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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:

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General Announcements

CALL FOR PROPOSALS

for hosting the Central Bureau of the International Gravity Field Service

(with updated Proposal deadline)



INTRODUCTION

The International Gravity Field Service (IGFS) is a unifying ‘umbrella’ IAG service which coordinates collection, validation, archiving and dissemination of gravity field related data, coordinates exchange of software for gravity field activities, coordinates courses, information materials and general public outreach relating to the Earth’s gravity field.

The IGFS was established by the International Association of Geodesy Executive Committee at the IUGG General Assembly in Sapporo, Japan, August 2003, and is an IAG ‘level-2’ service under IAG Commission 2 – Gravity Field. One of the main arguments for establishing the IGFS was to provide a leading role of the gravity field services, as one of the three fundamental pillars in the IAG’s first project - GGOS, the Global Geodetic Observing System, which now is a major Component of the IAG.

The overall goal of the IGFS is to coordinate the servicing of the geodetic and geophysical community with gravity field related data, software and information. The combined data of the IGFS entities data will include satellite-derived global models, terrestrial, airborne and marine gravity observations, time-dependent gravity data, GPS levelling data, digital models of terrain and bathymetry, as well as ocean gravity field and geoid from satellite altimetry. Thus both the static and the temporal variations of the Earth’s gravity field will be covered by the IGFS.

Another important role of the IGFS is to take new initiatives and coordinate international data collection projects, such as, e.g., Arctic and Antarctic Gravity and Geoid Projects, and the support of development of high and ultra-high resolution global geopotential models, such as NGA’s EGM08 and its evaluation.

The IGFS is not handling gravity field data distribution directly. The IGFS will function as a unifying service and contact for the following gravity field related services (IGFS Centres):

- **BGI** – International Gravimetric Bureau – collection, archiving, distribution of gravity data. Hosted by CNES, Toulouse.
- **IGeS** – International Geoid Service – collection and distribution of geoid models and related software, geoid schools – hosted by Politecnico di Milano.
- **ICET** – International Centre for Earth Tides – collection and archiving of global Earth tide data, including data from the Global Geodynamics Project – hosted by the University of French Polynesia.
- **ICGEM** – International Centre for Global Earth Models – distribution of satellite and surface spherical harmonic models – hosted by GFZ Potsdam.
- **IDEMS** – International DEM Service – provision of Global Digital Terrain Models – hosted by DeMontfort University, UK.
- **IGFS Technical Centre** – National Geospatial-Intelligence Agency, USA (G&G dept.) - advises on global models, geoid and gravity, supplementing other services.

The structure of the IGFS centres is shown in Figure 1, and can be seen on www.igfs.net.

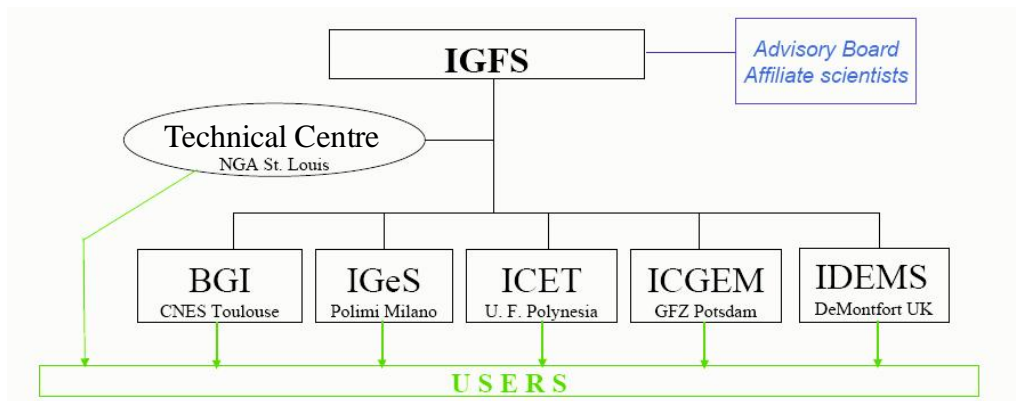


Figure 1: Structure of the IGFS.

