



June 2007

Editor: Gyula Tóth

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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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University of Copenhagen
Dept. of Geophysics
Copenhagen, Denmark
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General Announcements

Steffen Schön won the IAG 2006 Young Author Award



Steffen Schön won the IAG 2006 Young Author Award for his paper with H. Kutterer:

Uncertainty in GPS networks due to remaining systematic errors: the interval approach, published in *Journal of Geodesy*, Vol. 80, pp. 150-162, 2006.

Steffen Schön was born in Karlsruhe, Germany, in 1974. He studied geodesy at the Universität Karlsruhe, the Ecole Nationale des Sciences Géographiques (ENSG/IGN, Paris), and the Laboratoire de Recherche en Géodésie (LAREG/IGN, Paris) between 1994 and 1999. From 2000-2002, he was a research associate at the Geodetic Institute in Karlsruhe, in the project „Optimal design of geodetic monitoring networks with respect to an extended uncertainty budget” funded by the German Research Foundation (DFG). Focussing on remaining systematic errors in GPS, this project was carried on at the German Geodetic Research Institute (DGFI, Munich) until 2004. In 2003 he received his PhD degree in geodesy from the Universität Karlsruhe. His thesis deals with the assessment of systematic errors in geodetic measurements by interval

mathematics. From April 2004 until August 2006, he was research associate at Engineering Geodesy and Measurement Systems (EGMS) at Graz University of Technology, Austria. There, he analysed GPS landslide monitoring networks and investigated tropospheric correction models for GPS networks with large height differences. In September 2004 he obtained a two-year Feodor-Lynen post-doctoral fellowship from the Alexander von Humboldt-Foundation (Bonn, Germany) to work with Prof. Fritz K. Brunner on “identification and modelling of physical correlations of GPS carrier phase observations” at EGMS. Since September 2006 he is full professor for positioning and navigation at the Institut für Erdmessung (IfE), Leibniz University Hannover, Germany, where he succeeded Prof. Günter Seeber.

His main research interests are: correction and assessment of station specific and distant dependent systematic errors in GNSS, improvement of the stochastic model for GNSS observations, and applications of low-cost equipment for positioning and navigation. He is member of the IAG IC-WG1 Quality Measures, Quality Control, and Quality Improvement.

Congratulations!

IAG BUREAU

New draft IAG statutes and by-laws

The Executive Committee has prepared a second draft of the revised Statutes and By-Laws, see http://www.gfy.ku.dk/~iag/IAG_Statutes-April_27.pdf and http://www.gfy.ku.dk/~iag/IAG_Bylaws-May23.pdf

IAG BUREAU

Preliminary program and Draft Council Agenda of IAG for IUGG XXIV General Assembly Perugia

IAG General Assembly at IUGG XXIV 2007, Perugia Italia, July 2-13, 2007.

Oral Sessions take place 9:00 – 12:30 and 14:00 – 17:30, except when there is a Union Lecture or EC meeting. Then the session starts at 9:30.

Poster sessions on the same day or days from 18:00 to 20:00. Posters will only be up 1 day (evening). Union lectures and 2 (of 3) EC meetings: 8:30 – 9:30.

All meetings are expected to take place at the Department of Education, (Facolta de Scienze della Formazione), Piazza G.Ermini, 1, close to the center of Perugia. Hopefully the IAG office will be at the same place. IAG Reception will be in the form of a tour to Spoleto by bus. Max. number: 200. IAG Dinner at “La locanda dei Golosi”, <http://www.lalocandadeigolosi.it> (TBC).

ICCT: Commission meeting.

SC 3.1 (Earth Tides) Sub-Commission meeting, Thursday 5, 17:00 – 19:00.

JGS001 Ocean Circulation and contributions from new satellite missions (IAPSO)

JGS002 Global sea-level change: Altimetry, GNSS and tide gauge measurements (IAPSO)

JGS003 Earthquake and Volcano Geodesy (IASPEI, IAVCEI)

JGS005 Observations of the Cryosphere from Space (CCS, IAMAS, IAPSO, IAHS, CliC)

Week 1	Monday 2	Tuesday 3	Wednesday 4	Thursday 5	Friday 6	Saturday 7
Lecture	Union		EC	Union	EC	
Week 1 Morning	EC	GS001	GS005	GS001	GS004	
Week 1 afternoon	Council Opening	GS002	GS002	GS002	GS003	
Posters		U 03: Global Observations GS002	GS001 GS002	JGS001 GS004	JGS002 GS004.	
Evening		GS001+002	GS001+002 +005	GS001+002 +004	GS002+003 +004	
	IUGG Opening		IAG Reception			
Week 2	Monday 9	Tuesday 10	Wednesday 11	Thursday 12	Friday 13	
Lecture		Union			Union	
Week 2 morning	GS003	JGS003				
Week 2 afternoon	JGS005	ICCT (TBC)				
Posters	GS003	JGS003				
Evening	JGS005	Closing (16-17)				
	Council GS003 +JGS005	JGS003				
	IAG Dinner	New EC (or 14:00-16:30).				

TBC = To be confirmed.

last update 2007-03-27

Draft COUNCIL AGENDA 2007.

