



International Association  
of Geodesy

# Newsletter

## February 2017

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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](mailto: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

## General Announcements

### *IAG President's Annual Report 2016*

2016 was a very successful year for IAG. Just two highlights: Internally, I would like to mention our forthcoming in the strategic planning process; in the outer, political sphere, the establishment of the United Nations Sub-Committee on Geodesy was a real breakthrough. Both developments will help us to shape future IAG matters much more efficiently. In the following, I want to summarize these activities and report briefly on some of my undertakings as IAG president in 2016.

The IAG Executive Committee met for its third meeting in the term 2015-2019 at the GFZ German Research Centre for Geosciences in Potsdam, Germany, on April 25, 2016. As a highlight of the meeting, the IAG final structure 2015-2019 of Commissions 1 – 4, of the Inter-Commission Committee on Theory, and of GGOS was decided. On the next day, an IAG Strategic Planning Retreat was conducted at GFZ (Fig. 1). The retreat of April 26, 2016 was mainly aimed at an IAG SWOT analysis and discussion to reveal the current state of the Association. SWOT stands for *strengths, weaknesses, opportunities, and threats*, and a great number of all of them were identified during the retreat. The retreat which was chaired by IAG Past President Gerhard Beutler took place in a very open-minded and intensive atmosphere. Based on the retreat material, a guiding document was formulated that in turn is the basis for the draft strategy document to be discussed/approved at the next EC meeting in Vienna on April 28, 2017, and to be presented to the public, in particular to the IAG Council delegates, at the IAG Scientific Assembly in Kobe in July 2017. The final version of the strategy document shall be approved at the IUGG & IAG General Assembly in Montreal 2019.



Fig. 1: IAG Executive Committee Retreat, Potsdam, April 25-27, 2016 (photo: E. Gantz/GFZ).

In July, I was on a long round-trip to the People's Republic of China. First, I visited Shandong University, one of the biggest universities in China. At the university location in Weihai, I gave two talks, "IAG and its GGOS" and "Contributions of geodesy to monitoring natural hazards and global change" (Fig. 2). I then visited the First Oceanic Institute and the China University of Petroleum in Qingdao (Fig. 3) where our Chinese colleagues develop interesting geodetic projects, in particular applications of GNSS in various fields. In Wuhan, I took part in the Joint IAU/IAG/IERS Symposium on Geodesy, Astronomy and Geophysics in Earth Rotation (GAGER2016). I travelled on to Tianjin where I participated in the International Symposium on Geodesy and Geodynamics (ISGG2016), hosted jointly by the China Earthquake Administration, IAG, and the National Natural Science Foundation of China. The symposium was focused on the technical discussion and sharing the latest research of geodesy in the study of earthquakes. Here, I gave a welcome address on behalf of the IAG and a talk on "The IAG and its GGOS".



Fig. 2 (left): On the campus of Shandong University in Weihai, July 2016 (photo: H. Schuh).

Fig. 3 (right): In front of the China University of Petroleum in Qingdao, July 2016 (photo: H. Schuh).

In Beijing, I visited the Aerospace Control Center and was impressed by the current and upcoming satellite missions with relevance to geodesy. Towards the end of my China trip, after a short stop-over in Nanjing, visiting one of China's biggest developer of Beidou hardware and software, North Information Control Group Co., Ltd., I attended the IAG/CPGPS International Conference on GNSS+ (ICG+2016), held at the Shanghai Astronomical Observatory (SHAO). Here, I gave again a welcome address on behalf of the IAG. ICG+2016 was jointly sponsored by IAG and International Association of Chinese Professionals in Global Positioning Systems (CPGPS). At the conference, the recent advances, opportunities and challenges on GNSS were presented and discussed, including GNSS constellations, signals, orbit, receiver, positioning/navigation/timing theory, algorithms, models and applications in engineering and Earth science as well as using combined multi-sensors. ICG+2016 provided a platform for GNSS scientists and engineers to communicate and exchange in theory, methods, technologies, applications and future challenges. About 260 participants from over 20 countries/regions attended the ICG+2016 which was perfectly organized by Prof. Shuanggen Jin and his team from SHAO.