Current working groups under the IGFS include

- Working Group on Absolute Gravimetry - Standardization and Networks – chaired by H. Wilmes, BKG, Germany.
- Working Group on Evaluation of Global Earth Gravity Models, chaired by J. Huang, Geodetic Survey Division, Natural Resources Canada.

The IGFS held a Retreat in 2008, and has identified areas such as implementation of a new global vertical datum, coordination of repeated global absolute gravity measurements, and the unification of temporal satellite gravity field solutions, as potential future tasks for the IGFS.

The Role of the Central Bureau

Charter

The Central Bureau of the IGFS serves as the executive arm of the IGFS Directing Board (former Advisory Board). The CB should organize and coordinate task forces to

- Define standards for gravity field data observation procedures, anomaly computations, and associated data corrections (meteorology, hydrology, postglacial rebound, etc.)
- Provide recommendations for data processing methods and reductions
- Establish data exchange and archival formats
- Define and implement fundamental geopotential reference systems
- Evaluate and recommend relevant auxiliary geophysical models
- Facilitate the provision of digital elevation models and density values for gravity field determination and modeling

The CB should coordinate activities related to

- The design and realization of global absolute and superconducting gravimetry networks, with special emphasis on co-located sites for GGOS and regional densifications
- The facilitation and coordination of regional gravity field determination and data exchange projects in order to improve medium to short wavelengths (e.g., Arctic and Antarctica)
- The definition and realization a global vertical datum
- The integration of terrestrial, airborne and satellite measurements in practice
- The improvement of the use of satellite-derived DEMs for gravity field modeling
- The evaluation and calibration of satellite-derived temporal gravity field variations as well as the improvement of processing of satellite data
- Making gravity data, geopotential models (static and time-variable), geoid estimates and other gravity field related products available for general use
- Public outreach on the Earths gravity field by
 - Organizing meetings and schools on gravity, geoid and related geophysics
 - Making software and tutorials for gravity and geoid analysis available.
 - Establishing and maintaining a web site with links to IGFS Centres

High Level Tasks

- Provide link between the IGFS entities, IAG, and external projects, networks or organizations (oceanic, atmospheric, hydrologic, ...).
- Provide link to the GGOS bureau and communicate their requirements and recommendations to the IGFS.
- Implement standards and recommendations related to gravity field observations, secure consistency with geometric standards, and promote their use within the geoscientific community.

Organization

- Tasks of permanent nature concerning all IGFS shall reside within the Central Bureau. Tasks of temporary nature may be delegated to ad-hoc committees.
- The Central Bureau will be headed by a Director, and will have a secretariat to provide administrative, communication and web support.
- The Central Bureau will include such expertise as is necessary to conduct Bureau business and provide guidance and oversight to the supporting entities.
- Dedicated working groups and analysis may be set up for specific issues dealing with particular aspects of gravity field related issues.
- The Director will report to the IGFS Directing Board and the IAG Executive Committee. The Director forms together with the IGFS Chairman and the head of the Technical Centre the IGFS management group.
- The Director of the Central Bureau will be a member of the GGOS Steering Committee on behalf of the IGFS.

Interfaces with Internal and External Entities

The Central Bureau acts essentially as representative of the IGFS and is liaison to other geodetic and geophysical services, especially to the GGOS entities. There must be a routine exchange of information and regular meetings with representatives of the IGFS. A close contact has to be kept to the GGOS Bureaus for 'Standards and Conventions', 'Networks and Communications' and 'Satellite Missions' as well as the 'Coordination Office'.

