



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

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IAGA ON THE WEB

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

FOREWORD



This issue of IAGA News contains, in addition to the President’s message, information about the XIth Scientific Assembly of IAGA, held in Sopron, Hungary, on August 23-30, 2009. Some major

decisions by the IAGA Conference of Delegates and the Executive Committee, meeting during the Assembly, are reported, among them the election of a new Secretary General. The issue contains also activity reports, obituaries of deceased IAGA scientists, and some general information about IAGA. IAGA News in the present form consists partly of brief summaries of news items and the reader may find more details at the IAGA website (www.iugg.org/IAGA/).

IAGA News is distributed to the National Correspondents in the Member Countries, to all IAGA officers and to IAGA scientists who attended recent IAGA assemblies. Many scientists interested in IAGA activities are probably not reached with this original distribution, so it would be appreciated if you, the reader, would forward IAGA News to persons you know of, who are interested in IAGA but may not be on our distribution list. If you are uncertain, it is better that they get more than one copy of IAGA News than none. National policy makers and leaders, whose decisions affect the activities of IAGA scientists, also need to be informed about IAGA so, please, forward IAGA News to such persons in your country as well.

Bengt Hultqvist

Retiring Secretary General

MESSAGE FROM THE PRESIDENT:



IAGA AND IUGG

IAGA is one of the eight Associations of our Union, IUGG. It is also one of the largest, both in terms of participants at IUGG General Assemblies and in terms of scientific disciplines ranging from the deep interior of our planet

to the heliosphere. Although very different, all these disciplines are characterized by a strong influence of magnetic and electric fields. In 2009 we could celebrate the scientific results of a decade of continuous high precision geomagnetic observations from Space initiated by the launch of the Ørsted satellite mission in 1999, followed by CHAMP and SAC-C.

In our community we have realized that in order to understand Nature we need to take advantage of all disciplines and make an effort to combine them in new ways, not only within our own Association but also across IUGG Associations.

Seen from the society at large we are all geophysicists and we should “promote” ourselves as members of the IUGG “family” implying that we represent the most advanced knowledge regarding our planet, its past evolution, its environment and present condition, and its future fate. I think it is becoming more and more evident that even a seemingly focused topic like Global Warming or Climate Change needs to involve a much broader scientific community than has traditionally been the case.

We need to emphasize that Nature is too complex to be modelled and understood without quantitative measurements and observations. We must tell politicians that science does not provide simple solutions. IUGG offers both the scientific expertise of the Associations and the overall perspective.

Our value as a Union and Association lies in the quality of our science, and we – as scientists – should never compromise our scientific judgment in order to satisfy political goals, regardless how

convenient those may appear from a societal point of view.

Let me finish this message by thanking the LOC led by László Szarka for creating the beautiful framework for the recent and marvellously organized Scientific Assembly in Sopron. Let me also use this opportunity to thank our retiring Secretary General, Bengt Hultqvist for his devoted service during the last 8 years. In his daily operation of IAGA business matters he combined his genuine wisdom with a developed sense for details and promptness that all IAGA and in particular the National Correspondents have benefitted from.

I wish you all the best for 2010.

Eigil Friis-Christensen
President

NEW SECRETARY GENERAL

The Conference of Delegates at its second meeting on Friday the 28th of August 2009 elected Prof. Dr. Mioara Mandea as the new Secretary General of IAGA by acclamation. Mioara Mandea has been a member of the IAGA Executive Committee since 2007.



Before that she was co-chair of the Division V (2003-2007) and chair of Working Group V-8 (1999-2003). Her main scientific interests are Earth's geopotential fields and planetary magnetism and her research field is the magnetic field of Earth and planets. She is thus very well acquainted with IAGA both scientifically and administratively.

Her current affiliation and postal address is:
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THE XITH IAGA SCIENTIFIC ASSEMBLY, SOPRON, HUNGARY, AUGUST 23-30, 2009

The XIth Scientific Assembly of IAGA was held in the old university town of Sopron, situated close to the Hungarian border to Austria less than 100 km from Vienna. The beautiful old town offered excellent conditions for the IAGA Assembly. The Local Organizing Committee, chaired by Prof. László Szarka, had done very good preparations, and the Sopron Assembly was one of the most successful IAGA Assemblies in many decades in terms of scientific sessions as well as programme for accompanying persons, general arrangements, interesting and entertaining cultural events and hospitality and friendliness shown by the town of Sopron and by its inhabitants.



Participants at the Opening Ceremony

IAGA AWARDS PRESENTED IN SOPRON

As part of the Opening Ceremony of the IAGA Scientific Assembly on Monday evening at the main square of the Old City of Sopron (see picture), IAGA presented the awards that had been proposed by members of the IAGA community and accepted by the Executive Committee since the previous General Assembly in 2007.

IAGA presented its **Long Outstanding Service Medal** to *Ole Rasmussen* (Danish Meteorological Institute) "in Recognition of Valued Service to the IAGA Community over Many Years".

The **Young Scientist Award for Excellence** was presented to four scientists:

Madeeha Ashfaque (Pakistan)
Andreas Baumgaertner (Germany)
Angel Carrancho Alonso (Spain)
Mark Golkowski (USA).

