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The *IAG Newsletter* is under the editorial responsibility of the *Communication and Outreach Branch* (COB) of the IAG.

It is an open forum and contributors are welcome to send material (preferably in electronic form) to the IAG COB (newsletter@iag-aig.org). These contributions should complement information sent by IAG officials or by IAG symposia organizers (reports and announcements). The *IAG Newsletter* is published monthly. It is available in different formats from the IAG new internet site: <http://www.iag-aig.org>

Each *IAG Newsletter* includes several of the following topics:

- I. news from the Bureau Members
- II. general information
- III. reports of IAG symposia
- IV. reports by commissions, special commissions or study groups
- V. symposia announcements
- VI. book reviews
- VII. fast bibliography

Books for review are the responsibility of:

C.C Tscherning
University of Copenhagen
Dept. of Geophysics
Copenhagen, Denmark
Fax: +45 35365357
E-mail: cct@gfy.ku.dk

General Announcements

Summary of the Sixth Meeting of the IAG EC 2007-2011

Place: Technical University, Institute for Geodesy and Geophysics, Gusshausstr. 27-29, Vienna, Austria

Time: Sunday, May 2, 2010, 09:00 – 16:15

Attendees (voting): M. Sideris (IAG President), C. Rizos (IAG Vice-President), H. Drewes (IAG Secretary General), Z. Altamimi (President Commission 1), Y. Fukuda (President Commission 2), R. Gross (Vice-President Commission 3), M Santos (standing in for S. Verhagen, President Commission 4), M. Rothacher (Chair of GGOS), J. Ádám (President of COB), S. Kenyon, R. Neilan, H. Schuh (Representatives of the Services), K. Heki (Member at Large)

Attendees (non-voting): F. Sansò (IAG Past President), N. Sneeuw (Inter-Commission Committee on Theory), H. Hornik (IAG Assistant Secretary)

Guests: M. Pearlman (International Laser Ranging Service, ILRS)

Regrets: G. Beutler (IAG Immediate Past President), M. Bevis (President Commission 3), R. Wonnacott (Member at Large), R. Klees (Editor in Chief Journal of Geodesy)

Summary of Agenda Items:

1. Welcome and adoption of agenda

M. Sideris welcomed the members of the IAG Executive Committee (11 out of 15 voting members, 3 non-voting members) and one guest. He thanked H. Schuh for providing again the facilities in the Institute for Geodesy and Geophysics, Technical University of Vienna. The agenda was unanimously adopted.

2. Reports of the Commissions

Z. Altamimi reported on the coming IAG Commission 1 Symposium 2010 “Reference Frames for Applications in Geosciences (REFAG2010)” which will be held from October 4-8, 2010 in Marne la Vallée/France. M. Sideris proposed that Commission 1 as well as the IAG COB should advertise this conference to IAG sister organizations, in particular to FIG Commission 5. Z. Altamimi presented then the plans for the “IAG School on Reference Frames” from June 7-12, 2010 at the Aegean University, Mytilene, Lesbos, Greece. This school is jointly organized by Commission 1, ICCT, IERS and Study Group IC-SG1. Main topics are the installation and modernization of reference frames. It is the first school of this type in Europe. H. Drewes mentioned that there were similar IAG/SIRGAS schools on Reference Frames in South America in the past, the next being held in Peru, November 2010.

Y. Fukuda summarized the results of the Commission 2 meeting on occasion of the IAG2009 Scientific Assembly on September 3, 2009 in Buenos Aires. At this meeting the question was raised whether the scope can be broadened to include a group on “lunar gravimetry”. The “International Workshop on Gravity, GPS and Satellite Altimetry Observations of Tibet, Xinjiang and Siberia (TibXS 2009)” has been held from August 20-22, 2009 in Urumqi, Xinjiang, China. The conference was organized by Ch. Hwang, President of SC 2.5 (Satellite Altimetry). Most of the papers will be published in a special issue of “Terrestrial, Atmospheric and Oceanic Sciences”. Y. Fukuda mentioned also the “International Workshop on Monitoring North American Geoid Change” held from October 21-23, 2009 in Boulder, USA. As the next event, the “IAG Symposium on Terrestrial Gravimetry: Static and Mobile Measurements (TG-SMM2010)” will be held from June 22-25, 2010 in Saint Petersburg, Russia. The meeting is organized by L. Vitushkin, President of IAG SC2.1.

R. Gross presented an overview on the scientific meetings and discussions of Commission 3 and its sub-components. Most of the meetings were held in connection with other meetings such as GGOS, IERS, WEGENER, IAU General Assembly 2009, Journées “Systèmes de Référence Spatio-Temporels” and AGU/EGU conferences. As selected scientific achievements, R. Gross mentioned in particular the updated tide models (IERS Conventions), the improved modelling of surface geophysical fluids (atmosphere, oceans, hydrology, cryosphere), regional effects, and GRACE measurements of mass transport (geophysical fluids, glacial isostatic adjustment). H. Drewes commented on the investigations of several groups after the Chile earthquake on February 27, 2010. The horizontal (up to 3 m) as well as vertical (up to several decimetres) motions are partly so large that the reference frame in South America, especially between 30 and 40°S, has to be thoroughly corrected.

