the list. Consequently, seven out of 11 nominated EC members will have to be elected by the National Delegates. Forms with information about the candidates had already been distributed to the National Delegates by e-mail.

The voting procedure will be that numbers from 1-7 are put with candidates, in order to avoid invalid votes from checking too many candidates on the ballot sheets, as has happened in the past. The numbers all carry equal weight.

Due to the fact that none of the presidential candidates will stand for Vice-President the vote for President and Vice President could be held simultaneously. The National Delegates voted unanimously in favour of voting simultaneously for both positions.

2.2.2 Business

Changes of Statutes and By-Laws

Proposal by WG I-2, Electromagnetic Induction, to become a new IAGA Division. The proposal was presented by Ian Ferguson, Chair of WG I-2. Main invoked arguments are:

- The WG and field of research has grown considerably so that it is appropriate as a distinct subject within IAGA
- The size and activity of the WG, whose biannual EM Workshops are now usually attended by over 300 participants and include a large amount of sponsoring of young scientists merit Division status
- IAGA will benefit from a new Division as this demonstrates the dynamics and growing importance of the Association itself.

The proposal was accepted unanimously by the National Delegates.

Election of Honorary Member of IAGA

The EC proposed to elect Vaclav Bucha (Czech Republic), Eigil Friis-Christensen (Denmark) and Michel Menvielle (France) as Honorary Members of IAGA, by virtue of their respective outstanding scientific contributions to geomagnetism and aeronomy as well as their long-time outstanding contributions to IAGA.

Decision: The Chief Delegates unanimously approved the proposal.

Resolutions Committee

The EC proposed the following to be appointed to the Resolution Committee: Archana Bhat-tacharyya Monika Korte, and Erwan Thébault.

Decision: The CoD unanimously accepts the EC proposal for the Resolution Committee membership.

2.3 Report of the second Conference of Delegates: Tuesday 27 June 2015, 15:00 – Terrace 3.1

The Secretary General conducted a Roll Call of the Chief Delegates from all IAGA member countries. This established that 25/30 Chief Delegates (with/without voting rights) were present from the 48 voting member countries that had sent accreditation letters. A quorum of Delegates (at least half) was therefore present and the meeting could proceed.

Approval of the Agenda

The agenda was approved with two added items carried over from the first meeting: Report on preparations for the 2017 IAGA Scientific Assembly (Pieter Kotze) and Changes of Statutes & By-Laws.

2.3.1 Reports

Report on preparations for the 2017 IAGA Scientific Assembly

Pieter Kotze made a presentation about South Africa's preparation for the IAPSO, IAMAS, and IAGA meeting to be held in Cape Town on 27 Aug-1 Sep 2017. An early version of the IAGA program was presented.

Report of the meetings of the EC during the Assembly

Mioara Manda, in her duty as IAGA SG, prepared a Powerpoint presentation on the EC meetings during the General Assembly. Kathryn Whaler presented it, with the following items brought in front of the CoD for voting:

1. The new Division Chairs and Co-Chairs, the ICDC, and the History Committee leads were unanimously approved.
2. An IAGA proposal to establish an Inter-Divisional Commission on Space Weather was unanimously approved.

Scientific Programme for the IAGA Scientific Assembly 2017

Based on the inputs from Division Presidents, M. Manda prepared a very first draft of the IAGA

program in 2017. Div II and III, from which no inputs had been received at time of the CoD, will be contacted to send the information to the SG.

2.3.2 Business

Changes of Statutes & By-Laws

The proposed changes to the IAGA Statutes and By-Laws were briefly outlined. They were then unanimously approved.

Election of Officers for the 2015 - 2019 Quadrennium

The new IAGA officers were elected. The proposed voting scheme (see CoD 1) was applied. Alexandra Pais and Nils Olsen were appointed as scrutineers.

With 24 valid votes (out of 25 possible), the votes for President were as follows: Brian Fraser (3), Edward Petrovsky (21). The votes for Vice-President were as follows: Archana Bhattacharyya (8), Monica Korte (16). Edward Petrovsky and Monica Korte were therefore elected as the next President and Vice President.

The new EC member selections were Inez Batista (Brazil), Archana Bhattacharyya (India), Brian J. Fraser (Australia), Pieter Kotze (South Africa), Renata Lukianova (Russia), Alan Thomson (UK), and Andrew Yau (Canada).

Resolutions of the 2015 General Assembly

No resolutions have been received.

Any Other Business

Anatoly Soloviev was proposed as Chair of Historical Commission. He was approved unanimously. The CoD thanked the outgoing EC members and Kathryn Whaler for their efforts during the last years.

3 Executive meetings (IAGA and IUGG)

The Executive Council members had three meetings, on 22, 26 and 28 of June 2015. The EC1 was mainly devoted to prepare the first CoD. The EC2 endorsed the nomination of the new IAGA

officers. The geographical and gender distribution was acceptable, though the EC noted the over-representation of Europe. A concern arose from Div III, where the existing Division Chair and co-Chair were re-elected. It was also noted that the Division V Chair and co-Chair were both candidates for the new EC. If either were elected, this would entail EC appointing a replacement leader, according to the By-Laws. The History Commission had not been active recently, but a new, enthusiastic Chair had been identified.

3.1 New Leadership of Divisions and Commissions

The full address and the Working Groups leaders are available on the IAGA page: http://www.iugg.org/IAGA/iaga_pages/science/sci_structure.htm.

