



**INTERNATIONAL UNION OF GEODESY AND GEOPHYSICS  
UNION GEODESIQUE ET GEOPHYSIQUE INTERNATIONALE**

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## **The IUGG Electronic Journal**

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This monthly newsletter is intended to keep IUGG Members and individual scientists informed about the activities of the Union, its Associations and interdisciplinary bodies, and the actions of the IUGG Secretariat, Bureau, and Executive Committee. Past issues are posted on the IUGG [website](#). E-Journals may be forwarded to those who will benefit from the information. Your comments are welcome.

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### **1. IUGG – The People at the Forefront (III)**

#### **Alex(ander) Rudloff, Secretary General 2019-2023**

Born in Munich/Bavaria, I spent the first years of my life in Berlin, during truly post-cold war times. My father was a biochemist, working for the Max-Planck-Society, and so regular moves were part of my life. In the early seventies we moved again, this time to Frankfurt/Main, where I finished school. In the early eighties I had the chance to visit Sicily for the first time. The 28 March 1983 Mount Etna eruption was an eye-opener and stimulus for me, and raised my interest in Earth sciences.

After completing my 15-month military service I returned to Berlin, to study at the Freie Universität (FUB). On the advice of a family friend, I decided to start off with geophysics, at that time organised at diploma level. The first years were dominated by mathematics and physics, with hardly any insights into Earth sciences. After an internship in industry with the Prakla Seismos Company I discovered my passion for field work and returned to university with new energy and full of ambition. The wall came down on 9th November 1989, and changed the world completely. Berlin became a melting pot overnight and with Potsdam just down the road, I also profited from fascinating countryside with lakes and castles “for free”. My supervisor at FUB, Peter Giese, fostered close contacts with the

Potsdam group from early on and was later strongly involved in the founding of the GFZ. As a student worker from the Geophysics Institute of the FUB I was privileged to support this process. Further geophysical field campaigns to Italy/Sicily, France/Auvergne and Northern Spain encouraged me in my decision to follow the Earth sciences trail. In summer 1993, after receiving my Diploma in Geophysics, plus minors in Geology and Mineralogy, I had the chance to move to Potsdam, where the new German Research Centre for Geosciences (GFZ) had just been founded. A large Collaborative Research Centre, financed by the German Science Foundation (DFG), enhanced earlier work from Berlin Universities on the deformation processes of the Andes, in Argentina, Bolivia, and Chile, and kept many students off the streets.

After my PhD in January 1998 I moved again, this time to Hanover to work at the Federal Institute for Geosciences and Resources (BGR). Seismic engineering studies for potential storage sites for nuclear waste were the focus of my work. In 2001, I decided to return to Berlin/Potsdam, starting a new career in science management. Within the government funded GEOTECHNOLOGIES initiative I learned about Geo-informatics, Ocean Sciences, Satellite Observations and many more fields of Solid Earth research. Subsequently, I joined the project management team of the German Indonesian Tsunami Early Warning System (GITEWS), established shortly after the 2004 Boxing Day Tsunami. This period, from the middle of 2005 until the late 2011, was a very intense one. Linking deliverables of specific work packages with talks to stakeholders, scientific audiences and discussions with a broader audience was a real challenge, working sometimes for 24/7. Many contacts with colleagues and friends go back to this time. I am still active as a permanent member of the German delegation for UNESCO's Intergovernmental Coordination Group for the North-East Atlantic, Mediterranean and Connecting Seas Tsunami Early Warning System (NEAMTWS).

In 2003, I was elected treasurer of the German Geophysical Society (DGG). Holding this position for three four-year terms until 2015, I learned a lot about the different aspects of Geophysical research as well as committee work and the organisation of general assemblies. Even though I knew about IUGG as a theoretical entity, 2007 was the year that I actually got in touch with IUGG, I learned about IUGG as a participant at the Perugia General Assembly in 2007, and through my new job as Executive Secretary of the International Lithosphere Program (ILP). With respect to outreach and technology transfer, I want to highlight two events during my engagement with DGG and GITEWS.



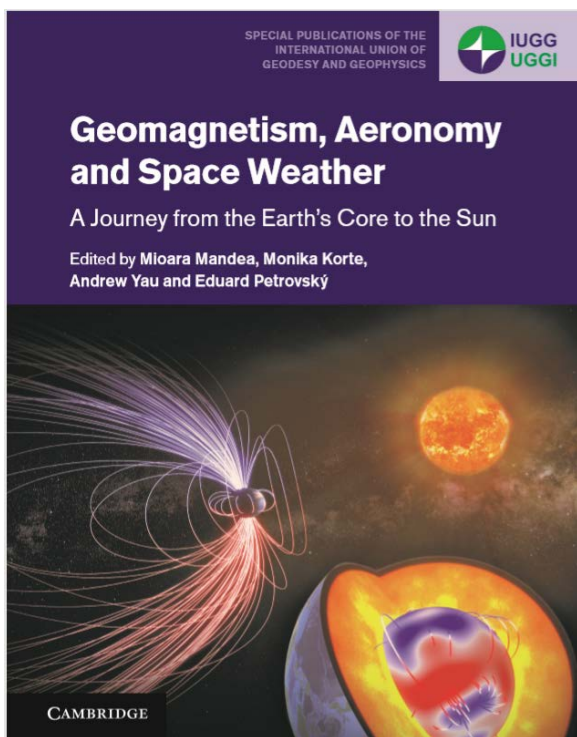
In 2011, after 4 years of preparation and lobbying, we succeeded in honouring the seismologist Emil Wiechert with a German postage stamp on the occasion of his 150th birthday. With results from the GITEWS project, we edited and published an open-source special issue, comprising 24 articles in total. This allows free access for all Tsunami researchers worldwide.