REPORT FROM THE MEETINGS OF THE IAGA CONFERENCE OF DELEGATES HELD IN SOPRON

PROCEDURE FOR SELECTING THE VENUE FOR THE NEXT SCIENTIFIC ASSEMBLY IN 2013

The Conference of Delegates decided that the next IAGA Scientific assembly shall take place in a developing country. The Executive Committee shall present all feasible alternatives for the National Bodies of the Member Countries with a recommendation of which to choose. The voting will be by e-mail.

A small evaluation committee, consisting of László Szarka (Hungary), Maria Jula Orgeira (Argentina) and the Secretary General will prepare the matter for the Executive Committee.

RESOLUTIONS

The Conference of Delegates accepted the following resolutions:

RESOLUTION 1)

DIVISION II RESOLUTION ON SOFTWARE

IAGA, noting that

- the Association has played a prominent role in data management through its leadership of the Electronic Geophysical Year, and that IUGG has formed a new organization to support data management,
- nevertheless some other aspects of scientific research in the IAGA disciplines are still hindered by the scarcity of software in the public domain,

recognizing that

- despite increasing pressures on scientific budgets, there is a need to provide support for research in developing countries and encourage new collaborations,
- it is central to IAGA's charter to promote international science by encouraging worldwide open access to the means for pursuing research,
- the necessary means include scientific software, in particular for modelling and for simulating physical processes (where excellent examples exist already in some areas of IAGA science), and for theoretical research,

resolves to

- through the URSI/IAGA Joint Working Group on VLF/ELF Remote Sensing of the Ionosphere and Magnetosphere (VERSIM), take an initiative similar to those already taken in data management, aimed at making software for data analysis, modelling, simulation and theoretical research more freely available to the scientific community,
- investigate
 - the need for large-scale open-access software,

- how its development could be funded,
- for smaller items of software, create a public space on the IAGA website, where researchers can freely upload their code and download the code of their colleagues, and that this section of the website be also used as a portal by which larger items of software can be listed and described, and links to them provided.

RESOLUTION 2)

JOINT DIVISIONS II AND III RESOLUTION ON RADIATION BELT STUDIES

IAGA, noting that

- multiple nations are currently expending significant efforts developing spacecraft missions and related programmes to study the energisation, transport and loss of radiation belt particles,
- the radiation belts represent a high priority scientific target at the forefront of IAGA interests,
- the effects of the radiation belts are a significant space weather operational concern for space-faring societies and nations,
- co-ordinated global scale multi-point measurements combined with theoretical modelling are required to reach science closure in resolving the dominant processes which control radiation belt dynamics,

resolves

- that member nations of IAGA co-operate and collaborate to the maximum extent possible in their aggressive pursuit of observational and modelling programs for radiation belt studies, and
- to assume a leading scientific role in international coordination in pursuit of radiation belt science through symposia, special sessions, and working group activities so that maximum benefits are derived from current, planned and future satellite missions and programs.

RESOLUTION 3)

DIVISION III RESOLUTION CONCERNING LANL ENERGETIC PARTICLE DATA BASE

IAGA, noting that

- for more than 20 years the Los Alamos National Laboratory (LANL) has supported prompt public access to its data base of energetic particle flux observations by geostationary LANL spacecraft;
- this data base, together with ground measurements, has been widely used by the international scientific community in the studies of plasma dynamics in the ring current and radiation belts as well as for monitoring substorms;
- open access to this valuable data base was stopped in 2008,

and taking into account that

- these regular observations provide the best long-term homogeneous data base of energetic particle fluxes in the inner magnetosphere available to the scientific community; and
- scientific return of a number of current and forthcoming scientific campaigns and projects would be significantly enhanced by adding the LANL energetic particle observations,

expresses great concern

at this development and

resolves

to urge LANL to restore promptly public access by the scientific community to the observations of energetic particle fluxes from geostationary LANL spacecraft.

RESOLUTION 4)

DIVISION V RESOLUTION TO SUPPORT GEOMAGNETIC OBSERVATORIES (V-OBS)

IAGA, recognising

- the importance of long time series of high quality geomagnetic observatory observations in characterizing the geomagnetic field,
- the combination of a global geomagnetic observatory network and modern satellite missions in optimizing progress in geomagnetism science, including greater understanding of the 'Earth system' and more accurate mapping and prediction of geomagnetic field changes and space weather conditions,

notes

that many geomagnetic observatories continue to have uncertain futures, and therefore

urges

national agencies to ensure the continued operation of magnetic observatories during the lifetime of the ESA Swarm satellite mission and beyond.

RESOLUTION 5)

DIVISION V RESOLUTION ON QUASI-DEFINITIVE DATA (V-OBS)

IAGA, recognising

the importance of prompt baseline-corrected observatory data for the production of geomagnetic indices and geomagnetic models such as the IGRF,

noting

that several individual users and groups of users, such as the Mission Advisory Group of the upcoming ESA Swarm satellite mission, have expressed their interest in and need for such data,

encourages

magnetic observatories to produce baseline-corrected quasi-definitive data shortly after their acquisition.