From China, I traveled on to New York where I attended the UN-GGIM Conference Week on behalf of IAG with several splinter meetings about the GGRF during the first week of August. At the United Nations Global Geospatial Information Management (UN-GGIM) sixth session (Fig. 4), the UN Committee of Experts on Global Geospatial Information Management endorsed the GGRF (Global Geodetic Reference Frame) Roadmap and decided to establish a permanent Sub-Committee on Geodesy. The suggestion to elevate the Working Group's mandate through the establishment of a UN-GGIM Sub-Committee on Geodesy was put forward by New Zealand and the proposal was supported by several member states. The International Association of Geodesy (IAG) welcomes and unreservedly appreciates the establishment of a United Nations Sub-Committee on Geodesy. This advancement will augment the impacts of geodesy on the political level as well as its visibility in society. IAG and its Global Geodetic Observing System (GGOS) as promoting geodetic science and coordinating the international geodetic services will strongly support the new Sub-Committee whenever necessary and wherever possible. At the UN-GGIM sixth session in New York, the member states did also endorse the Roadmap for the Global Geodetic Reference Frame as a principle based briefing document for national governments. The Roadmap aims to enhance the GGRF and make it more sustainable. The UN-GGIM Working Group on the GGRF consists today of 32 member states and two organizations: the International Association of Geodesy (IAG) and the World Health Organization (WHO).



Fig. 4: During the UN-GGIM sixth session, New York, August 2016 (photo: H. Schuh).



Fig. 5: During the ceremony for the 60th anniversary of the School for Geomatics of Wuhan University, October 2016 (photo: H. Schuh).

In October, I travelled again to China and attended the ceremony for the 60th anniversary of the School for Geomatics of Wuhan University where I gave an address of congratulation on behalf of IAG. I was impressed by the perfectly organized event with more than 2000 participants in the audience (Fig. 5).

In December, I visited the Argentine – German Geodetic Observatory (AGGO), located between Buenos Aires and La Plata in Argentina. The observatory was moved from Chile to Argentina about one year ago. AGGO belongs to the German Federal Agency for Cartography and Geodesy (BKG) and to the Comisión de Investigaciones Científicas (CICPBA, Scientific Research Commission) of Argentina. It is operated by BKG and the Argentine host under the scope of the National Scientific and Technical Research Council (CONICET). During my travel I also paid visits to the University of La Plata, the Argentine Instituto Geográfico Nacional (IGN) in Buenos Aires (Fig. 6), the Universidad Nacional de Rosario in Rosario, and the



Fig. 6: At the Instituto Geográfico Nacional, Buenos Aires, December 2016 (photo: H. Schuh).

Universidad Nacional de Cuyo in Mendoza (Fig. 7). At the end of this journey, I moved to Uruguay, visiting there the Instituto Geográfico Nacional (IGN) in Montevideo (Fig. 8), which is in charge of the geodetic reference frames in the country. During all my visits I met highly competent and very enthusiastic colleagues who are doing a great job with respect to geodetic education and research in South America.



Fig. 7: At the Universidad Nacional de Cuyo in Mendoza, Argentina, December 2016 (photo: L. Burgues).



Fig. 8: At the Instituto Geográfico Nacional, Montevideo, December 2016 (photo: H. Schuh).

Regarding the IAG Symposia Series published by Springer, we (myself, Hermann Drewes and Franz Kuglitsch) had a meeting with the Springer publishing editor responsible for the IAG Series in November where we decided the following two improvements: The Series will, firstly, be published immediately as eBook, and, secondly, change its name to "IAG Topical Collection" (in order to avoid the words "Symposium" and "Proceedings" in the sub-title that imply a lower image in ranking). The procedure is a peer review as before, but it will be published online a few days after the acceptance by the IAG Editor-in-Chief Jeff Freymueller.

