



International Symposium

Gravity, Geoid and Height Systems 2

Practical information and program



Arranged and sponsored by

Welcome to Copenhagen and GGHS2018

The meeting is held at the “Black Diamond”, the new building of the Royal Library. There is code-free access to internet across the building, and many corners with chairs for informal discussions and a café.

Please note that the whole building is a public area – refreshments will be served in front of the main hall – “Dronningesalen”, or in the poster area. Please wear your badge at all times. The Friday meeting will be in the room “Blixen” on the 2nd floor.

Registration

The Registration desk is located in front of the meeting venue. Please make sure you have paid your registration online, see www.space.dtu.dk/gghs2018, or have got confirmation for special arrangements.

Oral presentations

Please submit your oral presentation as .ppt, .pptx or .pdf file, absolute latest in the break before your session (but preferably the day before). DTU students will be available to help you with upload.

Poster sessions

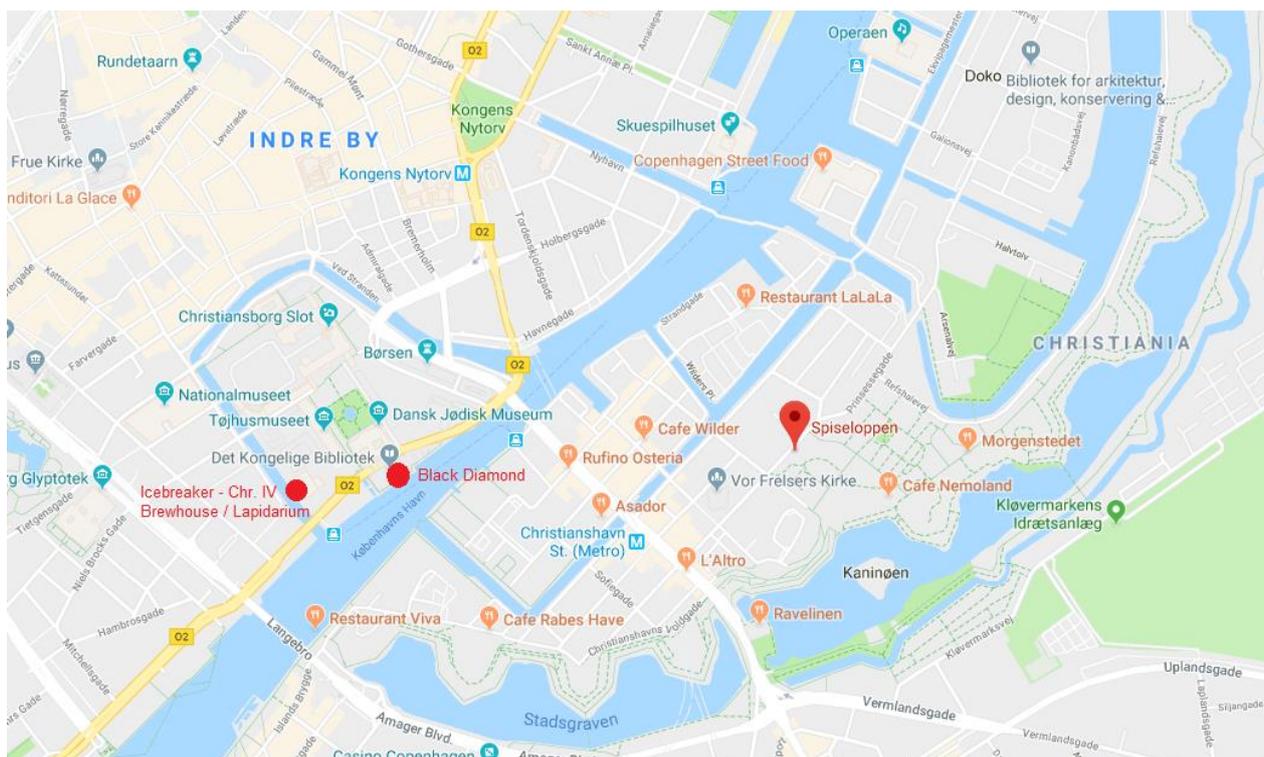
Posters (A0 portrait) can be up from Monday noon, until Thursday evening. Please remove your posters after the Thursday evening poster session, as the KB staff will put in chairs for the next day’s sessions.

Social Events

There will be an icebreaker in the “Chr IV Bryghus”, Frederiksholms Kanal 29, at the “Stone Loft”, immediately after the Monday sessions (Icebreaker reception start at 17:30). The location is across the street along the canal just west of the Black Diamond, follow the signs. You will have drinks tickets in your registration kit. Extra tickets can in special cases be made available from the organizers.

The Wednesday symposia dinner will be held at “Spiseloppen”, in Christiania, Bådsmadsstræde 43 (2nd floor of old military building), starting from 19:00. This event is free, and open for all registered persons.

Registered associate persons are welcome at both events, as well as the opening sessions. A special excursion will be arranged on Tuesday am for the associates, more information at the registration Monday.



