



## Contents

<b>General Announcements.....</b>	<b>3</b>
Summary of the Seventh Meeting of the IAG EC 2007-2011 .....	3
The 2011 Vening Meinesz Medal is awarded to Prof. Harald Schuh .....	7
Availability of GOCE User Toolbox 2.0 .....	8
Announcement of a Special Issue of ASR on Satellite Altimeter Calibration and Deformation Monitoring using GNSS .....	8
<b>Meeting Announcements .....</b>	<b>9</b>
Meeting of the Working Group on Gravimetry (WGG) of the BIPM Consultative Committee for Mass and Related Quantities (CCM).....	9
17 <sup>th</sup> International Workshop on Laser Ranging.....	9
APSG Workshop 2011 .....	9
2011 IAG General Assembly.....	11
2 <sup>nd</sup> GIA Modeling Training School, Gävle, Sweden, 13-17th June 2011 .....	12
International workshop on GNSS Remote Sensing for Future Missions and Sciences .....	12
<b>IAG Sponsored Meetings .....</b>	<b>12</b>
17 <sup>th</sup> International Workshop on Laser Ranging and 23 <sup>rd</sup> General Assembly of the International Laser Ranging Service .....	12
EUREF 2011 Symposium .....	12
XXV IUGG General Assembly .....	12
2011 IAG General Assembly .....	12
International workshop on GNSS Remote Sensing for Future Missions and Sciences.....	13
SIRGAS General Meeting 2011 .....	13
3rd International Colloquium - Scientific and Fundamental Aspects of the Galileo Programme .....	13
Joint International Symposium on Deformation Monitoring .....	13
<b>IAG Related Meetings .....</b>	<b>13</b>
Geoinformation for Disaster Management (Gi4DM).....	13
Global Space and Satellite Forum (GSSF).....	13
FIG Working Week 2011.....	13
3 <sup>rd</sup> Workshop on Absolute Long Distance Measurements in Air .....	13
7 <sup>th</sup> International Symposium on Mobile Mapping Technology.....	13
TransNav 2011 .....	13
SGEM 2011 .....	13
APSG Workshop 2011 .....	14
ESA International Summer School on GNSS 2011 .....	14
AOGS 2011 Conference .....	14
XXX URSI General Assembly and Scientific Symposium .....	14
ISDE7.....	14
Journées 'Systèmes de référence spatio-temporels' 2011 .....	14
Intergeo 2011 .....	14
ISPRS - PIA11 Photogrammetric Images Analysis.....	14
UGI 2011 Regional Geographic Conference.....	14
AGU Fall Meeting.....	14
<b>Reports.....</b>	<b>15</b>
1 <sup>st</sup> International Workshop on the Quality of Geodetic Observation and Monitoring (QuGOMS).....	15

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](mailto: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](mailto:cct@gfy.ku.dk)

## General Announcements

### *Summary of the Seventh Meeting of the IAG EC 2007-2011*

*Place:* Hotel Westin San Francisco, 50 3rd St., San Francisco, California 94103

*Time:* Sunday, December 12, 2010, 09:00 – 17:00

*Attendees (voting):* M. Sideris (IAG President), Ch. Rizos (IAG Vice-President), H. Drewes (IAG Secretary General), G. Beutler (IAG Immediate Past President), Z. Altamimi (President Commission 1), Y. Fukuda (President Commission 2), R. Gross (Vice-President Commission 3), M. Santos (stand-in for S. Verhagen, President Commission 4), M. Rothacher (Chair of GGOS), St. Kenyon, R. Neilan, H. Schuh (Representatives of the Services), K. Heki, R. Wonnacott (Members at Large);

*Attendee (non-voting):* H. Hornik (IAG Assistant Secretary);

*Regrets:* S. Verhagen (President Commission 4), J. Ádám (President of COB), N. Sneeuw (President ICC on Theory), 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 (14 out of 15 voting members, 1 non-voting member). The agenda had been distributed previously by e-mail and posted in the IAG Office Homepage. It was unanimously adopted. The minutes of the 6th EC Meeting had been distributed before by the Secretary General.

#### **2. Reports of the Commissions**

Z. Altamimi presented the report of Commission 1. The *IAG School on Reference Frames*, organized by ICCT and Commission 1, took place from June 07 to 12, 2010 in the Aegean University, Mytilene, Lesvos, Greece (see [http://www.topo.auth.gr/IAG2010\\_RefSchool/](http://www.topo.auth.gr/IAG2010_RefSchool/)) with about 60 participants. Z. Altamimi recommended such activities also for other Commissions. The Symposium “*Reference Frames for Applications in Geosciences (REFAG2010)*”, October 04-08, 2010 was held at ENSG, Marne la Vallée, France (<http://iag.ign.fr/index.php?id=160>) with about 150 participants. The proceedings will be published in the Springer IAG Symposia Series. Z. Altamimi addressed then the relationship between IAG and COSPAR. IAG Commission 1 is identical to COSPAR Sub-Commission B2 under the old name “International Coordination of Space Techniques for Geodesy and Geodynamics (CSTG)”. In addition, there is the Panel on Satellite Dynamics (PSD) in COSPAR. CSTG and PSD organized joint Symposia at the biannual COSPAR Scientific Assemblies (SA) in the past. At the 2008 SA in Montreal there were only four papers on reference frames and a limited number of participants. Due to time conflicts with the REFAG Symposium there was no participation of Sub-commission B2 in the PSD Symposium at the COSPAR 2010 SA in Bremen. Z. Altamimi suggested that a possible merge of CSTG and PSD should be discussed.

