



Contents

General Announcements.....	2
REVISED ABSTRACT SUBMISSION DATES for IUGG 2011, Melbourne Australia.....	2
Vacant position at Astronomical Institute, Faculty of Science, University of Bern	2
2 nd GIA Modeling Training School, Gävle, Sweden, 13-17th June 2011	2
Meeting Announcements	3
2011 IAG General Assembly.....	3
IAG Sponsored Meetings	4
17 th International Workshop on Laser Ranging and 23 rd General Assembly of the International Laser Ranging Service	4
EUREF 2011 Symposium	4
XXV IUGG General Assembly	4
2011 IAG General Assembly	4
IAG Related Meetings	4
Cryosat Validation Workshop.....	4
GEOProcessing 2011	4
SARAL/AltiKa Science Workshop	5
ESA 4 th GOCE User Workshop	5
EGU General Assembly 2011.....	5
JURSE 2011 - Joint Urban Remote Sensing Event (URBAN 2011 + URS 2011)	5
1 st International Workshop on The Quality of Geodetic Observation and Monitoring Systems	5
Third Conference on Earth Observation for Global Changes (EOGC2011).....	5
1 st International Workshop on The Quality of Geodetic Observation and Monitoring Systems	5
SPACOMM 2011.....	5
Geoinformation for Disaster Management (Gi4DM).....	5
7 th International Symposium on Mobile Mapping Technology.....	5
TransNav 2011	5
SGEM 2011	6
ISPRS - PIA11 Photogrammetric Images Analysis.....	6
Reports.....	6
15 th General Assembly of WEGENER	6
2010 International Conference on Indoor Positioning and Indoor Navigation (IPIN).....	7

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

REVISED ABSTRACT SUBMISSION DATES for IUGG 2011, Melbourne Australia

IUGG General Assembly 28 June - 07 July 2011

- **Deadline for submission of abstracts: February 1, 2011**
- **Deadline for grant applications** (including abstracts): **January 17, 2011**
(see <http://www.iugg2011.com/program.asp>)

HERMANN DREWES
IAG Secretary General

Vacant position at Astronomical Institute, Faculty of Science, University of Bern

Applications are invited for a full professorship in Fundamental Astronomy/Space Geodesy including the Directorate of the Astronomical Institute,

opening August, 1, 2011, at the Astronomical Institute, University of Bern, Switzerland (<http://www.aiub.unibe.ch>). Candidates should have a strong research record in fundamental astronomy, e.g., **space geodesy** and **astrodynamics** in the broadest sense. Current research activities of the institute include space geodesy using GNSS and satellite laser ranging, gravity field determination and optical surveys for natural and artificial bodies in the solar system. Future research might be extended towards the study of the orbital and rotational motion of planets including their natural and artificial satellites, and to other planetary system bodies such as asteroids, and comets. The institute develops and operates the Zimmerwald Observatory. The successful candidate is expected to direct the institute's research activities, to attract external funding, and to actively participate in the teaching and supervision of Bachelor and Master students, as well as Ph.D. students.

The University of Bern particularly encourages women to apply for this position.

Applications including a curriculum vitae, a publication list, copies of the five most important publications, a brief outline of past and future research, and a list of external funds raised, should be sent either as a hard copy to Prof. S. Decurtins, Dean of the Faculty of Science, University of Bern, Sidlerstrasse 5. CH-3012 Bern, Switzerland, or as a single PDF-file via e-mail to: dekan@natdek.unibe.ch, by **31 January 2011**.

2nd GIA Modeling Training School, Gävle, Sweden, 13-17th June 2011

The main objective of this Training School is to give early-stage researchers whose principal area of expertise is not in GIA modeling an intensive training on numerical GIA modeling. The training will not be limited to the solid-earth deformation process of GIA only, but will also involve glaciological modeling of the disappearing Late-Pleistocene ice sheets on the one hand and GIA-induced sea-level change on the other hand. The School is sponsored by COST Action ES0701 and further information may be found at <http://tinyurl.com/2f6k2xu>. Application deadline is **March 1, 2011**.