By proxy of *S. Verhagen*, *M. Santos* gave a summarizing report on the activities of Commission 4 mentioning in particular the topics of a special issue of the Journal of Geodesy related to remote sensing of the ionosphere, submission for another special issue of JoG related to neutral-atmosphere, the planned joint IUGG Symposium (IAG/IAMAS) on geodesy-meteorology synergisms, the revision of IAG2009 papers submitted to the proceedings, a comparison campaign on ray-tracing of NWM (implications for positioning, and GGOS products), and the workshop on ray-tracing in Vienna, April 29-30, 2010.

3. Report of the Inter-Commission Committee on Theory (ICCT)

Concerning the activities of the ICCT, *N. Sneeuw* mentioned the completion of the proceedings of the Hotine-Marussi Symposium (Rome, July 06-10, 2009). It is expected that all reviewed and approved papers can be sent to Springer for publication late May or early June this year. Together with Commission 1, the ICCT Study Group 1 "Theory, implementation and quality assessment of geodetic reference frames" is organizing the Summer School on Reference Frames, June 7-12, 2010 at the Aegean University, Mytilene, Lesvos, Greece (cf. topic 2). A new study group, joint with Commission 2, may be installed later this year. During the workshop "Airborne Gravity 2010" (Sydney, August 22-26, 2010) the establishment of a test range in Western Australia (Kauring) will be announced, for purposes of testing and validating gravimetry and gradiometry activities. Setting up an IAG study group may be an appropriate way to liaise to the exploration/gradiometry community.

4. Report of COB

J. Ádám complained the lack of information for the regular IAG-Newsletter and appealed all colleagues to deliver facts for the Newsletter. The COB-Webmaster *S. Rozsa* has compiled a draft for a new IAG-Webpage; *J. Ádám* presented the page to the plenum. The EC discussed the installation of a "Today's Topic" in the website. As a daily changing topic will hardly be kept over a longer time, it was concluded to switch to a "Weekly Topic". On this basis each group within the IAG should deliver one topic per year to the COB. The main purpose of this topic is to introduce geodesy and the IAG to the public. *F. Sansò* recommended publishing especially such topics which really concern the general community, e.g. the geodetic methods for the determination of land uplift or sea level change. Finally *J. Ádám* informed that the new IAG-Brochure can be received on request from the IAG-Office to be distributed on adequate occasions.

5. Report of GGOS

The development of GGOS since the 5th EC-Meeting was presented by *M. Rothacher*. Main topics were the new components of the GGOS structure, the Frankfurt meeting on a GGOS Intergovernmental Committee (GIC) and follow-on meetings, the GGOS retreat (planning meeting) in Miami, February 1-4, 2010, the 17th GGOS SC meeting in Miami, February 4, 2010, GEO activities, and GGOS themes towards integrated GGOS products. As new components established for GGOS he mentioned the Bureau for Networks and Communication (Cambridge Center for Astrophysics/NASA, Chair *M. Pearlman*), the Bureau for Standards and Conventions (Research Group on Satellite Geodesy in Munich, Chair *U. Hugentobler*), and the WG on Satellite and Space Missions (Ohio State University, OSU, Chair *C.K. Shum*).

In January 2009 the GGOS Portal has been established at the Federal Agency of Cartography and Geodesy (BKG), Frankfurt, Germany. Further in January 2010 the GGOS Coordination Office has been installed at the ASI (Italian Space Agency) in charge of the Coordination Office. The major steps in the next future are in particular the implementation of GGOS2020, the GGOS Strategy Document, the progress with the GGOS Portal and official GGOS web pages, contributions to GEO tasks and IGOS, and the Call for Participation for the Global Geodetic Core Network (GGCN).

Concerning the GIC, *M. Rothacher* emphasized the essential problem of long-term support and sustainability of the IAG Services and the global GGOS infrastructure. *R. Neilan* recommended nominating a permanent secretary for GIC as well as to install carefully the best possible infrastructure that GIC really can work. Moreover all institutions working on topics which are of interest for GGOS should be officially contacted and involved, e.g. CNES. *H. Drewes* mentioned the proposal of *D. Grünreich* to place GGOS on a broader basis upon intergovernmental agreements considering the fact that the IAG has no legal status and a rather low budget.

6. Report of the Services

A summarizing report on the activities of the International Gravity Field Service (IGFS) was presented by *S. Kenyon*. The task of the IGFS is to serve as a unifying 'umbrella' IAG Service for coordinating the collection, validation, archiving and dissemination of gravity field related data, coordinating the exchange of software for

gravity field activities, coordinating courses, information materials and general public outreach relating to the Earth's gravity field, and implementing practical standards for general gravity field-related reference system issues, such as a global vertical datum. IAG-Services contributing to these tasks are the International Gravimetric Bureau (BGI), International Geoid Service (IGeS), International Center for Earth Tides (ICET), International Center for Global Earth Models (ICGEM) and International DEM Service (IDEMS). Further the IGFS co-operates closely with the International Altimetry Service (IAS).