Division I:

Chair: Cathy Constable (USA)
Co-Chair: Harald Boehnel (Mexico)

Division II:

Chair: Paulo Roberto Fagundes (Brazil)
Co-chair: Christoph Jacobi (Germany)

Division III:

Chair: Clare Watt (UK)
Co-chair: Simon Wing (USA)

Division IV:

Chair: Spiros Patsourakos (Greece)
Co-chair: Bogdan Hnat (UK)

Division V:

Chair: Aude Chambodut (France)
Co-chair: Kusumita Arora (India)

Division VI:

Chair: Nikolay Palshin (Russia)
Co-chair: Ute Weckmann (Germany)

Interdivisional Commission on Developing Countries:

Chair: Subramanian Gurubaran (India)
Co-chair: Ahmed Abdel Hady (Egypt)

Interdivisional Commission on History:

Chair: Anatoly Soloviev (Russia)
Co-chair: Justin Mabie (USA)

Interdivisional Commission on Education and Outreach:

Chair: Edgar A. Bering, III (USA)
Co-chair: Barbara Leichter (Austria)

Interdivisional Commission on Space Weather:

This commission is still under construction.

Liaison persons

IAGA Executive Committee nominated the following scientists to be the liaison persons with different bodies and IUGG commissions:

COSPAR: Andrew W. Yau (Canada)
SCOSTEP: Vladimir Kuznetsov (Russia)
CODATA: Alexei Gvishiani (Russia)
CMG: Matthias Holschneider (DE)
GRC: Alan Thomson (UK)
SEDI: Cathy Constable (US) /
Dominique Jault (France)
UCDI: Anatoly Soloviev (Russia)
WGH: Edward W. Cliver (US)

4 2015 IAGA Awards

4.1 IAGA Award for Interdisciplinary Achievements - Shen Kuo



The Award aims at recognizing and acknowledging outstanding scientists whose activities and achievements cross several fields of research covered by IAGA.

The Shen Kuo Medal for interdisciplinary achievements was presented to Dan Baker (US).

Dr. Daniel Baker is Director of the Laboratory

for Atmospheric and Space Physics at the University of Colorado-Boulder and is Distinguished Professor of Planetary and Space Physics, Professor of Astrophysical and Planetary Sciences, and Professor of Physics there. In 2015 was named Distinguished Professor. His primary research interest is the study of plasma physics and energetic particle phenomena in planetary magnetospheres and in the Earth's vicinity. He conducts research in space instrument design, space physics data analysis, and magnetospheric modeling. Dr. Baker is a Fellow of the American Geophysical Union (AGU), the International Academy of Astronautics (IAS), the American Institute of Aeronautics and Astronautics (AIAA), and the American Association for the Advancement of Science (AAAS), and the National Academy of Engineering, and has received numerous awards in recognition of his achievements. He has also chaired numerous important panels dealing with various facets of solar-terrestrial physics and space weather. He has served as U.S. delegate to IAGA, as a member of the IAGA Executive Committee, and Chaired the IGY+50 Task Force for IAGA. Dr. Baker's lifetime research has focused on the physics of energetic particles in the narrowest sense, and on solar-planetary coupling from the broadest perspective. Most of his research has involved the interpretation of satellite-based electric field, magnetic field, and particle data, often involving multiple satellites providing linkages between the Sun and the plasma particle population of interest. Thus his research is inherently interdisciplinary between Divisions III and IV, but sometimes also involves Division II.



With over 800 peer-reviewed journal publications

it is difficult to capture Dr. Baker's extensive accomplishments in a short letter. A look at Prof. Baker's most highly cited papers where he is first author, or second author with his student as first author, reveals a common theme: the relationship between relativistic electrons in the outer radiation belt and solar and solar wind properties and variability. In this context, he has led the way in clarifying this connection in the following contexts: the neutral-line model of magnetospheric substorms and role of coupling solar wind and IMF; acceleration of relativistic electrons over rapid time scales due to solar wind enhancements, including CMEs; relation between magnetospheric compression by the solar wind and outer-zone electron variability; using solar wind velocity to predict MeV electron radiation belt flux at geostationary orbit; the role of ULF waves in accelerating relativistic electrons; the influences of recurrent high-speed streams from coronal holes on relativistic electrons; attribution of the semiannual variation of MeV electrons at geostationary orbit to the semiannual variation of solar wind velocity; and the long-term effect of precipitating relativistic electrons on stratospheric odd nitrogen levels, which impact ozone content in the middle atmosphere. This single research thrust alone is characterized by significant overlap between the disciplinary coverages of Divisions III, IV and II.

It could be argued that Dr. Baker's most distinct scientific and leadership contributions lie in the subject area of space weather. To be sure the magnetospheric research that he does falls within this realm. What I am referring to here are his scientific contributions that link solar and solar wind variability to space environment variability at Earth, and moreover to their impacts on our society. For decades Dr. Baker has been a prominent leader in promoting space weather and its effects, including many aspects and applications outside space physics. In 2006, Baker chaired a committee for the National Research Council that issued a report titled "Space Radiation Hazards and the Vision for Space Exploration," which probed the physical risks and technology obstacles of extended human space journeys. This report was mainly aimed at the risks of solar energetic particle events. He also chaired a 2008 study by the NRC that examined the Economic and Societal Impacts of Space Weather.