Program - Gravity, Geoid and Height Systems, Copenhagen, Sept 2018

Monday SEP17

1000- *Registration, Black Diamond Foyer*

ORAL presentation schedule

Opening session

- 1030 **Welcome and practicalities - DTU Space (Rene Forsberg, Kristian Pedersen/director)**
The Black Diamond location and the Royal Library (Pernille Drost/vice-director)
- 1045 **Welcome and background - Roland Pail on behalf of IAG Commission 2 and IGFS**
- 1100 **Op-1** Srinivas Bettadpur, University of Texas **From GRACE to GRACE Follow-on**
- 1120 **Op-2** Nassim Zahzam, Alexandre Bresson, ONERA **Cold atom interferometry: from ground to space**
Laura Sanchez, J Agren, J Huang, M Véronneau, W Yang, D Roman, G Vergos
- 1140 **Op-3** H Abd-Elmotaal, M Amos, R Barzaghi, D Blitzkow, C Oliveira, H Denker, F Mick, S Claessens, I Oshchepkov, U Marti, M Koji, M Sideris, V Matej, M Willberg, R Pail **Advances in the establishment of the International Height Reference Frame (IHRF)**
- 1200 **Op-4** Niraj Manandhar, Survey Dept. of Nepal **Role of gravimetric geoid in redetermining the height of Mount Sagarmatha (Everest)**

Session 1: Current and future satellite gravity missions (convenors: T Gruber, D Wiese)

- 1400 **S1-O1** Felix Landerer, Frank Flechtner, Frank Webb, Phil Morton, Michael Watkins, Himanshu Save, Christoph Dahle, Srinivas Bettadpur **GRACE Follow-On: The next chapter of time-variable gravity observations from space**
- 1415 **S1-O2** B. Christophe, B. Foulon, F. Liorzou, J. Bergé, E. Hardy, P-A. Huynh **GRACE-FO accelerometers behavior after 4 months in orbit**
- 1430 **S1-O3** Michael Murböck, Christoph Dahle, Grzegorz Michalak, Hans Neumayer, Frank Flechtner, Oleh Abrykosov, Anton Reinhold, Rolf König, Henryk Dobslaw, Liangjing Zhang, Ingo Sasgen, Andreas Groh, Volker Klemann **Overview of current GRACE/GRACE-FO Level 2 and Level 3 processing at GFZ**
- 1445 **S1-O4** Bryant D Loomis, Terry J Sabaka, Scott B Luthcke, Michael J Croteau, Boulder **Quantifying the spatiotemporal tradeoffs of GRACE mascons: Daily, monthly, and trends**
- 1500 **S1-O5** Torsten Mayer-Gürr, Saniya Behzadpour, Matthias Ellmer, Beate Klinger, Andreas Kvas, Sebastian Strasser, and Norbert Zehentner **ITSG-Grace2018: The new GRACE time series from TU Graz**

Coffee break

- 1545 **S1-O6** J. Teixeira Encarnação, D. Arnold, A. Bezdek, E. Doornbos, M. Ellmer, J. Guo, J. van den IJssel, E. Iorfida, A. Jäggi, J. Klokočník, X. Mao, T. Mayer-Gürr, J. Meyer, J. Sebera, C.K. Shum, P. Visser, N. Zehentner, Y. Zhang, C. Zhang **Observing Earth's mass transport processes with the Swarm satellites**

- 1600 **S1-O7** Ulrich Meyer, Christoph Dahle, Frank Flechtner, Himanshu Save, Srinivas Bettadpur, Felix Landerer, Carmen Boening, Andreas Kvas, Torsten Mayer-Gürr, Jean-Michel Lemoine, Sean Bruinsma, Adrian Jäggi **COST-G: The new International Combination Service for Time-variable Gravity Field Solutions of the IAG/IGFS**
- 1615 **S1-O8** David N. Wiese, Christopher M. McCullough, Dah-Ning Yuan, Felix W. Landerer, Carmen Boening, Jet Propulsion Laboratory, California Institute of Technology **The JPL RL06 GRACE Gravity Solutions**
- 1630 **S1-O9** Jan Martin Brockmann, Till Schubert, Wolf-Dieter Schuh, University of Bonn, Institute of Geodesy and Geoinformation, Theoretical Geodesy Group **Towards the 6th release of the time-wise GOCE models: processing status and preliminary results**
- 1645 **S1-O10** Wolf Dieter Schuh, Till Schubert, Ina Loth, Jan Martin Brockmann, Boris Kargoll, Leibniz University Hannover, Geodetic Institute, Hannover, Germany **Advanced time series analysis to estimate tailored stochastic models for the global gravity field processing.**

Tuesday SEP 18

- 900 **S1-O11** P. Knudsen, O. Andersen, N. Maximenko **A combined mean dynamic topography model – DTU17cMDT.**
- 915 **S1-O12** Roland Pail and European Gravity Science Team **Mass variation observing system by high-Low inter-satellite links (MOBILE) – a mission proposal in response to ESA's Earth Explorer 10 call**
- 930 **S1-O13** Markus Hauk, Roland Pail **Gravity field recovery by high-precision high-low inter-satellite links**
- 945 **S1-O14** Jürgen Müller, Hu Wu **Using optical clocks and quantum gradiometers onboard satellites for determining the Earth's gravity field**
- 1000 **S1-O15** W. Liu, N. Sneeuw **A triple-pair tandem constellation mitigating ocean tide aliasing**
- 1015 **S1-O16** Roland Pail, Hsien-Chi Yeh, Sino-European Study Team **Joint Sino-European study on the next-generation gravity field missions based on double- and multi-pair constellations**