*IUGG's old and new Secretary Generals framing IUGG Honorary member Sierd Cloetingh during the Centennial Event of IUGG in Paris at UNESCO, 29<sup>th</sup> July 2019.*

And now, since July 2019 I am the elected Secretary-General of IUGG. I am willing to serve the community with my maximum possible capacity. Knowing that I have a brilliant team at my side, and having survived my first hundred days, I am looking forward to future challenges. Among those, a preparation for a successful IUGG 2023 General Assembly is just one milestone!

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## 2. IUGG Special Publication Series – Geomagnetism, Aeronomy and Space Weather. A Journey from the Earth's Core to the Sun



The new book “[Geomagnetism, Aeronomy and Space Weather. A Journey from the Earth's Core to the Sun](#)” edited by Mioara Manda, Monika Korte, Andrew Yau, and Eduard Petrovsky was published by the Cambridge University Press (CUP). On the centenary of the IUGG, this book reviews the state-of-the-art research in geomagnetism, aeronomy and space weather. Written by eminent researchers from these fields, it summarises the advances in research over the past 100 years, and looks ahead to current and emerging studies on Earth's magnetic field. It provides a comprehensive overview of the generation of the Earth's magnetic field, its history and its response to external forces. Starting at the centre of the Earth, the reader is taken on a journey from the interior core and mantle, through the upper atmosphere and magnetosphere, before reaching the Sun's atmosphere and corona. The applications of this research are also discussed, particularly the societal impact of solar activity on critical infrastructures in our increasingly technologically dependant society. This

book provides a valuable resource and reference to academic researchers and students in geomagnetism and aeronomy.

This book is the fourth volume of the [IUGG Special Publication Series](#) published by CUP.

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## 3. IUGG Meeting Support 2020 – Awarded Meetings

IUGG co-sponsors symposia and workshops appropriate to Union disciplines of study. IUGG allocated USD 25,000 to assist meetings by supporting the participation of young and female scientists and scientists from developing countries. In 2020, IUGG will support 15 scientific meetings listed below (the IUGG Association that endorsed the meeting is indicated in brackets):

1. Workshop on Sea Level Data Archaeology, Paris, France, 10-12 March (IAPSO)
2. Surface Ocean - Lower Atmosphere Study (SOLAS) South America Community Workshop, Valparaiso, Chile, 31 March (IAMAS)
3. 13th General Assembly of the Asian Seismological Commission, Sharm El-sheikh, Egypt, 1-3 June (IASPEI)
4. International Summer School in Glaciology, McCarthy, Alaska, USA, 6-16 June (IACS)

5. Third General Assembly of the African Seismological Commission, Kasane, Botswana, 28 June-4 July (IASPEI)
6. 8th IAGA /ICMA/SCOSTEP Workshop on Vertical Coupling in the Atmosphere-Ionosphere System, Sopron, Hungary, 6-10 July (IAGA)
7. Quadrennial International Radiation Symposium, Thessaloniki, Greece, 6-10 July (IAMAS)
8. Tsunamis in Latin America and the Caribbean: Recent Developments and Plans for the Future, Quito, Ecuador, 3-5 August (IAPSO)
9. Regional Assembly Latin American and Caribbean Seismological Commission, Quito, Ecuador, 3-5 August (IASPEI)
10. International Conference on Clouds and Precipitation, Pune, India, 3-7 August (IAMAS)
11. 43rd COSPAR Scientific Assembly, Sydney, Australia, 15-23 August (IUGG)
12. 37th General Assembly of the European Seismological Commission, Corfu, Greece, 6-11 September (IASPEI)
13. International Ozone Commission Quadrennial Ozone Symposium QOS2020, Seoul, Rep. of Korea, 4-10 October (IAMAS)
14. Reference Frames in Practice Seminar, Santa Cruz de la Sierra, Bolivia, November (IAG)
15. Understanding the climatic response to strong volcanic eruptions - First VolMIP meeting, Venice, Italy, Fall (IAMAS)

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#### **4. IUGG Meeting Report 2019 – Implementation of the Global Geodetic Reference Frame (GGRF) in Latin America**