MATT KING
School of Civil Engineering and Geosciences
Newcastle University

Meeting Announcements



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

- Registrations opened 16th August, 2010
- Early Bird Registration Deadline 11 April 2011
- Standard Registration Deadline 24 June 2011
- **Deadline for submission of abstracts: February 1, 2011**
- **Deadline for grant applications** (including abstracts): **January 17, 2011**
(see <http://www.iugg2011.com/program.asp>)
- Conference website now open: <http://www.iugg2011.com>
- Scientific program of symposia, workshops, fieldtrips, symposia convenors, plenary and keynote speakers already available on website

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

IAG ONLY SYMPOSIA (see website www.iugg2011.com under Scientific Program for symposia descriptions, convenors names and Keynote Speakers)

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

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

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

The theme for **the** IUGG2011 conference at large is “*Earth on the Edge: Science for a Sustainable Planet*”. IUGG2011 will be the largest multi-disciplinary geophysical meeting to be held in Australia, and in excess of 3,000 delegates are expected to attend. In addition to the IAG specific program outlined above, the

scientific program will address many of the environmental, sustainability and hazard issues facing the Earth, including climate change, extreme weather events, melting glaciers and ice-caps, rising sea-levels, water in arid countries, earthquake hazards and tsunamis, and volcanic hazards, processes and natural resources. It should thus be a fantastically stimulating conference.

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

The call for on-line abstract submission has also now opened, with the deadline for abstract submission being **February 1, 2011**. The deadline for grant applications (including abstracts) is **January 17, 2011**.

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

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

IAG Sponsored Meetings

17th International Workshop on Laser Ranging and 23rd General Assembly of the International Laser Ranging Service

May 15-20, 2011, Bad Kötzing, Germany

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

EUREF 2011 Symposium

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

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

XXV IUGG General Assembly

June 27 – July 8, 2011, Melbourne, Australia

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

2011 IAG General Assembly

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

Melbourne Convention and Exhibition Centre, Australia

June 28 – July 7, 2011

The next IAG General Assembly will be held as part of the major IUGG2011 international conference at the new Melbourne Convention and Exhibition Centre from 28th June to 7th July, 2011. IUGG (or the International Union for Geodesy and Geophysics) is a collaborative grouping of eight scientific learned societies or associations. The conference website is now open at <http://www.iugg2011.com>. On-line registration for the conference opened on the website on 16th August.

IAG Related Meetings

Cryosat Validation Workshop

February 1-3, 2011, Frascati, Italy

URL: <http://www.cryosat2011.org/>

GEOProcessing 2011

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

The Third International Conference on Advanced Geographic Information Systems, Applications, and Services. The abstract submission deadline has been extended to October 15, 2010

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

SARAL/AltiKa Science Workshop

March 15-17, 2011, Ahmedabab, India

Contact: [Franck Mercier](mailto:franck.mercier@esa.esa.int)

ESA 4th GOCE User Workshop

March 31- April 1, 2011, TUM Munich, Germany

The European Space Agency (ESA) is organising the 4th in a series of International GOCE User Workshops from 31 March to 1 April 2011 at the Technische Universität München (TUM), Germany. It is intended to provide potential users of GOCE data products with the opportunity to obtain the latest information on satellite performance as well as details regarding ground segment operations, data products and user services. It will allow users to learn about product content and quality and the outcome of the data calibration and validation. This Workshop is seeking the presentation of new results based on GOCE data in all application areas. Two months prior to the Workshop, the European Space Agency will release the second generation gravity field solutions based on GOCE data.

URL: <http://www.goce2011.org/>

EGU General Assembly 2011

April 3-8, 2011, Vienna, Austria

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

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

April 11-13, 2011, Munich, Germany

Contact: jurse2011@bv.tum.de

1st International Workshop on The Quality of Geodetic Observation and Monitoring Systems

April 13-15, 2011, Garching/Munich, Germany

URL: <http://www.gih.uni-hannover.de/qugoms2011>

Third Conference on Earth Observation for Global Changes (EOGC2011)

April 13-15, 2011, Munich, Germany

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

1st International Workshop on The Quality of Geodetic Observation and Monitoring Systems

April 13-15, 2011, Garching/Munich, Germany

URL: <http://www.gih.uni-hannover.de/qugoms2011/>

SPACOMM 2011

April 17-22, 2011, Budapest, Hungary

The Third International Conference on Advances in Satellite and Space Communications

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

Geoinformation for Disaster Management (Gi4DM)

