



International Association of Geodesy

Newsletter

June 2012

Editor: Gyula Tóth

IAG Communication and Outreach Branch
MTA-BME Research Group for Phys. Geod. and Geodyn.
Department of Geodesy and Surveying
Budapest University of Technology and Economics
H-1521 Budapest, Hungary

Information Service of the International Association of Geodesy

<http://www.iag-aig.org>

newsletter@iag-aig.org

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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

Call for papers - Special Issue of the JGS on Regional and Global Geoid-based Vertical Datums

Dear Colleagues,

We would like to kindly let you know that all authors who presented papers at the Session G1: **'Regional and global geoid-based vertical datums'** of the 2012 Canadian Geophysical Union (CGU) meeting are invited to submit their papers for peer review and publication in the Special Issue of the Journal of Geodetic Science dedicated to the Session's subject. In addition, colleagues working under GGOS's Theme 1: "Global Unified Height System" and on vertical datums in general, including temporal effects, are also invited to contribute to the Special Issue. All submissions will undergo a peer review process by two experts in the subject and handled by guest editor Michael Sideris and his reviewing board.

The Journal of Geodetic Science is an open access international pure geodetic journal with fast, fair and comprehensive peer review processes, and free of any limitation in number of pages for each article and charge for coloured figures. For more information about the journal see www.versita.com/jgs.

In order to ensure a timely publication of the Special Issue (before the end of this year), the deadline for the submission of full papers has been set for Saturday, **September 15, 2012**. Instructions to authors are given at www.versita.com/jgs/authors/.

We are looking forward to receiving your contributions.

Best regards,

LARS E. SÖBERG, Professor
Editor-in-chief

MICHAEL G. SIDERIS, Professor
Editor of the Special Issue

MEHDI ESHAGH, Doc. Dr.
Deputy/Managing Editor

Collaborative Navigation with Ground Vehicles and Personal Navigators

Members of the joint IAG Working Group WG 4.1.1 and FIG WG 5.5 'Ubiquitous Positioning Systems' conducted field experiments at the University of Nottingham from May 14 to 18, 2012. Participants included Dr. Allison Kealy and Azmir Hasnur Rabiain from the University of Melbourne, Australia; Dr. Dorota Grejner-Brzezinska and Dr. Charles Toth from the Ohio State University, USA; Dr. Terry Moore, Chris Hill, Dr. Chris Hide and Lukasz Bonenberg from the University of Nottingham, UK; Dr. Vassilis Gikas and Chris Danezis from the National Technical University of Athens, Greece; Dr. Gethin Roberts from the University of Nottingham Ningbo, China; Nima Alam from the University of New South Wales, Australia; and Dr. Günther Retscher from the Vienna University of Technology, Austria.

The field experiments revolved around the concept of collaborative navigation, and partially indoor navigation. Collaborative positioning is an integrated positioning solution which employs multiple location sensors with different accuracy on different platforms for sharing of their absolute and relative localizations. Typical application scenarios are dismounted soldiers, swarms of UAV's, team of robots, emergency crews and first responders. The stakeholders of the solution (i.e., mobile sensors, users, fixed stations and external databases) are involved in an iterative algorithm to estimate or improve the accuracy of each node's position based on statistical models. For this purpose different sensor platforms have been fitted with similar type of sensors, such as geodetic and low-cost high-sensitivity GNSS receivers, tactical grade IMU's, MEMS-based IMU's, miscellaneous sensors, including magnetometers, barometric pressure and step sensors, as well as image sensors, such as digital cameras and Flash LiDAR, and ultra-wide band (UWB) receivers.