Monday, July 2, 2007, 14.30 - 15.00

Subject and Responsible:

1. Welcome, greetings to delegates. GB/CCT
2. Perugia Organisation GB/CCT
3. Change of Statutes and By-Laws (KPS)
4. Appointment of Audit Committee CCT
5. Appointment of Resolution Committee GB
6. IAG Budget Proposal 07 - 11 CCT
7. Information on IAG awards GB (Levallois Medal, Bomford Prize)
8. Review of election procedures and results. FS (This is followed by the opening session and a reception).

Monday, July 9, 2007, 19 - 21.

Subject and Responsible

1. Report of audit committee. AC
2. IAG Budget Approval. CCT
3. IAG Representatives. CCT

4. Venue of Scientific Assembly 2009. GB.
5. Adoption of changes to statutes and by-laws. KPS/GB.
6. Approval of continuation or establishment of Inter Commission Committees and/or projects.
7. Resolutions. GB

GB=Gerhard Beutler, CCT=C.C.Tscherning, KPS=Klaus-Peter Schwarz, FS=F.Sansò

IAG BUREAU

Agenda of opening and closing sessions and draft agenda of EC meeting in Perugia

IAG – Opening Session

Draft Program

Time: Monday, July 2, 2007, 16.00-17.45.

Place: Dep. of Education, Main Hall, Perugia.

1. Report of the IAG president (G.Beutler - 20 min)
2. Report of the IAG General Secretary (C.C. Tscherning - 10 min)
3. Commission, ICCT, COB and GGOS Highlights (all Commission and presidents of ICCT, COB and GGOS - 5 min each)
4. Report of the Editor-in-Chief of the JofG (W.Featherstone - 5 min)
5. Presentation of the new Executive Committee (M.Sideris. - 3 min)
7. Presentation of the Levallois Medal to C.C.Tscherning.(Laudatio by F.SansC2 -5 min)
8. Best Young Author Award 2006 (G.Beutler, 3 min).
9. Presentation of the Bomford Prize to M. Furuya (G.Beutler) and Bomford Lecture by the recipient (15 min)
10. Perugia Organisation and social events (5 min C.C.Tscherning, F.Radicioni).

IAG – Closing Session

Draft Program

Time: Tuesday July 10, 2007, 16.00-17.30

Place: Department of Education, Main Hall. Perugia..

1. Report on the Scientific Program (Convenors, 10 persons, each 3 min)
2. Resolutions (M.Sideris, 15 min).
3. Presentation of new Fellows. (G.Beutler, 5 min).
4. Inaugural Speech by the new President (M.Sideris, 10 min).
5. Closing remarks. (G.Beutler. - 5 min)

IAG - Executive Committee (1.rev) Draft Agenda Perugia

Department of Education, Room 5.

Time: Monday, July 2, 2007, 9.00 - 12.30.

1. Adoption of agenda.
2. Perugia Organisation. (CCT)
3. Proposal for members of the audit committee. (CCT)
4. Nomination of the members of the resolution committee. (GB)
5. New fellows (CCT).
6. Result of elections and the handling of ties. (FS).
7. Election of Commission Vice-Presidents and president ICCT (GB/MS).
8. Venue of IAG Scientific Assembly 2009 (CCT).
9. Election of IAG representatives to external bodies. (CCT)
10. Sponsorship of Symposia. (Material must be received beforehand, otherwise it will be send out for e-mail vote to the new EC) and IAG Symposia Rules (CCT/FS)
11. GGOS Status. (MR)
12. New statutes and by-laws.(KPS/GB).
13. Council meeting agenda and opening session (same afternoon).
14. Collaboration with FIG□ (CR).
15. Collaboration with ION (RN)

Time: Wednesday, July 4, 8.30-9.30.

16. IAG Budget. (CCT).
17. Status of Handbook and Travaux (JA) .
18. Revision of rules for Bomford prize and Levallois medal (see minutes of last EC meeting).
17. Report of the Committee of Developing Countries. (CM+LF).

Time: Friday, July 6, 8.30-9.30.

19. JofG Editorial Board proposal. (WF).
20. Audit Committee report.
21. Resolution Committee Report.
22. ICET proposal.

Last change 2007-05-23 by cct.

Draft programs for opening and closing sessions are

<http://www.gfy.ku.dk/~iag/open07.htm>

<http://www.gfy.ku.dk/~iag/closing07.htm>

IAG BUREAU

GNSS position at University of Calgary



Assistant/Associate Professor in GNSS

The Department of Geomatics Engineering, in the Schulich School of Engineering at the University of Calgary, invites applications for the position of Assistant or Associate Professor (tenure track) in GNSS, effective January 1, 2008. A PhD in geomatics or telecommunications engineering is highly desirable.

Demonstrated expertise in Global Navigation Satellite Systems (GNSS) is required. Research expertise in one or more of the following areas is desirable: CDMA signal processing and enhancements, GNSS software receiver design and implementation, satellite and ground-based augmentation systems including, tight and ultra-tight GNSS-INS integration, indoor use of GNSS, and advanced estimation and optimization methods as applied to positioning and navigation. The position is expected to interface with all related disciplines of geomatics engineering and will conduct both teaching and research in satellite-based navigation and related areas. The applicant is expected to develop a strong research program and should be capable of attracting external funding for these research activities and graduate student support. The selected candidate must also have the capability and the flexibility to teach at all levels of the Geomatics engineering program and will be required to register as a Professional Engineer in the Province of Alberta within 2 years of initial appointment.