In the discussion, H. Drewes mentioned the *School on Reference Systems* of Sub-commission 1.3b SIRGAS held in Lima, Peru, November 8-10, 2010 as a joint activity of IAG and the Pan American Institute of Geography and History (PAIGH) with 120 participants. With respect to the relationship between IAG and COSPAR, G. Beutler and H. Drewes emphasized the traditional close relations with COSPAR as an important Committee of ICSU. The proposal of merging Sub-Commission B2 and PSD should be discussed in detail during the IUGG General Assembly 2011 in Melbourne.

In the report of Commission 2, Y. Fukuda mentioned three meetings held in Saint Petersburg, Russia, namely the *2nd IAG International Symposium “TGSM-2010”* (June 22-25, 2010), the *4th Joint Meeting of the CCM Working Group on Gravimetry, and IAG SG 2.1 on Comparisons of Absolute Gravimeters* (June 21, 2010), and the *X-th International Geoid School* (June 28 – July 02, 2010). Commission 2 also participated in the 2<sup>nd</sup> International Symposium of the International Gravity Field Service (IGFS) “*Study of the Earth's gravity field, with a special emphasis on gravity change and the gravity field of the Arctic*”, Fairbanks, Alaska, September 20-22, 2010. S. Kenyon recommended organizing the symposia in a four years cycle. Y. Fukuda presented then some details on the activities of IC-WG2.1 (Absolute Gravimetry) and SC-2.3 (Dedicated Satellite Gravity Mapping Missions).

R. Gross concentrated his report of Commission 3 on the scientific meetings organized during the present legislature period since September 2007. Recent Symposia were the 15<sup>th</sup> WEGENER General Assembly, Istanbul, Turkey, October 14-17, 2010 (presentations online at <http://www.koeri.boun.edu.tr/jeodezi/wegener2010/>), the GGOS Science Workshop on Observing and Understanding Earth Rotation, Shanghai, China, October 25-28, 2010, (presentations online at <http://202.127.24.12/dct/Wiki.jsp?page=Presentations>) and the participation in the Journées Systèmes de Référence Spatio-Temporels, Paris, France, September 20-22, 2010 (Proceedings in preparation).

The activities of Commission 4 were presented by M. Santos by proxy of S. Verhagen. He explained the participation in / contributions to meetings which have partly been sponsored or co-sponsored by the Commission. Furthermore, the working plans for 2011 were listed, in particular the joint IAG/IAMAS Symposium J-G01 “Space geodesy-based atmospheric remote sensing as a synergistic link between Geodesy and Meteorology” during the IUGG General Assembly 2011 in Melbourne. M. Santos emphasized the efficient and intensive co-operation of the Commission with the FIG on all fields of activities. Concerning the various events M. Sideris discussed how to distinguish meetings organized by a Commission and those sponsored by IAG. He underlined the importance of mentioning IAG at all levels each time a meeting is sponsored by IAG.

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

No representative of ICCT was present at the EC Meeting, and no report was submitted. The discussion concentrated on the future of the ICCT. H. Drewes explained that according to the IAG Bylaws (§ 17.d), *Inter-Commission Committees will be established for at least 2 periods (eight years) and shall be reviewed by the Executive Committee every eight years*. The ICCT has been established in 2003. Thus, the ICCT has to be reviewed in 2011. The results shall be discussed at the IUGG 2011 General Assembly, and then it has to be decided whether or not to continue ICCT for another eight years period. It was concluded to ask the ICCT to submit a detailed report on its activities (deadline end of April 2011) and then to discuss this item again. Z. Altamimi, Y. Fukuda, R. Gross, S. Verhagen, H. Schuh and M. Sideris were appointed as members of the Review Committee.

### **4. Report of the Communication and Outreach Branch (COB)**

As J. Adam could not participate in the EC Meeting, he sent a COB summary report which was presented by H. Drewes. The IAG Newsletter is now distributed monthly by e-mail in the traditional extended form also to other Associations and Societies, and published in the JoG in an abbreviated version. The COB urges all colleagues to submit information, in particular on upcoming meetings, in order to enable the COB to gather all news to be published in the Newsletter. The IAG Homepage is continuously maintained, and e-mail correspondence is extended as an outreach activity. J. Adam informed the EC that IUGG President T. Beer asked him to act as a member of the IUGG Resolutions Committee during the IUGG General Assembly in Melbourne.

### **5. Report of the Global Geodetic Observing System (GGOS)**

A detailed report on GGOS was given by M. Rothacher. He started with the status of the GGOS Working Groups and outreach activities (Portal, Webpages, Brochure, Exhibit Booth). A letter to ICSU has been drafted to recognize GGOS as the 4<sup>th</sup> Global Observing System, and a book on *Understanding Sea-level Rise and Variability* was published. He then reported on the GGOS Inter-Agency Committee (GIAC). The goal is to foster the long-term support and sustainability of the IAG Services and the global GGOS infrastructure. Since GIAC was established, 16 governmental institutions have signed the *Frankfurt Declaration*. A first planning meeting took place recently; and a draft of the Terms of Reference was formulated. The next steps are the elections of the GIAC chair, vice chair and secretariat; the elections are planned for the EGU Meeting 2011. Special attention shall be given to engage additional institutions to become members of GIAC.

During the GGOS Retreat in Miami, February 2010, three integrated themes have been selected for GGOS, namely Theme 1: Global Unified Height System, Theme 2: Geohazards, and Theme 3 Sea-Level Change, Variability and Forecasting. Topics for the long term GGOS action plans are a global GGOS core network and ground-based infrastructure, satellite missions and space infrastructure, data handling and management, including the GGOS Portal, GGOS outreach, data analysis and combination, and Earth System models and interpretation. M. Rothacher described then the action plan for the period 2011-2015.