RESOLUTION 6)

DIVISION V RESOLUTION ON SC/SSC/SI DETERMINATION (V-DAT)

IAGA, recognising

the importance of the list of storm sudden commencements (SSC), continuous since 1868, to the worldwide scientific community,

appreciating

the efforts of the Ebro, Spain magnetic observatory in regularly maintaining and circulating the up-to-date list of events,

noting

- that the definitions of storm commencements (SC), sudden impulses (SI), and SSC have changed over time, reflecting better understanding of physical processes and changes in instruments and working practices,
- that a new method, relying on quantitative criteria for SC/SI/SSC determination, has been proposed by the Ebro team and published by J. J. Curto, T. Araki, and L. F. Alberca (Evolution of the concept of Sudden Storm Commencements and their operative identification, *Earth Planets Space*, 59, I-XII, 2007), and is to be described in a revised IAGA Guide for Geomagnetic Indices,
- that this method is well-defined and reproducible and that it produces data that are consistent with data produced using the existing method developed by P.N. Mayaud,

endorses

the use of this new method as the basis for the future determination of SC/SI/SSC, and

calls

for Ebro observatory to adopt the method in providing its list of published events.

RESOLUTION 7)

DIVISION V RESOLUTION ON THE IMPORTANCE OF METADATA PRESERVATION

IAGA, recognising

the importance of metadata in supporting geophysical studies,

appreciates

the support given by ICSU to recent efforts in the generation, preservation and dissemination of metadata to ensure the future usability of these data for interdisciplinary studies of the planet and its environment, and

urges

that similar provision of metadata worldwide be supported by relevant agencies.

RESOLUTION 8)

EXECUTIVE COMMITTEE RESOLUTION OF THANKS TO MEETING ORGANISERS

IAGA, noting

the scientific success and excellent organisation of the IAGA Scientific Assembly in Sopron, and,

appreciating

the enormous amount of work required to organise the meeting

expresses

its deep gratitude to the members of the Local Organising Committee, led by László Szarka, for their unfailing courtesy, helpfulness, enthusiasm and energy, making the Assembly such an outstanding success.

REPORT FROM THE EXECUTIVE COMMITTEE MEETINGS IN SOPRON

NEW MEMBER OF THE EC

Professor Toshihiro Iyemori (Japan) was appointed new member of the Executive Committee to fill the vacancy in the EC membership that appeared at the end of the Assembly because of the retirement of the SG.

IAGA SUPPORT OF TOPICAL MEETINGS

EC decided to support the following topical meetings in 2010: SCOSTEP STP 12 with USD 2000, the 6th WS on Long-term changes and trends in the atmosphere with USD 1500 and the 4th VERSIM WS with 1000 USD. At the end of the year three additional activities: 11th Meeting on Paleo, Rock and Environmental Magnetism; Intern. EM induction workshop; and EMSEV; were all funded with USD 1500.

SUN-CLIMATE RELATIONSHIPS

The Executive Committee accepted the following introductory document concerning its strategy with regard to sun-climate relationships:

Toward a Scientific Assessment of Solar-Terrestrial Impacts on Earth's Climate

IAGA is one of the most highly interdisciplinary of the adherent Associations in the eight-member family of IUGG. Specifically, IAGA's divisions and working groups are intensely interested in, and concerned about, the flow of energy from the Sun into Earth's space environs and, ultimately, the coupling into the deep layers of Earth's atmosphere.

It is proposed by IAGA that an intensive and comprehensive review of solar-terrestrial influences on the Earth's climate be undertaken.

- This should be done as a review of the published literature;
- It should be a full and balanced assessment of outstanding issues and questions related to global climate influences;
- It should be directed toward a published, fully-reviewed paper (as in Reviews of Geo-

physics, or equivalent) that will document the evaluation and its conclusions and recommendations; and

- It should be published before 2012 in order to have the review paper fully considered in the next report from the Intergovernmental Panel on Climate Change (IPCC).

By charter and tradition the Scientific Committee on Solar-Terrestrial Physics (SCOSTEP) has responsibility to organize scientific campaigns and studies of the Sun-Earth system. SCOSTEP actively involves scientists from IAGA, IAMAS, and other associations within the IUGG/ICSU family. It is proposed that SCOSTEP undertake (with strong IAGA involvement) the above assessment. This can be done as a working group effort within SCOSTEP's Climate and Weather of the Sun-Earth System (CAWSES-II) program just getting underway. This plan and approach has been discussed and enthusiastically embraced by the SCOSTEP and CAWSES leadership. It is further proposed that the CAWSES working group be chaired by a highly respected and recognized scientist with a deputy chair from the IAGA Executive Committee.

CHAIR OF IDCEO

Professor Raman (Ray) Lopez, University of Texas at Arlington, has taken over the chairmanship of the IAGA Inter-Divisional Committee on Education and Outreach.

REPORTS ON IAGA-SPONSORED PROJECTS/MEETINGS

Extensive reports on activities sponsored by IAGA can be found at the IAGA web site. A brief summary is given below.