S. Kenyon announced that it might be proposed to install with the upcoming Global Gravity Project (superconducting gravimeter net) a new respective IAG-Service. He informed on the Call for an IGFS Central Bureau, issued in March 2010. The specific tasks of the Bureau are to provide links between the IGFS entities and external projects, networks and organizations (oceanic, atmospheric, hydrologic) and to the GGOS Bureau and to communicate their requirements and recommendations to the IGFS, as well as to implement standards and recommendations related to gravity field observations, secure consistency with geometric standards, and promote their use within the geo-scientific community. The CB should also coordinate the individual services integrated by the IGFS. He then showed a map of the distribution of absolute gravimeter observations and some results related to the earthquake in Chile, where strong gravity variations on a well defined reference station could be observed. As a contribution of the IGFS to GGOS, *S. Kenyon* mentioned global gravity field models, precise refined geoid models, global absolute and superconducting gravity networks, and a global vertical datum.

The activities of the International GNSS Service (IGS) were summarized by *R. Neilan*. For the upcoming "IGS Workshop and Special Workshop on Vertical Rates from GPS" (June 28 - July 07, 2010, Newcastle, UK) the website of the IGS will be completely updated with emphasis to inform the public and to give specific motivation to geodesists working on the field of GNSS for own activities. A focus will be on reference frames, in particular AFREF. *R. Neilan* then pointed out the successful activities of the common Working Group of IGS, IAG and FIG which met on occasion of the 4th Meeting of the International Committee on Global Navigation Satellite Systems (ICG) in St. Petersburg/Russia from September 14 - 18, 2009. The co-operation of these groups is developing very well.

H. Schuh informed about the activities of the International Laser Ranging Service (ILRS) and the International VLBI Service for Geodesy and Astrometry (IVS). There is a resurgence of interest and success in Lunar Laser ranging. Both the Grasse refurbished MEO system and the Matera station have reported returns from the Apollo reflectors, and the Apache Point Observatory has ranged to the 'lost' Lunokhod 1 Russian rover of 1970/71. The rover was identified by the Lunar Reconnaissance Orbiter, also an ongoing ILRS-support. The SLR community continues to work on tracking of GNSS satellites, COMPASS and GLONASS-115 which have retro-reflector arrays that meet the ILRS Standard; several stations are now doing daylight ranging. Current tracking issues include discussions on how to maximize tracking support for an increasing constellation of satellites, which recently includes CRYOSat-2. Several stations are now using high repetition rate Laser (100 - 2KHz), semi-autonomous operations, pass-interleaving, etc. Some stations are interleaving 3 -4 satellites at a time and several stations are involved with the one-way ranging to the Lunar Orbiter.

The 6th IVS General Meeting (GM2010) was held on 7-13 February 2010, in Hobart, TAS, Australia with more than 100 participants; during this week the dedication of the new VLBI radio-telescope on Mount Pleasant, Hobart was celebrated. A special issue on the continuous VLBI-session "CONT08" will be published in Journal of Geodesy. A very large Astrometry session was organized on Nov. 18, 2009 with 33 radio telescopes (a new 'world record') observing 243 quasars (almost all ICRF2 defining sources); a dynamic webpage was set up at Bordeaux Observatory and an IVS press release was published and linked on hundreds of websites worldwide. There are two new Working Groups within the IVS: Working Group 5 on Space Science Applications (chair: *L. Gurvits*) and Working Group 6 on VLBI Education and Training (chair: *R. Haas*). The Progress Report on the IVS VLBI2010 system was published (<ftp://ivscc.gsfc.nasa.gov/pub/misc/V2C/TM-2009-214180.pdf>).

7. Report on developing countries

In his report, *K. Heki* concentrated on activities in Asia. He informed about the release of the SELENE lunar topography/gravity models. One year after the end of the nominal mission of the Japanese lunar explorer "Kaguya/SELENE", the lunar topography and gravity models were released to public in November, 2009. They are currently the most accurate models. The launch of a Japanese GNSS satellite this summer is part of the quasi-zenith satellite system. There were several different series of geodetic meetings in Asia, e.g. biannual Western Pacific Geophysics Meeting (WPGM), operated by AGU since 1990 (2010 June venue in Taipei/Taiwan), annual Asia Oceania Geoscience Society (AOGS) meeting, operated by earth scientists in Asia and Oceania since 2004 (2010 July venue in Hyderabad/India). These conferences normally include geodesy sessions. Asia-Pacific Space Geodynamics (APSG) workshops are held annually (2010 August venue in Shanghai during the world EXPO), these workshops are mainly dedicated to space geodetic studies.