He has also testified in front of the U.S. Congress about the potential hazards of space weather, and has educated politicians, the general public and students about all aspects of space weather and space weather hazards. His overall contributions to the interdisciplinary subject of space weather have been immense.

His recent paper entitled "A major solar eruptive event in July 2012: Defining extreme space weather scenarios" (Baker et al., *Space Weather*, 11, 585-591, 2013) is a good example of his multidisciplinary scientific contribution to space weather, while at the same time raising potentially risky but realistic space weather scenarios to policy makers. Baker and his co-authors put forth the July, 2012 event (and its predicted geospace consequences) as one that should be employed to model "worst-case" space weather effects on technological systems such as the electric power grid, in much the same way that planners design for the "100-year flood". Dr. Baker's space weather research contributions are abundant, highly-cited and impactful. He has played a major role in educating scientists, policy makers and the public world-wide on the basic physics underlying space weather, as well as potential impacts on our 21st-century technologically-dependent society.

4.2 IAGA Long Service Award



The IAGA Long Service Award in recognition of valued services to the IAGA community over many years was presented to Hans-Joachim Linthe (Germany) and John Riddick (UK).

Hans-Joachim Linthe (Germany)

Dr. Hans-Joachim Linthe has been continuously dedicated to produce highest quality geomagnetic field data at Niemegk and associated observatories. When the Wingst observatory in Germany was threatened by closure around 1999 he successfully transformed it to a mostly automated observatory controlled from Niemegk over the subsequent years, which enabled the continued operation at this traditional and important loca-

tion. He was always sharing his experience in supporting geomagnetic observatories worldwide, both by informal advices and discussions and in recent years also by formal collaborations. Within these collaborations he was the technical team-leader establishing new geomagnetic observatories in Villa Remedios (Bolivia), Keetmanshoop (Namibia), Pantanal (Brazil) and on Lombok Island (Indonesia) with scientific partners from the respective regions. Moreover, he installed two new geomagnetic observatories on St. Helena Island and the Azores in the Atlantic, remotely operated from Niemegk. He provided expertise, technical assistance and training in observation and data processing to upgrade the traditional geomagnetic observatories in Yakutsk, Magadan, Paratunka (all Russia), Surlari (Romania), Panayurishte (Bulgaria), Hyderabad and Alibag (India), Odessa (Ukraine) and Vassouras (Brazil) in order to bring them to the INTERMAGNET quality standard or help to maintain the INTERMAGNET status.



Since 1997 Hans-Joachim Linthe has taken over the responsibility for producing the widely used geomagnetic activity index Kp for IAGA. More recently, a near-real time version of this important index was developed by the British Geological Survey, and he also took the task to continu-

ously calculate and provide this new data product via the GFZ web page along with the definitive Kp index.

Hans-Joachim Linthe also promoted high geomagnetic observatory standards, which is demonstrated by publications, which are not recognized formally in the scientific literature, but very relevant to the geomagnetic observatory community, as in particular the Proceedings of the bi-annual IAGA Workshops on Geomagnetic Instruments. He provided service to the community as the chair of IAGA Working Group V-Obs and very active member in INTERMAGNET OPSCOM, was active as member of the scientific committee in IAGA Workshops on Geomagnetic Instruments, Data Acquisition and Processing.

John Riddick (UK)

John Riddick worked for his entire career at the British Geological Survey in Edinburgh. He was an electrical engineer by training and worked on data acquisition systems for much of his career, being involved in the development of the GDAS system used by several observatories.

In his time since retirement he has worked tirelessly on the so-called INDIGO programme. This programme which involved Jean Rasson, Chris Turbitt and Simon Flower among others, has sought to improve the quality of geomagnetic data being measured at developing observatories through the donation of refurbished instruments whose performance outperforms the previously used instruments. John Riddick retired from a salaried position at BGS Edinburgh and since then the INDIGO programme has installed instruments at Chiripa Observatory (Costa Rica), Arti (Russia), Maputo and Nampula (Mozambique), Pelabuhan Ratu, Kupang, Tuntungan (Indonesia) and Karachi (Pakistan). He also installed instrumentation at Livingstone Island and Antarctica. He has helped with the development of instrumentation for ETH's observatories at Gan (Maldives) and performs the data processing and quality control for this installation.

4.3 IAGA Young Scientist Award

During the IUGG GA, certificates were presented by the President to the winners of IAGA's "Young

Scientist Award". More information about the workshops in which they participated and nominated can be found on the IAGA web site.

Erin Dawkins (UK)

Nominated by the IAGA/SCOSTEP/RAS/BAS sponsored 8th workshop on Long Term Trends and Changes in the Atmosphere.

Rémi Thiéblemont (Germany)

Nominated by the 5th International HEPPA Workshop in conjunction with SPARC/SOLARIS-HEPPA.

Israel Silber (Israel)

Nominated by the 6th VERSIM Workshop.

Maria Mendakiewicz (Poland)

Nominated by the 14th meeting on New Trends in Geomagnetism - Paleo, Rock and Environmental Magnetism.

5 Reports on Meetings: IAGA-Sponsored or for IAGA interest

5.1 International Workshop and School on Solar system plasma turbulence, intermittency and multifractals

Mamaia, Romania, 6-13 September, 2015

The workshop was organized between 6 and 13 September 2015 in the Conference Center of the Hotel Iaki in Mamaia, Romania, on the Black Sea coast. The meeting was attended by a total of 38 scientists from 17 countries, of which 13 were young scientists from 8 countries. The full list of participants is available from the web page of the event, <http://www.space-science.ro/conferences/storm2015>.