The employed platforms in the tests include a train on the roof of the Nottingham Geospatial Building, mobile mapping vans, a personal navigator and a foot tracker unit. In terms of the tests, the data from the different platforms are recorded simultaneously. The personal navigator and a foot tracker unit moved on the building roof, then through the building down to where it logged data simultaneously with the vans, all of them moving

together and relative to each other. The platforms then logged data simultaneously covering various accelerations, dynamics, etc. over longer trajectories. Promising preliminary results of the field experiments showed that a positioning accuracy on the few meter level can be achieved for the navigation of the different platforms. Further information on the field experiments will be posted at:

http://info.tuwien.ac.at/ingeo/sc4/Collaborative_nav_may2012.xhtml

ALLISON KEALY
GÜNTHER RETSCHER

GGOS Theme 3 Call

GGOS Theme 3 would like to announce a Call for Participation. Theme 3 is concerned with sea level science including the impacts of sea level change along the world's continental coastlines and at islands. The Theme is issuing a call for projects that demonstrate the value of geodetic techniques to sea level research and applications. The replies to the Call will be assessed by a review committee, and the successful ones will be publicised on the GGOS web site.

Information on the Call and a template for submissions can be found at
http://www.ggos.org/Applications/themes/theme3_call_template_final.pdf

Further information on GGOS Theme 3 can be found at
http://www.ggos.org/Applications/theme3_SL.html

Please note that while an initial deadline is mentioned in the call, submissions will be accepted on an ongoing basis. Questions can be addressed to the Theme 3 leaders: Mark Tamisiea, Tilo Schöne, Philip Woodworth, and C.K. Shum.

COORDINATION OFFICE
GLOBAL GEODETIC OBSERVING SYSTEM
Agenzia Spaziale Italiana (ASI)
Centro di Geodesia Spaziale "G. Colombo"
Matera - Italy
ggos_co@asi.it

Summerschool materials are available

On 12-16 September 2011, the German 'Mass Transport Program' DFG-SPP1257 (www.massentransporte.de) had organized a summer school dedicated to the global hydrological cycle, and the contribution of gravity and altimetry missions in quantifying changes of the global water cycle. Lectures and practicals covered topics such as hydrological modelling, ice and ocean dynamics, climate, sea level, solid Earth response to loading, GRACE and altimetry data analysis. Lecture materials, data and computer scripts may be downloaded from the above mentioned website and used in education.

JÜRGEN KUSCHE
Bonn University

Invitation for proposals for changes to the IAG Statutes and Bylaws

Article 16 of IAG's Statutes specifies that the Association shall review its Statutes and Bylaws to ensure an up-to-date structure of its scientific organization every eight years. The last time such a review was initiated was about eight years ago under the presidency of Gerard Beutler. It is now therefore time that we again take a fresh look at our Statutes and Bylaws. To achieve this goal, a Review Committee (traditionally called the Cassinis Committee) was appointed in the fall of 2011 by the IAG Executive. The committee is chaired by Michael Sideris and includes as members Harald Schuh, Ruth Neilan and Yoichi Fukuda. A proposal with all suggested revisions will be made by the Cassinis Committee for consideration by the IAG Executive and possibly the Council at the 2013 Scientific Assembly. In this way, we are hoping to get the Council's reaction and input to the proposed changes before these are finalized and approved at the next IUGG General Assembly in 2015.

With this announcement, the Cassinis Committee is inviting proposals for changes of any article of the Statutes and Bylaws. Proposals can be submitted through the IAG website Forum (www.iag-aig.org/proposals).

The actual Statutes and By-laws can be found on the IAG website. All proposals submitted **between March 1, 2012 and February 1, 2013** will be considered by the Cassinis Committee.

We are very much looking forward to receiving your contributions.

MICHAEL SIDERIS, HARALD SCHUH, RUTH NEILAN, YOICHI FUKUDA

Meeting Announcements

2012 WEGENER Conference in Strasbourg

Dear colleagues,

We are pleased to invite you to participate in Wegener's 16th general assembly "Monitoring and modelling earth deformation from giant to small scale events" to take place in Strasbourg, France, 17-20th September, 2012. It will serve as a G2 reunion for 2012. You will find details of the proposed sessions, relevant dates, and conference events on the conference website at <http://wegener2012.sciencesconf.org/>. The deadline for abstract submission is **June 30th**.