The Department of Geomatics Engineering is actively involved in all aspects of geomatics engineering and comprises 21 faculty members, some 90 graduate students and 50 students in each year of the undergraduate program. State-of-the-art geomatics engineering equipment and computer facilities are available. Related information can be found at <http://www.geomatics.ucalgary.ca/>.

The University of Calgary is a co-educational, non-denominational, government supported institution with a student population of about 27,000. The City of Calgary itself has a population of over one million and is situated within an hour's drive of Banff National Park, one of the most beautiful parts of the Rocky Mountains. All qualified candidates are encouraged to apply; however, Canadians and permanent residents will be given priority. The University of Calgary respects, appreciates and encourages diversity.

Applications should include a detailed curriculum vitae and a complete list of publications. Three letters of reference should be mailed directly to:

Head, Department of Geomatics Engineering, Schulich School of Engineering
University of Calgary
2500 University Drive NW, Calgary, Alberta T2N 1N4, Canada
E-mail: minch@ucalgary.ca

Closing date: **15 August 2007**

MS. MARCIA INCH

Post-doctoral Research Position in Tahiti

Study of the distribution of the atmospheric water vapour in a tropical area from GPS data (Tahiti island)

The aim of this post-doctoral research is to model, from the GPS data acquired at the Geodesy Observatory of Tahiti, the delays of propagation of GPS signals caused by the dry and wet atmosphere, over the five to seven last years. We will correlate the obtained results with all the available weather data in order to obtain a daily 3D scan of the water vapour over the site of the Observatory. This will permit both physical studies of the atmosphere, and the elaboration of GPS daily correction models valid both in azimuth and elevation for a better determination of the vertical positioning of the Observatory.

Skills required: PhD in Geodesy/Geomatics, Geophysics or Applied Mathematics, good command of a programming language, fluency in French or English.

Duration: 16 months, starting October 2007, at the University of French Polynesia (Punaauia, near Papeete).

Please email cover letter, resume and two references (all in pdf format) to: Pr Jean-Pierre Barriot, Head of the Geodesy Observatory of Tahiti, at barriot@upf.pf. Deadline for application: **August 15th, 2007**. No citizenship requirements, but the successful candidate will have to be approved by the Immigration Bureau of French Polynesia

JEAN-PIERRE BARRIOT

Used cartographic equipment

Used Drumscanner / Filmplotter equipment from german / swiss cartographic departments / companies

manufacturer: Lüscher AG Switzerland

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------------|--------------|
| 1. Lüscher LSP 220 -> scan/filmplot area: 2180 x 1180 mm
scan resolution 25 – 1600 dpi, build 1995, refurbished 1999, good condition | 28.000,- EUR |
| 2. Lüscher LSP 120 -> scan/filmplot area: 1180 x 1180 mm
scan resolution 25 – 1600 dpi, build 1996, nearly new | 32.000,- EUR |

warranty: 1 year for parts

Service: available by LaserScan Ltd Cambridge

ask for more infos: email-> Steinmann@print4gmbh.de

additional cost:

installation and training (5 days) 4.000,- EUR

packaging 1.600,- EUR

shipping / flight / hotel etc. it depends

storage location: DE-72770 Reutlingen (nearby Stuttgart)

owner/dealer: print4gmbh / Adolf-Kolping-Str. 7 / DE-72770 Reutlingen

Tel: 07121 918 675 email: Steinmann@print4gmbh.de

responsible: Norbert Steinmann

NORBERT STEINMANN
print4gmbh, Reutlingen, Germany

Meeting Announcements

IUGG 2007 Perugia – Proceedings

*International Association of Geodesy, Central Bureau
Copenhagen, July 11, 2007.*

Announcement to all presenters/authors at IAG Symposia, GS001-005 in Perugia.

As usual Proceedings will be published in the Springer IAG Proceedings Series. The chief editor will be the new IAG President, Professor M.Sideris, University of Calgary.

The proceedings will be reviewed, and the review will be handled by the Symposia main Convenors. Therefore you should send your manuscript by e-mail as a pdf-file attachment to the convenors, following the instructions found in http://www.gfy.ku.dk/~iag/proc_instructions07.htm

GS001: H.Drewes, e-mail: drewes@dgfi.badw.de
GS002: C.Jekeli, e-mail: jekeli.1@osu.edu
GS003: V.Dehtant, e-mail: veroniq@oma.be
GS004: C.Rizos, e-mail: c.rizos@unsw.edu.au
GS005: M.Rothacher e-mail: rothacher@gfz-potsdam.de

The deadline for submitting the manuscript is **September 1, 2007**. The page-limit is 8 pages.

