



IUGG



International Association  
of Geodesy

## **International Association of Geodesy (IAG) Annual Report 2016**

*<http://www.iag-aig.org>*

### **INTRODUCTION**

Geodesy is the discipline that deals with the measurement and time-dependent representation of the geometry and physics of the Earth, i.e. the shape of the Earth's surface and its deformation, the Earth's orientation and rotation in space, the Earth's gravity field and dynamic behaviour, and parameters of the atmosphere and hydrosphere and their variations. The mission of the IAG is the advancement of geodesy by furthering geodetic theory through research and teaching, collecting, analysing, modelling and interpreting observational data, stimulating technological development, and providing consistent, time-dependent parameters of the Earth's geometry and gravity field for global change research.

The structure of IAG includes four Commissions, the Inter-Commission Committee on Theory (ICCT), thirteen International Scientific Services, the Global Geodetic Observing System (GGOS), and the Communication and Outreach Branch (COB). The Commissions are divided into Sub-commissions, Study Groups and Working Groups. The ICCT investigates scientific geodetic problems in close cooperation with the Commissions. The Services generate scientific products by means of Operations, Data and Analysis Centres. One of the roles of GGOS is the coordination of the different IAG components, relating in particular to the maintenance of global reference frames for measuring and consistently interpreting key global change processes, and to promote its use to the scientific community, policy makers and the public. The COB provides communication, public information and outreach links, in particular via the IAG Website and the monthly Newsletters.

IAG's administration is supervised by the Council and conducted by the Executive Committee, the Bureau and the Office. The Council is composed by the delegates appointed by the national adhering bodies; the Bureau comprises the IAG President, Vice-President and Secretary General; the Executive Committee consists of the Bureau and other members elected by the Council; and the Office assists the Secretary General. The detailed programme of the IAG is published in the quadrennial Geodesist's Handbook, and reports are published in the bi-annual IAG Reports (Travaux de l'AIG).

### **ADMINISTRATION**

#### **IAG Council**

The IAG Council meets regularly at the IUGG General Assemblies. In between it is informed by the Secretary General on current activities. Main topics in 2016 were related to the preparation of the joint IAG-IASPEI Scientific Assembly to be held in Kobe, Japan, July-August 2017.

#### **IAG Executive Committee (EC)**

The EC met in Potsdam, Germany, April 25-27, 2016. Most important was a one-day retreat for discussing the strategic planning for the future which shall result in a document to be adopted by the IAG Council at the next General Assembly in 2019. Another important issue was the adoption of a position paper describing IAG's view of the Global Geodetic Reference Frame (GGRF) adopted by a

resolution of the United Nations on February 26, 2015. The EC has nominated IAG members in the corresponding UN-GGIM GGRF Working Group. Other topics were the reports of the IAG structure components. The meeting summary is published in the IAG Website ([www.iag-aig.org](http://www.iag-aig.org)).

## **IAG Bureau**

The IAG Bureau discussed the day-to-day decisions by e-mail exchange. It decided on 37 travel award applications of young scientists and granted 26 with a total amount of 15.700 USD.

## **IAG Office**

Main activities of the IAG Office were the publication of the IAG Handbook 2016 as a special issue of the Journal of Geodesy with the complete description of the IAG scientific programme 2015-2019 (300 pages), the preparation of the IAG-IASPEI Scientific Assembly 2017, the handling of the IAG budget, and the organisation of the EC meeting. Minutes were written for internal use and meetings summaries for the IAG Homepage and the IAG Newsletter (published in the Journal of Geodesy). The individual IAG membership (220 full and student members by the end of 2016) was managed.

## **ACTIVITIES**

### **Commissions, Inter-Commission Committee, and Services**

The four IAG Commissions (Reference Frames, Gravity Field, Earth Rotation and Geodynamics, Positioning and Applications), the Inter-Commission Committee on Theory (ICCT), and the thirteen Services maintain their individual Webpages (all accessible via the IAG Homepage). Several Services and sub-components (Sub-Commissions, Working and Study Groups) held administrative meetings (Coordinating, Directing or Governing Board), and organised symposia and workshops (see below).

### **Global Geodetic Observing System (GGOS)**

The new structure of GGOS was implemented at the beginning of 2016. The GGOS Consortium (made up by representatives of the IAG Components) and the Coordinating Board (the elected decision making body) met at the annual GGOS Days and regularly by tele-conferences. The GGOS Chair, appointed for the period 2015-2019, resigned from his office due to his overloading with other professional duties. The new appointment procedure was initiated at the end of 2016.

### **Communication and Outreach Branch (COB)**

Main activities of the COB were the publication of the monthly Newsletters (online and in the Journal of Geodesy), and the maintenance of the IAG Homepage. The IAG Newsletter is sent to the IAG officers and individual members, to the Presidents and Secretaries General of the IUGG and its Associations, and to the members of the Joint Board of Geospatial Information Societies (JBGIS).