Coffee break

- 1100 **S1-O17** Petro Abyrkosov, Roland Pail, Thomas Gruber, Nassim Zahzam, Alexandre Bresson, Bruno Christophe, Emilie Hardy **A novel hybrid accelerometer and its impact of the performance of gravity field determination**
- 1115 **S1-O18** Federica Migliaccio, Mirko Reguzzoni, Khulan Batsukh, Guglielmo Tino, Gabriele Rosi, Fiodor Sorrentino, Carla Braitenberg, Tommaso Pivetta, Dora Francesca Barbolla, Simona Zoffoli **GOCE mission follow-on by cold atom technology: the MOCASS study**

Session 2: Global gravity Field Modelling (D Roman, S Jin)

- 1130 **S2-O1** Daniel Barnes, Sarah Ingalls, Clif Minter, Manny Presicci, Jim Beale **2017/8 Updates: Earth Gravitational Model 2020**
- 1145 **S2-O2** Ole B. Andersen, P Knudsen, W Smith, D Sandwell, D McAdoo, K Marks **Marine Gravity Field Mapping from Altimetry – Advancement with 2nd Generation altimeters.**

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|------|--------------|---|---|
| 1200 | S2-03 | O. B. Andersen, Marie-Francoise Lalancette, Corinne Salaun, Mathilde Cancet | High resolution gravity field modelling using SAR altimetry. First results from the Arctic and Northeast Atlantic Ocean. |
| 1215 | S2-04 | Th. Gruber, Martin Willberg | GOCE based gravity field models – Signal and error assessment |

Lunch break

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|------|--------------|---|---|
| 1400 | S2-05 | Moritz Rexer, Christian Siemes, Anja Schlicht, Thomas Gruber, Roland Pail, Xanthi Oikonomidou | Improved L1b and L2 products from the GOCE re-processing campaign |
| 1415 | S2-06 | Philipp Zingerle, Roland Pail, Thomas Gruber | High-resolution combined global gravity field modelling - Next generation XGM Models |
| 1430 | S2-07 | Akbar Shabanloui and Jakob Flury | Assessment of recent gravity field models in the context of understanding deep Earth's structure |

Session 3: Local/regional gravity field modelling (J Agren, H Abd-Elmotaal)

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|------|--------------|---|---|
| 1445 | S3-01 | Hussein A. Abd-Elmotaal, Kurt Seitz, Norbert Kühnreiter, Bernhard Heck | The AFRGDB_V2.2 Updated Gravity Database for Africa |
| 1500 | S3-02 | Jonas Ågren, P-A Olsson, J Schwabe, G Liebsch, G Strykowski, R Forsberg, C Förste, F Barthelmes, M Bilker-Koivula, T Saari, A Ellmann, J Kaminskis | Status of the FAMOS collaboration to improve the Baltic Sea gravity data and geoid model |
| 1515 | S3-03 | Riccardo Barzaghi, G Vergos, D Carrion, A Albertella, I Tziavos, V Grigoriadis, D Natsiopoulos, S Bruinsma, S Bonvalot, L Seoane, F Reinquin, M-F Lequentrec-Lalancette, C Salaun, P Bonnefond, P Knudsen, O Andersen, M Simav, H Yildiz, T Basic, M Varga, A J Gil | Geoid and DOT in the Mediterranean area: the Geomed2 project |
| 1530 | S3-04 | Roland Pail, Philipp Zingerle, Petro Abrykosov, Mirko Scheinert, Theresa Schaller | Validation of terrestrial and airborne gravity data over Antarctica – A generic approach |

1545-1700 **Poster Session I (S1-S3) with refreshments** *See poster titles below*

Wednesday SEP 19

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|------|--------------|--|---|
| 900 | S3-05 | YM Wang, X Li and K Ahlgren | NGS Geoid computation experiment in Colorado |
| 915 | S3-06 | YM Wang, R Forsberg, L Sanchez, J Ågren and JL Huang | Report on Colorado geoid comparisons |
| 930 | S3-07 | Roland Klees, Cornelis Slobbe | A least-squares quasi-geoid model for the Netherlands, Belgium, and the Dutch Continental Shelf |
| 945 | S3-08 | Mirjam Bilker-Koivula, Maaria Nordman, Jaakko Kuokkanen, Hannu Koivula, Pasi Häkli, Sonja Lahtinen | Validation of geoid models in the Baltic Sea using marine GNSS observations in the FAMOS project |
| 1000 | S3-09 | Vassilios D. Andritsanos, Ilias N. Tziavos | Spectral considerations of MIMOS theory in gravity and geoid modelling through the assimilation of satellite-based geopotential models |

1015	S3-O10	D.C. Slobbe, R Klees, H.H. Farahani	The impact of noise in a GRACE/GOCE global gravity model on a regional quasi-geoid
<i>Coffee break</i>			
1100	S3-O11	Artu Ellmann, Tõnis Oja	Development of a 5 mm geoid model – a case study for Estonia
1115	S3-O12	A. Kasenda, A. Olesen, R. Forsberg, R. Gatchalian, Cecile C. Ortiz	The impact of Regional Airborne Gravity Surveys for a better Geoid in the Philippines
1130	S3-O13	Xiaopeng Li, Jianliang Huang, Yan Ming Wang	Discussions on the Downward Continuation of Airborne Gravity Data and its Combination with Surface Gravity Data for Local Geoid Modeling
1145	S3-O14	Roland Klees and Cornelis Slobbe	Multi-scale radial basis function modelling of regional gravity fields
1200	S3-O15	Dongming Zhao, Shanshan Li, Qingbin Wang, Xinxing Li	The Modified Integral Method for the Determination of Disturbing Gravity near the Earth's Surface
1215	S3-O16	Róbert Čunderlík	Numerical solution of the fixed gravimetric BVP on the triangulated Earth's topography in Slovakia