An order form for ordering the proceedings at a discount price can be found at
<http://www.gfy.ku.dk/~iag/orderform.pdf>
<http://www.gfy.ku.dk/~iag/orderform.doc> (MS Word)

C.C.TSCHERNING
Secretary General

GNSS Base Station Installation and Data Processing Training Course

Regional Centre for Mapping of Resources for Development (RCMRD), Nairobi, Kenya, 30 July - 10 August 2007

GNSS/GPS data users have greatly increased in the last few years. However in Africa there is lack of GNSS base stations that could enhance the application and use of GNSS data. Furthermore in Africa, there is no uniform geodetic reference system making maps not compatible and sharing of map information difficult. To overcome these difficulties the AFREF project was initiated by the United Nations for Economic Commission for Africa (UNECA) in 2005.

When fully implemented, AFREF will consist of a network of continuous, permanent GNSS/GPS stations such that a user anywhere in Africa would have free access to the generated data.

The purpose of the course is to provide technical skills in base station installation, data handling and dissemination and precise analysis using scientific GNSS processing software. The qualifying participants shall be Land surveyors, Geodesist, Engineers, Cartographers from African countries with experience in Global Navigation satellite System (GNSS) technologies. Tuition is free but participants have to meet their traveling and accommodation costs.

Course contents

- Introduction to GNSS and IGS data and products
- Reference systems and frames
- Requirements of Continuously Operating Reference GNSS Stations (CORS)
- Operation of AFREF project
- Theory of GPS data processing
- Training with Scientific software processing

Application deadline: Applications should reach RCMRD at contacts given below latest by **16 July 2007**

Contact: Dr. H.O. Farah/Mr. C.M.Kamamia
Regional Centre for Mapping of Resources for Development
P. O Box 632-00618 Nairobi Kenya
Tel.+254-20-8560227/0265/1775, Fax. +254-20-8561673/3767
Email: farah@rcmrd.org / muyack@rcmrd.org ; Web: www.rcmrd.org

Symposium on Terrestrial Gravimetry: Static and Mobile Measurements

St. Petersburg, Russia, 20 - 22 August 2007.

The meeting is being organized by Leonid Vitushkin, Chair of the Study Group 2.1 (Comparison of Absolute Gravimeters) of Commission 2. The symposium is officially sponsored by the IAG, co-sponsored by the Institute of Earth Physics of the Russian Academy of Sciences, Moscow; and the BIPM.

The topics of the conference will include the design and investigations of the measuring instruments for the absolute and relative measurement of the gravity field, their applications for terrestrial, shipboard and airborne platforms, and in the metrology of gravimetry. Traditional free-fall, superconducting, and spring-type gravimeters, gradiometers, and new technologies, such as based on atom interferometry, will be especially welcome, as will results and methodologies of static and mobile campaigns, as well as current and future networks. Geophysical interpretation of results and connection with space-borne systems are of limited interest, since the emphasis is on terrestrial (including airborne) instrumentation and methods to extract gravity field measurements for a variety of applications.

More details about the symposium will soon be available on the website of the meeting. Contact person of the Local Organising Committee is Mrs. Margarita Grishina (mgrishina@eprib.ru).

CHRISTOPHER JEKELI AND
LEONID VITUSHKIN

First International Summer School on Global Satellite Navigation Systems: A Worldwide Utility

2-9 September 2007, Berchtesgaden, Germany

This summer school will provide key information, fresh ideas, practical advice such as:

Satellite Navigation:

- History of GPS
- Basics of Satellite Navigation
- GNSS Under Development and Modernization
- Constellations and Orbit Determination
- Clocks in Satellite Navigation
- Frequencies, Signals and Signal Processing
- GNSS Receiver Technology
- Positioning & Navigation Algorithms and Processing
- GNSS Indoor Positioning
- GNSS/INS Sensor Fusion
- Perspectives of the Future

Business and System Engineering

- Introduction to Project Management
- Managing and Funding International Projects
- Seminar and Student Project Work/Competition

Applications of Satellite Navigation

- Aviation
- Marine
- Land
- Surveying

Registration is possible on <http://www.munich-satellite-navigation-summer-school.org>.

ILRS Workshop "Challenges for Laser Ranging in the 21st Century"

25-27 September 2007, Grasse, France.

The International Laser Ranging Service (ILRS) will conduct a workshop September 25-27 in Grasse France. The theme of the workshop is "Challenges for Laser Ranging in the 21st Century" and will cover topics such as:

- Upcoming scientific challenges for SLR
- Future developments and collaborations in station, operations, and analysis
- SLR technological challenges
- Projects, missions, and stations – tomorrow and the next decade

The workshop will be preceded with a meeting of the ILRS Analysis Working Group and will close with the ILRS General Assembly. More information about the workshop and the ILRS can be found at:

http://www.obs-azur.fr/gemini/ecoles_colloq/colloques/ilrs2007/index.php?lng=en
<http://ilrs.gsfc.nasa.gov>

The workshop is sponsored by the ILRS, Observatoire de la Cote d'Azur, CNES and Groupe de Recherche en Géodésie Spatiale (GRGS), Ville de Grasse and Poleazur Provence, CNRS and GEMINI/UMR. The local organizers look forward to welcoming attendees to southern France for the workshop as well as a tour of the Calern Observatory, home to the Grasse laser ranging systems.

