



# IGRF Workshop 2022

Leipzig, Germany, April 11-13 2022



## Programme

### General schedule

Time		Monday, April 11, 2022	Tuesday, April 12, 2022	Wednesday, April 13, 2022
from	to			
09:00	10:30		City Tour	Session 2: Standards
10:30	11:00	Arrival	Coffee Break	Coffee Break
11:00	12:00		Session 5: Time variable	Final Discussion / Closing
12:00	13:00			
13:00	13:30	Welcome	Lunch	
13:30	14:00	Session 1a: Infrastructure		
14:00	15:00		Session 3: Monitoring	
15:00	15:30	Coffee Break		
15:30	16:00	Session 1b: Infrastructure		
16:00	16:20		Coffee Break	
16:20	17:00			
17:00	17:20	Coffee Break	Session 4: Best Practices	
18:00	19:00	Session 1c: Infrastructure		

Central European Summer Time (CEST, UTC+2h)

Status 04.04.2022

## Welcome

***Monday, April 11th 13:00 - 13:30 CEST***

- |               |        |  |
|---------------|--------|--|
| 13:00 - 13:05 | local  | <b>Hartmut Wziontek</b><br><i>Chair of IAG Joint Working Group 2.1.1</i> |
| 13:05 - 13:20 | local  | <b>Axel Rülke</b><br><i>Head of Section Gravimetry Metrology at BKG</i>  |
| 13:20 - 13:30 | remote | <b>Harald Schuh</b><br><i>Past IAG President</i>                         |

## Session 1: Establishment of the IGRF from national perspectives

**Monday, April 11th 13:30 - 19:00 CEST**

*Sessions Chairs: A. Engfeldt (Sweden) and P. Dykowski (Poland)*

- 13:30 - 13:45 local **Ludger Timmen**  
*Can we learn from IAGBN: its development and disappearance?*
- 13:45 - 13:50 local **Tim E. Jensen, René Forsberg**  
*IGRF as a Basic Geodetic Infrastructure for Regional Gravity Surveys*
- 13:50 - 14:05 local **H. Wziontek, S. Bonvalot, and the members of IAG JWG 2.1.1**  
*The International Gravity Reference Frame: Status and Perspectives*
- 14:05 - 14:20 local **Andreas Engfeldt**  
*RG 2000, a modern national gravity network based on observations with several different types of gravimeters*
- 14:20 - 14:35 local **Jaakko Mäkinen, Mirjam Bilker-Koivula, Marcin Sękowski, Jyri Näränen, Hannu Ruotsalainen, Arttu Raja-Halli, Heikki Virtanen**  
*Hierarchical connection of the zero and first order gravity networks in Finland to the IGRF*
- 14:35 - 14:50 local **P. Dykowski, J. Kryński, T. Olszak**  
*Modernization and current status of the Polish gravity control*
- 14:50 - 15:00 **Discussion**
- 15:00 - 15:30 **Coffee break & Group Photo**
- 15:30 - 15:45 local **Márta Kis**  
*The Status of the Hungarian Gravimetric Network*
- 15:45 - 15:50 local **P. Dykowski, J. Kryński, M. Sękowski, P. Kane, K. Fitzpatrick**  
*Establishment of a modern gravity control in Ireland*

- 15:50 - 15:55 local **Christian Ullrich**  
*Contribution of Federal Office of Metrology and Surveying (BEV) to the International Gravity Reference Frame*
- 16:05 - 16:20 remote **Reinhard Falk, Jan Müller, Andreas Reinhold, Axel Rülke, Hartmut Wziontek**  
*Status of the German Gravity Nets*
- 16:20 - 16:35 remote **Martin Lederer, Otakar Nesvadba, Vojtech Pálinkáš**  
*The status of the Czech Gravity Network*
- 16:35 - 16:50 remote **Victoria A. Smith**  
*UK Absolute Gravimetry: Status and Future*
- 16:50 - 17:00 **Discussion**
- 17:00 - 17:20 **Coffee break**
- 17:20 - 17:35 remote **B. Droščák, J. Janák, J. Papčo**  
*National report on gravity network in Slovakia: Absolute gravity points in Slovakia from perspective of IGRF and other related issues*
- 17:35 - 17:50 remote **David Avalos, Apolo Alvarado, Marco Mendoza, Spiros Pagiatakis, Francisco Medina, Jordan Robles, Giovanni Sarabia, Javier Arellano**  
*An assessment on the Mexico gravity network and its integration to IGRF*
- 17:50 - 17:55 remote **J. C. Matiz-León, L. J. Moisés-Sepúlveda, G. Gabalda, D. A. Hernandez-Beltrán, Y. J. Pardo-López, D. A. Cortes-Bolívar, S. Bonvalot**  
*Implementation of the Absolute Gravity Network for Colombia – RGAC*
- 17:55 - 18:00 remote **Derek van Westrum**  
*Absolute Gravity efforts in the United States*
- 18:00 - 18:05 remote **Denizar Blitzkow, Ana Cristina Oliveira Cancoro de Matos, Gabriel do Nascimento Guimarães, Iuri Moraes Bjorkstrom**  
*Reference Gravity in Latin America*
- 18:05 - 18:45 **Discussion**