In closing, I would like to thank all colleagues in the Bureau and Executive Committee of IAG for their support and collaboration in 2016, and the Secretary General and his Assistant for their unwavering commitment to the Association.

HARALD SCHUH  
IAG President

## *IAG-IASPEI Scientific Assembly, Kobe, Japan, July 30 – August 4, 2017*



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>.

HERMANN DREWES, IAG Secretary General

## **Meeting Announcements**

*Fifth International School on "Least Squares Approach to Modelling the Geoid"*  
21-25 August 2017, KTH, Stockholm

After the successful experiences in the determinations and evaluations of precise local geoid models in different countries, we will arrange the Fifth International Geoid School based on the KTH approach. (KTH is a Swedish abbreviation for Royal Institute of Technology, Stockholm, Sweden.) The school will be held at KTH from 21 to 25 August, 2017, honouring the centennial anniversary of deceased Professor Arne Bjerhammar.

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Detailed information and registration form can be downloaded from the following webpage:  
<https://www.kth.se/en/abe/inst/som/avdelningar/geo/geodesi/handelser-1.78120>

LARS E. SJÖBERG

## *Meetings Calendar*

### *Munich Satellite Navigation Summit*

March 14-16 , 2017, Munich, Germany

URL: <http://www.munich-satellite-navigation-summit.org/>

### *Fourth SWARM Science Meeting and Geodetic Missions Workshop*

March 20-24 , 2017, Banff, Alberta, Canada

URL: <http://www.swarm2017.org/>

### *North-American CryoSat Science Meeting and Geodetic Missions Workshop*

March 20-24 , 2017, Banff, Alberta, Canada

URL: <http://www.cryosat2017.org/>

### *GEODATA 2017*

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

URL: [www.geodata2017.com.ar](http://www.geodata2017.com.ar)

### *EGU General Assembly 2017*

April 23-28 , 2017, Vienna, Austria

URL: <http://www.egu2017.eu/>

### *IAU Symposium "Astrometry and Astrophysics in the Gaia Sky"*

April 24-28 , 2017, Nice, France

URL: <http://iaus330.sciencesconf.org/>

### *Ninth IVS Technical Operations Workshop*

April 30 – May 4 , 2017, Westford, MA, USA

URL: <https://www.iers.org/ IERS/EN/NewsMeetings/ForthcomingMeetings/forthcoming.html>



### ENC 2017

May 9-12, 2017, Lausanne, Switzerland

URL: <http://www.enc2017.eu/>

### 23rd Working Meeting of the European VLBI Group for Geodesy and Astrometry (EVGA)

May 15-19, 2017, Gothenburg, Sweden

URL: <https://www.chalmers.se/en/conference/EVGA2017>

### EUREF 2017 Symposium

May 17 – 19, 2017, Wroclaw, Poland

URL: [http://www.euref.eu/euref\\_symposia.html](http://www.euref.eu/euref_symposia.html)

### JpGU-AGU Joint Meeting 2017

May 20 – 25, 2017, Makuhari Messe, Chiba, Japan

URL: [http://www.jpгу.org/meeting\\_e2017/](http://www.jpгу.org/meeting_e2017/)

