



**UNION GEODESIQUE ET GEOPHYSIQUE INTERNATIONALE
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This informal newsletter is intended to keep IUGG Member National Committees informed about the activities of the IUGG Associations, and actions of the IUGG Secretariat. Past issues are posted on the IUGG Web site (<http://www.iugg.org/publications/ejournals/>). Please forward this message to those who will benefit from the information. Your comments are welcome.

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1. Scientific meetings selected for IUGG support in 2010

IUGG co-sponsors symposia and workshops appropriate to our disciplines of study. IUGG allocated US\$20,000 to assist meetings in 2010 and especially to support the participation of young scientists and scientists from developing countries. Officers of the Union, Associations and Union Commissions propose meetings to receive these awards. For 2009, IUGG will support the following meetings (the name of the IUGG Association or the Union Commission endorsed the meetings is indicated in brackets):

- Ice and Climate Change: A View from the South. VICC-2010, Valdivia, Chile, 1-3 February (IACS).
- V Congreso Agrimensura, Havana, Cuba, 2-5 March (IAG).
- VIII International Workshop "Physics and forecasting of rock destruction", Zelenogorsk Town, Russia, 24-28 May (IASPEI).
- BALWOIS 2010, Ohrid, Republic of Macedonia, 25-29 May (IAHS).
- International Summer School /Workshop in Glaciology, McCarthy, Alaska, USA, 7-15 June (IACS).
- Breaking Seismo-ill-Logical Circulus Vitiosus, ESOF2010, Torino, Italy, 2-7 July (GRC).
- ICACGP / IGAC Joint Conference "Atmospheric Chemistry: Challenging the future", Halifax, Canada, 11-16 July (IAMAS).
- Workshop on Antarctic Clouds, Byrd Polar Research Center, Columbus, Ohio, 15-16 July (IAMAS).
- 38th COSPAR Scientific Assembly, Bremen, Germany, 18-25 July (IAG, IAGA, IAMAS).

- Cryospheric Changes and Influences - Cryospheric Issues in Regional Sustainable Development, Lijiang, China, 12-14 August (IACS).
- Managing Waveform Data and Related Metadata for Seismic Networks, Foz do Iguacu, Brazil, 13-19 August (IASPEI).
- 20th Electromagnetic Induction Workshop, Porto Sokhna, Egypt, 18-24 September (IAGA).
- Dynamics of Calderas: Collapse and Unrest, Réunion, France, 3-9 October (IAVCEI).
- 6th World FRIEND Conference, Fez, Morocco, 25-29 October (IAHS).
- PAIGH, SIRGAS & IAG-SIRGAS joint workshop, Lima, Peru, November (IAG).
- 8th ASC General Assembly, Hanoi, Vietnam, 8-10 November (IASPEI).

2. Report on the MOCA-09, the Joint IAMAS, IAPSO and IACS Scientific Assembly in Montreal, Canada, 19 – 29 July 2009

Some 1350 scientists from 49 countries gathered at the MOCA-09 Joint Assembly. IAPSO and IACS concentrated their presentations into the first week, whereas IAMAS continued for another three days into the second week. The theme of the conference was “Our Warming Planet”, but all high-quality presentations within the three associations’ subject fields were welcome. The total number of presentations were just under 2000, of which about 60% were oral. The assembly was really a joint event – during the joint first week more than half of the presentations were given in the Joint Symposia. Several plenary talks were delivered during MOCA-09: “A World of Change: Climate Yesterday, Today and Tomorrow” by Susan Solomon (National Oceanic and Atmospheric Administration, USA); “Impact of Climate Change on the Marine Carbon Cycle” by Corinne Le Quéré (University of East Anglia, UK); “A Glimpse at Canada’s Deglacial Future Using Regional Glaciation Modelling” by Garry Clarke (University of British Columbia, Canada); “Atmospheric Composition Changes in the Global Environment” by Maria Kanakidou (University of Crete, Greece); “Future Climate Scenarios Predicted by the M.I.T. Integrated Global System Model” by Paola Malanotte-Rizzoli (Massachusetts Institute of Technology, USA), and “Waking Giants: Ice Sheets in a Warming World” by Robert Bindshadler (NASA's Goddard Space Flight Center, USA). A highlight for the IAPSO scientists was the awarding of the Prince Albert I Medal to Harry Bryden (Professor of the University of Southampton, UK, Fellow of Royal Society). He delivered a lecture entitled “Monitoring the Variability in the Circulation of the North Atlantic Ocean”. Based on judgments of the attendees, we can tell that the Scientific Assembly was a scientific success. Additional information about the MOCA-09 Assembly can be found at <http://www.moca-09.org>.