IGFS CENTRAL BUREAU - CALL FOR PROPOSALS

On behalf of the International Association of Geodesy, the IGFS and its member services hereby request proposals for the operation of the IGFS Central Bureau. An organizational structure to operate the Central Bureau and an operational plan must be provided in the proposal. The proposal should clearly address the capabilities being offered by the institution, its financial ability and commitment to carry them out, and appropriate points of contact.

The funds required for the IGFS Central Bureau have to be provided by the proposing institution. Proposers may also solicit support from external entities in terms of financial contributions and expertise. From the proposal it should become clear that the proposing institution has the expertise, capabilities and financial background to perform the proposed tasks.

The initial term of this appointment will be 4 years. It may be terminated by either party with a 6 months notice. The term will be automatically renewed subject to satisfactory performance, unless either party gives notice 6 months prior to the end of the term.

PROPOSAL STRUCTURE, DEADLINE AND SUBMISSION

The proposal should contain the following parts: title, proposing institution and its address, designated head of the bureau, abstract, goals, expertise, work and schedule and allocated resources. Proposals should be concise, no more than 4 – 5 pages in length. Proposals should be submitted electronically and by mail not later than **July 15, 2009**. A pdf (or mailed-in) letter by the responsible head of the proposing institution, with the authority for the commitment of human and financial resources, should be enclosed.

Applications to be send to the IAG General Secretary:

International Association of Geodesy (IAG)
c/o Deutsches Geodaetisches Forschungsinstitut (DGFI)
Alfons-Goppel-Straße 11

D - 80 539 Muenchen, Germany
Tel +49 - 89 - 23 031 -1113
Fax +49 - 89 - 23 031 -1283
E-mail iag@dgfi.badw.de

with a copy to the IGFS Chair Rene Forsberg at DTU-Space, National Space Institute of Denmark (rf@space.dtu.dk); DTU-Space will not bid for the CB).

Questions to the present call can be directed to Rene Forsberg (rf@space.dtu.dk), Chair of the IGFS, or to Steve Kenyon (Steve.C.Kenyon@nga.mil), member of the IAG Executive Committee and head of the IGFS Technical Centre.

The proposals will be evaluated and ranked by an independent evaluation committee. The decision for awarding the IGFS CB is expected to be taken by the IAG Executive Committee during the IAG Scientific Assembly in Buenos Aires, September 2009. The successful proposer will be notified by September 15, 2009 with the goal to start the IGFS Central Bureau activities no later than the end of 2009.

SCHEDULE

July 15, 2009:	Due date for proposals
August 15, 2009:	Report by evaluation committee to IAG
September 15, 2009:	Decision by the IAG and the IGFS Advisory Board.
October 1, 2009:	Notification of proposer on proposal acceptance
January 1, 2010:	Start of Central Bureau activities

IGFS, MAY 18, 2009

2009 Tsuboi Prize of the Geodetic Society of Japan

Prof. Akito Araya of Earthquake Research Institute, the University of Tokyo has been awarded the 17th Individual Prize of the Tsuboi Prize, and ALOS/PALSAR InSAR observation group led by Dr. Masanobu Shimada of Japan Aerospace Exploration Agency has been awarded the 9th Group Prize.



The Tsuboi Prize of the Geodetic Society of Japan (Individual Prize) was established in 1993 to encourage young geodesists in Japan after the late Prof. Chuji Tsuboi who was one of the greatest geodesists in Japan. Since then, the prize winner has been awarded annually.

Prof. Akito Araya has been engaged in developing various geodetic instruments which utilize laser interferometry. In particular, a 100m laser strainmeter installed in Kamioka mine, which has extremely high sensitivity of 10^{-13} strain, has been successfully utilized for the studies of the Earth tides, seismic strain steps and other geodynamic phenomena. He is also developing a new absolute gravimeter, a satellite on-board optical accelerometer. These works have proved his outstanding talents in the fields.

Recognizing the importance of group organization in geodetic studies, the Group Prize was established afterward in 2001 and has been awarded to a group which has achieved outstanding contributions to geodetic studies.