19TH INTERNATIONAL WORKSHOP ON ELECTROMAGNETIC INDUCTION IN THE EARTH, BEIJING, CHINA, OCTOBER 2008

The main EMI workshop was held from October 23-29th in the Jihua Grand Hotel, Beijing. It was attended by a total of 480 people, including 225 people from abroad and 255 people from China. Par-

ticipants came from 41 different countries and regions. A total of 387 abstracts for presentations were submitted including 132 extended abstracts and 255 regular abstracts were submitted to the workshop. All abstracts were edited and printed in two volumes of 1000 pages. These volumes were also made available electronically and are available as pdf files at the web site of the EMIW www.19emiw.cn.

THE XIIITH IAGA WORKSHOP ON GEOMAGNETIC OBSERVATORY INSTRUMENTS, DATA ACQUISITION AND PROCESSING, BOULDER, USA, JUNE 9-18, 2008

The thirteenth biennial International Association of Geomagnetism and Aeronomy (IAGA) Workshop on Geomagnetic Observatory Instruments, Data Acquisition and Processing was held in the United States for the first time on June 9-18, 2008. Hosted by the U.S. Geological Survey's (USGS) Geomagnetism Program, the workshop's measurement session was held at the Boulder Observatory and the scientific session was held on the campus of the Colorado School of Mines in Golden, Colorado. More than 100 participants came from 36 countries and 6 continents. The Proceedings of the XIIIth IAGA Workshop on Geomagnetic Observatory Instruments, Data Acquisition, and Processing are now available on the Geomagnetism Program website: <http://pubs.usgs.gov/of/2009/1226/>

DECEASED IAGA SCIENTISTS

MARTIN A. POMERANTZ 1917- 2008

On behalf of the National Science Foundation and as the head of the U.S. Antarctic Program, I wish to express our sadness at the news of the recent passing of Martin A. Pomerantz, who died on October 25, at his northern California home at the age of 91.

Although few people truly achieve such status in their lifetimes, Dr. Pomerantz was literally a legend in Antarctic science for his vision and dedication to the field of astronomy, specifically in making the

South Pole a pivotal location for cutting-edge astrophysical observations.

Those who knew Martin described him as an extraordinarily gifted scientist with an incredible breadth of talents. Almost singlehandedly, he recognized the value of one of the world's most remote and inhospitable places as an ideal place to study the physical origin of the Universe and other complex astrophysical phenomena. Then he set out, successfully, to convince others of the validity of his arguments.

Martin carried out decades of cosmic-ray research in Antarctica as well as solar seismology, submillimeter astronomy and Cosmic Microwave Background Radiation cosmological measurements, all at the South Pole.

His list of awards and other honors is very long, but for the work he did with NSF, and mostly under the auspices of the U.S. Antarctic Program, he was awarded NSF's Distinguished Public Service Award in 1987. Among his other honors, an observatory building at NSF's Amundsen-Scott South Pole Station was dedicated in 1995 as the Martin A. Pomerantz Observatory. It is universally and affectionately referred to as "MAPO," (may-poh) by the South Pole community.

His life and connections with Antarctica spanned an incredible period of history. In his book, 'Astronomy on Ice - Observing the Universe from the South Pole', he describes his fascination with Antarctica as beginning with a parade in 1930 honoring Adm. Richard E. Byrd's return from the first flight over the South Pole.

Dr. Pomerantz lived to see many significant discoveries made with telescopes associated with the facility that bears his name. He also lived to see the completion of the massive South Pole Telescope in early 2007 not far from where his own initial and significant experiments were carried out.

He led quite a life and he leaves quite a scientific legacy.

Karl A. Erb, Director of NSF's Office of Polar Programs

ULRICH SCHMUCKER 1930 – 2008

Ulrich Schmucker passed away in a Beijing hospital in the early morning hours of October 27, 2008. He was in China to attend the 19th International Workshop on Electromagnetic Induction in the Earth, a biannual workshop which he had been a founding member of and had for more than 30 years attended without fail.

Ulrich had devoted his life to the investigation of the Earth's magnetic field. He was one of the pioneers in using electromagnetic induction effects caused by natural time variations of the geomagnetic field to probe the Earth's conductivity. His visions and insight inspired the electromagnetic research community for more than four decades.

Ulrich graduated from Göttingen University (Germany) as a geologist in 1956, working on rock magnetism. Becoming increasingly interested in the mathematical treatment of physical problems especially related to the Earth's magnetic field, he moved from geology to geophysics and worked with Julius Bartels on electromagnetic induction problems in the Earth.

In the late 1950s he conducted an electromagnetic field survey in Northern Germany and investigated an induction anomaly which became known as the North German Conductivity Anomaly. Ulrich's systematic survey of this prominent geomagnetic substorm anomaly can be considered as the prototype of successful induction studies: After collecting excellent data, he introduces for the first time geomagnetic transfer functions and interprets them by simple conductivity models. He has achieved his results by combining his open sense for a pragmatic quantitative treatment with his profound background knowledge of geology and physics - a combination, which characterizes all his future work. After this survey, he moved to the United States where he stayed for 7 years, working mainly at the Scripps Institution of Oceanography in San Diego, California. Here he carried out similar investigations using Askania Variographs that recorded on film which he processed himself. This work resulted in the discovery of two now famous conductivity anomalies in the Southwestern United States

and beneath the Andes in Peru. These results were summarized in a monograph entitled "Anomalies of Geomagnetic Variations in the Southwestern United States" (published in 1970) establishing the new field of geomagnetic depth research that continues to fascinate scientists around the world to this day.