May 3-8, 2011, Antalya, Turkey

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

7th International Symposium on Mobile Mapping Technology

June 13-16, 2011, Krakow, Poland

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

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

TransNav 2011

June 15-17, 2011, Gdynia, Poland

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

SGEM 2011

June 19-25, 2011, Albena, Bulgaria

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

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

ISPRS - PIA11 Photogrammetric Images Analysis

October 5-7, 2011, Munich, Germany

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

Reports

15th General Assembly of WEGENER

14-17 September 2010

Bogazici University, Istanbul / TURKEY

WEGENER is the acronym for **Working Group of European Geoscientists for the Establishment of Networks for Earth-science Research**. It was founded in March 1981 in response to an appeal delivered at the Journées Luxembourgeoises de Geodynamique in December 1980 to respond with a coordinated European proposal to a NASA Announcement of Opportunity inviting participation in the Crustal Dynamics and Earthquake Research Program. WEGENER was organized as voluntary coordinating body with membership open to any organization actively engaged in research aiming to achieve a better understanding of kinematics, crustal dynamics and of processes leading to earthquakes in Europe and the Mediterranean area. With this 15th general Assembly, we celebrate the 30th anniversary of the project.

We want to thank all for following our invitation to the 15th General Assembly of WEGENER which took place in Bogazici University, Istanbul from the 14th to the 17th September 2010. We would also like to thank our sponsors for their support.

We believe that we have achieved the objectives of the meeting. With around 90 participants from 15 countries, WEGENER 2010 provided a platform for presentation, discussion, coordination and scientific support for geoscientists interested in unraveling the kinematics and mechanisms of the broad Eurasian/African/Arabian collision zone. We hope that WEGENER 2010 has given you the opportunity to meet new people and develop your projects and research further.

A selection of papers will be published in a special issue of a reputable international journal. Details for paper submission to this special issue will be announced soon.



You can find all details (including photos, pdf presentations) on WEGENER 2010 meeting at our conference website <http://www.koeri.boun.edu.tr/jeodezi/wegener2010/>.

WEGENER 2010 LOCAL ORGANIZING COMMITTEE

2010 International Conference on Indoor Positioning and Indoor Navigation (IPIN) September 15-17, 2010, ETH Zurich, Switzerland

First Conference on Indoor Positioning took place at ETH Zurich, Switzerland

From September 15-17, 2010 the „2010 International Conference on Indoor Positioning and Indoor Navigation (IPIN)” took place at the Swiss Institute of Technology Zurich Science City (ETH). The conference directors Prof. Hilmar Ingensand and Dr. Rainer Mautz from the research group “Geodetic Metrology and Engineering Geodesy” had called for a worldwide know-how transfer in Indoor Positioning to the research community active in this field.

445 researchers, system providers and users from 47 countries answered their call, three times more than had been originally hoped for. 220 presentations were made – ten times more than expected. As a result, up to 6 sessions had to run in parallel with the implication that participants could attend a maximum of 18% of all scheduled presentations. The presentations were organized in 24 technical sessions – each offering an unprecedented focus on a particular technology for indoor positioning. The high number of technical sessions reflected the large diversity of different technologies that can be used to obtain positioning or location information indoors. It was reported that almost any signal/sensor technique can be exploited successfully for this purpose, such as optical, ultrasound, magnetic, ultra-wideband, radio, radar, high sensitive GNSS, RFID and fluorescent light sensors. The accuracy of the systems ranged from high precision instruments used in industrial metrology, such as laser trackers and iGPS, up to room-level indoor navigation based on received signal strengths. A particular group of systems offered pedestrian navigation built on hybrid sensor techniques, such as the integration of inertial navigation and GNSS. One special session was dedicated to foot-mounted navigation, where the short moment of zero-velocity in a step can be exploited.

Due to the diversity of different technological solutions, the field of indoor positioning and navigation is profoundly interdisciplinary. Therefore, the purpose of IPIN was to bring together the experts worldwide in geodesy, informatics, electronics and robotics in order to jointly tackle the challenge of indoor positioning. For the first time, the barrier between the disciplines was breached and researchers and developers with different backgrounds were able to discuss the indoor positioning issue “under one roof”. Many researches admitted that they had not been aware that so many other teams were currently working on the same (or similar) approach until IPIN brought them together.