Johan Rodhe, IAPSO Secretary-General
 Manfred Lange, IACS Secretary-General
 Hans Volkert, IAMAS Secretary-General

3. News from the International Council for Science (ICSU)

Overall strategic plan 2012-2017

The second ICSU strategic plan 2012-2017 will be presented for final approval at the 30th General Assembly in Rome in October 2011. This plan will integrate the outputs of the various activities and consultations listed above. It will also incorporate information from other ICSU activities and developments in line with the Council’s overall mission. Following a presentation at the 29th General Assembly in 2008, the ICSU community was consulted for initial inputs on priorities and these have been considered by the Committee on Scientific Planning and Review.

ICSU is spearheading, in cooperation with International Social Science Council, a process to explore options and propose implementation steps for an integrated strategy for Earth system research. Many ICSU family members contributed to the on-line consultation that took place in July and August to identify key research questions. All these inputs were then considered at a meeting of experts at the end of September and the report of this meeting is currently being compiled. Following consultation on this report, the next milestone is a meeting of programme co-sponsors in mid-2010. This will be focused on developing specific proposals for the future organization of this research area.

Foresight Analysis (<http://foresight.icsu.org>)

The Committee for Scientific Planning and Review (CSPR) has recently launched a foresight consultation exercise designed to develop scenarios for the development of international science over the next two decades. It is hoped that this exercise will not only be important in informing ICSU's future directions but will also be of considerable interest to Member organisations.

Science Education (http://www.icsu.org/1_icsuinscience/CAPA_Paa_1.html)

Following earlier consultation, the membership for an ad hoc strategic review committee to consider ICSU's role in Science Education is now being established. This committee will hold its first meeting in January 2010.

Received from Deliang Chen, ICSU Executive Director

4. Report on the 24th International Tsunami Symposium

The International Tsunami Symposia (ITS) are organized by the IUGG Inter-Association Tsunami Commission (TC) every two years (at IUGG General Assemblies and in-between them). The symposium traditionally brings together scientists and engineers specializing in the field of tsunami research to exchange information and to discuss progress in tsunami science. Since its creation in 1960 in Helsinki, Finland, at the XII IUGG General Assembly, the Tsunami Commission has sponsored 23 symposia. The 24th Tsunami Symposium was held on 14-16 July 2009 in Novosibirsk, Russia. The Symposium was sponsored by the International Union of Geodesy and Geophysics (IUGG), Russian Foundation for Basic Research (RFBR), Siberian Branch of the Russian Academy of Sciences (SB RS), and the World Agency for Planetary Monitoring and Earthquake Risk Reduction (WAPMERR). Host organization was the Institute of Computational Mathematics and Mathematical Geophysics (ICMMG), Siberian Branch, Russian Academy of Sciences. The Symposium was attended by 90 registered participants, 52 of them coming from abroad (Australia, Belorussia, Bulgaria, Germany, Greece, France, Indonesia, India, Italy, Japan, Mexico, New Zealand, Norway, Portugal, Turkey, and USA).

The scope of the 24th Tsunami Symposium covered all the basic aspects of the tsunami phenomenon, whether it be scientific, technical, social or historical. Basic themes discussed at the symposium are: (1) Historical tsunami observations, catalogs and databases; (2) Tsunami measurements and field observations; (3) Geologic effects and records of tsunamis; (4) Tsunami probability and seismotectonic aspects of tsunami generation; (5) Non-seismic sources of tsunami; (6) Tsunami modelling - generation, propagation and run-up; (7) Tsunami impacts on coastlines; (8) Tsunami forecasting and real-time warning; (9) Methods of long-term tsunami risk estimates

(coastal tsunami zoning): and 10. Tsunami mitigation and countermeasures. The Symposium's program can be downloaded from: <http://tsun.sccc.ru/tsunami2009/program.html>.



ITS-2009 participants at the entrance to the symposium venue

Since 1985, the IUGG Tsunami Commission has a tradition of holding *joint technical workshops* as follow-up meetings to the research symposia and/or the sessions of the IOC/UNESCO International Coordination Groups for Tsunami Warning Systems. In Novosibirsk, the follow-up Technical Workshop was held on Friday, 17 July and was devoted to consideration of the coastal and deep-water tsunami measurements and real-time detection. The workshop conveners were A. Rabinovich (IORAS, Moscow, Russia), P. Dunbar (NGDC/WDC-GMG, Boulder, CO) and V. Gusiakov (ICMMG SB RAS, Novosibirsk, Russia). The key questions discussed at the Workshop were the following: (i) deep-ocean (DART and cable) tsunami measurements: experience and prospects; (ii) Coastal tide gauge sea-level measurements: data availability and distribution; (iii) Application of deep-water and coastal sea-level measurements in operational Tsunami Warning Service; and (iv) Database format, data collection, analysis, sharing and exchange.