The Scientific Organizing Committee included experts in turbulence, complexity, waves, magnetospheric physics, geomagnetic field, solar physics: Roberto Bruno, National Institute for Astrophysics, Italy, Tom Chang, MIT Kavli Institute for Astrophysics and Space Research, USA, Giuseppe Consolini, National Institute for Astrophysics, Italy, Marius Echim, Belgian Institute

for Space Aeronomy, Belgium, Karl-Heinz Glassmeier, Technical University Braunschweig, Germany, Jay Johnson, Princeton Plasma Physics Laboratory, USA, Peter Kovacs, Geological and Geophysical Institute of Hungary, Hungary, Hervé Lamy, Belgian Institute for Space Aeronomy, Belgium, Wieslaw Macek, Space Research Center, Poland, Kalevi Mursula, University of Oulu, Finland, Yasuhito Narita, Space Institute Graz, Austria, Eliza Teodorescu, Institute of Space Science, Romania, Zoltan Voeröes, Space Institute Graz, Austria, Gabriel Voitcu, Institute of Space Science, Romania, Emiliya Yordanova, Swedish Institute for Space Physics, Sweden.

The programme was organised as a series of 10 tutorial lectures, 9 invited talks, 7 contributed oral talks and 12 student posters. The lectures, talks and posters focused on fundamental plasma turbulence and waves, the micro-/macro-structure and turbulence of the solar wind, the nonlinear dynamics of the planetary magnetospheres and geomagnetic field, the in-situ investigation of solar system plasmas, the analysis techniques adapted for turbulence and intermittency, the numerical simulations for space plasma dynamics, examples from laboratory plasmas, theoretical studies. The hands-on session with the Integrated Nonlinear Analysis (INA) library built within the FP7 project STORM was another opportunity for the audience to learn about and test live the functionalities of this tool adapted for the analysis of non-linear features of time series.

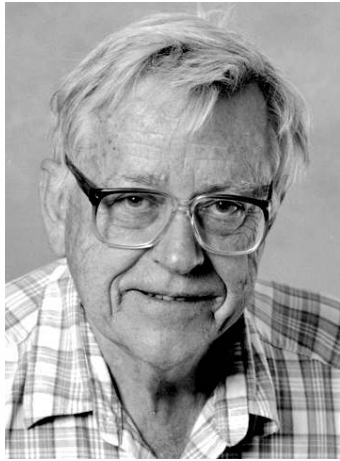
The social events opened new ways to learn more about the history, nature and traditions of the host country and region and to strengthen further the collaboration relationships and find new ideas about possible future joint projects.

IAGA support helped us to support the accommodation and registration for one young scientist, for which we are very thankful.

Marius Echim
(Chair of the Organizing Committee)

6 In Memorium

Charles Shipley "Chip" Cox (1922 – 2015)



Although an accomplished oceanographer who studied internal waves and microstructure in the oceans, Chip Cox was also a pioneer in the study of electromagnetic phenomena in the oceans, developing theory, numerical methods, and instruments. Along with

his colleague Jean Filloux, Chip made the first deep-sea measurements of magnetic and electric fields in the 1960's, and using these data made the first magnetotelluric estimates of seafloor electrical conductivity. Chip went on to propose the use of a man-made, or controlled, source of electromagnetic energy to study seafloor electrical conductivity, and developed the necessary theory and instrumentation, making the first seafloor controlled-source electromagnetic measurements in 1979 near a mid-ocean ridge. Later measurements away from ridges showed that the oceanic crust and upper mantle were extremely resistive, electrically isolating the ocean from the conductive deeper mantle. This coupling between the seafloor and electric currents induced in the ocean by water motion and natural magnetic field variations had long been a subject of speculation. In the 1990's Chip returned to oceanography full-time, but the marine EM methods he developed are used extensively today, both by academics and by the offshore oil and gas exploration industry.

Chip was elected fellow of the AGU in 1980, and member of the National Academy of Sciences in 1996. He received the AAAS Newcomb Cleveland Prize in 1981, the Ewing Medal in 1992, and the Alexander Agassiz Medal in 2001. He is survived by his wife and four children.

Characteristically, he was working until the end. I visited him about three weeks ago and he spent an hour telling me about his current research and

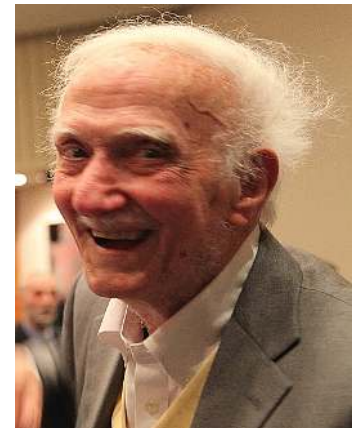
complaining that he couldn't sit at the computer any more. Chip's legacy is huge, and he will be missed by many.

Steven Constable
Scripps Institution of Oceanography, La Jolla CA, US

James Wynne Dungey (1923 – 2015)

Jim Dungey died on May 9th 2015. He was a regular presence at the early IAGA Scientific Assemblies, attending the first IAGA Scientific Assembly in Madrid in 1969 and being at most, if not all assemblies, until the 1989 Assembly in Exeter in the West of England which Jim loved so well. Jim was proud of being of Cornish descent but was born, one of twins, in Stamford, Lincolnshire, in the East where his father had moved as a schoolmaster.