Advanced Land Observation Satellite (ALOS) has been launched in 2006 and PALSAR (Phased Array type L-band Synthetic Aperture Radar) mounted on ALOS has been providing high quality SAR data. L-band SAR data provided by ALOS/PALSAR has advantages in particular in vegetated areas, and it has successfully

revealed crustal movements associated with 2007 Noto Hanto earthquake in Japan, 2008 Sichuan Earthquake in China. Contributions of the group to developing and operating ALOS/PARSAR system have been highly recognized.

YOICHI FUKUDA

GOCE achieves drag-free perfection

Launched on 17 March and currently progressing through the commissioning phase, GOCE (Gravity field and steady-state Ocean Circulation Explorer) is set to measure Earth's gravity field with unprecedented accuracy.

GOCE was recently switched to drag-free mode as part of the commissioning and instrument calibration activities. The system was found to be working perfectly, demonstrating that the electric ion thruster-based control system automatically produces the right amount of thrust to achieve drag-free flight. This could not be demonstrated at ground level before GOCE launched since it is impossible to create exact in-orbit flight conditions in a laboratory.

Michael Fehringer, ESA's System Manager for GOCE said, "We were very pleased with the results when the ion propulsion system and the gradiometer, which is the main instrument, were commissioned separately a couple of weeks ago. Now, both systems work together flawlessly – the gradiometer continually senses the air drag and feeds the ion-propulsion system with commands to produce thrusts exactly opposite to the drag being experienced. Initial data indicate that this drag compensation system works 10 times better than what we had expected."

Rune Floberghagen, ESA's GOCE Mission Manager stated that, "Knowing that the drag-free control system works perfectly means we now have everything in place to carry out the complex process of calibrating the gradiometer instrument. Once calibration has been completed we will be able to see the true excellence of GOCE's gravity-field measurements."

SOURCE: WWW.ESA.INT

Meeting Announcements

VII Hotine-Marussi Symposium 2009 on Theoretical Geodesy

6–10 July 2009, Rome, Italy, Sapienza Università di Roma

Scientific Organization Committee:

- Nico Sneeuw
- Pavel Novák
- Fernando Sansò
- Study group chairs and steering committee members of IAG InterCommission Committee on Theory (IAG-ICCT)

Local Organization Committee:

- Mattia Crespi, G. Colosimo, F. Fratarcangeli, A. Mazzoni, F. Pieralice

The main goals of the Symposium are aligned with the objectives of the ICCT:

- advances in theoretical geodesy
- developments in geodetic modelling and data processing, in the light of the recent advances of the geodetic observing systems
- connections and contribution exchanges between geodesy and other Earth sciences

In particular, **all the topics regarding the activities of the ICCT Study Groups are of interest** and related papers are strongly encouraged:

- theory, implementation and quality assessment of geodetic reference frames
- quality of geodetic multi-sensor systems and networks
- configuration analysis of Earth oriented space techniques
- inverse theory and global optimization
- satellite gravity theory
- InSAR for tectonophysics

- temporal variations of deformation and gravity
- towards cm-accurate geoid - theories, computational methods and validation
- application of time-series analysis in geodesy

The first circular letter is available from http://w3.uniroma1.it/Hotine-marussi_Symposium_2009/Circulars.asp. The website http://w3.uniroma1.it/Hotine-marussi_Symposium_2009/ have been set up with additional information on the Symposium. The [Scientific Programme](#) is also available online.

SCIENTIFIC AND LOCAL ORGANIZING COMMITTEE

Geodesy for Planet Earth

IAG 2009 Scientific Assembly, Buenos Aires, Argentine, August 31 to September 4, 2009



2nd Circular is reachable through the webpage of the conference www.iag2009.com.ar.