The *IUGG Tsunami Commission business meeting* was held on 14 July. Commission members that attended the meeting were: Abe, Bernard, Burnett (new member), Dunbar, Greenslade, Gusiakov, Kanoglu, Levin, Marchuck, Nishimura, Pelinovsky, Power, Rabinovich, Rangelov (new member), Satake, Synolakis, Tinti, Titov, Tsuji, Yalciner, Yamamoto. The detailed report on the meeting can be found at TC's web-site (<http://www.ngdc.noaa.gov/hazard/jtc/tsunami2009BM.pdf>). At the meeting it was decided that the Proceedings of the Symposium will be published as a volume of selected papers in PAGHEOPH Proceedings Series. K.Satake, A.Rabinovich, U.Kanoglu and S. Tinti were selected as editors of the proceedings. Approximate schedule of publication is as follows: the title and authors must be submitted by August 31, 2009; paper submission deadline is November 30, 2009; the final manuscripts will be submitted to the publishers by the end of 2010; and the volume will be published before the 2011 IUGG General Assembly. The next, 25th Tsunami Symposium will be organized within the program of the XXV IUGG General Assembly in 2011 (Melbourne, Australia). P. Cummins, V. Titov, K. Satake, and G. Papadopolous will chair the Tsunami Session.

A number of social events were organized in association with the symposium and the follow-up workshop. They included the Ice-breaker Reception on Monday, 13 July, the Conference Dinner in the downtown restaurant "Skomorokhi" on Wednesday, 15 July, barbecue on the bank of the Ob

River in the summer resort hotel "Bylina" on Friday, 17 July, and the field trip to the "Bystrovka" seismic test-site, located in 70 km SE of Akedemgorodok, on Saturday, 18 July. The symposium was well covered by mass media reports (TV, radio, newspapers). The official newspaper of the Siberian Division, Russian Academy of Sciences "Science in Siberia" published a detailed report of the meeting. Selected photos from the meetings and associated social events can be found at <http://tsun.sccc.ru/tsunami2009/photos.html>.

Received from Viacheslav Gusiakov, Chair, ITS-2009 Local Organizing Committee

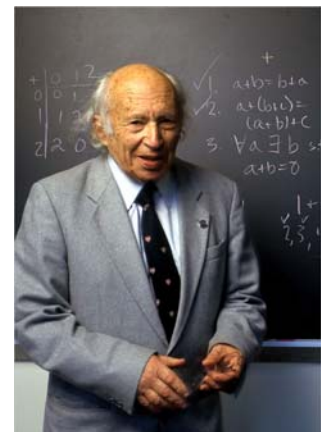
5. New fellowship for future climate protection experts in developing countries

The Alexander von Humboldt Foundation (www.avh.de) is granting International Climate Protection Fellowships to prospective leaders from threshold and developing countries engaged in climate change and resource conservation, be it in research, business or administration. Every year, it is planned to sponsor up to twenty fellows who will come to Germany for a year to conduct a project dedicated to the exchange of knowledge, methods and techniques together with a host. This will encourage the creation of a network in which German and foreign experts will collaborate on a sustainable, international basis to combat climate change and its global consequences. The fellowships are being funded under the International Climate Protection Initiative by the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety. The programme is scheduled to run for four years. Applications may be submitted from now until **15 January 2010**. The first fellows will begin their stay in September 2010. In Germany the fellows will be offered a comprehensive integration programme including language courses, training courses and group meetings. The aim is not only to enhance the fellows' capabilities but also their links to one another and to German experts in various fields.

Source: Alexander von Humboldt Newsletter 5/2009

Obituary: Israel Gelfand (1913-2009)

Israel Moiseevich Gelfand, one of the giants of XXth-century mathematics, whose work cleared paths for other thinkers in fields as diverse as physics, biology, medicine and seismology, passed away. Gelfand did not achieve fame from attacking and solving famous, intractable problems. Instead, he was a pioneer in untrodden mathematical fields, laying the foundation and creating tools for others to use. "People always compare him with great mathematicians like Euler or Hilbert or Poincaré," said Vladimir Retakh (Rutgers University), where Gelfand spent most of his time as a professor after leaving the Soviet Union in 1989. "He was probably the last of the greatest who worked in almost every area of mathematics," continued Retakh.