CAREY NOLL
Secretary, ILRS Central Bureau.

“Scientific and Fundamental Aspects of the Galileo Programme”

2-4 October 2007, Toulouse, France.

An international colloquium on fundamental aspects and scientific applications of Galileo and GNSS will be held in Toulouse in October 2007. ANAE (Académie Nationale de l’Air et de l’Espace), Bureau des Longitudes, Académie de Marine and ESA (European Space Agency), are the main instigators of this colloquium meant to contribute to the 50th anniversary celebrations of the launch of Sputnik.

The colloquium will address three major issues:

- The fundamental aspects of navigation by satellites and Galileo: geodetic and temporal reference frames, relativistic frame, on board and ground clocks, orbits, radiative environment in orbit, intersatellite links, fundamental aspects of propagation, tropospheric and ionospheric corrections, calibration and validation, relations with international organisations (BIPM, IGS).
- Scientific applications in meteorology, geodesy, geophysics, space physics, oceanography, land surface and ecosystem studies, using either normal or reflected signals, differential measurements, phase measurements, occultations, in real or delayed modes, using receivers placed on the ground, in airplanes or in scientific 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.

This colloquium intends to bring together leading members of the European scientific community and their international partners. One of its aims is to propose to Galileo partners means of enhancing the scientific use of Galileo and to contribute to GNSS development based on scientific approaches.

Contact Points:

Organisation Committee: Martine.Segur@anae.fr
Scientific Committee: Clovis.de.Matos@esa.int

SOURCE: [HTTP://WWW.CONGREX.NL/07A06/](http://www.congrex.nl/07A06/)

***37th Scientific Assembly of the Committee on Space Research and Associated Events – COSPAR
2008
50th Anniversary Assembly***

13 - 20 July 2008, Montreal, Canada.

Contact:

COSPAR Secretariat, c/o CNES, 2 place Maurice Quentin, 75039 Paris Cedex 01, France. Tel: +33 1 44 76 75 10, Fax: +33 1 44 76 74 37. E-mail: cospar@cosparhq.cnes.fr
<http://www.cospar2008.org/> or <http://www.cospar-assembly.org>

Scientific Program Chair:

Prof. Jean-Pierre St.-Maurice, University of Saskatchewan, Saskatoon, Canada

Abstract Deadline:

Mid-February 2008

Topics:

Approximately 85 meetings covering the fields of COSPAR Scientific Commissions (SC) and Panels:

- SC A: The Earth's Surface, Meteorology and Climate
- SC B: The Earth-Moon System, Planets, and Small Bodies of the Solar System
- SC C: The Upper Atmospheres of the Earth and Planets Including Reference Atmospheres
- SC D: Space Plasmas in the Solar System, Including Planetary Magnetospheres
- SC E: Research in Astrophysics from Space
- SC F: Life Sciences as Related to Space
- SC G: Materials Sciences in Space
- SC H: Fundamental Physics in Space
- Panel on Satellite Dynamics (PSD)
- Panel on Scientific Ballooning (PSB)
- Panel on Potentially Environmentally Detrimental Activities in Space (PEDAS)
- Panel on Radiation Belt Environment Modelling (PRBEM)
- Panel on Space Weather (PSW)
- Panel on Planetary Protection (PPP)
- Panel on Capacity Building (PCB)
- Panel on Education
- Special events: 50th anniversary lectures, interdisciplinary lectures, space agency round table, session on EGY - Towards an Earth and Space Science Commons

Papers Published in *Advances in Space Research*, a fully refereed journal.

A. JANOFSKY
Associate Director
COSPAR

16th International Workshop on Laser Ranging – Initial Announcement

Poznan Poland, September 22-26, 2008.

The Space Research Centre of the Polish Academy of Sciences has confirmed that the next International Workshop on Laser Ranging will be held in Poznan Poland (15 km from the Borowiec SLR station) on September 22-26, 2008. We ask you to reserve this date in your calendars and plan to attend what will surely be another exciting laser workshop.

CAREY NOLL
Crustal Dynamics Data Information System (CDDIS)

IAG Sponsored Meetings

24th General Assembly of the IUGG

2 - 13 July 2007, Perugia, Italy

The XXIV IUGG General Assembly will be held in Perugia from July 2nd to July 13th 2007. The conference events (sessions, workshops, lectures, symposia) will take place on the campus of the University of Perugia. The

poster session and special events will take place in the historical center of the city. The deadline for early bird registration is April 15, 2007. The website of the Assembly is <http://www.iugg2007perugia.it/>.

Symposium on Terrestrial Gravimetry: Static and Mobile Measurements

20 - 22 August 2007, St. Petersburg, Russia.

The topics of the conference will include the design and investigations of the measuring instruments for the absolute and relative measurement of the gravity field, their applications for terrestrial, shipboard and airborne platforms, and in the metrology of gravimetry. Traditional free-fall, superconducting, and spring-type gravimeters, gradiometers, and new technologies, such as based on atom interferometry, will be especially welcome, as will results and methodologies of static and mobile campaigns, as well as current and future networks. More details about the symposium will soon be available on the website of the meeting.