GGOS representatives participated in the GEO Plenary and Ministerial Summit in Beijing, November 3-5, 2010 and presented IAG and GGOS with an exhibition booth and a declaration. The GEO Work Plan has to be developed in 2011 including three key objectives: The implementation of GEOSS, the development of information products and services, and the reinforcement of coordination and resource mobilization. M. Rothacher concluded with a review on the past and future meetings and workshops.

## **6. Report of the Services**

*S. Kenyon* reported on the gravity orientated IAG Services. The Global Geodynamics Project (GGP) is eager to get the status of an IAG Service. *H. Schuh* added that within the GGP about 24 globally distributed absolute gravimeters are participating very actively and are providing interesting results, thus these plans should be supported. *M. Sideris* suggested that the GGP should submit a proposal describing in detail its products and plans and then the IAG could decide whether establishing a new Service would be warranted or not.

*R. Neilan* reported on the activities of the IGS. In particular the IGS Workshop and Vertical Rates Symposium in Newcastle upon Tyne, England, June 28 – July 02, 2010, and the Fifth Meeting of International Committee on Global Navigation Satellite Systems (ICG), in Turin, Italy, October 18-22, 2010 were highlighted. *R. Neilan* emphasized the importance of future recognition of the IAG Services and especially GGOS by the UN and ICSU. She informed the EC that FAGS and WDC have been dissolved and the World Data System has been created. The rules for the official approval of services as WDS members are not yet finished.

The report on the geometry oriented Services IVS and ILRS was presented by *H. Schuh*. The new generation of VLBI2010 antennae is recording continuously on a 1 mm accuracy level for the determination of position and EOP. At present, 7 antennae fulfilling these conditions are working worldwide; several others are under construction or planned. Unfortunately the circumpolar area within 15° distance in latitude and the entire southern hemisphere are only poorly covered. Concerning the ILRS, several new satellite missions (QZS-1, TanDEM-X, GLONASS-109, -110, -118, -120, CryoSat-2, PROBA-2) have been launched. Various core stations have been re-constructed or repaired; fortunately also Concepcion in Chile has resumed its operation after the severe earthquake of February 27, 2010. There are now 9 ILRS Analysis Centers. ILRS Meetings have been held on the occasion of the EGU Assembly, May 8, 2010, and REFAG Symposium, October 1, 2010.

## **7. Report of the JoG Editor in Chief**

*H. Drewes* presented a report of *R. Klees* on this topic. In the last years extended JoG volumes could be issued; the number of submissions is quite high (> 150). Some special issues are currently under review ('Ionosphere', 'IVS – CONT08', 'GOCE'), and another one (ILRS) is planned. The turnaround times for acceptance to online, review and Springer/EB could be reduced considerably. Fortunately, the ISI impact factor has increased to 2.429. *H. Drewes* mentioned that IAG confers every two years the Young Authors Award. The rules are given in the IAG Bylaws. As the next Award has to be granted in Melbourne 2011, the process of proposals, selection and voting has to be done by e-mail before the IUGG Assembly. The Editorial Board (EB) is looking for young colleagues willing to act as new reviewers. The EC members are asked to submit proposals to the Secretary General to set up a list for the EB.

## **8. Report on developing countries**

*R. Wonnacott* reported on the recent activities especially concerning geodesy in Africa. Various (interdisciplinary) meetings have been held. Activities to install permanent base stations or move towards the ITRF are underway in about 20 African countries; some sites have been installed or are going to become operable soon. On the question of *H. Drewes* whether the data are freely available, *R. Wonnacott* replied that the situation is still complicated, however an improvement can be expected in small steps.

## **9. Report on the Joint Board of Geospatial Information Societies (JBGIS)**

*C. Rizos* gave some summarizing information on the JBGIS. The members are IAG, ICA, GRSS, FIG, IHB, IGU, IMTA, ISCGM, ISPRS, and GSDI. There were meetings on the occasions of the FIG Congress in Sydney, April 2010, and the ISPRS Centenary in Vienna, July 2010. The JBGIS Working Group on Risk and Data Management, issued a booklet with contributions from all members ([http://www.fig.net/jbgis/publications/jbgis\\_booklet\\_2010.pdf](http://www.fig.net/jbgis/publications/jbgis_booklet_2010.pdf)).

## **10. Report on the Advisory Board on the Law of the Sea (ABLOS)**

*C. Rizos* reported on the 6th ABLOS Conference "Contentious Issues in UNCLOS – Surely Not?" held in Monaco, October 25-27, 2010. The purpose was to bring together specialists from various disciplines for a discussion of the challenges that arise when applying science and technology with due consideration of the juridical requirements of the UN Convention on the Law of the Sea (UNCLOS). 90 delegates from 28 countries participated and 28 papers were presented in 9 sessions. The 7th ABLOS Conference will be held in Monaco, Oct. 2012.

## **11. IAG Report 2007-2011 (Travaux de l'AIG)**

*H. Drewes* pointed out that the IAG Midterm Reports serve as a tool to monitor the progress of work done by the components of the IAG, and that the Quadrennial Reports for the General Assemblies serve as a description of all the IAG activities and thus represent a documentation of the history of IAG. The deadline for submission of the texts is March 31, 2011.

## **12. Status of the Proceedings of the IAG Scientific Assembly 2009**

*S. Kenyon* reported that the review has been finalized in August; the volume will comprise about 600 pages. Colour pages are accepted for extra price. The editors are in close contact with Springer. The editors of the Proceedings are obliged to buy a certain number of copies (150 or 300 respectively); these shall be distributed to the Symposia participants. Recent volumes are also published online and may be downloaded.