Back in Germany, he accepted a call to Göttingen University as a Professor of Geomagnetism in 1974, where he pursued his scientific research at the Institute of Geophysics up until (and after) his retirement in 1995.

The Göttingen Institute of Geophysics provided him with optimum working conditions: his colleagues perfected field techniques, the mechanics lab built and repaired precision equipment, draftsmen produced figures for his publications, and others undertook most of the administrative work so that he was able to focus on research and teaching. Ulrich was always aware of these favorable conditions and appreciated his institutional environment highly. In this environment he nurtured and educated an entire generation of EM geophysicists who went on to fill key positions in German and European universities and research institutes. This is one of his enduring legacies and his extraordinary achievement as an outstanding educator was recognized in 2001 with the Gerry W. Hohmann Award for Excellence in Applied Electrical Geophysics.

Ulrich was gifted with a phenomenal memory, an enormous power of concentration and a keen intuition. He questioned accepted viewpoints and developed new approaches in surprising and original ways - often while apparently detached from time and space sitting at his desk in the Göttingen institute looking out over the Leine Graben or while at home in a hammock on his balcony among flowering Hibiscus. His way of doing creative science, based on ingenious ideas, inspired an entire generation of students. Ulrich managed to achieve so much with so little.

His scientific brilliance was unquestioned and positions in national and international scientific organizations were numerous: he was member of the IAGA Executive Committee 1983 to 1987; IAGA vice president 1987 to 1991; Chairman of IAGA Working

Group I2 'Electromagnetic Induction and Electrical Conductivity' 1975 to 1979; secretary of the German Geophysical Society (DGG) 1975 to 1979 and its chairman from 1983 to 1985. In his long role as an evaluator for the German Research Foundation (DFG), he was a critical but benevolent voice for geophysical research and most of all a voice with deep respect for the freedom of science. In 1982 he received the Emil Wiechert Medal, the most prestigious award of the German Geophysical Society.

In spite of his specialization, Ulrich has been a scientist with a holistic view very much in the mold of Alexander von Humboldt with whom he was always deeply impressed. During field campaigns he loved it to visit monasteries and churches along the way. He had an intense awareness and detailed knowledge of the native flora and fauna, which he always used to share with his students and co-workers.

Despite suffering from a cold, he decided to fly to Beijing to attend the workshop on electromagnetic induction in October 2008. His illness worsened suddenly and unexpectedly he died on the 4th day of the workshop to the dismay and shock of his colleagues. Perhaps he was predestined to end his life in this foreign country, a country he had always felt an affinity for, during a workshop he had helped create, surrounded by his friends and colleagues, and in a community that was almost like a family.

We say goodbye to our colleague, mentor and friend Ulrich Schmucker and we are thankful to him for sharing his remarkable gifts with us in his generous way. He will always have a special place in our hearts and minds.

Klaus Spitzer, Karsten Bahr, Heinrich Brasse, Andreas Junge, Yuguo Li, Nils Olsen, Bülent Tezkan, Peter Weidelt.

JULES AARONS 1921 - 2008

Jules Aarons, a Boston University physicist who was an internationally known expert in the study of radio-wave propagation and an acclaimed photographer whose work is in the permanent collections of the Museum of Fine Arts, New York's Museum of Modern Art and Paris' Bibliotheque Nationale, died last Friday (28 November 2008) at his home in

Newton, Mass., after battling congestive heart failure. He was 87.

Dr. Aarons worked for many years as a senior scientist at the Air Force Geophysics Research Laboratory at Hanscom Field in Bedford. He joined the faculty at Boston University in 1981, the year he retired from the geophysics laboratory, and helped establish Boston University's Center for Space Physics in 1987.

"He was an extremely warm and unpretentious person," said Michael Mendillo, a Boston University astronomy professor who had coffee and pastries with Dr. Aarons at his home before he died during an afternoon nap. "He knew he was an accomplished person, but he never talked about himself."

A pioneer in space physics, Dr. Aarons contributed to advances in satellite and global positioning technology. "Essentially, I tried to understand the effects of the Earth's atmosphere on radio waves," he said once, describing his scientific work.

From 1980 to 1983, he was chairman of the International Radio Science Union's Commission on Ionospheric Radio Wave Propagation.

According to the National Science Foundation's Sunanda Basu, Dr. Aarons "was a pioneer in beacon satellite studies of the ionosphere." His name, Basu said, "has now become synonymous with the field of ionospheric scintillations."

Dr. Aarons' photographs are notable for their liveliness, informality, and emotional warmth. He excelled at street photography: casual documentary images of urban life. "My basic approach to street portraits was to avoid intruding on the scene," he said. He began taking photographs while an undergraduate at the City College of New York.