By 1989, Jim had been retired for 5 years. What is remarkable for a retiree is that even then his scientific reputation was still rising. After retirement, he was awarded the Fleming medal of the American Geophysical Union, Honorary Membership of the European Geophysical Society, its highest honour, and the Gold Medal of the Royal Astronomical Society of London. The latter society marked his 90th birthday in 2013 with a special meeting and has instituted an annual James Dungey lecture. A Festschrift from that meeting has just been published by Springer [Southwood et al., 2015].



It is clear that Jim was an unusual scientist with an unusual career. In January 1961, Jim published a two-page paper in the journal *Physical Review Letters* over the address of the Ionosphere Research Laboratory, Pennsylvania State University. More than half a century later that short paper is the foundation of our understanding of solar terrestrial coupling. The basic idea of the paper had been in Jim's thesis 11 years before but, having experienced real difficulties in publishing his thesis work, he was waiting some experimental evidence confirming his basic idea of

what is now known as the open or reconnection model of the magnetosphere.

The original idea of what was to be called magnetic reconnection had its origin when Jim signed up for a PhD with Fred Hoyle at Cambridge University immediately after the Second World War. Hoyle was writing a monograph on solar physics and picked up an idea of Ron Giovanelli in Sydney that magnetic neutral sheets on the Sun could give rise to solar flares. Jim was asked to turn the problem on its side and investigate whether the formation of a neutral sheet in the magnetic cavity on the nightside of Earth could give rise to the aurora. Jim concluded that a discharge could occur. However, awaiting an observational clue, he did not publish the full result, the reconnection model of the magnetosphere, until 1961.

After Cambridge, Jim went to work with Giovanelli in Australia and then to Penn. State in the USA. He returned then to Cambridge, and thence to Kings College Newcastle (now Newcastle University) and after that to the UK Atomic Weapons Research Establishment. In 1965, he moved to Imperial College, London, retiring in 1984.

Jim's recognition that he had observational evidence of the open model famously came to him in Montparnasse, Paris while watching the motion of coffee when stirred. Today his idea that the SD storm time ionospheric current system was due to direct momentum transfer from the solar wind over the polar cap with a subsidiary return system at sub-auroral latitudes is commonplace. However, the idea was revolutionary in 1961 and community-wide acceptance that magnetic reconnection controlled solar wind magnetospheric coupling was slow. By 1966, Don Fairfield, one of Jim's Penn. State students, had produced evidence that a southward interplanetary field controlled ionospheric magnetic disturbances [Fairfield and Cahill, 1966]. In 1970, Aubry et al. [1970] showed magnetopause erosion uniquely predicted by Jim's model. Despite this, it was only with direct measurement of plasma acceleration consistent with reconnection at the magnetopause [Paschmann et al. 1979] that doubts dissolved.

The impact of the 1961 paper sometimes hides the very large number of other ideas he pioneered. However, in the IAGA community there are prob-

ably still a fair number who know at least by reputation his 1954 unpublished report "Electrodynamics of the Outer Atmosphere, Scientific Report 69, Ionosphere Research Lab., Penn. State Univ." This report circulated from hand to hand amongst cognoscenti in the 60 and 70's. Many basic magnetospheric problems (field line resonances, magnetopause Kelvin Helmholtz instability and ionospheric boundary conditions) were treated in the report. Indeed, the basis of the current IAGA discipline of geomagnetic pulsations is Jim's idea that they had to be MHD resonances of the magnetosphere. This appears first in the 1954 report five years before the magnetosphere was formally identified!

Jim was a theorist who liked data. The data explosion after the International Geophysical Year in 1957 and the subsequent dawn of the space age produced regularly new and often revolutionary information on what is now called geospace. Jim's fascination for the collision-free plasmas of geospace lay in nature's departures from expectations based on classical electromagnetism or the theory of gases. With US colleagues he used the Liouville theorem to show that the radiation belts had an external origin. He developed theories of radiation belt stability using whistler mode waves that were the precursor of the now standard Kennel-Petschek model but he then pushed the ideas into a different frequency domain to suggest that bounce-drift resonance with MHD waves could mediate radial diffusion of the ring current. The inherently non-linear problem of stimulated VLF emission intrigued him immensely; as did auroral currents and acceleration and always, collision-free reconnection.

His fame continued to climb into the 21st Century. In 1966, he proposed a four spacecraft 'Tetrahedral Observatory Probe System' (TOPS) to the European Space Research Organisation (predecessor of the European Space Agency). Eventually, in 2000, the European Space Agency launched the four Cluster spacecraft. Determination of the detailed structure of large scale currents, Kelvin-Helmholtz boundary waves, the auroral acceleration region and the structure of the dayside and nightside reconnection regions and the bow shock became possible just as he had envisaged. Jim, contrary as ever, declared that Cluster (associated with bombs, diseases) was the

wrong name; he preferred "Bunch" (associated with grapes, flowers or friends).

Happily Jim lived long enough to see his scientific ideas win out. The figure shows him triumphant and happy at his 90th birthday Festspiel in January 2013.

David Southwood
Imperial College, London, UK

Karin Labitzke (1935 – 2015)



Prof. Dr. Karin Labitzke, Professor Emeritus of Meteorology at the Freie Universität Berlin (FUB),

passed away on 15 November 2015 at the age of 80.