We look forward to welcoming you in Strasbourg,

The organising committee

M. MEGHRAOUI
F. MASSON
J. HINDERER
C. DOUBRE
N. GOURMELEN

Meetings Calendar

13th Marcel Grossmann Meeting

July 1-7, 2012, Stockholm, Sweden

URL: <http://www.icra.it/mg/mg13/>

XXXII SCAR Open Science Conference

July 13-25, 2012, Portland, Oregon, USA

URL: <http://scar2012.geol.pdx.edu/>

39th COSPAR Scientific Assembly

July 14-22, 2012, Mysore, India

URL: <http://www.cospar-assembly.org/>

ESA International Summer School on GNSS

July 16-26, 2012, Toulouse, France

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

2012 IGS Workshop

July 23-27, 2012, Olsztyn, Poland

URL: http://www.uwm.edu.pl/kaig/igs_workshop_2012/

AOGS-AGU (WPGM) Joint Assembly

August 13-17, 2012, Singapore, Singapore

URL: <http://www.asiaoceania.org/aogs2012/>

International Symposium on Space Geodesy and Earth System (SGES2012)

August 19-20, 2012, Shanghai, China

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

ESC 2012

August 19-24, 2012, Moscow, Russia

European Seismological Commission 33rd General Assembly

URL: www.esc2012-moscow.org

International Astronomical Union General Assembly

August 20-31, 2012, Beijing, China

URL: <http://www.astronomy2012.org/>

International Summer School on Space Geodesy and Earth System

August 21-25, 2012, Shanghai, China

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

IAU Joint Discussion (JD7): Space-time reference systems for future research

August 27-29, 2012, Beijing, China

URL: http://www.iau.org/science/meetings/future/joint_discussions/1058/

4th Digital Earth Summit 2012

September 2-4, 2012, Wellington, New Zealand

URL: <http://www.digitalearth12.org.nz/>

EUMETSAT Satellite Meteorology Conference

September 3-7, 2012, Sopot, Poland

URL: http://www.eumetsat.int/Home/Main/News/Conferences_and_Events/810062?l

Scientific Colloquium of the Leibniz Society

September 14, 2012, Berlin, Germany

Leibniz Society of Sciences at Berlin (www.leibniz-sozietaet.de) organizes a Scientific Colloquium on the topics of scientific geodesy and history of geodesy. Contact person: Heinz Kautzleben (kautzleben@t-online.de)

WEGENER 2012

September 17-20, 2012, Strasbourg, France

URL: <http://wegener2012.scienceconf.org>

GRACE Science Team Meeting 2012

September 17-20, 2012, Potsdam, Germany

URL: <http://www.gfz-potsdam.de>

6th Coastal Altimetry Workshop

September 20-21, 2012, Riva del Garda, Italy

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

20 Years of Progress in Radar Altimetry

September 24-29, 2012, Venice, Italy

URL: <http://www.altimetry2012.org/>

IDS Workshop

September 25-26, 2012, Venice, Italy

URL: <http://ids-doris.org/report/meeting-presentations/ids-workshop-2012.html>

14th IAIN Congress

October 1-3, 2012, Cairo, Egypt

14th International Congress for the International Association of Institutes of Navigation

URL: <http://www.ainegypt.org/site/pages.php?ids=4>

Geodätische Woche 2012

October 9-11, 2012, Hannover, Germany

URL: <http://www.iapg.bv.tum.de/gw>

European VLBI Network (EVN) Symposium

October 9-12, 2012, Bordeaux, France

URL: <http://iag.dgfi.badw.de/index.php?id=291>

International Symposium on Gravity, Geoid and Height Systems GGHS 2012

October 9-12, 2012, Venice, Italy

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

Workshop on Reflectometry using GNSS and Other Signals

October 10-11, 2012, Prudue University, West Lafayette, IN, USA

URL: <http://www.gnssr2012.org/>

SIRGAS Meeting 2012

October 20-31, 2012, Concepcion, Chile

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

25th CODATA General Assembly

October 26-27, 2012, Beijing, China

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

Pan Ocean Remote Sensing Conference (PORSEC-2012)