“Scientific and Fundamental Aspects of the Galileo Programme”

2-4 October 2007, Toulouse, France

An international colloquium on fundamental aspects and scientific applications of Galileo and GNSS will be held in Toulouse in October 2007. ANAE (Académie Nationale de l’Air et de l’Espace), Bureau des Longitudes, Académie de Marine and ESA (European Space Agency), are the main instigators of this colloquium meant to contribute to the 50th anniversary celebrations of the launch of Sputnik. For more information please visit <http://www.congrex.nl/07A06/>.

2007 GEO/GGOS Workshop

5-6 November 2007, ESA-ESRIN, Frascati, Italy

The GGOS Contribution to GEOSS and an Observing System for Geohazards and Disaster Prevention: a GEO Workshop organized by the Global Geodetic Observing System (GGOS). The Workshop is scheduled during the 2007 International Geohazards Week in ESRIN, Frascati (Italy) on 5-9 November 2007. The 2007 International Geohazards Week is a GEO event that contributes to the International Year of Planet Earth. The official Workshop Web Page is hosted by the European Space Agency. For registration, hotel reservation, and abstract submission, please, visit this official page <http://earth.esa.int/workshops/2007Geohazards/>. Additional information on the Workshop background and program is provided at http://cheryl.nbmg.unr.edu/ggos/ggosws_2007/.

IAG Related Meetings

WMSCI 2007

8-11 July 2007, Orlando, Florida, USA

The 11th World Multi-Conference on Systemics, Cybernetics and Informatics (WMSCI 2007) will take place in Orlando, Florida, USA, from July 8-11, 2007. WMSCI 2007 is an international forum for scientists and engineers, researchers and consultants, theoreticians and practitioners in the fields of Systemics, Cybernetics and Informatics. The topic of the conference is related to the area of Geographical Information Systems. March 1st is the new deadline for papers/abstracts submissions and Invited Sessions Proposals for WMSCI 2007. Visit the conference homepage at <http://www.iiis-cyber.org/wmsci2007> for further details.

CITSA 2007

12-15 July 2007, Orlando, Florida, USA

The 4th International Conference on Cybernetics and Information Technologies, Systems and Applications: CITSA 2007 jointly with the 5th International Conference on Computing, Communications and Control Technologies: CCCT 2007 will take place in Orlando, Florida, USA, from July 12-15, 2007. CITSA '07 is an International Multi-Conference being organized with the purpose of providing researchers, practitioners, developers, consultants, and end-users of computerized, communications and/or control systems and technologies, as well as their industrial and social applications in the private and the public sectors, an opportunity to join in a common place sharing experience and knowledge. The conference homepage is at <http://www.info-cyber.org/citsa2007>.

GNSS Base Station Installation and Data Processing Training Course

Regional Centre for Mapping of Resources for Development (RCMRD), Nairobi, Kenya, 30 July - 10 August 2007

GNSS/GPS data users have greatly increased in the last few years. The AFREF project was initiated by the United Nations for Economic Commission for Africa (UNECA) in 2005. The purpose of the course is to provide technical skills in base station installation, data handling and dissemination and precise analysis using scientific GNSS processing software. The qualifying participants shall be Land surveyors, Geodesist, Engineers, Cartographers from African countries with experience in Global Navigation satellite System (GNSS) technologies. Tuition is free but participants have to meet their traveling and accommodation costs. The RCMRD website is www.rcmrd.org.

4th AOGS Assembly

30 July - 4 August 2007, Bangkok, Thailand

Having hosted its Scientific Assemblies annually since 2004, Asia Oceania Geosciences Society (AOGS) Assembly has become an ideal forum for addressing to and interacting with geoscientists from all over Asia and Oceania as well as those from U.S. and Europe. There will also be a special GPS/VLBI/SLR Networks and Geosciences Applications session in AOGS Assembly 2007. The deadline of submitting abstract is 15 March, 2007. For details, please visit <http://www.asiaoceania.org/aogs2007/>.

First International Summer School on Global Satellite Navigation Systems: A Worldwide Utility

2-9 September 2007, Berchtesgaden, Germany

This summer school will provide key information, fresh ideas, practical advice such as Satellite Navigation, Business and System Engineering and Applications of Satellite Navigation. Registration is possible on <http://www.munich-satellite-navigation-summer-school.org>.

Baška GNSS Vulnerabilities Workshop

12-14 September 2007, Baška, Krk Island, Croatia

The international workshop Global Navigation Satellite Systems (GNSS): problems, vulnerabilities and solutions, jointly organised by the Royal Institute of Navigation Croatian Branch and the Institute of Engineering Surveying and Space Geodesy, University of Nottingham, UK, will be held in Baška, Krk Island, Croatia 12-14 September, 2007. Submission deadline for presenters is set to 1 July, 2007. For more information on the GNSS Vulnerabilities Workshop is reachable through the webpage http://www.rin.org.uk/pooled/articles/BF_EVENTART/view.asp?Q=BF_EVENTART_286566

ION GNSS 2007

24-25 September 2007, Fort Worth, Texas, USA

The 20th International Technical Meeting of the Satellite Division of the Institute of Navigation will be held at Fort Worth, Texas, USA. Abstracts should be submitted electronically via ION's Web site no later than March 7, 2007. Program information and further details are found on the webpage of the meeting <http://www.ion.org/meetings/#gnss>.