Important Dates

- Deadline for accommodation booking at Intercontinental Hotel (Special Rate): **June 1st, 2009**
- Third Circular: June, 2009
- Deadline for Submission of Full-Papers Manuscripts: September 30th, 2009

LOCAL ORGANIZING COMMITTEE

2009 ILRS Technical Workshop on SLR Tracking of GNSS Constellations

Metsovo, Greece, Sept. 14-19, 2009

Dear Colleagues,

We have the pleasure to announce that the International Laser Ranging Service (ILRS) in collaboration with the National Technical University of Athens, Greece (NTUA) is organizing an ILRS Technical Workshop entitled:

SLR Tracking of GNSS Constellations 50 Years of Satellite Geodesy and Geodynamics

in Metsovo, Greece, from September 14 to 19, 2009, on the occasion of Prof George Veis 80th birthday and the 50th anniversary of his doctoral thesis, a document that laid the foundations of satellite geodesy. Details will be soon available at the workshop web page.

Objectives

- Overview of the two techniques with emphasis on their synergism
- Review of GNSS and SLR constellations & networks and current state of the art
- Satellite geodesy applied in geodynamics, POD, positioning, gravity, etc.
- Survey of the likely gains in science from SLR tracking of GNSS constellations
- Examine approaches to help accomplish the goals set by GGOS, investigating options such as:
 - higher repetition rates,
 - optimal normal point formulation,
 - interleaving tracking of targets, better sampling of orbits,
 - allocating targets to sub-networks, etc.
- Optimization of the network design and deployment of the appropriate space segment
- Discussion of the fundamental differences, geometric and dynamic, between geodetic cannonball type targets (LAGEOS) and the complicated GNSS spacecraft

- Discussion of applications specifically enabled through the synergism of the two techniques. e.g. the likely improvement of LEO POD with the improved GNSS orbital products and their impact on Earth Observation products relying on these orbits (radar and laser altimetry, geopotential missions, atmospheric lidar and sounding missions, topography missions, SAR and InSAR missions, etc.).

We would like to invite you to participate in the workshop and submit presentations to the sessions of your choice.

We look forward to seeing you all in Metsovo!

ERRICOS C. PAVLIS AND DEMITRIS PARADISSIS

IAG Sponsored Meetings

VII Hotine-Marussi Symposium 2009 on Theoretical Geodesy

6–10 July 2009, Rome, Italy, Sapienza Università di Roma

The main goals of the Symposium are advances in theoretical geodesy, developments in geodetic modelling and data processing in the light of the recent advances of the geodetic observing systems, connections and contribution exchanges between geodesy and other Earth sciences. The first circular letter is available from http://w3.uniroma1.it/Hotine-marussi_Symposium_2009/Circulars.asp. The website http://w3.uniroma1.it/Hotine-marussi_Symposium_2009/ have been set up with additional information on the Symposium.

Geodesy for Planet Earth

IAG 2009 Buenos Aires

August 31 to September 4, 2009

The International Association of Geodesy Scientific Assembly IAG2009 that will be hosted by the IUGG National Committee together with the Argentine Association of Geophysics and Geodesy, will take place in the city of Buenos Aires. IAG2009 will be an event that covers the whole of geodesy in an exciting social environment that extends our knowledge, improves our practice, and widens our friendship networks. Following the long outstanding tradition of these scientific assemblies, IAG2009 will be a major scientific event, bringing together geodesists from all over the world, and demonstrating the vital role that geodesy plays in our society. This will be the main geodetic meeting in 2009. 2nd Circular is reachable through the webpage of the conference www.iag2009.com.ar.