Karin Labitzke studied at the Institute of Meteorology at the Freie Universität

Berlin. After completing her PhD in 1962 on Contributions to the synoptic meteorology of the high stratosphere (in German), she worked with her teacher and mentor, Prof. Richard Scherhag, who discovered the stratospheric warmings. She made her first international contacts at the groundbreaking international Symposium on Stratospheric and Mesospheric Circulation in Berlin in 1962. In 1969, she completed her habilitation from the Freie Universität Berlin. After the early passing of Prof. Scherhag in 1970 she took over the leadership of the stratospheric research group in Berlin and established a successful and internationally renowned research group until her retirement in 2000.

Karin Labitzke's scientific interest was always focused on the stratosphere. For her investigations she used daily stratospheric analyses of the northern hemisphere, which meteorologists in her own research group had prepared since the mid-1950s from radiosonde soundings (later complemented with satellite data). These hand-analysed stratospheric maps have long served as a reference for computer analyses of weather centers and formed part of the first reference climatology of

the middle atmosphere, the Cospar International Reference Atmosphere (CIRA). Another important application of the stratospheric analyses was the production and distribution of STRATALERT messages, mandated by the WMO. These reports about the stratospheric dynamics during northern hemisphere winter were also used to advise measurement campaigns in the Arctic.

An outstanding topic of Prof. Karin Labitzke's research was the sudden stratospheric warmings during Northern hemisphere winter. A milestone of stratospheric dynamical research was her finding of a relation between the occurrence of stratospheric warmings, the QBO at the equator and the phase of the 11-year solar cycle, first published in 1987. In 2011 Karin Labitzke was awarded the Vilhelm Bjerknes Medal in recognition of her fundamental achievements in the observational study of the stratosphere and mesosphere. Karin Labitzke was a highly distinguished observational meteorologist and a leading figure in the study of the stratosphere and mesosphere. She had a long record of significant research contributions in this area, represented by over a hundred highly-cited publications stretching from 1966 to 2009. The research activities of Karin Labitzke can be found in more than 250 publications, and her book *The Stratosphere* is a popular source of knowledge for PhD students.

Besides her own research, Karin Labitzke was always engaged with the scientific community at large, leading the Committee on Space Research, being part of the Scientific Committee on Solar and Terrestrial Physics (SCOSTEP) as well as member of the German Advisory Council on Global Change. She was also the first female chair of the German Meteorological Society (1991 – 1993).

Prof. Dr. Karin Labitzke was a leader, teacher, mentor, a role model, a colleague and a friend to many scientists. We celebrate her life and will always cherish our memories of her.

Marianna G. Shepherd
Centre for Research in Earth and Space Science, York University,
Toronto, Canada

Arne K. Richter (1941 - 2015)



Born May 28, 1941 in Dresden, Germany, Arne studied physics at the University of Hamburg, receiving his diploma in 1970. He then worked at the Institute for Pure and Applied Nuclear Physics, University of Kiel, where he earned his doctorate in 1975

with a thesis on wave trains in the solar wind. From 1975 until retirement in 2006 he was scientific staff member at the Max Planck Institute for Aeronomy in Katlenburg-Lindau (renamed Max Planck Institute for Solar System Research in 2004, moved to Göttingen in 2014). Arne was active both in theory and in analysis of data from plasma and energetic particle experiments in space missions (Helios 1 and 2, Giotto, Phobos 2, and others), publishing a series of important papers on shocks, waves, and discontinuities in the solar wind (including a major review on shocks) and on related topics in cosmic rays as well as planetary and cometary environments.

From the late 1980's onward, Arne began to devote more and more effort to international aspects of science. In this he was inspired and guided by Ian Axford, who was greatly concerned about the then low stature of the European Geophysical Society and its lack of a permanent organizational framework. With the agreement and support of the Max Planck Institute, Arne involved himself deeply in the affairs of EGS. He became secretary general and executive secretary of EGS in 1988 and held that post until EGS was formally dissolved in 2003, after it had merged in 2001 with the European Union of Geosciences to form the present European Geosciences Union (EGU). Arne played a key role in that merger as well and was executive secretary of EGU from 2002 until 2009. It is in no small measure thanks to the structural reforms carried out by Arne that the EGU now attracts well over 10,000 attendees at its general assemblies (in contrast to at most some hundreds in the 1980's).

A milestone in the organizational development

was the founding of the Copernicus Society for the Promotion of International Collaboration in the Geo- and Space Sciences (Copernicus Gesellschaft e.V., non-profit association) in 1988 under the leadership of Ian Axford. One of its seven founding members, Arne held the post of secretary of the Society almost until his death. At first the Society was involved primarily in organizing conferences and providing office services (particularly to EGS), but as its activities increased in scope and were expanded to include areas such as open-access publishing, Copernicus GmbH (non-profit limited-liability corporation) was founded as the business arm of the Society. Arne was manager of Copernicus GmbH until 2007. Throughout, Arne was the moving spirit, noted for vision and irrepressible strength, who contributed many of the ideas which transformed Copernicus into what it is today: a leading organizer of scientific conferences and innovative publisher of open-access journals (see www.copernicus.org).

In recognition of his contributions to geophysics in Europe, Arne was honoured with the EGU Diamond Service Award in 2010. In recognition of his services in encouraging and supporting young scientists (an aspect of his more general passionate concern for social justice), the EGU Outstanding Young Scientist Award was renamed in 2011 the Arne Richter Award for Outstanding Young Scientists.