International Symposium on Strong Vrancea Earthquakes and Risk Mitigation

4-6 October 2007, Bucharest, Romania

International Symposium on Strong Vrancea Earthquakes and Risk Mitigation organized by the CRC 461 "Strong Earthquakes – A Challenge for Geosciences and Civil Engineering" (Universität Karlsruhe, Germany) and the "Romanian Group for Strong Vrancea Earth-quakes" (RGVE), Bucharest will take place between 4-6 October 2007, Bucharest, Romania. For further information and registration please visit <http://www-sfb461.physik.uni-karlsruhe.de/>.

SSTDM 07'

28 October 2007, Omaha, NE, USA

The 2007 International Workshop on Spatial and Spatio-Temporal Data Mining (SSTDM 07') will be held in cooperation with IEEE ICDM 2007 in Omaha, Nebraska, USA. The goal of the workshop is to bring together researchers, developers and practitioners in the field of spatial and spatio-temporal data mining together in order to identify current research foci, vital areas of need, and critical points of synergy. Selected papers will appear in the GeoInformatica journal as a special issue. The workshop webpage is at <http://spatial.nvc.cs.vt.edu/sstdm07>.

ACM GIS 2007

7-9 November 2007, Seattle, Washington, USA

The ACM International Symposium on Advances in Geographic Information Systems in 2007 (ACM GIS 2007) is the fifteenth 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. The conference webpage is at <http://www.cise.ufl.edu/dept/acmgis2007/>.

International Symposium “Modern Technologies, Education and Professional Practice in Geodesy and Related Fields”

9-10 November, Sofia, Bulgaria

This International Symposium with a special session for young specialists and students will take place in Sofia on November 09 - 10 November 2007. This symposium is the sixteen in its turn among the annual international symposia with exhibition, organised by USLMB so far under the auspices and with the sponsorship of the three international surveying organisations: FIG, ISPRS, ICA and also EGoS and CLGE and local and international institutions. For up-to-date information please, visit the Symposium website at: <http://geodesy.fnts-bg.org/>.

37th Scientific Assembly of the Committee on Space Research and Associated Events – COSPAR 2008

50th Anniversary Assembly

13 - 20 July 2008, Montreal, Canada.

The 50th Anniversary Assembly COSPAR 2008 will be held in Montreal, Canada. For more information about this particular event please visit the Assembly website at <http://www.cospar2008.org/>.

16th International Workshop on Laser Ranging

22-26 September 2008, Poznan, Poland

The next International Workshop on Laser Ranging will be held in Poznan Poland (15 km from the Borowiec SLR station) on September 22-26, 2008.

IGG Sister Societies' General Assemblies

XIIIth ISM Congress

September 24-28, 2007, Budapest, Hungary

The XIIIth Congress of International Society for Mine Surveying (ISM) will be held at Budapest University of Technology and Economics, Budapest, Hungary. The preliminary program is available from the ISM website: <http://www.ism.rwth-aachen.de>.

Reports



5th International Symposium on Mobile Mapping Technologies

Padova, Italy May 28-31, 2007

The 5th International Symposium on Mobile Mapping Technologies (MMT) was held in Padova from May 28 to 31, 2007. It was organized by CIRGEO – Interdepartment Research Center for Geomatics, University of Padova. Prof. Antonio Vettore, University of Padova, and Prof. Naser El-Sheimy, University of Calgary, were the meeting conveners, with the Scientific Committee chaired by Prof. Naser El-Sheimy, and co-chaired by Prof. Dorota Grejner-Brzezinska, The Ohio State University, Prof. Ron Li, The Ohio State University, Dr. Vincent Tao, Microsoft Corp., and Dr. Charles Toth, The Ohio State University.

The meeting was co-sponsored by the University of Padova, University of Calgary and The Ohio State University, the ISPRS (IC WG V/I, Integrated Mobile Mapping Systems; IC WG I/V, Autonomous Vehicle Navigation; WG I/3, Multi-Platform Sensing and Sensor Networks; WG I/2, LiDAR and IfSAR Systems; WG II/6, System Integration and Interoperability), the IAG Sub-commission 4.1, Multi-Sensor Systems, and the FIG WG5.3, Integrated Positioning, Navigation and Mapping Systems, and the following corporate sponsors: Leica Geosystems, Intermap Technologies, SIFET, AIR DATA, Applanix, and Trimble Ltd.

