



Establishment of the International Gravity Reference Frame

Web-Meeting of IAG JWG 2.1.1, 18.01.2022

Chair: Hartmut Wziontek, BKG (Germany)

Vice-chair: Sylvain Bonvalot, BGI (France)

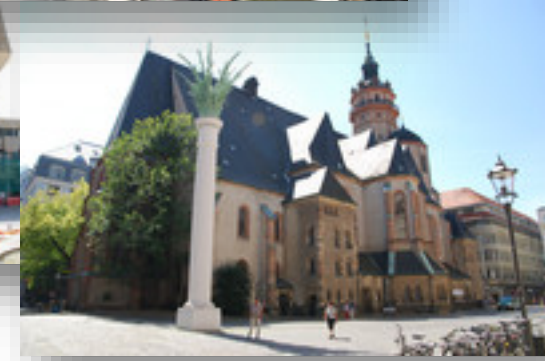
Agenda

IGRF Workshop 2022 in Leipzig/Germany: 11 – 13. April 2022

1. Scientific committee
2. Topics/Sessions
3. Invited contributions / Lectures
4. Abstract submission
5. Session Plan, Deadlines
6. Suggestions?

IGRF Workshop 2022 in Leipzig/Germany: 11 – 13. April 2022

- After EGU General Assembly 2022, Vienna:
Monday afternoon to Wednesday morning
- Location: “Die Tagungslounge”:
Roof top convention centre in the city of Leipzig,
up to 80 participants
- Supported by BKG: No registration fee
- IAG sponsored workshop:
Travel support from IAG for young scientists possible
- Hybrid meeting option
- Web site started:
<https://igrf2022.org>
will be extended after meeting.
- LOC: Wziontek/Rülke/Michlenz (BKG)



Aims & Scope

The realization of the International Gravity Reference Frame (IGRF) is a project supported by the [International Association for Geodesy \(IAG\)](#) with the aim to provide a precise and reliable reference for gravimetry and to replace the outdated network [IGSN71](#) by a modern infrastructure based on absolute gravity observations.

The workshop aims to bring together experts in absolute gravimetry and institutions, agencies and governmental bodies in charge of geodetic infrastructure.



Scientific committee

- JWG chair/co-chair, regular JWG members
- Designation of session chairs/co-chairs

Members

Mirjam Bilker Koivula (Finland)
Przemysław Dykowski (Poland)
Andreas Engfeldt (Sweden)
Reinhard Falk (Germany)
Jaakko Mäkinen (Finland)
Urs Marti (Switzerland)
Jack McCubbine (Australia)
Ilya Oshchepkov (Russia)
Vojtech Palinkas (Czech Republic)
Victoria Smith (UK)
Ludger Timmen (Germany)
Claudia Tocho (Argentina)
Christian Ulrich (Austria)
Michel van Camp (Belgium)
Derek van Westrum (USA)
Marc Véronneau (Canada)
Leonid Vitushkin (Russia)
Shuqing Wu (China)
Toshihiro Yahagi (Japan)

The Geodesist's Handbook 2020

Topics / Sessions

Invited contributions / Lectures?

1. Gravity networks: Establishment of IGRF from national perspectives
 - Status and compatibility of national gravity networks → National reports
 - Site selection and classification
 - Regional coordination
 - Maintenance of stations/networks, reobservation periods / gravity changes
 - Supplemental information / documentation / database AGrav
2. Standards in Absolute Gravimetry
 - Systematic effects: Diffraction, Self-Attraction, Fringe distortion, Verticality
 - Calibration of standards (Laser, Rb)
 - Quality Management / Metrology
3. Monitoring of Absolute Gravimeters
 - Comparisons of AG as essential part of IGRS: Preparation and Evaluation
 - Reference stations and gravity reference function: Long-term stability of AGs

New technology
(e.g. quantum gravimeters)
not main focus

→ Workshop on instruments/
techniques in gravimetry
(CCM-WGG)
under discussion:

Autumn 2022 / Spring 2023

Topics / Sessions

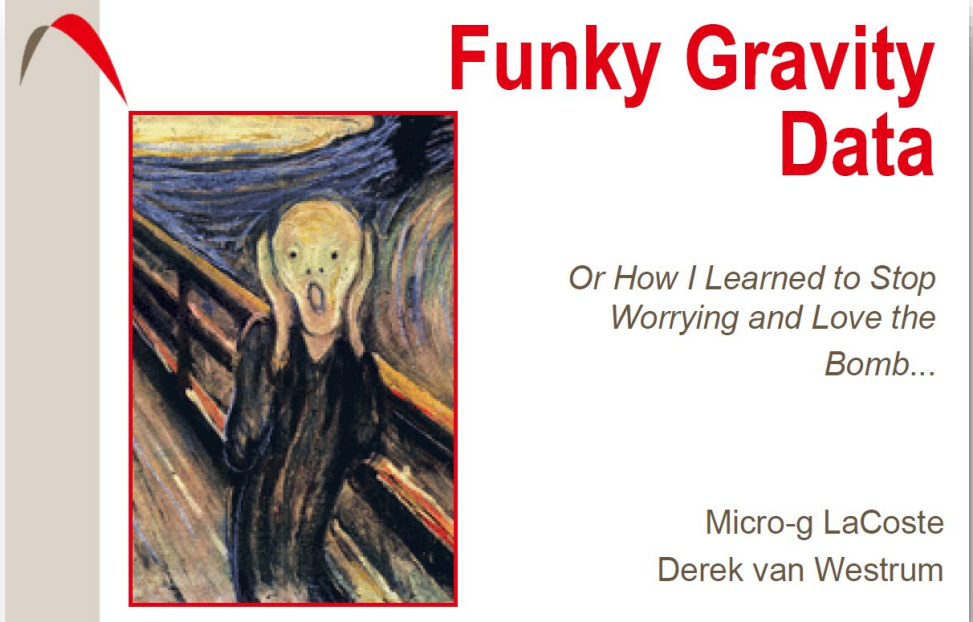
4. Hands-on Seminars? In Groups?

- Best practices in absolute gravimetry:
Operation of common AG (FG5/X, A10)
- Processing of absolute gravity observations:
From error detection to correction of temporal gravity effects
- Effective position on the free-fall trajectory
- Vertical gravity gradients and supporting relative gravimetry
- AGrav database: Data preparation / submission /
user feedback

5. Session / Lecture on time variable gravity corrections?

- Tides / ocean tide loading / atmosphere

6. Discussion and Summary



Funky Gravity Data

Or How I Learned to Stop Worrying and Love the Bomb...

Micro-g LaCoste
Derek van Westrum

Micro-g Workshop

Session chairs and Invited contributions / Lectures

1. Gravity networks: Engfeldt / Dykowski
2. Standards in Absolute Gravimetry:
3. Monitoring of Absolute Gravimeters:
4. Best practices:
5. Time variable gravity corrections:

Abstract submission

Forms at Website <https://igrf2022.org>

- Registration
- Abstract submission

Review by session chairs / co-chairs



Session Plan, Deadlines

Schedule:

- Monday, 11.04.2022, 13:00 – 18:00
- Tuesday, 12.04.2022, 09:00 – 18:00
- Wednesday, 13.04.2022, 09:00 – 12:00

Abstract submission / Registration deadline: **March 18th**