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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
The International Association of Geodesy (IAG) holds its Scientific Assemblies traditionally midterm between two IUGG-IAG General Assemblies. The next one will be held middle of the General Assemblies 2015 (Prague, Czech Republic) and 2019 (Montreal, Canada) together with the International Association of Seismology and Physics of the Earth (IASPEI) in Kobe, Japan, from July 30 to August 4, 2017. There will be nine joint symposia of IAG and IASPEI, and seven IAG specific symposia. The titles are:

**Joint Symposia**
- J01 Monitoring of the cryosphere
- J02 Recent large and destructive earthquakes
- J03 Deformation of the lithosphere: Integrating seismology and geodesy through modelling
- J04 Geohazard early warning systems
- J05 Crustal dynamics: Multidisciplinary approach to seismogenesis
- J06 The spectrum of fault-zone deformation processes (from slow slip to earthquake)
- J07 Tracking the sea floor in motion
- J08 Imaging and interpreting lithospheric structures using seismic and geodetic approaches
- J09 Geodesy and seismology general contributions

**IAG Symposia**
- G01 Reference frames
- G02 Static gravity field
- G03 Time variable gravity field
- G04 Earth rotation and geodynamics
- G05 Multi-signal positioning: Theory and applications
- G06 Geodetic remote sensing
- G07 Global Geodetic Observing System (GGOS) and Earth monitoring services

Most important dates for contributions to the symposium are:
- December 7, 2016: Abstract submission and registration open;
- February 8, 2017: Deadline for abstract submission and travel support application;
- April 5, 2017: Notification of acceptance;
- May 10, 2017: Closure of early bird registration;
- July 7, 2017: Closure of pre-registration.

All interested persons are invited to submit abstracts for oral presentations or posters. For more details of the assembly please visit the Homepage [http://www.iag-iaspei-2017.jp](http://www.iag-iaspei-2017.jp).

HERMANN DREWES, IAG Secretary General
**Fielding Receives 2016 Ivan I. Mueller Award for Service and Leadership**

Eric Jameson Fielding (NASA JPL) received the 2016 Ivan I. Mueller Award for Distinguished Service and Leadership at the 2016 American Geophysical Union Fall Meeting, held 12–16 December in San Francisco, California. The award recognizes “major achievements in service and/or leadership to the geodesy community.”

https://honors.agu.org/sfg-awardees/fielding-receives-2016-ivan-i-mueller-award-for-distinguished-service-and-leadership/

**EOS**

**Officialization of the National Vertical System (new Argentinean Height System)**

On December 2, 2016, the Instituto Geográfico Nacional (IGN – National Geographic Institute) presented and officialized the new Argentinean Height System. This project, which started in 2010, was comprised of the following stages: a) determination of a new absolute gravity network; b) determination of a new first-order gravity network; c) readjustment of the second-order gravity network; d) determination of new physical heights for all of the spirit-leveling network benchmarks; and e) determination of a new gravimetric geoid model.

Regarding the new absolute gravity network (RAGA), 36 homogeneously distributed sites were measured using two Micro-g LaCoste A10 gravity meters provided by the Universidade de São Paulo (USP – University of San Pablo, Brazil) and the Institut de Recherche pour le Développement (IRD – Institute of research for the development, France). The accuracy of the computed gravities was 0.020 mGal.

Regarding the new first-order gravity network (RPO-Ar), 227 sites were measured using five relative gravimeters: three LaCoste & Romberg model G and two Scintrex CG-5. These instruments were provided by the IGN, Universidad Nacional de San Juan (UNSJ – National University of San Juan, Argentina), Universidad Nacional Rosario (UNR – National University of Rosario, Argentina), and Universidad Nacional de La Plata (UNLP – National University of La Plata, Argentina). The measurements were adjusted using the GRAVDATA (Drewes 1978) and GRADJ (Forsberg 1981) software. Additionally, the Hartmann and Wenzel (1995) tidal potential catalogue was applied. The gravity observations were constrained at the 36 absolute RAGA sites. The final adjusted gravity observations have a standard error of less than ±0.025mGal.