## **13. Status IUGG General Assembly Melbourne 2011**

*H. Drewes* presented a list of the planned 9 Union Lectures (each one organized by IUGG and each of the 8 Associations; IAG lecturer: *M. Rothacher*), 12 Union Symposia, 6 Joint Symposia led by IAG, 7 Joint Symposia co-sponsored by IAG and 7 IAG Symposia, as well as the key dates for deadlines. *H. Drewes* asked the EC to advertise the General Assembly in their surroundings and to encourage colleagues to register as IAG participants. About 4000 participants are expected. The general dates were then agreed by the EC:

- IAG Opening Session: Wednesday, June 29, morning;
- Scientific IAG Symposia: Wednesday, June 29 – Wednesday, July 6;
- IAG Closing Session: Wednesday, July 6, afternoon;
- Council meetings: Tuesday, June 28 and Wednesday, July 6, morning;
- Old EC meetings: Monday, June 27, Sunday, July 3, Tuesday July 5;
- New EC meeting: Thursday, July 7, morning;
- IAG Reception: Wednesday, June 29, night;
- IAG Dinner: Sunday, July 3, night;
- Business meetings: 5 evenings (Commissions, SG, WG, Projects).

According to the IAG Rules, a Guy Bomford Prize and a Levallois Medal may be awarded on the occasion of the General Assembly. Candidates for the Bomford Prize are nominated by the National Committees and selected by a Committee consisting of the IAG Commission Presidents and two other members. *H. Schuh* and *M. Sideris* were appointed as members in addition to the Commission Presidents *Z. Altamimi*, *Y. Fukuda*, *R. Gross*, and *S. Verhagen*. Candidates for the Levallois Medal are nominated by an ad hoc committee consisting of the IAG Honorary Presidents. IAG Fellows have to be nominated by the EC.

In the IAG Statutes (§16) it is stated that the Statutes and Bylaws shall be reviewed every eight years. A Review Committee will be appointed by the new EC at its first meeting. This committee is traditionally chaired by the immediate Past President.

## **14. Nomination Committee for IAG Officers 2011-2015**

*G. Beutler* explained the procedure of nomination according to the IAG Bylaws. The Nomination Committee comprises *G. Beutler* (chairman), *W. Featherstone*, *C.K. Shum* and *R. Wonnacott*. Nominations for the 2011 elections are required for the positions of President, Vice-President, Secretary General, Presidents of Commissions (4), Service representatives (3), members at large (2), and the President of the Communication and Outreach Branch (1). President, Vice-President and Presidents of Commissions may not be re-elected; the other officers are eligible for re-election. The list will be sent out on January 14, 2011 to the IAG Delegates. The IAG Delegates may then submit additional nominations. The actual election process, with the finalized list of candidates, can then be initiated by sending the list of candidates to the IAG Delegates in the second half of February 2011.

## **15. Nomination and appointment of the GGOS Chair**

The GGOS Chairperson is appointed by the IAG EC in consultation with the GGOS Steering Committee. The appointment is for four years and may be renewed once. The present Chairman, *M. Rothacher*, was appointed in 2005 and re-appointed in 2007. So, a new Chairperson has to be elected. The EC asked *M. Rothacher* to submit nominations to the EC.

## **16. Sponsorship of symposia and workshops**

H. Drewes mentioned two Symposia organized by IAG components:

- 1st International Workshop “The Quality of Geodetic Observation and Monitoring Systems”;
- 17th International Workshop on Laser Ranging and 23rd General Assembly of the ILRS.

Details and a complete list of IAG related meetings may be seen at <http://iag.dgfi.badw.de/>.

### 17. Next IAG EC Meeting

The EC decided that the next EC meeting will be held in Melbourne, Monday, June 27, 2011.

### 18. Adjourn

M. Sideris thanked the participants for their contributions and closed the session at 17:00.

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

### The 2011 Vening Meinesz Medal is awarded to Prof. Harald Schuh



The 2011 Vening Meinesz Medal is awarded to Prof. Harald Schuh for his work in the field of Very Long Baseline Interferometry (VLBI) and his important contribution to space geodetic research.

Prof. Dr. Harald Schuh has been working in the field of Very Long Baseline Interferometry (VLBI) modelling and analysis for almost 30 years. He has achieved a deep understanding in the complex dynamics of the Earth motion with respect to the distant quasar system. Remarkable is his contribution to research activities addressing the determination of Earth rotation, for which application of VLBI is indispensable. Moreover, he used VLBI – recently as president of the IVS (International VLBI Service) – for the realization of a kinematic inertial reference system and he pushed the steady improvement of VLBI measurement technology and analysis. With his leadership, the group at the Technical University of Vienna has developed important studies aiming at achieving better VLBI modelling of tropospheric effects through the realization of the by now well known “Vienna mapping function”.

He investigated the impact of Earth orientation changes on celestial reference frames. This he did by networking with partners in the respective fields in Europe and worldwide.

He also took care of the observational side by supporting the VLBI observatories in all countries. In this respect, he also worked on studies focusing on the scientific potential and realization of future VLBI systems, by foreseeing the use of transponders on satellites or lunar orbiters as well as by improving the telescopes on Earth.

Prof. Harald Schuh has published extensively. He is a well-known contributor to the geodesy community and has been member of international scientific working groups of the IAG (International Association of Geodesy) and of the IAU (International Astronomical Union). He has organized various sessions at international conferences such as EGU. During the EGU general assemblies in Vienna, he is also providing generous support by hosting many splinter meetings at the Technical University every year.

Following the tradition of Vening-Meinesz, Prof. Schuh was always very eager to integrate international and inter-disciplinary cooperation among scientists. One of his basic principles is to pave the way for young scientists and to provide a platform for scientific exchange. In recognition of his different significant contributions, the Division of Geodesy of EGU is most glad to award Prof. Schuh the 2011 Vening Meinesz medal.

