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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

DORIS Special Issue in JASR

Following a first DORIS Special Issue in the Journal of Geodesy (2006), we are now seeking for manuscripts for a second DORIS Special Issue in Advances in Space Research (JASR, Elsevier, ISI Web of Science).

Contributions should address scientific applications of the DORIS system (new satellite missions, terrestrial reference frame, earth rotation, geodynamics, ionosphere, troposphere,...). Use of multiple geodetic techniques (GPS/GLONASS, SLR VLBI) or other sources of data (gravimetry, remote sensing,...) are very welcome. Manuscripts will be peer-reviewed according to the Journal's regular rules.

Manuscripts need to be sent online at the Journal Web site (<http://ees.elsevier.com/asr/>) from February to May 2009, to aim for a publication in late 2009 or early 2010. Additional information can be obtained from recent DORIS Mails (<http://listes.cls.fr/sympa/arc/dorismail/2008-10/msg00001.html>). Potential authors are encouraged to contact the Guest Editor before submission: Pascal Willis (willis@ipgp.jussieu.fr).

PASCAL WILLIS

EGU is seeking to appoint an Executive Secretary

The European Geosciences Union (EGU) is seeking to appoint an Executive Secretary. Applicants should have post-graduate qualifications, preferably in geosciences, and experiences in science-administration, management and international collaboration.

The Executive Secretary will

- Be responsible for operating the union office with support staff,
- Coordinate and organize the key functions and financial affairs of the Union,
- Manage outside contracts, and
- Take part in the strategic development of the Union.

The location of the EGU Office will be determined in dialogue with the successful applicant, and the starting salary will be approximately equivalent to the salary of an Associate Professor in the relevant country. Applications in a single pdf-file should be submitted before **31 January 2009** by email, marked EGU Executive Secretary, to Professor Hans Thybo, EGU General Secretary, at email addresses: thybo@geo.ku.dk and job@geo.ku.dk. More details can be found from the webpage <http://www.egu.eu/news/news/article/10/egu-is-seeki.html>.

ARNE K. RICHTER
EGU Executive Secretary

Open positions at TU Wien

For the project GGOS Atmosphere three positions for Ph.D. students funded by the Austrian Science Fund (FWF) will be filled for three years at the Vienna University of Technology. The positions could also be filled with PostDocs, but then the duration will be two years. (More information about the salaries can be found at <http://www.fwf.ac.at>)

The overall goal of project GGOS Atmosphere is to determine consistent and homogenous models for atmospheric loading corrections, atmospheric angular momentum functions, and gravity field coefficients for the atmosphere based on a common data stream from the European Centre for Medium-Range Weather Forecasts (ECMWF), and the validation with results from space geodetic techniques (e.g. VLBI or GNSS).

The following positions are open:

- 1) One graduate from geodesy (or a related discipline) for modelling atmospheric loading corrections;
- 2) One graduate from geodesy (or a related discipline) for modelling gravity field corrections and atmospheric angular momentum time series;
- 3) One graduate from meteorology for the data flow from the ECMWF and collaboration with the scientists mentioned above;

Applicants should send a CV and a letter of application, describing their research experience and interests, to Dr. Johannes Böhm until **December 15, 2008**. Copies by email are welcome.

Dr. Johannes Böhm
Project leader
Institute of Geodesy and Geophysics
Gusshausstrasse 27-29, E 128/1
1040 Vienna, Austria
johannes.boehm@tuwien.ac.at

Prof. Dr. Harald Schuh
Head of the Institute
Institute of Geodesy and Geophysics
Gusshausstrasse 27-29, E 128/1
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Meeting Announcements

EOGC2009

*2nd International Conference on Earth Observation for Global Changes
25–29 May 2009, Chengdu, China*

EOGC2009 Topics:

- International Earth Observation Efforts on Global Change Studies
- Remote Sensing of Land Use and Land Cover Change (LULCC)
- Remote Sensing of Coastal and Marine Ecosystems
- Remote Sensing of Snow and Ice
- Remote Sensing of the Polar Environment
- Monitoring Eco-Environmental Changes in the Qinghai-Tibetan Plateau
- Observing Global Change by Geodetic Techniques
- Environmental Monitoring by the Global Geodetic Observing System (GGOS)
- Earth Observation for Natural Hazards Monitoring and Assessment
- Geospatial Data Processing and Integration for Change Detection

2nd Announcement and Call for Papers is available from <http://www.eogc2009.com.cn/>.