The *International Workshop for the Implementation of the Global Geodetic Reference Frame (GGRF) in Latin America* was held in Buenos Aires, Argentina, from 16 to 20 September 2019. This workshop was a capacity building activity of the project “*Implementation of the United Nations’ Resolution on the Global Geodetic Reference Frame (UN-GGRF) for Sustainable Development in Latin America*” of the IUGG within the special grants program to celebrate in 2019 the centennial year of the IUGG’s foundation. The International Association of Geodesy (IAG) was the primary applicant of this project, and the International Association of Seismology and Physics of the Earth’s Interior (IASPEI), and the IUGG National Committees of Argentina, Brazil, Chile, Colombia and Costa Rica supported it. In addition to the IUGG, IAG and IASPEI support, the workshop counted on the sponsorship of the International Committee on Global Navigation Satellite Systems (ICG) of the United Nations Office for Outer Space Affairs (UNOOSA). Twenty-eight travel awards for colleagues from fourteen Latin American countries were supported with the money granted by the IUGG. ICG-UNOOSA provided six flight tickets for colleagues from Colombia, Peru, Chile, Brazil, Costa Rica, and Ecuador. The Instituto Geográfico Nacional (IGN) of Argentina and the Argentine-German Geodetic Observatory (AGGO) organised the logistics needed for the successful realisation of the meeting. The support of the IUGG, ICG-UNOOSA, IGN, AGGO and all the experts participating in the workshop was highly appreciated.



*Attendants to the International Workshop for the Implementation of the Global Geodetic Reference Frame (GGRF) in Latin America. Buenos Aires, Argentina, 16-20 September 2019.*

In total 130 participants from 20 countries (Argentina, Australia, Bolivia, Brazil, Chile, China, Colombia, Costa Rica, Dominican Republic, France, Germany, Guatemala, Italy, Mexico, Panama, Paraguay, Peru, USA, Uruguay, and Venezuela) attended the workshop. With 52 presentations distributed in eight sessions, it was possible to convene for the first time representatives of (i) politics (United Nations Committee of Experts on Global Geospatial Information Management – UN-GGIM, UN-GGIM Subcommittee on Geodesy, Group on Earth Observations – GEO, ICG-UNOOSA), (ii) international organisations promoting science (IUGG, IAG, IASPEI, International Science Council – ISC, International Federation of Surveyors – FIG, Pan-American Institute of Geography and History – PAIGH), (iii) the highest level of expertise in geodesy worldwide (IAG, IAG Scientific Services, the Global Geodetic Observing System – GGOS), and (iv) regional specialists in geodesy (SIRGAS – *Sistema de Referencia Geocéntrico para las Américas*, gravity field modelling, geodetic observatories) to identify appropriate strategies to implement the objectives of the UN-GGRF initiative. The topics presented during the five days and the conclusions/recommendations arising from the discussions represent the appropriate start point to advance the establishment of the GGRF in Latin America. Presentations, list of participants and conclusions of the workshop are available [here](#).

Laura Sánchez, Chair of the Workshop Program Committee,  
Deutsches Geodätisches Forschungsinstitut, Technische Universität  
München, Germany

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## **5. IUGG Past President Tom Beer – The scientist who predicted the bushfire emergency four decades ago**

Tom Beer's pioneering 1980s research into bushfires and climate change has, to his dismay, proved all too accurate. The Guardian Australia reports [here](#).

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## 6. ISC - News from the International Science Council

### *ISC Annual Report 2018*

With the creation of the ISC, 2018 marked a milestone in the world of international science. The [ISC Annual Report 2018](#) is now available to download.

### *ISC Action Plan 2019-2021*

The Action Plan sets out the ISC's activities over the next two and a half years. Its most important purpose is to form a practical framework for the ISC's work until the end of 2021, and to work towards our vision of science as a global public good. The ISC [Action Plan 2019-2021](#) is now available to download.

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## 7. Meeting calendar

### *December 2019*

- 2-6, IUGG, ICTP, Manila, Philippines, [Workshop on Distilling Climate Information for Sectoral Applications](#).
- 7-13, WCRP, San Francisco CA, USA, [WCRP Climate Science Week](#).
- 9-13, AGU, San Francisco CA, USA, [American Geophysical Union 2019 Fall Meeting](#).
- 11-13, IAHS, Paris, France, Sécheresses, étiages et déficits en eau.

### *January 2020*

- 5-9, AGU, Washington DC, USA, [Chapman Conference on the Evolution of the Monsoon, Biosphere and Mountain Building in Cenozoic Asia](#).
- 7-10, UNESCO-IOC, Halifax, Canada, [UN Decade of Ocean Science for Sustainable Development 2021-2030: North Atlantic Workshop](#).
- 8-10, UNESCO-IOC, Chennai, India, [UN Decade of Ocean Science for Sustainable Development 2021-2030: North and Central Indian Ocean Workshop](#).
- 21-23, UNESCO-IOC, Venice, Italy, [UN Decade of Ocean Science for Sustainable Development 2021-2030: Mediterranean](#).
- 27-29, ICTP, Trieste, Italy, [Public Health and Water Resources - Adaptation to Climate Change in the Eastern Mediterranean](#).

### *February 2020*

- 17-22, GEO, Beijing, China, [GEO Data and Knowledge Week 2020](#).
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