### FIG Working Week 2017

May 29 – June 2, 2017, Helsinki, Finland

URL: <http://www.fig.net/fig2017/>

### TransNav 2017

June 21 – 23, 2017, Gdynia, Poland

URL: <http://transnav2017.am.gdynia.pl>

### Baltic Geodetic Congress 2017

June 22 – 25, 2017, Gdańsk, Poland

URL: <http://www.bgc.geomatyka.eu/2017/>

### ICC 2017

July 2 – 7, 2017, Washington, DC, USA

URL: <http://icc2017.org/>

### IGS Workshop 2017

July 3 – 7, 2017, Paris, France

URL: <http://kb.igs.org/hc/en-us/articles/216574478-IGS-Workshop-2017>

### 1st IUGG Symposium on Planetary Science (IUGG-PS2017)

July 3 – 5, 2017, Berlin, Germany

URL: <http://www.dlr.de/iugg-ps2017>

### IAG/GGOS/IERS Unified Analysis Workshop (UAW)

July 10 – 12, 2017, Paris, France

URL: <http://ggosdays.com/en/conferences/unified-analysis-workshop/>

### 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

URL: <http://iag.dgfi.tum.de/index.php?id=291>

### AOGS 14<sup>th</sup> Annual Meeting

August 6-11, 2017, Singapore, Singapore

URL: <http://www.asiaoceania.org/aogs2017/>

Fifth International School on "Least Squares Approach to Modelling the Geoid"

21-25 August 2017, KTH, Stockholm

URL: <https://www.kth.se/en/abe/inst/som/avdelningar/geo/geodesi/handelser-1.78120>

EUGEO 2017

September 4-6, 2017, Brussels, Belgium

URL: <https://eugeo2017.sciencesconf.org/>

Workshop on Glacial Isostatic Adjustment and Elastic Deformation

September 5-7, 2017, Reykjavik, Iceland

URL: <http://www.polar.dtu.dk/english/Workshop-on-Glacial-isostatic-adjustment-and-elastic-deformation-2017>

COSPAR 2017

September 18-22, 2017, Jeju Island, South Korea

3rd Symposium of the Committee on Space Research (COSPAR): Small Satellites for Space Research

URL: <http://cospar.kasi.re.kr/cospar-symposium-2017/>

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>

Journees 2017

September 25-27, 2017, University of Alicante, Spain

URL: <http://web.ua.es/journees2017/>

ION GNSS+ 2017

September 25-29, 2017, Portland, Oregon, USA

URL: <http://www.ion.org/gnss/index.cfm>

ILRS Technical Workshop 2017

October 4-7, 2017, Riga, Latvia

URL: <https://ilrs.cddis.eosdis.nasa.gov/>

International Workshop on the inter-comparison of space and ground gravity and geometric spatial measurements

October 16-18, 2017, Strasbourg, France

URL: <http://geodesy.sciencesconf.org>

6th International Colloquium on Scientific and Fundamental Aspects of GNSS / Galileo

October 25-27, 2017, Valencia, Spain,

URL: <http://esaconferencebureau.com/2017-events/17a08>

LAPIS 2017 School

October 29 – November 4, 2017, La Plata, Argentina

URL: <http://www.maggia.unlp.edu.ar/lapis2017>

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 15<sup>th</sup> Annual Meeting

June 3-8, 2018, Hawaii, USA

URL: [http://www.asiaoceania.org/society/public.asp?view=up\\_coming](http://www.asiaoceania.org/society/public.asp?view=up_coming)

10<sup>th</sup> IVS General Meeting

June 3-8, 2018, Longyearbyen, Spitsbergen, Norway

URL: <http://www.iers.org/IERS/EN/NewsMeetings/ForthcomingMeetings/forthcoming.html>

42nd COSPAR Scientific Assembly

July 14-22, 2018, Pasadena, CA, USA

URL: <http://cospar2018.org/>

IAU XXXth General Assembly

August 20-31, 2018, Vienna, Austria

URL: <http://astronomy2018.univie.ac.at/>

21<sup>st</sup> International Workshop on Laser Ranging

October 27-31, 2018, Canberra, Australia

URL: <http://www.iers.org/IERS/EN/NewsMeetings/ForthcomingMeetings/forthcoming.html>