Important Dates

- Abstract submission: December 1, 2008
- Full paper submission: January 15, 2009
- Registration: April 1, 2009
- Pre-Conference workshops: May 25, 2009

XIANFENG ZHANG
(Conference Secretariat)
Peking University

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

The first circular letter will be sent out in December, 2008. By that time, a website will have been set up with additional information (under construction).

NICO SNEEUW

Geodesy for Planet Earth

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



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

Important Dates

- Deadline for Submission of Abstracts: **January 31st, 2009**
- End of Early Registration: March 31st, 2009
- Notification of Abstract Acceptance: March, 2009
- Deadline for accommodation booking at Intercontinental Hotel (Special Rate): March 31st, 2009
- Third Circular: June, 2009
- Deadline for Submission of Full-Papers Manuscripts: September 30th, 2009

LOCAL ORGANIZING COMMITTEE

IAG Sponsored Meetings

EOGC2009

May 25-29, 2009, Chengdu, China

The Second International Conference on Earth Observation for Global Changes (EOGC2009) will take place in Chengdu, China, 25-29 May 2009. Knowledge about changes to the Earth's surface and the underlying processes that induce them has enormous impacts on how society responds to these changes. With its remarkable progress in the past decade, Earth observation technology has been playing a crucial role in studies on global changes. EOGC2009 promises to bring together a broad range of scientists, researchers, students, and practitioners worldwide in leading academic institutions and government and industrial laboratories, to enjoy a week of technical sessions, tutorials, exhibits and social activities. Please visit <http://www.eogc2009.com.cn/> for details.

VII Hotine-Marussi Symposium 2009 on Theoretical Geodesy

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

The first circular letter will be sent out in December, 2008. By that time, a website will have been set up with additional information (under construction).

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.

IAG Related Meetings

SCSS 2008

December 5-13, 2008, e-conference

The Fourth International Conference on Systems, Computing Sciences and Software Engineering SCSS 2008 provides a virtual forum for presentation and discussion of the state-of-the-art research on Systems, Computing Sciences and Software Engineering. SCSS 2008 is one of the sub-conferences in the CISSE series of international joint e-conferences. SCSS 08 provides a virtual forum for presentation and discussion of the state-of-the-art research on computers, information and systems sciences and engineering. The virtual conference will be conducted through the Internet using web-conferencing tools, made available by the conference. Authors will be presenting their PowerPoint, audio or video presentations using web-conferencing tools without the need for travel. The website of the conference is <http://www.cisse2008online.org>.

2008 AGU Fall Meeting

December 15-19, 2008, San Francisco, USA

The 2008 AGU Fall Meeting is expected to draw a crowd of over 15,000 geophysicists from around the world. The Fall Meeting provides an opportunity for researchers, teachers, students, and consultants to present and review the latest issues affecting the Earth, the planets, and their environments in space. This meeting will cover topics in all areas of Earth and space sciences. Among the Geodesy Sessions are 4 sessions on Future GNSS, Geodetic and Geophysical Applications based on GNSS signals, GNSS equipment and site monumentation as well as GNSS signal propagation errors. For further information see <http://www.agu.org/meetings/fm08/>.

Cartography and Geoinformatics for Early Warning and Emergency Management: Towards Better Solutions

January 19-22, 2009 Prague, Czech Republic

Joint Symposium of ICA Working Group on Cartography in Early Warning and Crises Management (CEWaCM) and JBGIS Geo-information for Disaster Management (Gi4DM) will tackle topics related to Early Warning and Emergency Management considering Technology (both software and hardware applicable for Early Warning and Emergency Management), User requirements for geo-information (both management and mobile users) and Information providers (data and standards). The website of the Symposium is <http://c4c.geogr.muni.cz/index.html>.