8. Report of the Journal of Geodesy (JoG)

By proxy of *R. Klees*, *H. Drewes* informed that the number of pages for the last three JoG 2009-volumes had been increased, so the former very long time delays between the submission and real publication of an article could be reduced considerably. Moreover two special issues per year are now planned to be edited. All colleagues are asked to advertise the subscription of the JoG as the yearly fee for individual IAG-members is rather low. He then reported about the plans of Springer Publishers to scan all older volumes of the Bulletin Géodésique (BG) in order to make the texts available for the public. There are also plans to do the same with the whole edition of the former Manuscripta Geodaetica (mg). *F. Sansò* said that this would be very helpful for the public to get access to the complete edition of the BG as well as the mg.

9. IAG-FIG Relationship

C. Rizos presented a video on the XXIV FIG International Congress, April 11-15, 2010, Sidney/Australia. A form for future Action/Project Plans has been set up on the basis of the "Memorandum of Understanding (MoU) between FIG and IAG" and the document "Linkages between the FIG and IAG, Hanoi Oct 2009". It was stated that FIG plays a much more visible role than IAG. The Sydney General Assembly, e.g., held 2200 participants, in Munich in 2006 even 7000 while the last IAG Scientific Assembly 2009 in Buenos Aires held 360 participants. Thus IAG has to keep intensive contacts to FIG or ISPRS in order to be known to the public.

10. Report on JB-GIS

C. Rizos reported on the Joint Board of Spatial Information Societies (JB-GIS) as a linkage between several associations. The JB-GIS met on occasion of the XXIV FIG International Congress on April 13. One of the main aspects of the meeting was focussed on disaster management. *H. Drewes* commented that this item is absolutely important to demonstrate the necessity of geodetic research to the public and in particular to decision makers. The next JB-GIS-Meeting will take place on July 2, 2010 in Vienna. It was stated that the FIG is highly interested in the aspects of reference frame; this topic offers an excellent opportunity for a contacts between IAG and FIG. *Z. Altamimi* recommended advertising the IAG Symposia and other events in the FIG and other Newsletters.

11. Status of the Proceedings of the IAG Scientific Assembly 2009

S. Kenyon presented a list of the papers submitted to the proceedings of the 2009 IAG Scientific Assembly in Buenos Aires. The accepted contributions will be published as usual in the Springer IAG-series and will comprise more than 600 pages. *H. Drewes* mentioned that the price of the volume is already fixed, thus the printing costs have to be held fixed. It therefore was concluded to charge the authors with an extra fee of 70 EURO per extra page and 50 EURO per coloured page, respectively.

12. Status of the IUGG General Assembly Melbourne 2011

H. Drewes reported on the planning meeting (October 08-13, 2009) for the XXV IUGG General Assembly in Melbourne, Australia, June 27 - July 08, 2011 and presented several overviews on the event. About 4000 to 5000 participants are expected. The scientific meetings will be limited to 10 days instead of hitherto 12. Those of the IAG are proposed to be scheduled for 6 days (June 30 - July 6). The meeting of the present IAG-EC is proposed for June 29, a further meeting e.g. on the weekend. Altogether 9 Union Symposia will be held, each one organized by the 8 IUGG-Associations and one by the IAG. IAG is involved in several of them. *M. Rothacher* was invited to give one of the Union lectures. Moreover the IAG will lead and participate in several Inter-Association Symposia and hold seven IAG symposia on "Reference frames from regional to global scales", "Monitoring and modelling mass displacements", "Monitoring and modelling Earth rotation", "Multi-sensor systems for engineering geodesy", "Geodetic imaging techniques", "Towards a unified World Height System", and "High precision GNSS". All geodesists are asked to advertise the IUGG General Assembly and possible travel awards for young scientists from developing countries in their surroundings.

13. Nomination for IAG and IUGG officers 2011-2015

M. Sideris informed that *G. Beutler* in his property as chairman of the Nomination Committee (*G. Beutler*, *R. Wonnacott*, *W. Featherstone*) will send out an according letter in December this year. The deadline for

proposals is February 2011; the election will take place in March. *G. Beutler* will contact the IAG-Council in this matter. The IUGG General Secretary has sent out a letter for nominations for the relevant IUGG positions.

14. Sponsorship of symposia and workshops

H. Drewes presented a list of upcoming symposia. He explained that all symposia and workshops of IAG components are generally taken as adopted by the EC according to a former decision of the EC. If the sponsorship of another meeting by the EC is requested, the respective application has to be sent according to the corresponding rules (<http://iag.dgfi.badw.de/fileadmin/handbook/1-6-rules-scientific-meetings.pdf>). The coming COSPAR Conference (38th) has already often been sponsored. The IUGG has decided to support financially this conference on behalf of several concerned IUGG Associations. *J. Ádám* recommended that for each IAG-meeting a summarizing article should be compiled by a concerned officer of the meeting to be published in the IAG Newsletter. The plenary unanimously welcomes this plan.

15. Next IAG EC Meeting

The next Meeting of the IAG-EC will take place in San Francisco in connection with the Annual Assembly of the AGU. Then the EC will meet again on occasion of the IUGG 2011 General Assembly in Melbourne/Australia. There is no meeting planned on occasion of the EGU Annual Assembly end April/begin May 2011 in Vienna.