SUSANNA ZERBINI

## Availability of GOCE User Toolbox 2.0

The GOCE User Toolbox GUT is a compilation of tools for the utilisation and analysis of GOCE Level 2 products. GUT supports applications in Geodesy, Oceanography and Solid Earth Physics.

The GUT Tutorial provides information and guidance on how to use the toolbox for a variety of applications. GUT consists of a series of advanced computer routines that carry out the required computations. It may be used on Windows PCs, UNIX/Linux Workstations, and Mac.

The toolbox is supported by the GUT Algorithm Description and User Guide and the GUT Install Guide. A set of a-priori data and models are made available as well.

A new version of GUT (2.0) is now available from <http://earth.esa.int/gut>.

SOURCE: ESA

## Announcement of a Special Issue of ASR on Satellite Altimeter Calibration and Deformation Monitoring using GNSS

Papers are invited for a special topic issue of *Advances in Space Research (ASR)* entitled "Satellite Altimeter Calibration and Deformation Monitoring using GNSS"

Global warming is a key scientific issue nowadays. Over the past decades, satellite altimetry has provided an unprecedented amount of data for monitoring sea level changes and thus global warming. Such scientific results however rely on a significant number of geophysical corrections as well as on continuous monitoring of the satellite altimeter performances using in-situ data. A few calibration sites around the world provide accurate calibration of satellite altimeters using different in-situ techniques involving monitoring of geodetic instruments close to the satellite tracks or at crossing points (platforms, tide gauges, buoys, etc.). While Global Navigation Satellite Systems, such as GPS, are key tools for geodetically monitoring the vertical velocity of such calibration sites, several scientific issues are still under consideration, as vertical positioning is still difficult to obtain in an absolute sense. Furthermore, new satellite altimeters, such as delay-Doppler, wide swath, etc., will soon provide new types of observations for sea-level monitoring and allowing altimetry to be closer at the coastal regions, for which new types of calibration could be foreseen.

This Special Issue is open to all scientists discussing new scientific challenges in satellite altimeter calibration (technical aspects related to the altimeter functioning, description of current calibration sites and current techniques, or global satellite calibration using networks of tide gauges or GNSS networks), as well as current limitations in deformation monitoring (monitoring of the vertical, use of regional and continuously-operating GNSS networks, reference issues when expressing vertical velocities in global, regional or local frames). Paper addressing topics related to natural hazards would also be welcome.

Papers must be submitted electronically through the EES/Elsevier Web system at <http://ees.elsevier.com/asr>. To ensure that all manuscripts are correctly identified for inclusion into the Special Issue, authors must select "**Special Issue: Altimetry Calibration**", when they reach the "Article Type" step in the submission process.

Submitted papers must be written in English and should indicate full affiliation addresses for all authors. All manuscripts will be subject to a standard peer-review process, including at least two independent reviewers. There are no page limits, but the length of the paper should be appropriate to the scientific material being presented. Manuscripts should follow the general format used in ASR:

([http://www.elsevier.com/wps/find/journaldescription.cws\\_home/644/authorinstructions](http://www.elsevier.com/wps/find/journaldescription.cws_home/644/authorinstructions)). The **deadline for submission is 15 January 2012**. Manuscripts will be accepted on a paper-by-paper basis and available on-line with a DOI a few days after acceptance. Contributors to this issue will have an opportunity to purchase individual issues once the issue is finalized. All articles will be typeset at no cost to the author, while a nominal fee will be charged to the authors for color figures in print, but not in the electronic version.

Dr. Pascal Willis ([pascal.willis@ign.fr](mailto:pascal.willis@ign.fr)) is the Guest Editor for this Special Issue. Authors will be regularly informed on the progress of this Special Issue by email until its final publication. Questions can be directed to Pascal Willis or to the Co-Editor for Special Issues, Dr. Peggy Ann Shea ([sssrc@msn.com](mailto:sssrc@msn.com)).

PASCAL WILLIS

Since the Journal "Advances in Space Research" is the official journal of COSPAR, and there is a traditional close relationship between IAG (Commission 1) and COSPAR (Sub-commission B2), therefore the above Call for Participation is published in the IAG Newsletter.

IAG COB



## Meeting Announcements

### *Meeting of the Working Group on Gravimetry (WGG) of the BIPM Consultative Committee for Mass and Related Quantities (CCM)*

The CCM WGG organizes a meeting at the BIPM headquarters in Sèvres on 10 May 2011 under the chairmanship of Dr Leonid Vitushkin (All-Russian D.I.Mendeleev Research Institute for Metrology, VNIIM). The agenda of the meeting includes, among other issues, a report on the International Campaign of Absolute Gravimeters held at the BIPM in October 2009 (ICAG2009) and discussions on the organization of the future ICAGs in locations different than the BIPM. The conclusions of this meeting will be reported to the IAG Sub-Commission 2.1, Gravimetry and Gravity Networks.

ELISA FELICITAS ARIAS  
Director of the BIPM Time Department

### *17<sup>th</sup> International Workshop on Laser Ranging*

The satellite and lunar laser ranging community will hold its 17<sup>th</sup> International Workshop on Laser Ranging in Bad Kötzting, Germany on May 16-20, 2011. The workshop will provide a venue for scientists, analysts, and practitioners to meet and discuss current and future applications, performance of the network, quality of data products, new technology, and paths forward to meet future requirements including those now being defined by GGOS. Representatives from other disciplines are welcome to participate. More information about the workshop can be found on the workshop website:

<http://www.fs.wetzell.de/veranstaltungen/slr/17thlaserworkshop/index.html>.