GEOWS 2009

February, 1-6, 2009, Cancun, Mexico

GEOWS 2009, The International Conference on Advanced Geographic Information Systems & Web Services will be held in Cancun, Mexico between 1-6 February 2009. Conference details and call for papers are reachable from the webpage <http://www.iaria.org/conferences2009/GEOWS09.html>.

Munich Satellite Navigation Summit 2009

March, 3-5, 2009, Munich, Germany

The Munich Satellite Navigation Summit 2009 – the seventh one, to be held March 3-5, 2009 in the famous “Residenz München”, Germany – has been established as the European and International conference with global impact featuring invited high-ranking worldwide speakers from industry, science and governments dealing with the directions of satellite navigation now and in the future. Emphasizing a future trend in satellite navigation, this year’s Summit will focus on special sessions on safety and security, in particular also on the use of the Galileo Public Regulated Service (PRS). Please visit <http://www.munich-satellite-navigation-summit.org/Summit2009/> for details.

INTED2009

March 9-11, Valencia, Spain

The annual edition of INTED2009 will be held in Valencia (SPAIN), on the 9th, 10th and 11th of March, 2009. The objective of INTED2009 is to share your experiences in the fields of Technology, Education, Development and International Collaboration. It is an International Forum for lecturers, researchers, professors, engineers, educational scientists and technologists. For more information visit www.iated.org/inted2009.

SAT Expo Europe

March 19-21, 2009, New Rome Fair, Italy

The second edition of SAT Expo Europe, the international exhibition dedicated to Space services and applications, will take place from the 19th to the 21st of March at the New Rome Fair, Italy. The Galileo System will be one of the main protagonists of SAT Expo Europe 2009 with two conferences: one dedicated to Galileo, the current state of the projects and programmes of Mediterranean cooperation, and the second one to UAV programmes, with the participation of representatives and decision-makers of the European and Foreign Space Institutions. The website of the Expo is <http://www.satexpo.it/en/>.

EGU General Assembly 2009

April 19-24, 2009, Vienna, Austria

The EGU General Assembly 2009 will bring together geoscientists from all over Europe and the rest of the world into one meeting covering all disciplines of the Earth, Planetary and Space Sciences. Especially for young scientists the EGU appeals to provide a forum to present their work and discuss their ideas with experts in all fields of geosciences. The Abstract submission deadline is 13 January 2009. Detailed information is available from the following webpage: <http://meetings.copernicus.org/egu2009/>.

FIG Working Week 2009

May 3-8, 2009, Eilat, Israel

The FIG Working Week 2009 will take place in Eilat, a resort city at the southernmost edge of Israel, on the shores of the Red Sea. The Working Week be held on 3-8 May 2009. The Working Week will gather international professionals and academia members from the fields of land surveying, land and real-estate appraisal, GIS, spatial planning, environmental awareness, and civil engineering. Please visit www.fig.net/fig2009 for details.

230th Anniversary of MIIGAik

May 25-29, 2009, Moscow, Russia

An International Conference on Geodesy, Cartography and Cadastre in the 21st century is to be held within the framework of celebrating the 230th Anniversary of Moscow State University of Geodesy and Cartography (MIIGAik) on May 25-29, 2009, Moscow, Russia. The webpage of the Conference is <http://230.miigaik.ru/>.

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.

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.