November 5-9, 2012, Kochi, Kerala, India

URL: <http://www.porsec2012.incois.gov.in/>

ACM SIGSPATIAL GIS 2012

November 6-9, 2012, Redondo Beach, California, USA

URL: <http://acmgis2012.cs.umd.edu/>

SOMAP 2012

November 22-23, 2012, Vienna, Austria

URL: <http://somap.cartography.at/>

AGU 2012 Fall Meeting

December 3-7, 2012, San Francisco, USA

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

European Geosciences Union General Assembly 2013

April 7-12, 2013, Vienna, Austria

URL: <http://www.egu.eu/meetings/meeting-overview.html>

The European Navigation Conference ENC 2013

April 23-25, 2013, Vienna, Austria

URL: www.enc2013.org

International Symposium on Mobile Mapping Technology 2013

April 30 - May 2, 2013, Tainan, Taiwan

URL: <http://conf.ncku.edu.tw/mmt2013/wm02.htm>

TransNav 2013

June 19-21, 2013, Gdynia, Poland

URL: <http://transnav2013.am.gdynia.pl>

Joint IAMAS-IACS Assembly

July 8-12, 2013, Davos, Switzerland

Davos Atmosphere and Cryosphere Assembly 2013, Ice & Air – Process Interactions

URL: www.daca-13.org

Joint IAHS-IAPSO-IASPEI Scientific Assembly

July 22-26, 2013, Gothenburg, Sweden

URL: <http://www.iaspei.org/meetings/forthcoming.html#iaspei2013>

26th International Cartographic Conference

August 25-30, 2013, Dresden, Germany

URL: <http://www.icc2013.org/>

12th IAGA Scientific Assembly

August 26-31, 2013, Mérida, Mexico

URL: www.iaga2013.org.mx

IAG Scientific Assembly

September 1-6, 2013, Potsdam, Germany

URL: <http://www.iag2013.org>

TGSMM 2013

September 17-20, 2013, St Petersburg, Russian Federation

IAG Third Symposium "Terrestrial Gravimetry: Static and Mobile Measurements - TGSMM-2013

AGU 2013 Fall Meeting

December 9-13, 2013, San Francisco, USA

URL: <http://www.agu.org/cgi-bin/gycal?details=1&file=2013120900320182043&li>

Reports

IAG sponsored Global Navigation Satellite System (GNSS) School successfully held at Hong Kong Polytechnic University (PolyU)

The Global Navigation Satellite System (GNSS) School on “New GNSS Algorithms and Techniques for Earth Observations 2012 (nGATEo 2012)” was successfully held on PolyU campus 14-15 May 2012, Hong Kong. This GNSS School, the first of its kind in Hong Kong, was one of a series of activities held at the Department of Land Surveying and Geo-Informatics (LSGI) to celebrate the 75th Anniversary of the Hong Kong Polytechnic University (PolyU). Officiating the School were Professor Xiaoli DING, Head and Chair Professor of LSGI, and Dr. Zhizhao George LIU, Assistant Professor of LSGI.



With an aim to provide excellent training opportunity for in-school MSc/PhD students and to enhance the academic exchange between the researchers at LSGI and international peers, nGATEo 2012 offered all the participants an excellent opportunity to learn up to date research results in selected areas.

Five internationally distinguished scholars from Australia, China, Germany and USA were invited to give lectures during the two-day events. After LSGI Department Head's opening speech, an invited speech was delivered by Prof. Chris Rizos, The President of International Association of Geodesy and Head of School of Surveying & Spatial Information Systems, The University of New South Wales, Australia.

More than 50 international participants from academia, industry and government agencies in Hong Kong, Mainland China, Australia, and Korea attended this GNSS School, including many in-school MSc/PhD students from mainland China. This “nGATEo 2012” GNSS School received overwhelming feedbacks from the participants. The survey showed that many found this GNSS School useful (86%), informative (97%), knowledgeable (83%) and interesting (80%). More than 85% participants indicated that they would attend similar GNSS School in the future.



Five GNSS School Lecturers with IAG President (middle) and GNSS School Organizer (right):
Maorong Ge, Peter Teunissen, Jade Morton, Chris Rizos, Peng Fang, Danan Dong and Zhizhao George Liu
(L to R)

This GNSS School was hosted by the Department of Land Surveying and Geo-Informatics (LSGI) and was greatly supported by the Faculty of Construction and Environment, Hong Kong Polytechnic University. It was sponsored by the International Association of Geodesy (IAG) and the International Association of Chinese Professionals in Global Positioning Systems (CPGPS).

ZHIZHAO GEORGE LIU