Arne Richter always impressed us with his sense of humour, his enthusiasm, his lively conversations on all topics (scientific, social, political), but also with his profound insights and practical ideas. He has left deep imprints in the scientific landscape and will be greatly missed.

Vytenis M. Vasyliunas
Max Planck Institute for Solar System Research, Göttingen,
Germany

Nagendra Singh (1944 – 2015)

Nagendra Singh, serving as Distinguished Professor Emeritus at the University of Alabama in Huntsville (UAH) passed away on Monday, July 13, in Huntsville, Alabama, U. S.

He received his Bachelor of Technology in Electrical Engineering from the Indian Institute of Technology, in Kanpur, India in 1966 and his M.S. and Ph. D in Electrical Engineering in 1967

and 1970 from the California Institute of Technology, Pasadena. He then went onto the Department of Physics and Astronomy at the University of Iowa, Iowa City as a Research Associate. After one year he returned to the Indian Institute of Technology India serving as an Assistant Professor from 1973 to 1976. From 1976 through 1979 he followed his research serving as a Visiting Scientist at the Centre National de la Recherche Scientifique, La Source, Orleans, France and the Institut für Physikalische Weltraumforschung, Freiburg, West Germany. From 1979 to 1986 he was at Utah State University becoming a Research Professor in 1982. Early during this time frame at Utah he spent a year at Marshall Space Flight Center in Huntsville, AL working on the ionospheric plasma effects on the International Space Station. In 1983 he also served as Guest Scientist and Humboldt Fellow at the Physikalische-Technische Studien G.m.b.H., in Freiburg, West Germany.



In 1986 Nagendra came to the University of Alabama in Huntsville (UAH) as an Associate Professor in the Electrical and Computer Engineering Department. During his tenure at UAH, he contributed to the field of space plasma

research through particle simulation of complex plasma processes such as antennas in plasmas, formation of electric double layers, waves and instabilities, large-scale plasma flow and charging of spacecrafts. Using a fully 3-D parallel PIC (Particle-in-Cell) code, Singh led the work at UAH on the nonlinear evolution of fast lower hybrid waves in space plasmas, which contains the first fully kinetic treatment of nonlinear evolution of the parametric instabilities driven by fast lower hybrid waves in space. Singh was also first to develop time-dependent models for the plasma discharge of intentionally released gases near a high-voltage satellite for the purpose of enhanced current collection. These investigations revealed for the first time a highly dynamic sheath with imbedded double layers in expanding dense plasma. His work on a wide range of topics and

application of parallel computing to space plasma PIC codes, are all trend-setting in their respective fields and resulted in 170 plus publications in refereed journals. His vast and in-depth knowledge was extensive, as demonstrated through his lectures to undergraduate and graduates on various subjects. He supervised the dissertations of nine PhD students at UAH. He was also developing a graduate textbook on Space Applications of Electromagnetics. In 2009 he became Distinguished Professor and then Distinguished Professor Emeritus in 2013 continuing his ongoing research activities for his publications and review articles.

In addition to his outstanding research contributions, Nagendra was quick to offer his time and abilities to mentor new faculty and students, many of whom were working in areas that were outside of his main research focus. He impressed many with his calm, unassuming, and gentle demeanor, and the lofty standards that he demanded from students. One such faculty member, Dr. Earl Wells, whose research is in the area of Computer Engineering, recalled how Nagendra reached out to him as an inexperienced junior faculty member at UAH and included him as part of his research team to help him formulate high performance Particle-in-Cell simulations of various complex plasma phenomena. Dr. Wells also related "One of my favorite experiences was to observe Nagendra introduce a new student to the basic concepts of space weather and space plasmas. The clarity, elegance, and passion that he exhibited during these one-on-one sessions would captivate even those students who were from technical disciplines which were far removed from electromagnetics, space weather and plasma physics."

Although always busy with his goal of advancing space-weather ideas from near-earth space to the solar atmosphere, Nagendra was generous with his time for consultations, reviewing journal articles and reviewing proposals. His physics insight and numerical computation skills were superb and many continued to seek his advice throughout the years. He also allowed his colleagues the use of his computer codes that he had developed with great effort and provided consultation for them when needed.

Nagendra was always a pleasure to work with, a positive and gentle person to be around, and

generous of his time in addition to being a strong and successful researcher. As a mentor, he provided a reference and guiding source, designed to encourage our success. As an advisor, he was experienced and trusted, whose passion for learning kept us excited for many years and contributed greatly to who we are today. Dr. Singh will always be on a short list of people to be admired and emulated. We will miss his passion for learning, his wisdom, and his gentle way of helping others who were in need. He was the ideal scholar, mentor, and friend.

Victoria Coffey
NASA/Marshall Space Flight Center, Huntsville, AL, USA

Anatoly Petrovich Remizov (1940 - 2015)



Anatoly P. Remizov, senior researcher at the Laboratory for Interplanetary and Near-Planetary Plasma Studies of Space Plasma Physics Department of Space Research Institute of Russian Academy of Sciences (IKI RAS),

suddenly passed away on August 7, 2015 in Moscow.

Anatoly (Tolya) Remizov joined the team led by K.I. Gringauz in 1960 when he was a student of the Moscow Physical-Technical Institute. After graduation in 1963 he was hired by the Radio-Technical Institute of the USSR Academy of Sciences (RTI), and in 1971 - together with the team was shifted to IKI.