Lunch break

1400	S3-O17	Anita T Saraswati, Rodolphe Cattin, Stéphane Mazzotti, Cécilia Cadio	Optimum Topographic Gravity Correction for Regional Geodynamical Studies
1415	S3-O18	Matej Varga, Marijan Grgić, Olga Bjelotomić-Oršulić, Tomislav Bašić	Investigation and comparison of RCR and LSM SA regional geoid modelling approaches

Session 4: Absolute, Relative and Airborne Gravity - observations/methods (Vitushkin, Forsberg)

1430	S4-O1	P. Vermeulen, N. Lemoigne, V. Ménolet, C. Busquet, B. Desruelle, J. Lautier-Gaud, S. Merlet, A. Landragin, A. K. Cook, S. Bonvalot	Evaluating the performances of an operational Absolute Quantum Gravimeter
1445	S4-O2	H.Virtanen, M.Bilker-Koivula, A.Raja-Halli, J.Näränen, H. Ruotsalainen, J. Mäkinen	Simultaneous gravity measurements of absolute and superconducting gravimeters between 1995 and 2018 at Metsähovi, Finland, and comparisons with environmental loading effects
1500	S4-O3	Rene Forsberg, Arne Vestergaard Olesen, David Becker, Stephen Ferguson	Airborne gravity measurements for geoid and global models – a review
<i>Coffee break</i>			
1545	S4-O4	Dru Smith	Past, Present, and Future of the U.S. Gravity for the Redefinition of the American Vertical Datum (GRAV-D) Project
1600	S4-O5	Xinghui liang, Lintao Liu, Jiangang He, Junjian Lang	The results of developing air-ship borne gravimeters in China
1615	S4-O6	Kaidong Zhang, Yingchun Li, Xiaodong Diao, Jun Zeng, Meiping Wu, Jvliang Cao, Shaokun Cai, Ruihang Yu	Results of some recent tests of strapdown airborne gravimeter
1630	S4-O7	Tim E. Jensen, Rene Forsberg and J. Emil Nielsen	Helicopter Test of a Strapdown Gravimetry System

1645 **S4-08** Yu Ruihang, Cai Shaokun, Wu Meiping, Cao Juliang **Improving Land Vehicle Gravimetry with SINS/GNSS/VEL Federated Filtering Method**

Symposium dinner

Thursday SEP 20 (Session 4 - continued)

900 **S4-09** Biao Lu, [Elmas Sinem Ince](#), Franz Barthelmes, Christoph Förste, Svetozar Petrovic, Min Li, Hartmut Pflug, and Frank Flechtner **Shipborne Gravimetry Data Processing using GNSS-derived kinematic vertical accelerations**

930 **S4-010** H. Wziontek, S. Bonvalot, R. Falk, J. Mäkinen, V. Pálinkáš and L. Vitushkin **Status of the International Absolute Gravity Reference System**

945 **S4-011** Denizar Blitzkow, Iuri Bjorkstrom, Ana Cristina Oliveira Cancoro de Matos, Maria Cristina Pacino, Eduardo Andrés Lauría, Nuris Orihuela Guevara **Absolute gravity network in South America - Comparisons**

1000 **S4-012** Yoichi Fukuda, Takahito Kazama, Hiroshi Takiguchi, Vaughan Stagpoole, Grant O'Brien, Fabio Caratori Tontini **Gravity changes due to the 2016 Kaikoura earthquake**

Session 5: Height systems and vertical datum unification (M Sideris, L Sanchez)

1000 **S5-01** Laura Sánchez, Michael G. Sideris **Vertical datum unification for the International Height Reference System (IHR)**

1015 **S5-02** Jaakko Mäkinen **The permanent tide in the International Height Reference System IHR**

Coffee break

1100 **S5-03** Ilya Oshchepkov **Geodetic reference system consistent with the IHR W_0 value**

1115 **S5-04** Koji Matsuo, Toshihiro Yahagi, Yoshifumi Hiraoka, Rene Forsberg, Arne Olesen, Adolfientje Kasenda **The current status and future plans of the height reference system in Japan**

1130 **S5-05** Czar Jakiri Soriano Sarmiento, Chris Rizos, Craig Roberts, Ronaldo Gatchalian, Charisma Cayapan **Investigation of Tropical Hydrology Effects in the Development of the Philippine Height System**

1145 **S5-06** Daniel R Roman, Xiaopeng Li **An Update to Dynamic Heights Estimation on the Great Lakes**

1200 **S5-07** Jürgen Müller, K. Danzmann, W. Ertmer, G. Heinzl, C. Lämmerzahl, F. Kawazoe, D. Schlippert, P. Schmidt, S. Schön, G. Wanner, M. Weigelt, CRC 1128 geo-Q **geo-Q – Relativistic Geodesy and Gravimetry with Quantum Sensors**

1215 **S5-08** Heiner Denker, Christian Lisdat, Harald Schnatz, Gesine Grosche, Piet Schmidt **On the status and perspectives of chronometric levelling and classical geodetic techniques**

Lunch break

1400 **S5-09** O.N. Altiparmaki, G.S. Vergos **Potential determination at coastal stations from the synergy of SAR/SARin altimetry and local gravity data towards the IHR**