The Boston Public Library, whose print department has an extensive collection of his photographs, held a one-man show of his work in 1999, "Into the Streets." Dr. Aarons also had one-man shows at the Massachusetts Institute of Technology, 1949; the Farnsworth Museum in Rockland, Maine, and the Institute of Contemporary Art, both 1951; the George Eastman House in Rochester, N.Y., 1958;

and the DeCordova Museum and Sculpture Park, Lincoln, Mass., 1951 and 2003.

"I knew that the dynamics of people whose social relationships involved their neighbors and the streets could be a source of creativity," Dr. Aarons said.

He gravitated to Boston's old West End, before urban renewal demolished much of the neighborhood, and then to the North End. He visited with his camera, a double-lens Rolleiflex, on late afternoons and weekends.

Dr. Aarons was born in the Bronx, N.Y. Dr. Aarons was predeceased by his wife, Jeanette (Lampert), whom he married in 1944. In addition to his son, Philip, Dr. Aarons leaves another son, Herbert Gene of Salinas, and three grandchildren.

From a National newspaper

MARIO ACUNA 1940 – 2009

It is with great sadness that we convey the news that Dr. Mario H. Acuna, a research scientist at NASA Goddard Space Flight Center, passed away on March 5, 2009, after a lengthy and brave battle against multiple myeloma, a cancer of the blood.

Mario Acuna was born March 21, 1940, in Córdoba, Argentina. He earned a B.A. degree from the Universidad Nacional de Córdoba in 1958, an MSEE degree from the Universidad Nacional de Tucumán in 1967, and a Ph.D. from the Catholic University of America in 1974.

Mario's career at Goddard spanned 4 decades. He conceived, designed, built, and launched instruments into orbit about Earth and Mars; to Jupiter, Saturn, Uranus, and Neptune; to the Earth's moon, comets, asteroids, and throughout the solar system and beyond. He became the world's leading authority in fluxgate magnetometry and a world renowned expert in spaceflight hardware and spacecraft systems. No one has launched more scientific instruments to more targets in space than Mario Acuna.

He achieved equal acclaim as a scientist. He discovered intense crustal magnetization on Mars (his

Mars Global Surveyor investigation). His instruments were the first to measure the planetary magnetic fields of Saturn (Pioneer 11), Uranus (Voyager), Neptune (Voyager); the magnetic field of the environment of an asteroid (NEAR), and comet (Giotto). His instrument provided the first complete map of the Lunar magnetic field (LPO). Another provided the first highly accurate vector mapping of the Earth's magnetic field (MAGSAT). Yet another was first to directly sense million-Ampere currents linking Jupiter and Io (Voyager). Another was the first to perform in-situ measurements of the electrodynamic interaction of a Shuttle-tethered satellite (Tethered Satellite).

Mario served as the US Project Scientist for the multiple spacecraft ISTP Program, AMPTE, and Firewheel, and as Instrument Scientist, Co-Investigator, or Principal Investigator on many NASA and ESA missions (Explorers, Pioneer 11, Voyagers 1 and 2, Mariner 10, Giotto, Tethered Satellite, ISPM, Firewheel, AMPTE, Viking, MAGSAT, POGS, Juno, Mars Global Surveyor, MESSENGER, STEREO, and Radiation Belt Storm Probes). He was a founding member of the Latin American Association of Space Geophysics (ALAGE), member (Fellow) of the American Geophysical Union, the IEEE, AAS, and IAGA.

His pre-eminence in both the engineering and science of space research was reflected in numerous awards, including the most prestigious GSFC awards in science (John C. Lindsay Memorial Award for Space Science) and engineering (Moe I. Schneebaum Memorial Award) and within NASA (NASA Medal for Exceptional Scientific Achievement and a Presidential Meritorious Rank Award). In 2007 he was elected a member of the National Academy of Sciences.

Acuna passed away in the comfort of his home, surrounded by his family and loved ones. He leaves a devoted wife, Barbara; sons Jamie, Andrew, and Daniel; daughter Marta, and five grandchildren. He passed peacefully; content with all that life afforded him. His loss will be deeply felt by all who follow the progress of planetary science and space plasma physics.

Jack Connerney

HUGO G. FOURNIER 1919 – 2009

With sadness, we have a bad news to inform the EM community about. Dr. Hugo G. Fournier passed away May 26th, 2009 at the age 90 in Mendoza, Argentina, where he and his wife were established since about 25 years.

He was born in Belgium 21/09/1918 and developed in his life an extensive and important scientific activity, principally in magnetotelluric since 1959. In France, he studied in the Paris University with the guide of Dr. Louis Cagniard first, and later Professor E. Selzer. Among his prominent scientific production, we can mention his experimental studies about the Schumann resonance between 1959 to 1967; and the directional effect (lateral inhomogeneities) since 1961. From 1963 he studied in the California University (in collaboration) the correspondence between the "intercalated conductive layer" and the "low velocity layer" (asthenosphere).

In Argentina he introduced the magnetotelluric method and its applications, training students to continue this activity. In Mendoza he worked the last 25 years, coming every day to our Institute. We lost a great teacher, good friend and colleague.