CAREY NOLL  
Secretary, ILRS Central Bureau

### *APSG Workshop 2011*

*First Announcement and Call for Papers*

*APSG Workshop 2011 on Space Geodesy and Its Applications for Geosciences and Space Exploitation  
25-27 June, 2011, Melbourne, Australia*

*Organized by:*

Asia Pacific Space Geodynamics (APSG) Program Central Bureau  
The RMIT University, Australia  
Shanghai International Culture Association, China  
Shanghai Astronomical Observatory, Chinese Academy of Sciences  
Institute of Geodesy and Geophysics, Chinese Academy of Sciences

#### **Advisory Committee**

Prof. Houtze Hsu (Chair), Institute of Geodesy & Geophysics, China  
Prof. Shuhua Ye (Advisor), Shanghai Astronomical Observatory, China  
Prof. Benjamin Chao, Institute of Earth Sciences of Academia Sinica, Taiwan, China.  
Prof. John LaBrecque, NASA Headquarters, U.S.A.  
Prof. Kefei Zhang, RMIT SPACE Research Centre, Australia  
Prof. Kosuke Heki, Hokkaido University, Japan  
Prof. Michael R. Pearlman, ILRS, Center for Astrophysics, USA  
Prof. Pil-Ho Park, Korea Astronomy and Space Science Institute, South Korea  
Prof. Suriya Tatevian, Russian Academy of Sciences, Russia  
Prof. Xiaoli Ding, Hong Kong Polytechnic University, Hong Kong, China

#### **Dear Colleagues:**

The Organizing Committee warmly invites you to take part in the APSG Workshop 2011 “Space Geodesy and Its Applications for Geosciences and Space Exploitation”, to be held in Melbourne, a beautiful city in Australia, 25-27 June, 2011. The workshop will take place before XXV IUGG General Assembly ([www.IUGG2011.com](http://www.IUGG2011.com)), which will be held in the same city, 28 June - 8 July, 2011. Therefore you have an opportunity to attend the

IUGG Assembly after the APSG Workshop. The detail about the Workshop can be found on the website: [www.shao.ac.cn/APSG2011](http://www.shao.ac.cn/APSG2011).

## Topics

- 1. Data processing and inversion of geodetic technology**  
Including data processing and inversion methods of GNSS Satellite Gravity (GRACE GOCE) Satellite Altimetry and ICESat data, as well as other related topics
- 2. Estimation of the sea level change and ice melting in Asia-pacific regions by geodetic methods**  
Including regional sea-level changes, ice melting water storage changes and glacial isostatic adjustment (GIA) as well as other related topics
- 3. Crustal deformation, Earthquake Dynamics and Tsunami**  
Including inversion of focal mechanism, crustal deformation, tectonic movement and stress field Especially, recent research results for the Japanese strong earthquake and the subsequent tsunami should be paid close attention to.
- 4. Space geodesy-based atmospheric remote sensing**  
Including advanced geodetic techniques used for atmospheric remote sensing, extreme weather events and environment – theory, algorithm and innovative applications.
- 5. The Moon and Planetary Geodesy**  
New results from CE-2, SELENE, Chandrayaan-1, LRO missions, and introductions about future missions, such as YH-1, Phobos-Grunt.

## Venue of Workshop

RMIT University, Melbourne

## Formal language of Workshop

English

## Registration fee (to be paid at the meeting)

Full registration: US \$300.

Student registration: US \$200.

## Important dates

Deadline for Pre-Registration Form Submission: **15 April 2011**

Deadline for Abstracts Submission: **15 May 2011**

Workshop: **25-27 June 2011**

## Submission of abstracts

Abstracts can be submitted either through email, fax or post, to the addresses listed at the correspondence section below, by May 15, 2011. Abstracts should be written in English, Microsoft Word (12 point Times New Roman) with bolded headings, title, author's names, affiliation, e-mail and complete address.

## Accommodation

A list of hotels will be provided in the Second Announcement. We will recommend 3-stars or 4-star hotels in the downtown area or university dormitories, close to the venue of the workshop.

## Tour arrangement

The Organizing Committee will organize the city tour of Melbourne, and the other scenic spots of Australia after the workshop would be arranged according to your will by local travel agency.

## Correspondence

Ms. Ruixian Zhou, Prof. Zhihan Qian, Prof. Cheng Huang  
Shanghai Astronomical Observatory,  
Chinese Academy of Sciences  
80 Nandan Rd. Shanghai, 200030, China  
Email: [zrx@shao.ac.cn](mailto:zrx@shao.ac.cn), [qzh@shao.ac.cn](mailto:qzh@shao.ac.cn) or [hc@shao.ac.cn](mailto:hc@shao.ac.cn)  
Fax: (86)-21-64696291

The participants are invited to fill in the Pre-Registration Form and submit it to Ms. Ruixi Zhou (Shanghai Astronomical Observatory, Email: [zrx@shao.ac.cn](mailto:zrx@shao.ac.cn) or FAX: (86)-21-64696291) together with the titles of presentations (in the attached electronic form in word format) before **April 15, 2011**.

Pre-Registration Form is available from <http://202.127.29.4/APSG2011/reg.html>

KEFEI ZHANG  
RMIT SPACE Research Centre



**2011 IAG General Assembly**  
**at IUGG2011: “Earth on the Edge: Science for a Sustainable Planet”**  
*Melbourne Convention and Exhibition Centre, Australia*  
 28<sup>th</sup> June – 7<sup>th</sup> July, 2011

- Early Bird Registration Deadline 11 April 2011
- Standard Registration Deadline 24 June 2011
- Conference website: <http://www.iugg2011.com>
- Scientific program of symposia, workshops, fieldtrips, symposia convenors, plenary and keynote speakers already available on website

**The IAG Scientific Program consists of the following program of symposia:**

**IAG ONLY SYMPOSIA** (see website [www.iugg2011.com](http://www.iugg2011.com) under Scientific Program for symposia descriptions, convenors names and Keynote Speakers)