Regarding the second-order gravity network (RSO-Ar), it is composed of 13,871 points that are co-located with the first-order spirit-leveling network. IGN started the RSO-Ar measurements in 1948 and, therefore, different gravimeters (e.g. Western, Worden, LaCoste & Romberg and Scintrex) have been used for determining the gravities. As with RPO-Ar, gravity observations were processed and adjusted to the RAGA and RPO-Ar networks using the same specialized software and other computer programs developed at the IGN. The standard error of RSO-Ar was estimated to be ±0.10mGal.

Regarding the National spirit-leveling network (composed by 2,020 spirit-leveling lines and ~143,000 km), the new physical heights (geopotential numbers) of 33,891 benchmarks were computed using a least-squares adjustment. Then, orthometric heights (Mader 1954) were determined for each benchmark. The topographic correction was computed using the digital elevation model SRTM_v4.1 (Jarvis et al. 2008) and the method described by Bott (1959). The Argentinean geopotential value $W_0$ is 62,636,853.8 m$^2$s$^{-2}$ (Tocho et al. 2015) and, therefore, the difference with respect to the $W_0$ proposed by the International Association of Geodesy in Resolution No. 1 of 2015 is 0.4 m$^2$s$^{-2}$.

Finally, a new gravimetric geoid model named GEOIDE-Ar16 was developed using the remove-compute-restore technique. A combination of the GOCO05S satellite-only global geopotential model together with 658,111 land and marine gravity observations were used for the new model determination. Terrain corrections were calculated using a combination of the SRTM_v4.1 and SRTM30_Plus v10 DTMs for all gravity observations. For the regions that lacked gravity observations, the DTU13 world gravity model was utilised for filling-in the gravity voids. The residual gravity anomalies were gridded using the Kriging method and the resultant grid was applied in the Stokes’ integral using the spherical multiband FFT approach and the deterministic kernel modification proposed by Wong and Gore (1969).

J. RICARDO SOTO
Meeting Announcements

Meetings Calendar

**10th Coastal Altimetry Workshop**
*February 21-24, 2017, Florence, Italy*
URL: [http://www.coastalaltimetry.org/](http://www.coastalaltimetry.org/)

**Munich Satellite Navigation Summit**
*March 14-16, 2017, Munich, Germany*

**Fourth SWARM Science Meeting and Geodetic Missions Workshop**
*March 20-24, 2017, Banff, Alberta, Canada*

**North-American CryoSat Science Meeting and Geodetic Missions Workshop**
*March 20-24, 2017, Banff, Alberta, Canada*

**GEODATA 2017**
*April 3-7, 2017, Rosario - Santa Fe, Argentina*

**EGU General Assembly 2017**
*April 23-28, 2017, Vienna, Austria*

**IAU Symposium 330**
*April 24-28, 2017, Nice, France*

**Ninth IVS Technical Operations Workshop**
*April 30 – May 4, 2017, Westford, MA, USA*
URL: [https://www.iers.org/IERS/EN/NewsMeetings/ForthcomingMeetings/forthcoming.html](https://www.iers.org/IERS/EN/NewsMeetings/ForthcomingMeetings/forthcoming.html)

**ENC 2017**
*May 9-17, 2017, Lausanne, Switzerland*

**23rd Working Meeting of the European VLBI Group for Geodesy and Astrometry (EVGA)**
*May 15-19, 2017, Gothenburg, Sweden*

**EUREF 2017 Symposium**
*May 17 – 19, 2017, Wroclaw, Poland*
URL: [http://www.euref.eu/euref_symposia.html](http://www.euref.eu/euref_symposia.html)

**FIG Working Week 2017**
*May 29 – June 2, 2017, Helsinki, Finland*
URL: [http://www.fig.net/fig2017/](http://www.fig.net/fig2017/)
TransNav 2017
June 21 – 23, 2017, Gdynia, Poland
URL: http://transnav2017.am.gdynia.pl