IAG Sister Societies' General Assemblies

Associations' Scientific Assemblies of the IUGG

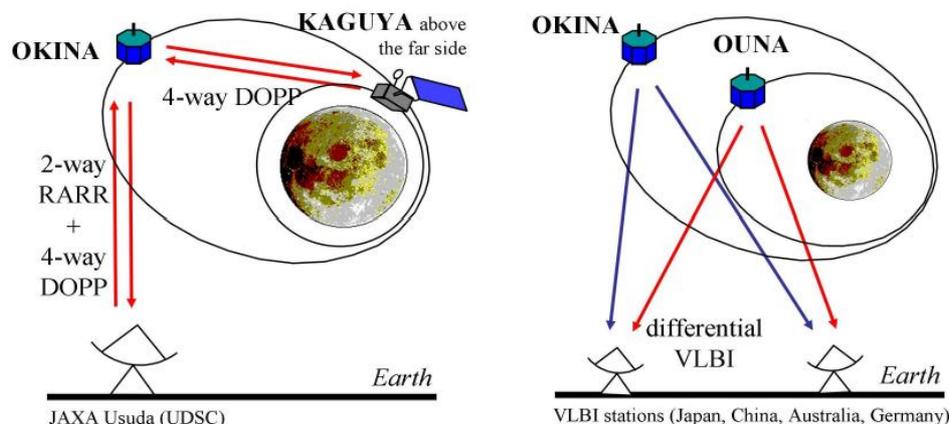
- IUGG/IAGA, August 23-30, 2009, Sopron, Hungary
- IUGG/IAHS, September 7-12, 2009, Hyderabad, India
- IUGG/IASPEI, January 10-16, 2009, Cape Town, South Africa
- IUGG/IAG, August 31-September 4, 2009, Buenos Aires, Argentina
- IUGG/IACS-IAMAS-IAPSO, July 19-29, 2009, Montreal, Canada

Reports

Lunar geodesy results from Kaguya

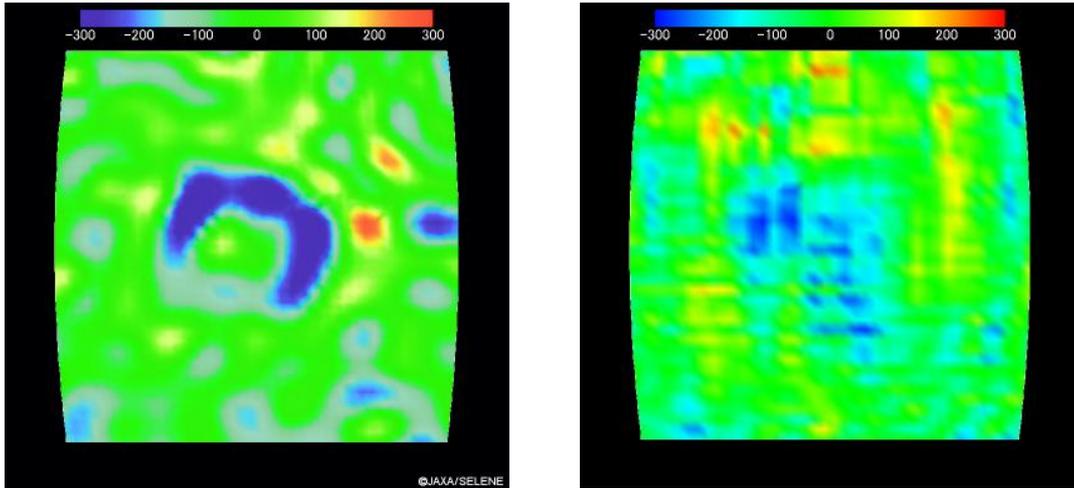
On September 14, 2007, the Kaguya satellites were launched from Tanegashima Space Center in Japan, marking Japan's first large lunar explorer. Kaguya's launch also meant the start of a new era of lunar exploration: in October 2007 the Chinese satellite Chang'E-1 was launched, followed by the Indian Chandrayaan-1 mission on October 22, 2008. NASA's Lunar Reconnaissance Orbiter (LRO) will be launched in spring 2009.

The Kaguya mission (formerly known as SELENE, standing for SELEnological and ENgineering Explorer, and nicknamed Kaguya following the launch, after the name of a princess from the Moon in a classic Japanese folktale) consists of three satellites in total, carrying 14 science instruments and a high definition camera, meant to globally map the Moon and address issues of the Moon's origin and evolution. Geodetic measurements include the global topography and gravity field of the Moon.