2nd International Colloquium – Scientific and Fundamental Aspects of the Galileo Programme

October 14-16, 2009, Padua, Italy

The second international colloquium on fundamental aspects and scientific applications of Galileo and GNSS will be held in Padua October 2009. The colloquium will address three major areas of research. The fundamental aspects of navigation by satellites and Galileo. Scientific applications in meteorology, geodesy, geophysics, space physics, oceanography, land surface and ecosystem studies, using either direct or reflected signals, differential measurements, phase measurements, radio occultation measurements, using receivers placed on the ground, in airplanes or on satellites. Scientific developments in physics and dealing with future systems, particularly in testing fundamental laws, in astronomy, in quantum communication, and in developing clocks or experiments based on GNSS. To find more information, please visit the conference website <http://www.congrex.nl/09c10/>.

IAG Related Meetings

Training School on GIA Modelling

June 1-5, 2009, Gaevle, Sveeden

The main objective of this Training School is to give early-stage researchers whose principal area of expertise is not in Glacial Isostatic Adjustment (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 organized by the COST action ES0701 "improved constraints on models of GIA" but is open to everyone with relevant interest and background.

See <http://www.cost-es0701.gcparks.com/index.php/activities/training-schools> for further information and registration.

SGEM 2009

June 14-20, 2009, Albena Resort, Bulgaria

The International Multidisciplinary Scientific Geo-Conference & EXPO – SGEM 2009 will bring together researchers, educators, and practitioners representing research and educational institutions, companies, government agencies and consulting organizations from all over the world to exchange ideas, to define the research priorities and to propose potential solutions of the problems related to the new reality of global changes. The webpage <http://www.sgem.org> contains additional information.

TRANS-NAV 2009

June 17-19, 2009, Gdynia, Poland

The upcoming 8th International Navigational Symposium on "Marine Navigation and Safety of Sea Transportation" TRANS-NAV 2009 is organised jointly by the Faculty of Navigation, Gdynia Maritime University and The Nautical Institute from 17 to 19 June 2009 in Gdynia, Poland. The Conference website is <http://transnav.am.gdynia.pl>. The Symposium is addressed to scientists and professionals in order to share their expert knowledge, experience and research results concerning all aspects of navigation, safety of navigation and sea transportation.

CCCT 2009

July 10-13, 2009, Orlando, Florida, USA

The 7th International Conference on Computing, Communications and Control Technologies: CCCT 2009 (<http://www.2009iisconferences.org/CCCT>) will take place in Orlando, Florida, USA, on July 10th - 13th, 2009. CCCT Conferences are yearly events intended to serve as an encounter point for Computer, Communications and Control Technologies researchers, practitioners, consultants and users who have been interchanging ideas, research results and innovations in the mentioned areas and other related topics. The deadline to submit a paper/abstract is November 12th, 2008.

SPACOMM 2009

July 20-25, 2009, Colmar, France

The First International Conference on Advances in Satellite and Space Communications will be held in Colmar, France, July 20-25, 2009. The Conference webpage <http://www.iaia.org/conferences2009/SPACOMM09.html> provides further details.

6th International Symposium on Mobile Mapping Technology – MMT'09

July 21-24, 2009, Presidente Prudente, São Paulo, Brazil

The 6th International Symposium on Mobile Mapping Technology "Mobile Mapping Serving the Information Society" will take place in Presidente Prudente, São Paulo, Brazil, July 21-24, 2009. The main objective of the conference is to discuss the most recent technology and its application, to exchange experiences and to promote future research aiming at the development and the production in the fields related to mobile mapping. You may want to check out the website <http://www.fct.unesp.br/eventos/simposio/mmt09/ingles> to get preliminary information on MMT'09.

Workshop: Changes of the Greenland Cryosphere

August 25-27, 2009, Katuaq, Nuuk, Greenland

The CGC workshop is an interdisciplinary workshop on the current changes of the Greenland ice sheet, sea-ice and permafrost, and presents an opportunity for in-depth discussions of the observed changes as measured by satellite, airborne and in-situ networks (climate stations and GPS), the modelling of the changes, and future projections of change. Geodesy has a special role to play in the monitoring of the Greenland ice sheet, especially due to GRACE and geodynamic uplift studies by GPS and absolute gravity. The workshop is part of the Nuuk Climate Days, with a parallel workshop on the Arctic Freshwater Budget (FreshNor), and a joint event on the impact of effects of climate changes on the Greenland society, arranged in cooperation with the Danish Meteorological Institute, Greenland Institute of Natural Resources, and Asiaq-Greenland Survey. Deadline for abstracts: June 1. Web site: www.space.dtu.dk/nuuk2009.