The opening ceremony was chaired by Dr. Naser El-Sheimy, Convenor, and included welcome speeches by representatives of the sponsoring organizations, followed by welcome speeches by representatives of the University of Padova (representative of Prof. Vincenzo Milanese - Rector of the University of Padua and Prof. Raffaele Cavalli Dean Faculty of Agriculture). The symposium also included four keynote speeches by:

- Prof. Armin Gruen, ETH, on “Mobile Mapping with UAV Technology”
- Mr. Lionel Garin, Nemerix, on “GNSS and Digital Maps, Symbiosis or Both Sides of the Same Medal?”
- Mr. Eric DesRoche, Intermap Technologies, on “Terrestrial Mapping for a Mobile World”
- Prof. Vincent Tao, Microsoft Virtual Earth, on “Opportunities and Challenges in Mobile Mapping for On-line Services and Consumer Applications: A Perspective from Microsoft Virtual Earth”

These keynote speeches linked how mobile mapping technology, user requirements and new applications drive each other, with the users as the major beneficiaries. A one day tutorial on state-of-the-art and future trends, attended by 30 persons, provided a stimulating casual environment to discuss recent development in mobile mapping. The tutorial was offered by Dr. Naser El-Sheimy - the University of Calgary Canada, Dr. Mohamed M.R. Mostafa, Applanix Corp, Canada, Dr. Charles Toth and Drs. Dorota Grejner-Brzezinska, The Ohio State University, USA.

This was the fifth MMT symposium since 1995, with the first four conferences held in Columbus, at The Ohio State University (1995), in Bangkok, Thailand (1999), Cairo, Egypt (2001), and Kunming, China (2004). The symposium provided a stimulating environment to promote scientific presentations, interactive discussions, and information exchange. It brought together about 180 participants from 23 countries, who are specialists, engineers, users and those interested in mobile mapping technology, real-time positioning, sensor integration and calibration, feature extraction and 3-D data acquisition. 88 oral presentations in 18 sessions and 33 posters in one poster session reported most recent R&D and application achievements of mobile mapping. The proceedings of the symposium, edited by Dr. Naser El-Sheimy, have been produced on a CD which can be ordered from the University of Padova (E-mail Prof. Antonio Vettore: antonio.vettore@unipd.it).

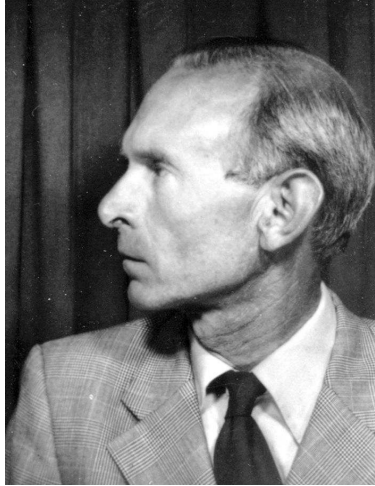
The symposium program was structured in such a way that features common to all Mobile Mapping Systems (MMS) were treated first before specific application; new applications, and trends in MMS were also considered. Common features included the mathematical framework of direct georeferencing for land and airborne imaging sensors, integrated navigation systems, object extraction and recognition, and estimation techniques common to all MMS. Only after these common features had been treated, specific sessions were dedicated to cover the full spectrum of Mobile Mapping Technology.

The 6th International Symposium on Mobile Mapping Technology will be held at the São Paulo State University, Brazil in July 2009. Prof. João Fernando C. da Silva (São Paulo State University) was appointed chair of the Organizing Committee, and Prof. Dorota Grejner-Brzezinska, The Ohio State University, was appointed chair of the Scientific Committee.

NASER EL-SHEIMY, Convenor and Chair of Scientific Committee
ANTONIO VETTORE, Convenor
DOROTA GREJNER-BRZEZINSKA, co-chair, Scientific Committee

Obituary

Bernard Russel Bowring (1925 – 2006)



Bernard Bowring died on the 22nd October aged 80. His name will be familiar to geodesists, mainly for his various publications dealing with the mathematics of the ellipsoid, and especially for the collaborative work with T. Vincenty, which was published as a NOAA technical memorandum of immense value. Bowring won a scholarship to Trinity College, Cambridge University, enabling him to gain his BA in Mechanical Sciences in 1946. He served with the RAF in India from 1946–1948 and was later to study for and gain a BSc in Mathematics from the University of London in 1954. That mathematics was the love of his life was demonstrated by the award of a Doctorate from Cambridge University in 1996. From 1949 until his early retirement in 1977-8 he was employed in the computing section of the Directorate of Colonial (later Overseas) Surveys, under the guidance of H. H. Brazier and H. F. Rainsford. In those days, when computations were executed by hand or by electric calculators, Bowring's efforts were directed to solving large sets of linear equations. Typical was the "adjustment" of the Northern Rhodesian triangulation, which occupied him for over six weeks: a task which would be accomplished in minutes today. Bowring published over twenty theoretical papers many of which are seminal. In a paper in *Survey Review* (Vol 33. No 261 July 1966), B K Meade referred to his long correspondence with Bowring and concluded that the latter's "Geodesic Inverse Solution is superior to other methods".

An exceedingly private man, Bernard shunned society, enjoying a solitary life with his interests in cycling, inventing and above all mathematics. He did not possess a phone, a car or a computer. Many may have assumed he lived an unexciting life as he returned on his bicycle to his one bed-roomed apartment. But from that home he was communicating with Universities around the world and busy developing his theories.

At the time of his death he was grappling with Fermat's last theorem.

Acknowledgement: This obituary is based on one which appeared in *Survey Review* in April 2007 compiled by Arthur Allan. The photo was supplied by Bowring's nephew Mr Terence Allen.

ALAN DODSON