Enrique Borzotta, Manuel J. Mamanì

PETER WEIDELT 1938-2009

Peter Weidelt passed away unexpectedly on July 1, 2009 during a private visit to Turkey. He received the Conrad Schlumberger award of the EAGE in 1999 for his fundamental contributions to electromagnetic induction phenomena. He leaves behind his wife and two children.

Peter Weidelt studied physics, mathematics and geophysics at the University of Göttingen, where he graduated in 1970 with a dissertation on the inverse problem of EM induction. He stayed in Göttingen as a researcher and lecturer until 1978. A research fellowship at the University of California, San Diego, in 1973, and a guest lectureship at the department of Earth Sciences at the University of Aarhus, Denmark, were important stations in his scientific career. In Denmark he wrote his "Aarhus lecture notes", which became widely distributed and famous among many researchers and teachers

in this field. From 1978 to 1984 he worked on ore exploration with EM methods at the Federal Institute for Geosciences and Natural Resources in Hanover, interrupted by a visiting professorship at the University of California in Berkeley in 1982. In 1984 he accepted a professorship for geophysics and meteorology at the TU Braunschweig.

Peter was recognized worldwide as a brilliant theoretician in electromagnetic induction methods. His research interests included forward modelling and inversion in all three dimensions, for both active and passive methods. He was excited to work on fundamental concepts such as exact solutions, mathematical proofs and extremal models. He always had the practical application of his results in mind; recently he contributed to the fundamental understanding of the so-called "airwave" in marine electromagnetics, laying the foundation to improve the method for oil exploration. Peter was also known for his warm personality and his helpfulness, witnessed by numerous acknowledgements in scientific papers. It was common for scientists from all over the world to ask him for help when they had difficult questions or theoretical problems. He would ask for some time and get back with the solution a few days later, usually a handwritten treatise or even a piece of code, always correct, elegant and perfect.

Even after his retirement in 2003, Peter was very active. He was working on a book chapter, co-supervised Ph.D. students and helped colleagues with his insight. He also continued to travel around the world to visit colleagues, maintaining particularly strong relationships with scientists in India and Russia. In late June he travelled to Turkey to visit a friend, relax, and continue working on a book. On the morning of July 1, he suffered from a heart attack while he was swimming in the sea.

We feel deep sorrow for a brilliant, warm-hearted and helpful colleague who is no longer with us. Peter leaves a huge gap.

Andreas Hördt

MARK BERDICHEVSKY 1923 – 2009

On August 11th Professor of Geophysical Department of Geological Faculty of the Moscow State University, Mark Berdichevsky, passed away. Mark Berdichevsky is wellknown in our country and worldwide as a leading scientist in geoelectrics.

Mark Berdichevsky was born on April 2nd 1923 to the family of a Professor of the Polytechnic University in Kiev. He was World War II veteran.

After the War he entered the Geological Faculty of the Moscow State University. After graduating from the University in 1949 he worked for 20 years in the Research Institute of Geophysical Prospecting Methods. From 1969 he has been Professor of the Geological Faculty of Moscow State University.

Under Mark Berdichevsky's guidance magnetotelluric methods of studies of the Earth crust and the upper mantle have been elaborated and translated into the practice of geophysical prospecting. About 400 of his scientific publications promoted greatly wide application of these methods in prospecting of natural resources on the territory of Russia and abroad.

Mark Berdichevsky ranked among the best professors who shared his vast knowledge and extensive practice with students, post graduates and colleagues. Under his supervising dozens of PhDs theses were successfully defended. Mark Berdichevsky contributed greatly to the organization of science and the improvement of the studying process. Numerous workshops on EM studies, Working Group Meetings, Conferences, Methodological Councils, and Editorial Boards are just a few things to mention, that Mark Berdichevsky dedicated his efforts and time to.

We kept working till the last moment, preparing an academic course on "Field theory", which he had brilliantly presented for many years, attracting students to magnetotellurics.

Mark Berdichevsky had encyclopedic knowledge, and he loved poetry and wrote nice poems himself.

Nikolay Palshin

DAVID RANKIN 1917 – 2009

Dr. David Rankin died quietly on September 10, 2009, at the age of 92, after a long decline. He is survived by his wife of almost 70 years, Sophie Shaffer Rankin, son Steve and daughter Susan (Herb Rice) of British Columbia, and daughter Naomi (Bob Wrigley) of Edmonton; also grandchildren Jon (Jenny Carruthers), Robyn (Chris Geisler), Jessica Wittman, Katherine and Elsa Wrigley, and three great-grandchildren.

David grew up in Vancouver, and was an RAF pilot during WWII. He earned his doctorate in geophysics at the U of Alberta where he taught until retirement. He then moved to Naramata, BC and established Naramata Woodworking. Throughout his life he was an intense advocate of workers' rights and peace. The family is grateful to Sharon Watson of Penticton and the staff of Riverbend Retirement Residence in Edmonton for their devotion and kindness in caring for David.

Martyn Unsworth

GENERAL INFORMATION ABOUT IAGA

The International Association of Geomagnetism and Aeronomy is one of the eight Associations of the International Union of Geodesy and Geophysics ([IUGG](#)).