Half a year before his immigration to USA, I met Gelfand at the USA-Russian "brain-storm" workshop dedicated to non-linear science and its applications to the solid Earth dynamics. The workshop was organized in Leningrad (now St. Petersburg) by Vladimir Keilis-Borok, then IUGG President. What surprised me during Gelfand's talk, and later during discussion with him, was his

deep understanding of geophysical phenomena (especially those in seismology), even though he spoke about his recent results in applications of pattern recognition techniques to cell biology. Much later Michael Ghil (École Normale Supérieure in Paris) told me that he does not know of any other research article, co-authored by four members of the U.S. National Academy of Sciences (marked by *italics*), which has become as influential as the seismological paper by Gelfand et al. (*Gelfand I, Guberman S, Keilis-Borok V, Knopoff V, Press F, Ranzman E, Rotwain I, and Sadovsky A, Pattern recognition applied to earthquake epicenters in California. Physics of the Earth and Planetary Interiors, 11, 227-283, 1976*).

Born in Ukraine near Odessa, Israel Gelfand never finished high school. Although he showed early brilliance in mathematics, he never attended college as an undergraduate, because his father, who operated a mill and had an assistant, was designated a class enemy in the Soviet Union. Gelfand went to Moscow in 1930 when he was about 17, working at odd jobs. Already interested in mathematics, he attended seminars, and at the age of 19, he was admitted directly into graduate school at Lomonossov Moscow State University, studying under Andrei Kolmogorov. Gelfand completed his ordinary doctorate (equivalent to a western PhD) in 1935 and received a higher Doctor of Science degree in mathematics in 1940. Much later, Kolmogorov told people that he always felt “the presence of a higher mind” when he spoke to Gelfand. Gelfand went on to teach at the university and had a position at the famous Steklov Mathematical Institute in Moscow and later at the Institute of Applied Mathematics. He was elected to the Soviet Academy of Sciences in 1953 as a corresponding member and in 1984 as a full member. In 1990s Israel Gelfand spent a year at Harvard and at M.I.T until obtaining a position as distinguished professor at Rutgers University. Gelfand's published work encompasses more than 800 articles and more than 30 books, and he kept up an astonishing rate of output into his nineties.

He won numerous awards, including the Wolf Prize in Mathematics in 1978, the 1989 Kyoto Prize and a 1994 MacArthur Fellowship. In the Soviet Union he held the presidency of the Moscow Mathematical Society and was awarded several State prizes and orders. He was elected to the Royal Society of London, U.S. National Academy of Science, the American Academy of Arts and Sciences, the American Mathematical Society, and the London Mathematical Society.

Vladimir Arnold, a colleague of Gelfand and another student of Kolmogorov, compared the two famous mathematicians using “travel in a mountainous country” analogy: “Suppose they arrived in a country with a lot of mountains. Kolmogorov would immediately try to climb the highest mountain. Gelfand would immediately start to build roads.” Indeed, one of Gelfand's greatest contributions was to find new ways to inspire younger mathematicians and scientists, both in the Soviet Union and in the United States.

“Mathematics is a way of thinking in everyday life,” Gelfand said in a 2003 interview with The New York Times. *“You can explain fractions even to heavy drinkers. If you ask them, ‘Which is larger, 2/3 or 3/5?’ it is likely they will not know. But if you ask, ‘Which is better, two bottles of vodka for three people, or three bottles of vodka for five people?’ they will answer you immediately. They will say two for three, of course.”*

Alik Ismail-Zadeh

Sources: The New York Times, 7 Oct; The Daily Telegraph, 26 Oct 2009)

8. IUGG-related meetings occurring during December 2009 – February 2010

A calendar of meetings of interest to IUGG disciplines (especially those organized by IUGG Associations) is posted on the IUGG web site [www.IUGG.org/calendar]. Specific information about these meetings can be found there. Individual Associations also list more meetings on their web sites according to their disciplines.

- December 14-18, AGU, San Francisco, California, USA, Fall Meeting
- December 18-22, IAGA, Cairo, Egypt, Symposium 2: Solar wind - Space Environment Interaction
- December 5-9, ILP, Abu Dhabi, United Arab Emirates, 5th Workshop of ILP Task Force on Sedimentary Basins
- February 1-3, IACS, IUGG, Valdivia, Chile, International Glaciological Conference “Ice and Climate Change: A View from the South” (VICC 2010)
- February 4-7, IUGS, Varanasi, India, Sixth International Dyke Conference
- February 15-19, AGU, Hyderabad, India, Chapman Conference on Complexity and Extreme Events in Geosciences
- February 22-26, AGU, Portland, USA, 2010 Ocean Sciences Meeting

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Note: Contributions to IUGG E-Journal are welcome from members of the IUGG family. Please send your contributions to Alik Ismail-Zadeh by e-mail (insert in Subject line: *contribution to E-Journal*). The contributions will be reviewed and may be shortened by the Editor.