- G01** Reference Frames from Regional to Global Scales
- G02** Monitoring and Modelling of Mass Displacements by Geodetic Methods
- G03** Monitoring and Modelling Earth Rotation
- G04** Multisensor Systems for Engineering Geodesy
- G05** Geodetic Imaging Techniques
- G06** Towards a Unified World Height System
- G07** High Precision GNSS

**IAG - JOINT ASSOCIATION SYMPOSIA** (see website [www.iugg2011.com](http://www.iugg2011.com) under Scientific Program for symposia descriptions, convenors names and Keynote Speakers)

- J-G01** Space Geodesy-based Atmospheric Remote Sensing as a Synergistic Link between Geodesy and Meteorology
- J-G02** Application of Geodetic Techniques in Cryospheric Studies
- J-G03** History of Geosciences from Terrestrial to Spaceborne Observations
- J-G04** Structure and Deformation of Plate Interiors
- J-G05** Integrated Earth Observing Systems
- J-G06** Tectonic Geodesy and Earthquakes

The theme for **the** IUGG2011 conference at large is “*Earth on the Edge: Science for a Sustainable Planet*”. IUGG2011 will be the largest multi-disciplinary geophysical meeting to be held in Australia, and in excess of 3,000 delegates are expected to attend. In addition to the IAG specific program outlined above, the scientific program will address many of the environmental, sustainability and hazard issues facing the Earth, including climate change, extreme weather events, melting glaciers and ice-caps, rising sea-levels, water in arid countries, earthquake hazards and tsunamis, and volcanic hazards, processes and natural resources. It should thus be a fantastically stimulating conference.

**The conference website is** at <http://www.iugg2011.com>, with information about the conference, the scientific program of symposia, workshops and fieldtrips, and listings of the symposia convenors and Keynote Speakers. On-line registration for the conference opened on the website on 16<sup>th</sup> August, as well as for fieldtrips, social touring, and accommodation.

The Organising Committee of IUGG2011 looks forward to welcoming the international volcanology and geoscience community to the 2011 IAG and IUGG General Assembly in Melbourne.

RAY CAS  
 Chair, Joint Australia and New Zealand Organising Committee IUGG2011

## *2<sup>nd</sup> GIA Modeling Training School, Gävle, Sweden, 13-17th June 2011*

The main objective of this Training School is to give early-stage researchers whose principal area of expertise is not in GIA modeling an intensive training on numerical GIA modeling. The training will not be limited to the solid-earth deformation process of GIA only, but will also involve glaciological modeling of the disappearing Late-Pleistocene ice sheets on the one hand and GIA-induced sea-level change on the other hand. The School is sponsored by COST Action ES0701 and further information may be found at <http://tinyurl.com/2f6k2xu>.

MATT KING  
School of Civil Engineering and Geosciences  
Newcastle University

## *International workshop on GNSS Remote Sensing for Future Missions and Sciences*

*August 7-9, 2011, Shanghai, China*

<http://www.shao.ac.cn/gnss>

The Global Navigation Satellite System (GNSS) has been widely used in navigation, positioning and geoscience applications. Recently, the versatile refracted, reflected and scattered signals of GNSS have been successfully demonstrated to sound the atmosphere and ionosphere, ocean, land surfaces (including soil moisture) and the cryosphere as a new remote sensing tool. With the further improvement of the next generation multi-frequency GNSS systems and receivers and new space-based instruments utilizing GNSS reflections and refractions, new scientific applications of GNSS are expected in various environment remote sensing fields in the near future.

The international workshop on *GNSS Remote Sensing for Future Missions and Sciences* will be a forum for assessing current ability and presenting recent results and future developments as well as looking for new collaboration opportunities, joint nanosatellite experiments and missions using GNSS reflectometry, reflectometry and scatterometry, e.g., atmospheric and ionospheric sounding using ground and space-borne GPS measurements (CHAMP, GRACE, COSMIC, MetOp, TerraSAR-X, OceanSat-2), GNSS reflectometry (GNSS-R) in ocean altimetry, and soil moisture and ice/snow status as well as geohazards monitoring/warning (e.g., Hurricane, Typhoon, Tsunami and Earthquake).

SANDRA VERHAGEN  
President, IAG Commission 4

## *IAG Sponsored Meetings*

### *17<sup>th</sup> International Workshop on Laser Ranging and 23<sup>rd</sup> General Assembly of the International Laser Ranging Service*

*May 15-20, 2011, Bad Kötzing, Germany*

URL: <http://www.fs.wetzell.de/veranstaltungen/slr/17thlaserworkshop/index.html>

### *EUREF 2011 Symposium*

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

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

### *XXV IUGG General Assembly*

*June 27 – July 8, 2011, Melbourne, Australia*

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

### *2011 IAG General Assembly*

*at IUGG2011: “ Earth on the Edge: Science for a Sustainable Planet”*

*Melbourne Convention and Exhibition Centre, Australia*

*June 28 – July 7, 2011*

The next IAG General Assembly will be held as part of the major IUGG2011 international conference at the new Melbourne Convention and Exhibition Centre from 28<sup>th</sup> June to 7<sup>th</sup> July, 2011. IUGG (or the International Union for Geodesy and Geophysics) is a collaborative grouping of eight scientific learned societies or associations. The

conference website is now open at <http://www.iugg2011.com>. On-line registration for the conference opened on the website on 16th August.

*International workshop on GNSS Remote Sensing for Future Missions and Sciences*

*August 7-9, 2011, Shanghai, China*

URL: <http://www.shao.ac.cn/gnss>

*SIRGAS General Meeting 2011*

*August 8-10, 2011, Heredia, Costa Rica*

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

*3rd International Colloquium - Scientific and Fundamental Aspects of the Galileo Programme*

*August 31 - September 2, 2011 in Copenhagen, Denmark*

More information and online abstract submission is available on the Colloquium web site: <http://www.congrex.nl/11A12/>.