ICC 2017
July 2 – 7, 2017, Washington, DC, USA
URL: http://icc2017.org/

IGS Workshop 2017
July 3 – 7, 2017, Paris, France

IAG/GGOS/IERS Unified Analysis Workshop (UAW)
July 10 – 12, 2017, Paris, France
URL: https://www.iers.org/IERS/EN/NewsMeetings/ForthcomingMeetings/forthcoming.html

WCRP/IoC Conference 2017: Regional Sea Level Changes and Coastal Impacts
July 10 – 14, 2017, New York, USA
URL: http://www.sealevel2017.org

IAG and IASPEI Joint Scientific Assembly
July 30 – August 4, 2017, Kobe, Japan

AOGS 14th Annual Meeting
August 6-11, 2017, Singapore, Singapore
URL: http://www.asiaoceania.org/aogs2017/

Workshop on Glacial Isostatic Adjustment and Elastic Deformation
September 5-7, 2017, Reykjavik, Iceland

COSPAR 2017
September 18-22, 2017, Jeju Island, South Korea
3rd Symposium of the Committee on Space Research (COSPAR): Small Satellites for Space Research

IAG Workshop: Satellite Geodesy for Climate Studies
September 19-21, 2017, Bonn, Germany
URL: http://www.igg.uni-bonn.de/apmg/index.php?id=ws2017

AGU 2017 Fall Meeting
December 11-15, 2017, New Orleans, LA, USA
URL: https://meetings.agu.org/

EGU General Assembly 2018
April 8-13, 2018, Vienna, Austria
URL: http://www.egu2018.eu/

AOGS 15th Annual Meeting
June 3-8, 2018, Hawaii, USA
URL: http://www.asiaoceania.org/society/public.asp?view=up_coming

10th IVS General Meeting
June 3-8, 2018, Longyearbyen, Spitsbergen, Norway
URL: http://www.iers.org/IERS/EN/NewsMeetings/ForthcomingMeetings/forthcoming.html
Obituary

Heinz Günther Henneberg (1926 – 2016)

On November 4, 2016, Prof. Dr. Heinz Günther Henneberg, The Zulia University, Maracaibo, Venezuela, passed away at the age of 90 years.

Heinz G. Henneberg was born on January 22, 1926 in Northern Germany. After losing the time of his adolescence as a young soldier in World War II, he studied Geodesy and Civil Engineering at the Universities of Technology in Braunschweig and Hannover and graduated as engineer in Geodesy (Dipl.-Ing.) in 1953. Immediately after his graduation he was entrusted with the leadership of the survey work of two large engineering projects, namely the northern Rhine Bridge in Düsseldorf, Germany, and the Maracaibo Bridge in Venezuela, at that time the longest cable-stayed bridge of the world (8678 m). The tolerance of 2 cm in position and height of the 6 pylons and 135 pillars for mounting the prefabricated concrete elements was an extreme challenge for the surveying by triangulation and trigonometric levelling (back then without electronic instruments). He completed his doctorate at Hannover University in 1962 (Dr.-Ing.) with a thesis on the scientific research of methods and realisation of these two projects.

As a consequence of his excellent work he was appointed to a
Heinz Henneberg was active in the International Association of Geodesy as Secretary of the Section I “Positioning” from 1979 to 1987, President of the Sub-commission for South America of the “Commission on Recent Crustal Movements (CRCM)” from 1983 to 1995 and Co-President of the joint Working Group “Inter-American Integration of Geodetic Networks” of IAG and the Pan American Institute of Geography and History (PAIGH), which may be seen as a forerunner of the present IAG Sub-commission on the Regional Reference Frame for South and Central America (SIRGAS). In 1993 he became member of the SIRGAS Scientific Committee. During his time as the National Correspondent of Venezuela in the IAG Council he was very engaged in the Venezuelan participation in geodetic research and organised several international symposia. He privately financed the Venezuelan IUGG membership fee in periods of national budget problems.

All geodesists engaged in geodetic research in Latin America will remember Heinz Henneberg as an extremely cooperative and reliable person with many ideas and an always optimistic perspective. Scientists cooperating with him will miss a good and self-forgetful friend. They are feeling deep sympathy for his wife and his five children.

HERMANN DREWES