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| 1415 | S5-O10 | O. Andersen, P. Knudsen, K. Nilsen, C. Hughes, S. Williams, P. L. Woodworth, R. Bingham, M. Gravelle, L. Fenoglio-Marc, S. Williams, M. Kern | Dynamical Coastal Topography and tide gauge unification using altimetry and GOCE. Summary of findings and progress on GNSS reflectometry for Coastal sea level. |
| 1400 | S5-O11 | D.C. Slobbe, R. Klees, M. Verlaan, F. Zijl, and H.H. Farahani | Height system connection between island and mainland using a hydrodynamic model: a case study connecting the Dutch Wadden islands to the Amsterdam ordnance datum (NAP) |
| 1445 | S5-O12 | Thomas Gruber, Martin Willberg, Nikolas Pfaffenzeller | Geodetic Space Sensors for Height System Unification and Absolute Sea Level Determination |

Session 6: Satellite altimetry and applications (O Andersen, X Deng)

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|------|--------------|---|---|
| 1500 | S6-O1 | R. S. Nerem, M. Croteau, J. Fasullo, B. Hamlington | Using Satellite Gravity Measurements to Unravel the Satellite Altimeter Record of Sea Level Change |
| 1515 | S6-O2 | Marcel Kleinherenbrink, Remko Scharroo, and Riccardo Riva | Is there an acceleration in the global mean sea level record? Revisiting TOPEX calibrations using ERS1&2 crossovers and tide gauges. |
| 1530 | S6-O3 | Ole Andersen, Lars Stenseng and Per Knudsen | A new DTU18 MSS Mean Sea Surface – improvement from SAR altimetry. |

1545-1700 **Poster Session II (S4-S7) with refreshments**

See poster titles below

Friday SEP 21 - Session 6 (continued)

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|------|--------------|---|---|
| 900 | S6-O4 | Nikolaos K. Pavlis, Marvin B. May, David C. LeDoux, Booz Allen Hamilton | A Dynamic Ocean Topography Model Implied by HYCOM |
| 915 | S6-O5 | Vassilios D. Andritsanos and Ilias N. Tziavos | Central Mediterranean DOT estimation through spectral combination of altimetric, surface and satellite gravity data. |
| 930 | S6-O6 | T. Nikolaidou, M. Santos, F. Nievinski | Tropospheric delays in ground-based GNSS reflectometry – Assessment of ad-hoc models against ray-tracing simulations |
| 945 | S6-O7 | Marijan Grgić, Matej Varga, Tomislav Bašić, Robert Steven Nerem | The application of coastal and standard altimeter data for the study of the impact of sea level rise |
| 1000 | S6-O8 | Adili Abulaitijiang, David Sandwell, Ole Andersen, Mathilde Cancet, Jerome Benveniste. David Cotton | The contribution of DTU17 marine gravity for the Arctic bathymetry prediction |

Session 7: Mass transport and climate-relevant processes (C Boening, A Eicker)

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| 1015 | S7-O1 | Minkang Cheng | Variations in the Earth's dynamic oblateness and equatorial ellipticity from SLR and GRACE |
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Coffee break

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|------|--------------|---|--|
| 1100 | S7-O2 | Henryk Dobslaw, Liangjing Zhang, Meike Bagge, Volker Klemann, Maik Thomas | Separating GRACE-based ocean bottom pressure estimates into spatially variable sea-level and ocean circulation components |
| 1115 | S7-O3 | Gonca Okay Ahi, Shuanggen Jin | Extreme drought conditions in Turkey observed by satellite gravity measurements |

1130	S7-O4	Laura Jensen, Annette Eicker, Vincent Humphrey	Soil moisture memory in climate models compared to observations from GRACE and precipitation data
1145	S7-O5	Anna Purkhauser, Roland Pail and Markus Hauk	NGGM Near-Real Time Gravity Data Applicability Regarding Extreme Weather Phenomes: First Results.
1200	S7-O6	Pavel Ditmar, Olga Engels, <u>Roland Klees</u>	How to optimize the spatial resolution of GRACE data for studying mass anomaly trends of the Greenland and Antarctic Ice Sheets?
1215	S7-O7	Ingo Sasgen, Shafqat Abbas Khan, Bert Wouters, Sarah Woodroffe	A new glacial-isostatic adjustment model for Greenland constrained by GPS uplift rates and relative sea-level data
1230	S7-O8	Akbar Shabanloui, Victoria Kroeger and Jakob Flury	Integrated gravimetric and geometrical mass variations in Greenland
1245-1315		Q&A - Closing event, IAG/IGFS	