16. Any other business

An invitation letter to support the e.motion proposal to ESA's Earth Explorer Opportunity Mission EE-8 call has been submitted by *J. Johannessen* (Primary Investigator of e.motion) and others. *M. Sideris* presented the letter and explained the aims of e.motion (**Earth System Mass Transport Mission**). *M. Sideris* moved to agree to this activity, the proposal was supported by *N. Sneeuw* and unanimously accepted.

Z. Altamimi informed on a activity of *C. Boucher* to establish a Working Group on standards for GGOS with reference to the Working Group for ISO-Standards. The standards should strictly be compatible with the ISO-Standards. Although this procedure is obviously rather complicated, the application of defined standards offers great advantages for future use especially for GNSS providers. The activity is supported financially by the French government. In November 2010 the decision on the future work will be made, therefore the ISO-Members should declare their scientific support. *C. Boucher* already contacted some relevant IAG-Services. The IERS has declared to support this activity and nominated *B. Richter* as representative. The IAG is invited to send a delegate to the Working Group. *H. Drewes* added that the IAG is the official partner of ISO, the representatives are *J. Ihde* and *H. Drewes* from IAG to ISO, and *L. Hothem* from ISO to IAG. Therefore the requested letter should be signed by the IAG. *M. Sideris* proposed that this topic should be discussed within the GGOS community and the conclusion be submitted to the IAG EC in order to start the relevant activities. *Z. Altamimi* agreed and will discuss the topic again with *C. Boucher*.

17. Adjourn

M. Sideris thanked all participants for their contributions and closed the session at 16:15 (4:15 pm).

Respectfully submitted
HERMANN DREWES, Secretary General
HELMUT HORNIK, Assistant Secretary

ILRS News

The ILRS has been tasked with tracking at high priority the new ESA CryoSat-2 Earth Observation mission, which was launched into a 700 km orbit by a Russian Dnepr rocket from the Baikonur Cosmodrome in Kazakhstan. The satellite employs an advanced SAR/Interferometric Radar Altimeter that will monitor ice thickness with unprecedented accuracy, and nearer to the poles than ever before from space. In orbit for almost three months, the satellite is now well into its commissioning phase with scientists very encouraged by the first ice-thickness data that is being made available. The primary tracking for precise orbit determination is the DORIS system, validated by ILRS laser range measurements.

GRAHAM APPLEBY
Chair, ILRS Governing Board

Meeting Announcements

WEGENER 2010 in Istanbul

September 14-17, 2010, Istanbul, Turkey



The 15th General Assembly of WEGENER 2010, will be hosted by Bogazici University, Istanbul, Turkey on 14-17 September 2010. The 15th Assembly of WEGENER will provide a forum for presentation, discussion, coordination and scientific support for geoscientists interested in unravelling the kinematics and mechanisms of the broad Eurasian/African/Arabian collision zone. Contributions on new aspects arising from the new satellite missions for gravity, SAR and Laser Altimetry are welcome in particular. The call for abstracts is attached and further details are also available at www.koeri.boun.edu.tr/jeodezi/wegener2010/.

All contributions will be subject to peer-review and will also be published in the formal proceedings of the WEGENER 2010. A special issue of the Journal of Geodynamics for WEGENER 2010 will be published and a limited number of papers will be invited for submission to a full refereeing process.

- Deadline for online registration: **August 6, 2010**.
- 3rd circular: August 2010 (final program)

HALUK OZENER
On behalf of the Organizing Committee

Updated Announcement for the 2nd General Assembly of the IGFS

September 20-22, 2010, Fairbanks, Alaska, USA

Registration is now open for the 2nd General Assembly of the IGFS - International Gravity Field Service will be held 20-22 September, in Fairbanks, Alaska, USA. Alaska has spectacular natural beauty, and exceptional geodetic and geophysical signals due to its active tectonics, volcanism, and rapid changes in the cryosphere. With the ability to measure gravity field changes by satellites (GRACE), as well as by superconducting and repeated absolute gravity, applications of gravity field information have spread from geodesy and geophysics into much broader application areas such as climate studies, glaciology and hydrology, and the meeting will pay special attention to these themes in addition to the geodetic science. Registration is open now via our website, as is abstract submission. More information is on our website, and please email the conference email if you have problems.

- Deadline to pre-register and avoid late fee is **September 1, 2010**.

Website: <http://www.gps.alaska.edu/IGFS2/>

Email: igfs2@gi.alaska.edu

JEFFREY FREYMUELLER

First International School on “The KTH Approach to Modeling the Geoid”

September 20-24, 2010, Istanbul, Turkey

After the successful experiences in the determinations and evaluations of precise local geoid models in different countries, we plan to arrange the First International Geoid School based on the KTH approach. (KTH is a Swedish abbreviation for Royal Institute of Technology, Stockholm, Sweden.). The school takes place on September 20-24, 2010, at, and hosted by, the Department of Geomatic Engineering, Yildiz Technical University, Istanbul, Turkey. The geoid school is lead by

Prof. Lars E. Sjöberg	Prof. Serif Hekimuglu
Royal Institute of Technology	Yieldiz Technical University
Division of Geodesy	Institute of Geomatic Engineering
Stockholm, Sweden	Istanbul, Turkey
Head of Geoid School	Head of L. O. C.