The geodesists should more intensively apply their expertise in order to, literally, find a position in this emerging research field. However, at IPIN, geodesists were only attracted by high-accuracy sessions such as „Optical Systems“, „Indoor GNSS, Pseudolites“ and their core expertise „Industrial Metrology & Geodetic

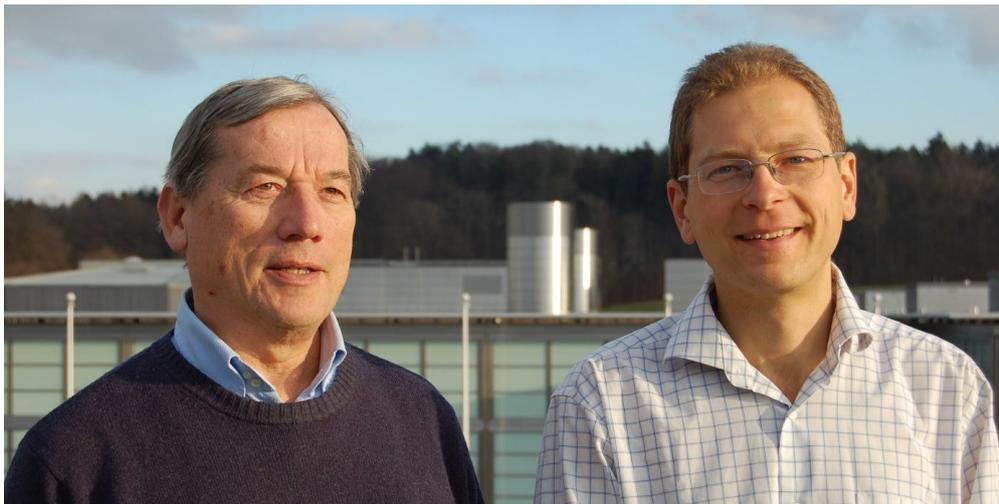
Systems“. But also the other, less precise methods for localization offer opportunities for geodesy to widen the field of activity by bringing in know-how in adjustment theory, sensor technology and calibration.

As a distinctive feature of IPIN, the organizers had encouraged the attendees to bring along their indoor positioning systems and test their system performance in live demonstrations. In parallel to the oral presentations, 22 different systems were shown in five dedicated demonstration rooms, offering the participants the chance to experience the latest systems in person, see pictures 2-5. The diversity of the systems was enormous, ranging from students' experimental platforms up to mature solutions offered by companies intended to serve the indoor positioning market.

What is the market for indoor positioning and indoor navigation? The potential to locate objects and people indoors is a substantial challenge, and is the major bottleneck preventing seamless positioning in all environments. Many indoor positioning applications are waiting for a satisfactory technical solution; including for industrial automation and robotics, asset tracking and logistics, pedestrian navigation in hospitals, homes for the frail and disabled, and emergency response, in museums, etc., to support ambient assisted living, sensor networks, location based systems/services and many more. Indoor positioning can contribute to our common goal to improve quality of life in urban environments. However, the size of the future market for indoor positioning and navigation is difficult to predict, but is probably enormous.

IPIN has demonstrated that there is no one ideal solution to the indoor positioning problem yet that is reliable, accurate, easily installed and economical. Currently standard navigation systems stop working when the devices enter a building.

The organizers are confident that IPIN has fulfilled its goal by establishing a forum for know-how exchange, thereby boosting research activities that take advantage of synergies between different indoor positioning approaches. Many of the presented papers are undergoing a review for IEEE publication. In order to further deepen the interdisciplinary collaboration, the scientific committee has chosen to continue IPIN. The second IPIN will take place 21-23 September 2011, in Guimarães, Portugal.



Conference Directors Prof. Dr. Hilmar Ingensand and Dr. Rainer Mautz



Dr. Rudolf Zetik (TU Ilmenau) winner of the demonstration competition, showing his "UWB



Vision Based Micro-Helicopters of the Computer Vision Group Marc Pollefeys (ETH Zürich)

passive localization system"



Thomas Pany (IFEN GmbH) navigating with a development platform for ultra-tight GNSS/INS integration.



Prof. Hideo Makino (Niigata University, Japan) demonstrating the performance of "Indoor robot control using fluorescent light communication".

CHRIS RIZOS