AGU 2018 Fall Meeting

December 10-14, 2018, Washington, D.C., USA

URL: <https://meetings.agu.org/>

EGU General Assembly 2019

April 7-12, 2019, Vienna, Austria

URL: <http://www.egu2019.eu/>

27th IUGG General Assembly

July 8 – 17, 2019, Montreal, Canada

URL: <http://www.iugg.org/assemblies/>

AOGS 16<sup>th</sup> Annual Meeting

July 28 – August 2, 2019, Singapore, Singapore

URL: [http://www.asiaoceania.org/society/public.asp?view=up\\_coming](http://www.asiaoceania.org/society/public.asp?view=up_coming)

## Obituary

## Barbara Kołaczek (1931 – 2017)



Barbara Kołaczek, age 86, passed away on 19 February 2017, after a serious illness. She was one of the outstanding researchers of her generation in geodynamics and astronomy, with the wide international reputation in the international scientific community.

Barbara Kołaczek received the degree of Master of Science in physics, specialization of astronomy at the Jagiellonian University in Krakow. She started her professional carrier as a staff member of the Chair of Geodetic Astronomy at the Warsaw University of Technology (WUT). Conducting an advanced research Barbara Kołaczek substantially contributed to the development of astrometry successfully affecting students and collaborators with her enthusiasm and dedication to research. She was one of the major developers and organizers of the Astro-Geodetic Observatory of WUT in Jozefoslaw, near Warsaw. Among other accomplishments, she was responsible for setting up and running of the astronomic latitude observation program with the zenith telescope in Jozefoslaw in the framework of the International Latitude Service. At the Warsaw University of Technology she received her PhD, while the habilitation (degree of

Doctor of Science) was given to her at her alma mater - the Jagiellonian University in Krakow.

An important step in her professional life was to join in 1977 the team of just getting established Space Research Centre (SRC) of the Polish Academy of Sciences where within a number of years she created a Polish school of research in the field of the Earth's rotation. Her scientific accomplishments were acknowledged. She of was awarded a title of a professor by the President of Poland and then a title of full professor. In SRC she was acting as a head of the Earth Rotation Department, a long-standing member of the Scientific Council and a Deputy Director for scientific affairs from 1990 to 1994.

Professor Barbara Kołaczek served many important functions in international scientific organizations, in particular the International Association of Geodesy (IAG) and the International Astronomical Union (IAU). In the period 1987-1991 she was a president of the Section II of IAG and in the period 1991-94 – a president of the Commission 19 of IAU. In 1991 she was honoured with a fellowship of the IAG .

She also actively participated in the work of numerous national organizations and scientific societies. She was, among others, an active member of the Polish Astronomical Society (since 1953), and the Warsaw Society of Sciences (since 1983). She was a member of the Committee on Geodesy of the Polish Academy of Sciences, and for almost two decades she was a chair of the Section of Geodynamics in that Committee. After her retirement, she was elected an honorary member of that Committee.

In 1974 Barbara Kołaczek organized in Torun, Poland the first colloquium devoted to the Fundamental References Systems for Geodynamics, which was a milestone in communication of research in this topic. In 1981 she organized in Warsaw the second IAU colloquium on Reference Systemes for Earth Dynamics. She established close relations with French astronomical community, and initiated long-term collaborations with other groups in the international community. On the initiative of Professor Barbara Kołaczek, the first Journees Conference outside Paris was held in Warsaw in 1995. She was the author of many recognized scientific publications.

Professor Barbara Kołaczek supervised the scientific development of numerous young researchers. Among them there are four doctors (PhD) and two doctors of science.

She was awarded the Knights of the Order of Polonia Restituta and the Medal of Merit for Geodesy and Cartography.

Professor Barbara Kołaczek was recognized as a respected scientist, involved in international scientific cooperation, always supporting interdisciplinary cooperation in research. She was an unquestionable authority, and she was a wonderful, kind and generous person, extremely popular among her collaborators, students and alumni and respected. She will be missed very much by many of her friends and collaborators. She will be remembered in the academic community as unattainable model, outstanding scientist, honourable person and a true friend.

JOLANTA NASTULA  
JAN KRYNSKI  
ALEKSANDER BRZEZINSKI