Detailed information and registration form can be downloaded from the following webpage:
<http://www.infra.kth.se/geo/events/geoidschool.html>.

MOHAMMAD BAGHERBANDI
Division of Geodesy
Royal Institute of Technology (KTH)

International Doris Service Workshop 2010

October 21-22, 2010, Lisbon, Portugal

The next International DORIS Service (IDS) workshop will take place at the Lisbon International Fair in Portugal, from 21-22 October 2010.

The purpose of this workshop is to bring together representatives from all DORIS groups to share information about the network, data, products, and to perform inter-comparisons. Developments and scientific results in all aspects of the DORIS system will be highlighted. The meeting will be a forum for discussion and coordination of future activities.

The IDS workshop will be organised in conjunction with:

- The Ocean Surface Topography Science Team (OST-ST) meeting, 18-20 October 2010
- a special meeting: Towards higher resolution remote sensing of ocean dynamics and terrestrial surface waters, 21-22 October 2010

Structure of the meeting:

The IDS workshop will include thematic sessions and a splinter working session over a period of 2 days. The sessions will consist of oral presentations and posters. Among the topics to be discussed will be DORIS results with the new satellites (Jason-2 & Cryosat-2) and progress towards an operational IDS combination.

The workshop is organised by CNES and EUMETSAT.

Organising Committee:

EUMETSAT: Gabriele Kerrmann, Francois Parisot, Madeleine Pooley

CNES: Laurence Amen, Nicole Bellefond, Sophie Coutin-Faye, Pascale Ferrage (IDS)

The Scientific Committee will draw up a programme and an agenda at a later stage, according to the submitted abstracts.

Scientific Committee:

Frank G. Lemoine (chair), John Dow, Laurent Soudarin, Petr Stepanek, Pascal Willis.

Details regarding this IDS workshop as well as more general information on the two other associated meetings are posted on the conference web site <http://ostst-hydro-2010.com/>.

Observing and Understanding Earth Rotation

A Joint GGOS/IAU Science Workshop

October 25-28, 2010, Shanghai, China

The Earth's rotation, encompassing both the rate of rotation and the location of the rotation axis with respect to the Earth's crust, is not constant but changes on all observable time scales from subdaily to decadal and longer. The wide range of time scales on which the Earth's rotation changes reflects the wide variety of processes that are causing it to change, including external tidal forces, surficial fluid processes involving the atmosphere, oceans, and hydrosphere, and internal processes acting both within the solid Earth itself and between the fluid core and the solid Earth. Knowing the rotational response of the Earth to these global-scale processes allows Earth rotation measurements to be used to study them.

Measurements of the Earth's time varying rotation have been traditionally provided by optical astrometry and the space-geodetic techniques of satellite and lunar laser ranging (SLR and LLR), very long baseline interferometry (VLBI), global navigation satellite systems (GNSS), and Doppler orbitography and radio positioning integrated by satellite (DORIS). However, the launch of the GRACE twin gravity satellites in March 2002 and the densification of the global GNSS ground receiver network afford new opportunities for studying the Earth's rotation. GRACE is directly observing the effect of mass redistribution on the Earth's rotation, and the global network of GNSS ground receivers can be used to infer changes in the load acting on the Earth's surface and its effect on the Earth's rotation from observations of changes in the Earth's shape. Combining independent observations of the Earth's rotation, gravity, and shape will enable greater insight into the common processes causing them to change.

The Global Geodetic Observing System (GGOS) of the International Association of Geodesy (IAG) provides the geodetic infrastructure necessary for monitoring the Earth system, including changes in its rotation, gravity, and shape. This joint Science Workshop, organized by both GGOS and the International Astronomical Union (IAU), on Observing and Understanding Earth Rotation will be a forum for assessing our current ability to observe the Earth's time varying rotation, for assessing our current understanding of the causes of the observed variations, for assessing the consistency of Earth rotation observations with global gravity and shape observations, for exploring methods of combining Earth rotation, gravity, and shape observations to gain greater understanding of the mass load acting on the surface of the solid Earth, and for identifying improvements in the global geodetic observing system needed to further our understanding of the Earth's variable rotation.

Deadline for registration and abstract submission is **August 15, 2010**.

Please visit <http://GGOS-C19.shao.ac.cn/> for more information about this exciting workshop.

RICHARD GROSS

Contentious Issues In UNCLOS – Surely Not?

The Sixth ABLOS Conference: 25-27 October 2010

The Advisory Board on the Law of the Sea (ABLOS) is a subsidiary body of the International Association for Geodesy (IAG) and of the International Hydrographic Organization (IHO). One of its mandates is to organize regular conferences that explore and clarify the interface between marine law and science.