6th International Symposium on LBS & TeleCartography

September 2-4, 2009, Centre for Geospatial Science, University of Nottingham, UK

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, Telecommunication, Geodesy, and Geomedia Techniques. For further information see: <http://www.lbs2009.org/>.

GNSS Vulnerabilities and Solutions 2009 Conference

September 2-5, 2009, Baska, Krk Island, Croatia

The 2nd GNSS Vulnerabilities and Solutions 2009 Conference is to be held on 2-5 September 2009 in Baska, Krk Island, Croatia. This four-day event aims to gather GNSS experts and focuses on GNSS problems and vulnerabilities, as well as to developments aiming to improve the accuracy and reliability of GNSS. For further information please refer to the Call for Papers, which can be downloaded from http://www.rin.org.uk/files/POOL/vulnerabilitiesAndSolutions2009_CallForPapers.pdf.

2009 ILRS Technical Workshop on SLR Tracking of GNSS Constellations

Metsovo, Greece, Sept. 14-19, 2009

The International Laser Ranging Service (ILRS) in collaboration with the National Technical University of Athens, Greece (NTUA) is organizing an ILRS Technical Workshop entitled: "SLR Tracking of GNSS Constellations – 50 Years of Satellite Geodesy and Geodynamics" in Metsovo, Greece, from September 14 to 19, 2009. Details will be soon available at the workshop web page.

ION GNSS 2009

September 22-25, 2009, Georgia, USA

The Institute of Navigation's GNSS 2009 (technical sessions and exhibits) will be held at the Savannah International Convention Center, Savannah, Georgia. Pre-conference tutorials will be held in Savannah on September 21-22. See the ION website (www.ion.org) for details.

International UN-SPIDER Bonn Workshop

October 21 – 23, 2009, Bonn, Germany

The Third United Nations International UN-SPIDER Bonn Workshop: Disaster Management and Space Technology From Concepts to Applications is being jointly organized by the United Nations Office for Outer Space Affairs (UNOOSA) and the German Aerospace Center (DLR). The workshop will be held in Bonn, Germany, from 21 – 23 October 2009 in the UN Building in Bonn. Please check out: <http://www.unoosa.org/oosa/en/unspider/workshops.html>.

ACM GIS 2009

November 4-6, 2009, Seattle, USA

The ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems 2009 (ACM GIS 2009) is the seventeenth event of a series of symposia and workshops that began in 1993 with the aim of bringing together researchers, developers, users, and practitioners carrying out research and development in novel systems based on geo-spatial data and knowledge, and fostering interdisciplinary discussions and research in all aspects of geographic information systems. Visit <http://acmgis09.cs.umn.edu> for details.

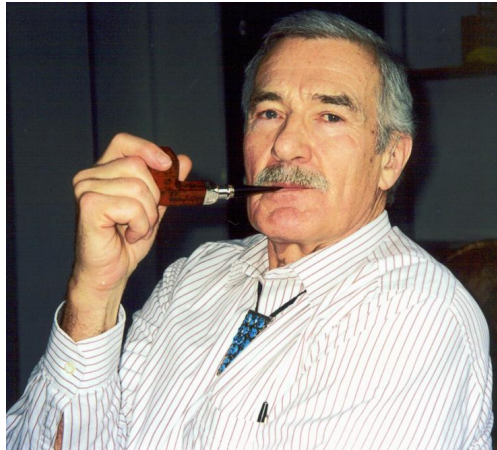
IAG Sister Societies' General Assemblies