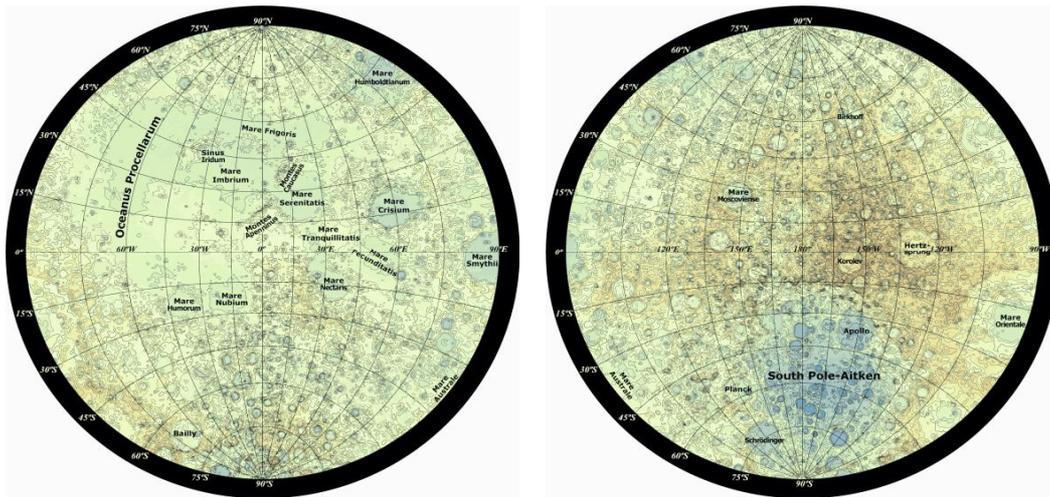
New tracking data types in the Kaguya mission, meant to improve the gravity field model of the Moon.

The three satellites are a main orbiter in a circular polar orbit at an average altitude of 100 km, a relay satellite called Rstar (nicknamed Okina) in an initially 100 km by 2400 km elliptical polar orbit, and another subsatellite called Vstar (nicknamed Ouna) in an initially 100 km by 800 km elliptical polar orbit. The global gravity field is determined through tracking data of these orbiters. The very first direct tracking data of an orbiter over the far side have been obtained through a measurement called four-way Doppler: an S-band signal is uplinked from Usuda Deep Space Center in Japan, relayed through Rstar to Main, returned and then converted to X-band and downlinked back to the station. This helps to solve a gap in tracking data existing since the very first satellites orbited the Moon. Next to this, further precise tracking is done by differential VLBI tracking between Rstar and Vstar. This constitutes a link with sensitivity in a direction perpendicular to the line-of-sight, which will improve the orbits especially over the limb regions of the Moon. The topography of the Moon is measured globally for the first time as well (Clementine did not cover the poles), using a laser altimeter onboard the main satellite.



Gravity anomalies of the Apollo crater on the far side, from Kaguya data (left) and a previous lunar gravity field model (right). Courtesy of JAXA/SELENE.

The first results of the Kaguya mission have been presented at this year's Lunar and Planetary Science Conference and subsequent meetings. First gravity results for the far side show a distinct improvement: anomalies for the Apollo basin, for example, show a clear ring structure, that wasn't apparent in previous models of the gravity field, due to a lack of tracking data. From the altimetry data, a high resolution and precision global map of the topography of the Moon has been constructed, revealing a level of detail on both near and far side not seen before. The lunar poles have also been mapped with unprecedented detail.



Global map of the topography of the Moon, with the near side on the left and far side on the right. Courtesy of NAOJ, GSI and JAXA.

Kaguya has been in orbit now for one year and data continue to be collected and analyzed. Analysis of these datasets, combined with data sets from other instruments of SELENE and from other current and upcoming lunar missions, will further improve the knowledge of our celestial neighbour. These are exciting times for the lunar sciences, and lunar geodesy in particular.

SANDER GOOSSENS
National Astronomical Observatory of Japan