### **Important Meetings of IAG Components and IAG Sponsored Meetings in 2016**

- IGS Workshop, Sydney, Australia, February 15 – 19, 2016;
- 9th IVS General Meeting, Ekudeni (Johannesburg), South Africa, March 13 – 17, 2016;
- 3rd Joint Symposium on Deformation Monitoring, Vienna, Austria, March 30 – April 1, 2016;
- 4th IAG Symposium “Terrestrial gravimetry: Static and mobile measurements”, Saint Petersburg, Russia, April 12 – 15, 2016;
- European Reference Frame Symposium (EUREF 2016), San Sebastian, Spain, May, 25 - 27, 2016;
- 18th Geodynamics and Earth Tide Symposium 2016, Trieste, Italy, June 5 – 9, 2016;
- Joint IAU/IAG/IERS Symposium “Geodesy, Astronomy and Geophysics in Earth Rotation (GAGER2016)”, Wuhan, Hubei, China, July 18 – 23, 2016;
- Int. Symposium on Geodesy and Geodynamics (ISGG2016), Tianjin, China, July 22 – 26, 2016;

- 1st International Conference on GNSS+ (ICG+2016), Shanghai, China, July 27 – 30, 2016;
- IAG Commission 4 “Positioning and Applications” Symposium, Wroclaw, Poland, September 4-7, 2016;
- 18th General Assembly of WEGENER “Understanding earth deformation at plate boundaries”, Ponta Delgada, Azores, Portugal, September 12-15, 2016;
- 1<sup>st</sup> Joint Commission 2 and IGFS Meeting, International Symposium on Gravity, Geoid and Height Systems 2016 (GGHS2016), Thessaloniki, Greece, September 19-23, 2016;
- First International Workshop on VLBI Observations of Near-field Targets, Bonn, Germany, October 5-6, 2016;
- 20th International Workshop on Laser Ranging, Potsdam, Germany, October 9 – 14, 2016;
- GGOS Days, Cambridge, MA, USA, October 24 – 28, 2016;
- IDS Workshop, La Rochelle, France, October 31 – November 1, 2016;
- Reference Frame for South and Central America Symposium (SIRGAS2016), Quito, Ecuador, November 16 – 18, 2016;

### **Schools organised by the IAG**

- 2nd IVS Training School on VLBI for Geodesy and Astrometry, Hartebeesthoek, South Africa, March 9 – 12, 2016;
- ISG Geoid School, Ulaanbaatar, Mongolia, June 6 – 10, 2016;
- SIRGAS School on Vertical Reference Systems, Quito, Ecuador, November 21 – 25, 2016;

### **Cooperation with other Organisations**

IAG maintains close cooperation with several organisations outside IUGG: Advisory Board on the Law of the Sea (ABLOS, presently with IAG presidency), Group on Earth Observation (GEO), ICSU Commission on Space Research (COSPAR, Sub-commission B2 and PSD), International Astronomic Union (IAU, Commission A2), International Standards Organisation (ISO, TC211 Geographic Information / Geomatics), Joint Board of Geospatial Information Societies (JBGIS), United Nations Initiative on Global Information Management (UN-GGIM), United Nations Offices for Outer Space Affairs (UNOOSA, with Space-based Information for Disaster Management and Emergency Response, UN-SPIDER, and International Committee on Global Navigation Satellite Systems, ICG).

### **Publications**

The main publications in 2016 were the monthly issues of the Journal of Geodesy, the IAG Symposia Series (Vols. 143 “IAG 150 Years” and 144 “International Gravity Field Service”) and the Geodesist’s Handbook 2016 as a special issue of the Journal of Geodesy.

### **Awards, Anniversaries, Obituaries**

Travel awards were granted to 26 young scientists for presenting research results at 5 IAG Symposia. Three obituaries were written for former IAG officers and associates.

### **PLANNED FUTURE ACTIVITIES**

The main activities in 2017 will be related to the joint IAG-IASPEI Scientific Assembly 2017 in Kobe, Japan. The IAG strategy document will be drafted and discussed, and the assessment of the IAG Services will be continued, in particular focussing on some restructured services. GGOS will fully implement its new structure, in particular the new Coordinating Office, and improve the Internet representation (website and e-mail exploder).

Hermann Drewes, IAG Secretary General



Fig. 1: Participants of the IAG Executive Committee Retreat, Potsdam, Germany, April 25-27, 2016



Fig. 2: Participants of the IAG Commission 4 Symposium, Wrocław, Poland, September 4-7, 2016





Fig. 3: Scholars of the SIRGAS School on Vertical Reference Systems, Quito, Ecuador, November 21 – 25, 2016