POSTER presentations

POSTERS CAN BE UP FROM MONDAY PM TO THURSDAY PM - Format A0 portrait

Tues	S1-P1	Benahmed daho Sid Ahmed, Meslem Aissa Mohamed	External assessment of GRACE/GOCE based geopotential models over Algeria by using collocated GPS/Levelling observations and new gravity anomalies data
Tues	S1-P2	Markus Hauk, Roland Pail, Anna Purkhauser, Thomas Gruber	Constellations of Next Generation Gravity Missions: Simulations regarding optimal orbits and mitigation of aliasing errors
Tues	S1-P3	Karim Douch, Annike Knabe, Hu Wu, Jürgen Müller, Gerhard Heinzl	What is required to recover the time-variable gravitational field using satellite gradiometry?
Tues	S1-P4	Per Knudsen, O. Andersen, T. Fecher T. Gruber N. Maximenko	A new OGMOG mean dynamic topography model – DTU17MDT.
Tues	S1-P5	Per Knudsen, Jerome Benveniste and GUT Team	GOCE User Toolbox and Tutorial
Tues	S1-P6	Michal Kollár, Róbert Čunderlík, Karol Mikula	Nonlinear reaction-diffusion filtering of the GOCE gravity gradients.
Tues	S1-P7	Mirko Reguzzoni, Federica Migliaccio, Khulan Batsukh, Andrea Gatti	Improvements of the space-wise products from the GOCE data reprocessing
Tues	S1-P8	Christian Siemes, Luca Massotti, Olivier Carraz, Roger Haagmans, Pierluigi Silvestrin	ESA's Studies of Next Generation Gravity Mission Concepts
Tues	S1-P9	Christian Siemes, Moritz Rexer, Anja Schlicht, Roger Haagmans	The calibration of the GOCE gravity gradiometer
Tues	S2-P1	Th. Gruber & The OGMOG Team	Optimal Ocean Geoid as Reference Surface for Mean Ocean Circulation and Height Systems
Tues	S2-P2	Elmas Sinem Ince, Franz Barthelmes, and Sven Reissland,	New features of the International Centre for Global Earth Models (ICGEM)
Tues	S2-P3	Rezene Mahatsente	Plate Locking Mechanism of the Central Andes Subduction: Combined Modelling of Satellite and Terrestrial Gravity Data

Tues	S3-P1	Adili Abulaitijiang, Will Featherstone, Ole Baltazar Andersen and Per Knudsen	Coastal marine gravity improvement from recent satellite altimetry
Tues	S3-P2	Kevin Ahlgren, Yan Ming Wang, Xiaopeng Li, Jordan Krcmaric	Experimental Geoid Models for American Samoa and Guam/Central Northern Mariana Islands: xGEOID18S and xGEOID18G
Tues	S3-P3	Fernando Sansò, Riccardo Barzaghi, Mirko Reguzzoni	The reason why the GNSS levelling equation cannot be used to evaluate the geoid at 1 cm accuracy level
Tues	S3-P4	Bihter Erol, M. Serkan Işık	Methodology Assessment of High Resolution Geoid Modeling Using The GRAV-D Data Over Colorado
Tues	S3-P5	Claudio Brunini, Laura Sánchez, Hermann Drewes, Romina Galván, Mauricio Gende	Modelling non-tidal loading signals by the combination of GNSS and GRACE data at the normal equation level
Tues	S3-P6	Martina Capponi, Mirko Reguzzoni, Fernando Sansò	Geoid estimation by Bayesian approach: experiments on simulated and real data
Tues	S3-P7	Dongming Zhao, Hongzhou Chai, Rongqin Lan, Zuoping Gong	The Surface Layer Integral Method for the Modelling of the Gravity Gradient Tensor over Sea Surface
Tues	S3-P8	Serdar Erol, Bihter Erol, M. Serkan Işık	Data Quality Assessments for High-frequency Geoid Modeling in Turkey
Tues	S3-P9	V.N. Grigoriadis, G.S. Vergos, R. Barzaghi, D. Carrion	The IGFS metadata for geoid. Structure, build-up and application module.
Tues	S3-P10	V.N. Grigoriadis, G.S. Vergos, D.A. Natsiopoulos	Geoid/Quasi-geoid modeling based on the remove-restore approach with the JWG2.2.2 Colorado dataset and contributions to the IHRF
Tues	S3-P11	Vassilios N. Grigoriadis, Stavros G. Kampourakis, Malamati-Dimitra S. Bantola	Using in-situ depth measurements for the assessment of errors induced in gravity field modeling from Global Bathymetry Models: Preliminary results
Tues	S3-P12	Kristian Keller, Aslak Meister	Investigations and Development of a Danish 5 mm geoid
Tues	S3-P13	Katerina Morozova, Janis Balodis, Gunars Silabriedis, Ansis Zarins, Reiner Jäger	Preliminary results on Quasi-geoid of Latvia using vertical deflection observations
Tues	S3-P14	E L Nicacio, A G Santacruz, S R C de Freitas, R Dalazoana	Evaluation of GGMs spectral completion technique enhanced by terrain effect correction for modelling height anomalies in Brazil
Tues	S3-P15	Martin Pitoňák, Pavel Novák, Michal Šprlák, Mehdi Eshagh, Hogskolan Vast	Local spectral downward continuation of the first-, second- and third-order radial derivatives of the gravitational potential onto gravity disturbances on the Earth surface
Tues	S3-P16	Fatima Feyza Sakil, Serdar Erol, M. Serkan Işık, Bihter Erol, Artu Ellmann	Comparison of Least Squares Modifications of Stokes's and Hotine's Formula Using Point-wise and Gridded Gravity Data
Tues	S3-P17	Martina Capponi, Daniele Sampietro, Ahmed Mansi	A new software for airborne gravimetry survey simulation
Tues	S3-P18	Hezi Sarid, Yan Ming Wang, Sagi Dalyot	Hybrid Geoid Model for Israel
Tues	S3-P19	Joachim Schwabe, Uwe Schirmer, Gunter Liebsch, Christoph Förste, Franz Barthelmes, Hartmut Pflug, Elmas Sinem Ince	Shipborne gravity campaigns and regional geoid modeling in the Baltic Sea in the framework of the FAMOS project