Associations' Scientific Assemblies of the IUGG

- IUGG/IAGA, August 23-30, 2009, Sopron, Hungary
- IUGG/IAHS, September 7-12, 2009, Hyderabad, India
- IUGG/IAG, August 31-September 4, 2009, Buenos Aires, Argentina
- IUGG/IACS-IAMAS-IAPSO, July 19-29, 2009, Montreal, Canada

Obituary

Kurt Bretterbauer (1929-2009)



On Feb 28th 2009 o. Univ.-Prof. Dr. Kurt Bretterbauer passed away at the age of 80. K. Bretterbauer has chaired for more than 25 years the Institute of Advanced Geodesy at the University of Technology, Vienna, Austria. He was a well known and highly recognized scientist in the fields of geodesy, astronomy and mapping. K. Bretterbauer was an excellent teacher who formed generations of Austrian geodesy students and civil engineers. Furthermore he has been invited to numerous international meetings as key lecturer due to his vivid and always excellent presentations.

Kurt Bretterbauer was born in Vienna in 31st Jan 1929. After the war he started in 1949 to study surveying at the 'Technical High-School' in Vienna where he received his diploma after 4 years. Afterwards he became employed at the BEV (Austrian Federal Office for Surveying and Metrology,

Department Geodesy). Besides he studied mathematics and astronomy at the Vienna University.

In 1958 he received a grant which allowed him to join the Department of Geodetic Science of the Ohio State University from fall 1958 until end of 1959. This was a scientific extremely fruitful period and offered him the opportunity to make use of his fundamental knowledge in mathematics and astronomy in state of the art science projects e.g. the World Gravity Project or the mapping of the Moon's surface.

Back in Vienna K. Bretterbauer kept his position at BEV for more than 8 years. In 1967 he became a research assistant at the Institute of Advanced Geodesy (Professor Ledersteger), where he finished his doctoral thesis about signal refractivity in 1970. In 1973 he was appointed as the chair of the Institute of Advanced Geodesy at TU-Vienna. Within the upcoming 25 years he guided the institute to become a leading research centre in reference systems, point positioning and mapping. Aside he held a number of high ranked administrative functions within the Austrian Geodetic Society like the Bureau of the Austrian Commission for International Geodesy or the Bureau of the National Committee of Geodesy and Geophysics.

The major fields of scientific interest of K. Bretterbauer were Earth rotation, reference systems and time scales, mapping theory and last but not least Global Change. So he was one of the first scientists who described early 1983 the consequences of a partial melting of arctic ice-sheets on potential surfaces and the Rrtation of the Earth. He delivered a considerably large number of scientific contributions investigating the change of the shape and rotational behaviour of the Earth from ancient times until today. Furthermore he promoted research in satellite geodesy and the application of astro-geodetic methods for point determination at the institute. Thus a zenith-camera to determine the deflections of the vertical has been constructed and a CCD-camera for the observation and determination of satellite orbits was developed. Moreover he anticipated the potential of the upcoming GPS-systems for geodetic and geodynamic research.

Kurt Bretterbauer was an excellent teacher and extremely gifted lecturer. He was able to simplify even very complex relations but always without losing the general theory behind. He was a very appreciated partner in technical and philosophical discussions and he was able to fascinate and delight his audience with his sometimes extraordinary scientific ideas.

Despite of the already known disease over the past years Kurt Bretterbauer died unexpected by just a few weeks after his 80th birthday celebrations. He will be unforgotten as a friend and as a reliable and competent expert.

ROBERT WEBER

Fast Bibliography

The fast bibliography consists of a listing of papers relevant to Geodesy that has been collected by the IAG Bibliographic Service (IBS) since previous issue of the fast bibliography (IAG Newsletter January 2009). The IBS is based on the literature data base GEOPHOKA, which is maintained by BKG (Bundesamt für

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