The other IUGG Associations are:

- International Association of Cryospheric Sciences ([IACS](#))
- International Association of Geodesy ([IAG](#))
- International Association of Hydrological Sciences ([IAHS](#))
- International Association of Meteorology and Atmospheric Sciences ([IAMAS](#))
- International Association for the Physical Sciences of the Oceans ([IAPSO](#))
- International Association of Seismology and Physics of the Earth's Interior ([IASPEI](#))
- International Association of Volcanology and Chemistry of the Earth's Interior ([IAVCEI](#))

IAGA'S MISSION

The overall purpose of IAGA is set out in the first statute of the Association:

- to promote studies of magnetism and aeronomy of the Earth and other bodies of the solar system, and of the interplanetary medium and its interaction with these bodies, where such studies have international interest;
- to encourage research in these subjects by individual countries, institutions or persons and to facilitate its international coordination;
- to provide an opportunity on an international basis for discussion and publication of the results of the researches; and
- to promote appropriate standardizations of observational programs, data acquisition systems, data analysis and publication.

(Link to the complete IAGA [Statutes and By-Laws](#).)

SCIENTIFIC ASSEMBLIES

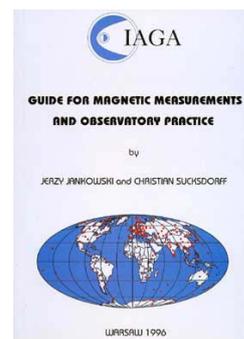
IAGA holds an Ordinary General Assembly every four years in conjunction with each Ordinary General Assembly of IUGG. Between the General Assemblies, IAGA holds a Scientific Assembly, often meeting with one of the other Associations of IUGG.

PARTICIPATION IN IAGA ACTIVITIES

IAGA welcomes all scientists throughout the world to join in research into Geomagnetism and Aeronomy. IAGA is subdivided into a number of Divisions and Commissions, many of which have working groups for the study of particular subjects in their general areas of interest. On occasion, these internal IAGA groups issue their own newsletters or circulars and many maintain their own web sites. At the IAGA Assemblies, the groups organize specialist symposia, invite scholarly reviews and receive contributed papers that present up-to-the-minute results of current research. The IAGA web site gives, or provides links to, information on the range of IAGA activities.

IAGA GUIDES

IAGA has published three 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

IGA Guide for Magnetic Repeat Station Surveys

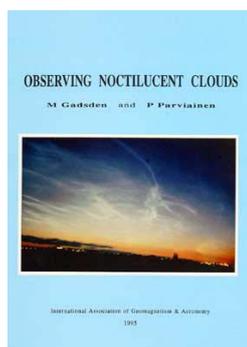
by L.R. Newitt, C.E. Barton, and J. Bitterly, 1997

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.



IGA Guide to Observing Noctilucent Clouds by M Gadsden and P Parviainen, 1995

ISBN: 0-9650686-0-9

Price: USD 25

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](#).

(Prices do not include shipping and handling.)

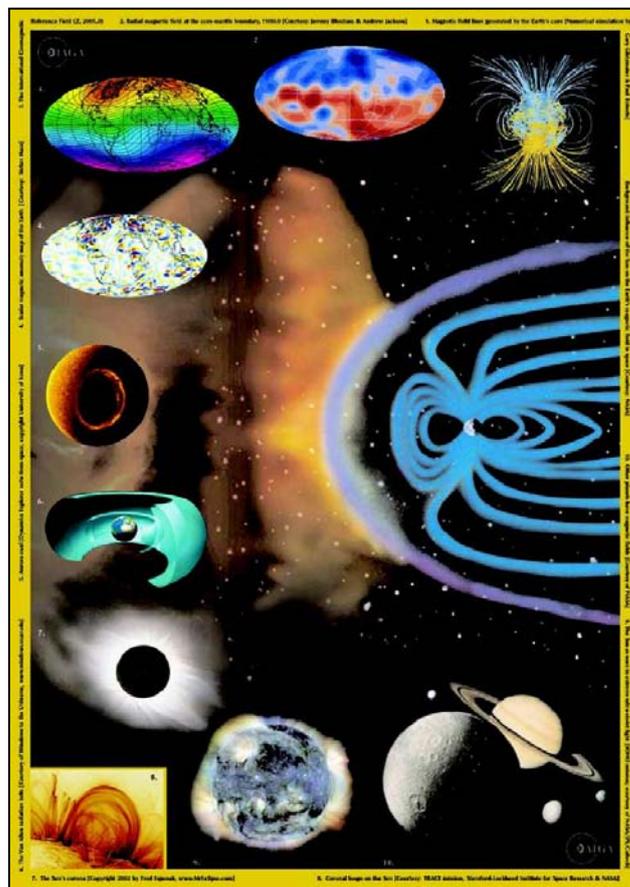
IGA NEWS

IGA News contains items of general interest to the IAGA community. Beginning with Issue 40, the method of distribution for IAGA News is by e-mail and via the IAGA web site.

Requests to publish short articles, reports and announcements in IAGA News should be sent to the Secretary General.

IGA FLYER

A flyer summarising IAGA scientific interests and activities is available in *pdf* format from the IAGA web site (click image below).



THE IAGA WEB SITE

Information on IAGA can be found at:

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

CONTACTING IAGA

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