Tues	S3-P20	Stanislava Valcheva, Rossen Grebenitcharsky	Evaluation of global geopotential models for future geoid modelling in Bulgaria
Tues	S3-P21	Sander Varbla, Artu Ellmann, Anti Gruno	Assessment of Marine Geoid Models by Ship-Borne GNSS Profiles in the Gulf of Finland
Thurs	S4-P1	Per-Anders Olsson, Jonas Ågren, Örjan Josefsson	First experiences and uncertainty of the new Swedish ZLS marine gravimeter
Thurs	S4-P2	Ezequiel D. Antokoletz, Fernando Oreiro, Hartmut Wziontek, Claudia Tocho, Enrique D'Onofrio, Mónica Fiore	Towards a precise separation of loading effects from gravity time series at the Argentinean-German Geodetic Observatory (AGGO)
Tues	S4-P3	Yuichi Aoyama, Koichiro Doi, Jun'ichi Okuno, Jun Nishijima, Hiroshi Ikeda, Akihisa Hattori, Yoichi Fukuda	Campaign measurements of absolute gravity and GNSS at outcropped rock areas in east Antarctica
Thurs	S4-P4	Daniel Arana, P.O. Camargo, Éder Cassola Molina, Denizar Blitzkow, Ana Cristina Oliveira Cancoro de Matos	Investigation of ocean loading and body tides by wavelets in Brazil
Thurs	S4-P5	Arttu Raja-Halli, Heikki Virtanen	Improving gravity time series with precipitation modelling at Metsähovi, Finland
Thurs	S4-P6	Marcin Barlik, Tomasz Olszak, Andrzej Pachuta, Janusz Walo, Dominik Próchniewicz, Ryszard Szpunar, Magdalena Pieniak	Gravity changes at Polish fundamental gravity control network
Thurs	S4-P7	Yu.V. Bolotin, <u>V.S. Vyazmin</u>	Optimal estimation in airborne vector gravimetry using two-dimensional random field models
Thurs	S4-P8	Przemyslaw Dykowski, <u>Jan Krynski</u> , Monika Wilde-Piórko, Marcin Sekowski	Assessment of iGrav-027 superconducting gravimeter for validation of gravity variations based on atmospheric and hydrological models
Thurs	S4-P9	junjian lang, Xinghui liang, lintao liu, Guocheng Wang	Research on the Fourier Basis Pursuit Low Pass Filter for Airborne Gravity
Thurs	S4-P10	Jaakko Mäkinen, Ivars Liepiņš, Viesturs Sproģis, Jānis Sakne, Kalvis Salmiņš, Jānis Kaminskis, Reinhard Falk	Variation in subsurface water storage resolved from repeated relative gravity measurements between surface and underground stations
Thurs	S4-P11	D. Markovinović, O. Bjelotomić Oršulić, T. Bašić	Gravity measurements in investigations of caves - case study tunnel „Mala Kapela“ in Croatia
Thurs	S4-P12	Ilya Oshchepkov	A first look at GINEX: the Gravimeter Independent Exchange Format
Thurs	S4-P13	Tommaso Pivetta, Dora Francesca Barbolla, Carla Braitenberg	Gravity change rate of tectonic signals of mountains
Thurs	S4-P14	P. Schack, P. Kümmerle, R. Pail, D. Becker, T. Jensen	Performance analyses of the pilot project GraviRied
Thurs	S4-P15	Manuel Schilling, Annike Knabe, Ludger Timmen, Jürgen Müller, Étienne Wodey, Christian Meiners, Dorothee Tell, Christian Schubert, Wolfgang Ertmer, Dennis Schlippert, Ernst M. Rasel	Establishing an absolute gravimetric reference with a 10 m atom interferometer
Thurs	S4-P16	Gabriel Strykowski, Arne V. Olesen, Jens Emil Nielsen, Tim Enzlberger Jensen, René Forsberg	Automated collection and processing of marine gravimetric data in Denmark
Thurs	S4-P17	Hartmut Wziontek, Ezequiel D. Antokoletz, Reinhard Falk, Claudia Tocho, Claudio Brunini	Determination of Scale Factor and Instrumental Drift of the Superconducting Gravimeter installed at the Argentinean-German Geodetic Observatory (AGGO)