## Session 5: Time variable gravity corrections

**Tuesday, April 12th 11:00 - 13:00 CEST**

*Sessions Chairs: M. Van Camp (Belgium) and O. Francis (Luxemburg)*

- 11:00 - 12:00 local **Michel Van Camp, Olivier Francis, Hartmut Wziontek**  
*Introduction to the Earth Tides*
- 12:05 - 12:10 remote **Jiangcun Zhou , Ernian Pan, Heping Sun, Jianqiao Xu**  
*A method to gravity correction induced by global temperature variations*
- 12:15 - 12:20 local **Andreas Engfeldt**  
*How to deal with linear vertical motions for a modern national gravity network*
- 12:25 - 12:40 local **Ludger Timmen**  
*Advanced model for the reduction of atmosphere in absolute gravimetry*
- 12:45 - 12:50 local **Hartmut Wziontek, Thomas Klügel**  
*Application of the atmospheric attraction computation service Atmacs of BKG in absolute gravimetry?*

## Session 3: Monitoring of Absolute Gravimeters

**Tuesday, April 12th 14:00 - 16:00 CEST**

*Sessions Chairs: V. Pálinkáš (Czech Republic) and R. Falk (Germany)*

- 14:00 - 14:15 local **E. D. Antokoletz, H. Wziontek, R. Falk, A. Pasquaré, C. Tocho**  
*Combination of absolute and superconducting gravity observations at the Argentinean-German Geodetic Observatory (AGGO) and its contribution to the International Gravity Reference Frame (IGRF)*
- 14:20 - 14:25 local **P. Dykowski, J. Kryński, M. Sękowski**  
*Gravity reference function at Borowa Gora Observatory, Poland*
- 14:30 - 14:35 local **Vojtech Pálinkáš and Miloš Vaľko**  
*Comparison of absolute gravimeters at the Pecný station*
- 14:40 - 14:45 remote **Xiao-Dong Chen**  
*Determination of scale factors of the three observatory superconducting gravimeters (OSGs) in China mainland*
- 14:50 - 15:05 remote **V.A. Smith, G. Appleby, A. Susnik**  
*Monitoring AG Performance using Co-located Geodetic Techniques*
- 15:10 - 15:25 remote **R. Falk, A. Engfeldt, J. Glässel, A. Hellerschmied, D. Iacovone, J. Kostelecky, V. Palinkas, M. Reich, A. Rülke, L. Timmen, C. Ullrich, M. Vaľko, A. Valluzzi, H. Wziontek, B. Zehetmeier**  
*Experiences from the comparison of absolute gravimeters in Wettzel 2021 WET\_CAG2021*
- 15:30 - 15:45 remote **Derek van Westrum**  
*Performance Characteristics of gPhoneX Continuous Relative Gravity Meters and an Argument for Their Use in Controlling Absolute Gravity Meter Comparisons*

## Session 4: Best practices

**Tuesday, April 12th 16:20 - 19:00 CEST**

*Sessions Chairs: D. van Westrum (USA) and M. Bilker-Koivula (Finland)*

- 16:20 - 16:35 local **H. Wziontek, J. Glässel, A. Rülke, S. Bonvalot**  
*The Database AGrav as basis for the International Gravity Reference Frame*
- 16:40 - 16:45 remote **Ke Baogui, Zhao Yufei**  
*Optimal Selection Weight Value of Gravity Network Data Based on Membership Function*
- 16:50 - 17:15 remote **Derek van Westrum**  
*Funky Data 2.0 - Data Analysis Tips and Tricks with Micro-g LaCoste Absolute Gravimeters*
- 17:20 - 17:35 local **Petr Křen, Vojtech Pálinkáš, Miloš Vařko**  
*Improved measurement model for FG5/X gravimeters and essential outputs from re-processing of raw data*
- 17:40 - 17:45 remote **Jaakko Mäkinen**  
*How to refer absolute-gravity results to the effective position without reprocessing*
- 17:50 - 18:20 local **René Reudink**  
*Experiences in adjusting the interferometer, cleaning and adjusting the laser and other practical matters related to the FG-5 absolute gravimeter*

## Session 2: Standards in absolute gravimetry

**Wednesday, April 13th 09:00 - 10:30 CEST**

*Sessions Chairs: A. Germak (Italy) and S. Svitlov (Germany)*

09:00 - 09:15 local **René Reudink**

*Derive the clock frequency of the FG-5 from the carrier frequency of the DCF77 time signal transmitter*

09:20 - 09:45 local **Petr Křen, Vojtech Pálinkáš**

*Corrections of systematic effects of FG5/X gravimeters*