*Joint International Symposium on Deformation Monitoring*

*November 2-4, 2011, Hong Kong, China*

URL: <http://dma.lsgj.polyu.edu.hk/>

## *IAG Related Meetings*

*GeoInformation for Disaster Management (Gi4DM)*

*May 3-8, 2011, Antalya, Turkey*

URL: <http://www.gi4dm2011.org/>

*Global Space and Satellite Forum (GSSF)*

*May 9-11, 2011, ADNEC Abu Dhabi, UAE*

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

*FIG Working Week 2011*

*May 18-22, 2011, Marrakech, Morocco*

URL: <http://www.fig.net/fig2011/>

*3<sup>rd</sup> Workshop on Absolute Long Distance Measurements in Air*

*May 27, 2011, Prague, Czech Republic*

This Workshop aims to cover the current status in the field of long distance measurement in air and to disseminate the results of the just completed Joint Research Project 3.1, within the scope of the European Metrology Research Programme (EMRP).

URL: <http://www.longdistanceproject.eu/workshops/3rd-workshop-on-absolute-long-distance-measurement-in-air>

*7<sup>th</sup> 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/>

*SGEM 2011*

*June 19-25, 2011, Albena, Bulgaria*

The 11<sup>th</sup> International Multidisciplinary Scientific Geo-Conference and Expo - SGEM 2011 (Surveying Geology & mining Ecology Management) will be held during the period 19 - 25 June 2011 at Albena sea-side and spa resort, Bulgaria. The SGEM GeoConference focuses on the latest findings and technologies in surveying geology and mining, ecology, and management, in order to contribute to the sustainable use of natural resources.

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

#### APSG Workshop 2011

June 25-27, 2011, Melbourne, Australia

URL: <http://www.shao.ac.cn/APSG2011>

#### ESA International Summer School on GNSS 2011

July 20-30, 2011, Berchtesgaden/Bavaria, Germany

It is the objective of this summerschool to provide the attendees with a comprehensive overview on the design and development of satellite navigation systems as well as its applications. The program is open to graduate students, PhD. candidates, early-stage researchers and young professional willing to broaden their knowledge.

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

#### AOGS 2011 Conference

August 8-12, 2011, Taipei, Taiwan

There will be sessions related to geodesy on topics such as "New technological developments in space geodesy and applications on atmospheric and geodynamical research", Solid Earth, Natural Hazards, and Atmosphere.

URL: <http://www.asiaoceania.org/aogs2011>

#### XXX URSI General Assembly and Scientific Symposium

August 13-20, 2011, Istanbul, Turkey

URL: <http://www.ursigass2011.org/>

#### ISDE7

August 23-25, 2011, Perth, Australia

The 7th International Symposium on Digital Earth (ISDE7) with the theme of the Knowledge Generation will be held in Perth, Australia from 23-25, August 2011 in conjunction with the Western Australian Land Information System (WALIS) Forum and the State Natural Resources Management (NRM) Conference.

URL: <http://www.isde7.net/>

#### Journées 'Systèmes de référence spatio-temporels' 2011

September 19-21, 2011, Vienna, Austria

URL: <http://info.tuwien.ac.at/hg/meetings/journees11/index.html>

#### Intergeo 2011

September 27-29, 2011, Nürnberg, Germany

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

#### ISPRS - PIA11 Photogrammetric Images Analysis

October 5-7, 2011, Munich, Germany

URL: <http://www.pia11.tum.de/>

#### UGI 2011 Regional Geographic Conference

November 14-18, 2011, Santiago, Chile

URL: <http://www.ugi2011.cl/>

#### AGU Fall Meeting

December 5-9, 2011, San Francisco, USA

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

## Reports

### *1<sup>st</sup> International Workshop on the Quality of Geodetic Observation and Monitoring (QuGOMS) 13-15 April 2011*

The 1<sup>st</sup> international Workshop on the Quality of Geodetic Observation and Monitoring (QuGOMS) was devoted to the general methodology in the field of estimation and filtering with a refined uncertainty modeling emphasizing applications in engineering geodesy and Earth system observation. Geodetic multi-sensor systems and networks using terrestrial and space-borne observation techniques were spotlights.



The QuGOMS workshop has been organized jointly by the study groups IC-SG2 and IC-SG3 of the Intercommission Committee on Theory (ICCT) of the International Association of Geodesy (IAG). Besides its strong relations to all IAG Commissions it is also in the scope of FIG Commissions 5 and 6. The workshop took place in the rooms of the International Graduate School of Science and Engineering (IGSSE) of the Technische Universität München, Garching/Munich from the 13<sup>th</sup> to the 15<sup>th</sup> April 2011.

The scientific program of the workshop consisted of 11 invited talks, 28 regular talks and 10 posters presented in 5 sessions. With around 55 participants from 9 countries, QuGOMS 2011 provided a beneficial platform for presentation, discussion, and scientific support for scientists interested in modeling, estimation, analysis, and interpretation in engineering geodesy and Earth system observation.

A selection of papers will be published in a special volume of the IAG Symposia series by Springer Verlag. Details for paper submission to this special issue will be announced soon.

You can find all details (including photographs) on QuGOMS 2011 meeting at our workshop website <http://www.gih.uni-hannover.de/qugoms2011>. The organizers thank all participants in the 1<sup>st</sup> international Workshop of QuGOMS and our sponsors for their support.

QuGOMS 2011 Local Organizing Committee  
HANSJÖRG KUTTERER, FLORIAN SEITZ, HAMZA ALKHATIB AND MICHAEL SCHMIDT