The Sixth ABLOS Conference is scheduled for October 25-27, 2010, at the International Hydrographic Bureau in Monaco. This meeting will again gather specialists from a variety of disciplines to discuss challenges that arise in the application of marine science and technology while taking into account the juridical requirements of the UN Convention on the Law of the Sea (UNCLOS). This year's Conference Proceedings will be added to the accumulation of 125 or so Web-accessible presentations that have been delivered at the five previous Conferences, and which address numerous aspects of state practice and jurisprudence in the Law of the Sea.

Completed manuscripts of accepted papers should be submitted no later than **August 31, 2010** to ensure inclusion in the Proceedings which will be distributed at the close of the Conference. Formatting and submission instructions are posted on <http://www.gmat.unsw.edu.au/ablos/ABLOS10Folder/PaperFormat.pdf>

A registration form can be downloaded from <http://www.gmat.unsw.edu.au/ablos/ABLOS10Folder/ABLOS2010ConfRego.pdf>

A certain number of rooms have been pre-booked at hotels in and close to Monaco. A hotel booking form can be downloaded from <http://www.gmat.unsw.edu.au/ablos/ABLOS08Folder/ABLOS2010HotelForm.doc>

Conference Organizing Committee

Conference Chairman	Chris Rizos, University of New South Wales
COC Chairman	Ron Macnab, Geological Survey of Canada (Retired)
Programme coordinators	Chris Carleton and John Brown, UK Hydrographic Office
Advisor, Geodesy	Lars Sjoberg, Swedish Royal Institute of Technology
Advisor, Hydrography	Luiz Carlos Torres, Hydrographic Service of the Brazilian Navy
Secretariat services	Steve Shipman, International Hydrographic Bureau
Communications	Sunil Bisnath, York University, and Ron Macnab, Geological Survey of Canada (Retired)

CHRIS RIZOS

IAG Sponsored Meetings

15th General Assembly of WEGENER 2010

September 14-17, 2010, Bogazici University, Istanbul, Turkey

URL: www.koeri.boun.edu.tr/jeodezi/wegener2010/.

IGFS2 – 2009

September 20-22, 2010, Fairbanks, Alaska, USA

The 2nd General Assembly of the IGFS - International Gravity Field Service follows the 1st IGFS symposium in Istanbul, August 2006, and the Symposium on Gravity, Geoid and Earth Observation, held in Chania, Greece, 2008, and is organized under the auspices of the International Association of Geodesy (IAG). The webpage of the symposium is <http://www.gps.alaska.edu/IGFS2/>.

IAG Commission 1 Symposium 2010: Reference Frames for Applications in Geosciences (REFAG2010)

October 4-8, 2010, IGN, France

URL: <http://iag.ign.fr/index.php?id=140>

International Doris Service Workshop 2010

October 21-22, 2010, Lisbon, Portugal

The next International DORIS Service (IDS) workshop will take place at the Lisbon International Fair in Portugal, from 21-22 October 2010. The purpose of this workshop is to bring together representatives from all DORIS groups to share information about the network, data, products, and to perform inter-comparisons. Developments and scientific results in all aspects of the DORIS system will be highlighted. The meeting will be a forum for discussion and coordination of future activities. Details regarding this IDS workshop as well as more general information on the two other associated meetings are posted on the conference web site <http://ostst-hydro-2010.com/>.

Observing and Understanding Earth Rotation

October 25-28, 2010, Shanghai, China

URL: <http://GGOS-C19.shao.ac.cn/>

IAG Related Meetings

2010 The Meeting of the Americas

August 8-13, 2010, Foz do Iguaçu, Brazil

URL: <http://www.agu.org/meetings/ja10/>

Interdisciplinary CODATA Workshop on RISK Models and Applications

August 26-27, 2010, Berlin, Germany

URL: http://www.codata-germany.org/RMA_2010/

ESA International Summer School 2010

September 1-11, 2010, Slettestrand, Denmark

URL: <http://www.munich-satellite-navigation-summerschool.org/>

First International School on "The KTH Approach to Modeling the Geoid"

September 20-24, 2010, Istanbul, Turkey

First International Geoid School on the KTH Approach will take place on September 20-24, 2010, at Yildiz Technical University, Istanbul, Turkey. Detailed information and registration form can be found on the webpage of the conference <http://www.infra.kth.se/geo/events/geoidschool.html>.

7th International Symposium on LBS & TeleCartography

September 20-22, 2010, Guangzhou, China

The 7th International Symposium on LBS & TeleCartography will be held at Spatial Information Research Center (SIRC), in the campus of South China Normal University (SCNU) on 20th - 22nd Sept, 2010, Guangzhou, China. The symposium will bring together experts from around the world to present the latest research results and developments with focus on Location Based Services in the fields of Cartography, Geoinformation, Computer Sciences, Ubiquitous and Pervasive Computing, Telecommunication, Geodesy, and Geomedia Techniques. Official Web Site: <http://www.lbs2010.org/>.