His first experiment for the measurement of superthermal electrons by multisection electrostatic analyzer on the satellite COSMOS-378 was prepared in 1970 in RTI and thus the first studies of the outer ionosphere of the Earth in the daytime cusp region were carried out.

Beginning in 1971 the satellites Mars 2, 3, and 5 were launched to study the planet Mars. The plasma experiments prepared with the participation of Anatoly led to the discovery of the Martian magnetosphere. The positions of various plasma

boundaries and regions in the near-Martian space such as the bow shock, the magnetosheath, the magnetopause, the boundary layer and aeromagnetic tail were firmly established after the experiments on Mars 2, 3, and 5. All these structures were found later in the more advanced experiments on the Phobos-2 Martian orbiter (1989) which were also prepared with the active participation of A. Remizov.

His unique talent as an experimentalist allowed Tolya Remizov to create a series of original instruments for space plasma studies. These are the toroidal electrostatic analyzer of ions with field of view controlled by an electric field (Prognoz 7, 1978), and electrostatic analyzers which unusually combined large energy resolution with wide field of view (Vega 1, 2, 1986, experiment PLAZMAG). The first in situ measurements of cometary neutral gas and the first direct measurements of the mass composition of the cometary plasma were carried out with the PLAZMAG experiment. Also the solar wind deceleration due to its loading by the cometary ions was found. In addition to these findings, this experiment discovered a theoretically unforeseen boundary - the cometopause.

Tolya was a well-known and acknowledged expert in his field. His last, important, and very successful work was the construction of the extremely light charged particle sensors ROMAP placed on the Philae lander



of Rosetta mission. He was able to see the fruits of his labor during the Philae landing, and was very happy that his instrument had been working well and contributed to the first science results reported from the surface of a cometary body. The Rosetta team promised to do their best to finish his work by publishing the scientific data acquired by these measurements.

With Tolya Remizov we lost a never-ceasing and creative man of action. We mourn an esteemed colleague and friend. We shall never forget his seriousness, diligence, and thoroughness while working but absence of reserve and presence of

good humor in his private life. He was also a devoted family man and is survived by his wife Irina, son Peter, and granddaughter Julia.

Mikhail I. Verigin & Galina A. Kotova
Space Research Institute of Russian Academy of Sciences
(IKIRAS), Moscow, Russia

Iwona Stanislawska
Space Research Centre PAS, Warsaw, Poland

Andrzej W. Wernik (1938 – 2015)



Andrzej W. Wernik, professor of physics in the Space Research Centre of the Polish Academy of Sciences, emeritus since 2014, died in Warsaw on 24 of April 2015.

For the past couple of decades he was one of the most active, stimulated researcher in the Institute. He studied wave propagation in the ionosphere, wave propagation in stochastically inhomogeneous media, ionospheric physics, ionospheric plasma turbulence, acoustic-gravity waves in the upper atmosphere, and methods of data analysis. He educated two generations of scientists from all over the world, teaching physics, but he also was an excellent scholar and a splendid teacher of ethics and human relations.

Prof. Andrzej W. Wernik chaired the Commission G: Ionospheric Radio and Propagation of URSI from 1990 until 1992. In the period of 1996-2000 he was associate editor of "Radio Science" published by the American Geophysical Union. Prof. Andrzej W. Wernik was elected for the position of the Vice-President of URSI (1999-2002), and from 2002 until 2005 for the position of the Vice-President and Treasurer of URSI.

Prof Andrzej W. Wernik was a member of many scientific bodies such as: the Bureau of the Scientific Committee on Solar-Terrestrial Physics (SCOSTEP) of ICSU from 1996 until 1999, the Research Council of the Institute of Geophysics, Polish Academy of Science, Research Council of the Space Research Center, Polish Academy of Science, Committee of Geophysics of the Polish Academy of Science, Polish National URSI Committee, American Geophysical Union (silver pin),

Polish Astronomical Society, and Polish Geophysical Society.

7 General information about IAGA

7.1 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 previous GA 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.

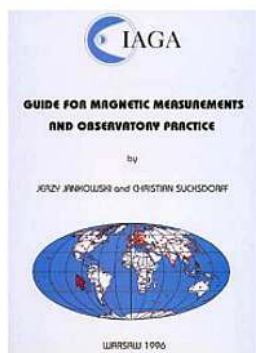


IAGA has published four practical guides to observation. These may be ordered from the Secretary-General and they are also available at the IAGA web site.

IAGA Guide for Magnetic Measurements and Observatory Practice

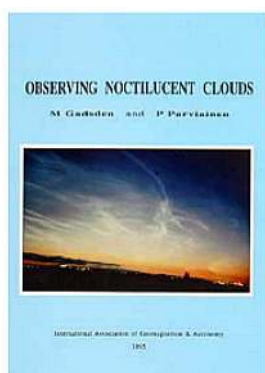
by J. Jankowski and C. Sucksdorff, 1996, 232 pages, ISBN: 0-9650686-2-5; Price: USD 50.

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

IAGA 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 kilometres, 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](http://www.iugg.org/IAGA). (Prices do not include shipping and handling.)

7.2 IAGA website

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

7.3 IAGA contact

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

Mioara Manda

CNES
Direction de la Stratégie et des Programmes
2, Place Maurice Quentin
75039 Paris Cedex 01
France

email: iaga_sg@gfz-potsdam.de

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