Thurs	S4-P18	Peter Schack, C. Hirt, M. Hauk, W.E. Featherstone, T.J. Lyon, S. Guillaume	A high-precision digital astrogeodetic traverse in a coastal area of steep geoid gradients
Thurs	S5-P1	Denizar Blitzkow, Ana Cristina Oliveira Cancoro de Matos, Cleyton de Carvalho Carneiro, Sonia Maria Alves Costa	First efforts for the IHRF establishment in Brazil
Thurs	S5-P2	Michal Buday, Viliam Vatrt, Lubomil Pospíšil	Computation of the quasigeoid-geoid separation for the territories of the Czech Republic and the Slovak Republic
Thurs	S5-P3	Riccardo Barzaghi, José L. Carrión S., Sílvio R. Correia de Freitas	Geopotential computation on the Ecuadorian Vertical Datum
Thurs	S5-P4	L. Sánchez, S. R. C. de Freitas, W. Martínez, M.V. Mackern, V.J. Cioce, R. Pérez-Rodino	Advances in the modernisation of the height reference systems in Latin America and their integration to the International Height Reference System (IHRF)
Thurs	S5-P5	Gabriel do Nascimento Guimarães, Valéria Cristina Silva	Estimating the geopotential value at Brazilian tide gauge using GOCE gravity fields models
Thurs	S5-P6	Gunter Liebsch, Joachim Schwabe, Martina Sacher, Uwe Schirmer	Germany's unified geodetic reference 2016 – Development, implementation and future perspectives
Thurs	S5-P7	E L Nicacio, J L Carrión, S R C de Freitas, R Dalazoana, V G Ferreira	Strategy for calculating local potential values as IHRF coordinates – a case study on the Colorado empirical experiment
Thurs	S5-P8	Tomasz Olszak, Dorota Marjańska, Dominik Piętko	Validation and fitting of European Gravimetric Geoid EGG08 in context of realisation of EVRS system in Poland
Thurs	S5-P9	Martin Willberg, Philipp Zingerle, Roland Pail	Least squares collocation with global model information for height systems
Thurs	S5-P10	Hu Wu, Jürgen Müller	Optical clock networks for height system unification
Thurs	S6-P1	Masume Akbari, Michael G. Sideris	Determination of lake and river level variations in Canada from satellite altimetry
Thurs	S6-P2	Elzbieta Birgiel, Artu Ellmann, Nicole Delpeche-Ellmann	Performance of Sentinel-3 and CryoSat-2 altimetry in the coastal regions of the Baltic Sea
Thurs	S6-P3	Armin Agha Karimi, Xiaoli Deng and Ole Baltazar Andersen	Sea level variation around Australia: consideration of significant periodic signals and the relation to climate indices
Thurs	S6-P4	Öykü Koç, Serdar Erol, M. Serkan Işık, Bihter Erol	Validation of Mediterranean Sea MSS and Marine Geoid using Recent Global and Regional Models, Local Tide Gauge and Coastal Altimetry Products
Thurs	S6-P5	D.A. Natsiopoulos, G.S. Vergos , I.N Tziavos	Selective filtering of DOT through spatial filtering and Wavelet Multiresolution Analysis
Thurs	S7-P1	Simon Deggim, Annette Eicker	The influence of small-scale mass variations on GRACE water storage estimates
Thurs	S7-P2	Vagner Ferreira, Thomas Grombein, Kurt Seitz, Bernhard Heck	On the equal-area spherical panels to estimate the continental water-mass variations from GRACE measurements
Thurs	S7-P3	Forsberg,R, L Sørensen, S Simonsen,V Barletta, J Dall, A Kusk, T Nagler, M Hetzenecker, K Hauglund, K Khvorostovsky, A Shepherd, S Andersen, C Hvidberg, M Howarth, M Engdahl	Two and a half decades of spaceborne measurements of Greenland ice sheet changes from GRACE, satellite altimetry and SAR velocities

Thurs	S7-P4	Joanna Kuczynska-Siehn, Dimitrios Piretzidis, Michael G. Sideris, Joanna Kuczynska-Siehn, Tomasz Olszak, Viktor Szabó	Comparison of long-term absolute gravimeter observations with GRACE and global hydrology models
Thurs	S7-P5	E.G. Mamagiannou, <u>G.S. Vergos</u>	EOF and PCA analysis of GRACE induced EWT variations and early forecasting results based on stochastic Kalman filtering
Thurs	S7-P6	A. Pereira, C. Cornero, M. C. Pacino, A. C. O. C. Matos, D. Blitzkow	Study of water storage variations at the Pantanal wetlands area from GRACE monthly mass grids
Thurs	S7-P7	Dimitrios Piretzidis, <u>Michael G. Sideris</u>	A combined land hydrology model for North America
Thurs	S7-P8	E.A. Pitenis, <u>G.S. Vergos</u>	Wavelet MRA as a tool for destriping GRACE extracted Equivalent Water Thickness variations
Thurs	S7-P9	E.I. Sanxaridou, <u>G.S. Vergos</u>	Assimilation of GRACE-induced EWT with a Global precipitation model to improve spatial resolution, trend and seasonal signal recovery through PCA and EOF analysis
Thurs	S7-P10	Yu Sun, Riccardo Riva, <u>Pavel Ditmar</u> , Roland Klees	Geocenter motion and Earth's dynamic oblateness time-series derived from GRACE CSR RL06 solutions and geophysical models

SPLINTER MEETINGS

Tuesday (Main lecture hall / Dronningesalen):

15:45-17:00 EGM2020 Evaluation Working group – S Bettadpur [closed]

Wednesday (Holberg Room, 2nd floor):

13:00-14:00 NKG / NGA EGM2020 database meeting – J Agren [closed]

14:00-15:00 IGFS Steering board [open] – G Vergos, R Barzaghi [open]

15:30-17:00 IHRF + Colorado experiment splinter – L Sanchez and Y Wang [open]

Thursday (Holberg Room, 2nd floor):

13:00-14:00 IAG Commission 2 splinter meeting – R Pail [open]

14:00-15:00 JWG 2.1.1 Splinter meeting (gravity reference system/frame) – H Wziontek [open]

16:15-17:00 FAMOS Baltic Sea project meeting – J Agren [closed]

Questions?

Please contact the registration desk ... or any from the DTU Space GGHS team

Emergency mobile contacts: +45-6169-5504 (Maria Gleerup), +45-2540-2775 (Rene Forsberg)