ION GNSS 2010, 23rd International Technical Meeting

September 21-24, 2010, Portland, Oregon, USA

URL: <http://www.ion.org/meetings/gnss2010cfa.cfm>

Intergeo 2010

October 5-7, 2010, Köln, Germany

URL: <http://www.intergeo.de/>

IGCP 565 Workshop 3: Separating Hydrological and Tectonic Signals in Geodetic Observations

October 11-13, 2010, Reno, Nevada, USA

URL: http://www.igcp565.org/workshops/Reno_2010/introduction.php

UN-SPIDER Bonn Workshop

October 12-14, 2010, Bonn, Germany

URL: www.un-spider.org/workshop-bonn-2010

4th Coastal Altimetry Workshop

October 14-15, 2010, Porto, Portugal

URL: <http://www.coastalaltimetry.org/>

Eurisy Conference

October 14-15, 2010, Rabat, Morocco

URL: <http://www.eurisy.org/>

OSTST Annual Meeting

October 18-22, 2010, Lisbon, Portugal

URL: <http://www.aviso.oceanobs.com/>

GNSS-R 2010

October 21-22, 2010, Barcelona, Spain

The 2010 Workshop on GNSS Reflectometry (GNSS-R'10) will take place in Barcelona, Spain, during 21-22 October 2010. The primary objective of these GNSS-R workshops is to provide a forum for researchers working on the different aspects and applications of the GNSS Reflectometry where to review recent advances and to identify required improvements.

Please visit <http://congress.cimne.com/gnss-r10/> for more information on this GNSS-R'10 Workshop.

2010 ABLOS Conference

October 25-27, 2010, International Hydrographic Bureau, Monaco

An international conference on "Contentious Issues in UNCLOS - Surely Not?", will be organised by ABLOS, in Monaco, at the International Hydrographic Bureau, on 25-27 October 2010.

URL: <http://www.gmat.unsw.edu.au/ablos/index.html#ABLOS10>

ACM SIGSPATIAL GIS 2010

November 2-5, 2010, San Jose, CA, USA

The 18th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems provides a forum for original research contributions covering all conceptual, design, and implementation aspects of GIS ranging from applications, user interfaces, and visualization to storage management and indexing issues. This conference is the premier annual event of the ACM Special Interest Group on Spatial Information (ACM SIGSPATIAL). URL: <http://acmgis2010.cs.ucsb.edu/>.

IWGS 2010

November 2, 2010, San Jose, CA, USA

1st International Workshop on GeoStreaming (IWGS2010) is to be held in conjunction with the 18th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL GIS 2010).

URL: <http://infolab.usc.edu/iwgs10/>

Second SIRGAS School on Reference Systems

November 8-10, 2010, Lima, Peru

URL: <http://www.sirgas.org>

SIRGAS 2010 General Assembly

November 11-12, 2010, Lima, Peru

URL: <http://www.sirgas.org>

AGU Fall Meeting

December 13-17, 2010, San Francisco, USA

URL: <http://www.agu.org>

17th International Workshop on Laser Ranging

January 17-22, 2011, Concepción, Chile

URL: <http://www.iers.org/>

GEOProcessing 2011

February 23-28, 2011 - Gosier, Guadeloupe, France

The Third International Conference on Advanced Geographic Information Systems, Applications, and Services

URL: <http://www.iaia.org/conferences2011/GEOProcessing11.html>

EGU General Assembly 2011

April 3-8, 2011, Vienna, Austria

URL: <http://meetings.copernicus.org/>

JURSE 2011 - Joint Urban Remote Sensing Event (URBAN 2011 + URS 2011)

April 11-13, 2011, Munich, Germany

Contact: jurse2011@bv.tum.de

Third Conference on Earth Observation for Global Changes (EOGC2011)

April 13-15, 2011, Munich, Germany

URL: <http://www.pf.bv.tum.de/eogc2011/>

SPACOMM 2011

April 17-22, 2011, Budapest, Hungary

The Third International Conference on Advances in Satellite and Space Communications

URL: <http://www.iaia.org/conferences2011/SPACOMM11.html>

EUREF 2011 Symposium

May 25-28, 2011, Chisinau, Republic of Moldova

URL: <http://www.euref-iaa.net/>

7th International Symposium on Mobile Mapping Technology

June 13-16, 2011, Krakow, Poland

The Symposium MMT' 2011 will be held on 13 – 16 June 2011, in the Sheraton hotel Cracow, Poland. We strongly invite and encourage all professionals, researchers and academics, business and industry partners, students to participate in this important event. Science Chair: Dorota Grejner-Brzezinska.

The MMT2011 web site is up and running: <http://www.mmtcracow2011.pl/>.

TransNav 2011

June 15-17, 2011, Gdynia, Poland

URL: <http://transnav.am.gdynia.pl/>

IAG Sister Societies' General Assemblies

XXV IUGG General Assembly

June 27 – July 8, 2011, Melbourne, Australia

URL: <http://www.iugg2011.com/>