

GSTM-2014 Program

Monday, Sep. 29

08:00 **Registration**

Welcome and GRACE SDS status reports

Convener: Frank Flechtner

09:00 1 Frank Flechtner
Welcome

09:15 2 Byron Tapley
GRACE Mission Status

09:35 3 Mona Witkowski
Status of GRACE Satellites and Instruments

09:55 4 Gerhard Kruizinga
JPL Level-1 Status

10:15 5 Srinivas Bettadpur
CSR Level-2 Status

10:45 6 Michael Watkins
JPL Level-2 Status

11:00 7 Christoph Dahle
GFZ Level-2 Status

11:15 **Coffee Break**

11:45 8 Henryk Dobslaw
AOD1B: Status of RL05 and Future Plans

Session B.1: Multidisciplinary Science

Convener: Matthias Weigelt

12:15 1 Xiaoping Wu
Presented by: Xiaoping Wu
Accelerations in Surface Mass Transport – A Global Reassessment

12:30 2 I. Sasgen, M. Horwath, V. Klemann, E. J. Petrie, N. Schoen, R. Pail, A. Horvath, J. L. Bamber, P. J. Clarke, H. Konrad, M. R. Drinkwater
Presented by: Martin Horwath
The glacial-isostatic adjustment signature in Antarctica inferred from GRACE, Envisat/ICESat and GPS (ESA-STSE project REGINA).

12:45 3 Erik R. Ivins, David Wiese, Michael Watkins, Felix Landerer, Alexander Simms, Dah-Ning Yuan, Carmen Boening, Eugene Domack
Presented by: Erik R. Ivins
Glacial Isostasy and Mass balance of Graham Land and the greater Antarctic Peninsula 2002-2014 and over the past 150 years using GRACE and GNSS station data

13:00 4 Jolanta Nastula, Małgorzata Wińska, Monika Biryło
Presented by: Jolanta Nastula
Comparison of polar motion excitation functions computed from different sets of gravimetric coefficients

Poster 20 M. Srinivasan, E. Ivins, M. Jasinski, J. Famiglietti, M. Rodell
Presented by: Margaret Srinivasan
Developing a Comprehensive GRACE Applications Strategy

13:15 **Lunch**

Session B.4: Hydrology

Convener: Matt Rodell/Andreas Güntner

- 14:15 1 Matthew Rodell
Presented by: Matthew Rodell
Hydrological Extremes in the GRACE Record
- 14:30 2 Sarah Elizabeth McCandless, Srinivas Bettadpur, Teresa Howard, Gordon Wells
Presented by: Srinivas Bettadpur
Utilizing GRACE TWS, NDVI, and Precipitation for Drought Identification and Classification in Texas
- 14:45 3 Mohamed Ahmed, Mohamed Sultan, John Wahr, Ahmed Mohamed, Eugene Yan
Presented by: Mohamed Ahmed
Quantifying recharge and depletion rates of the Nubian Sandstone Aquifer System: An integrated approach
- 15:00 4 Carmen Boening, Marie-Estelle Demory, David Wiese, Pier Luigi Vidale, Malcolm Roberts, Reinhard Schiemann, Matthew Mizielinski, Michael M. Watkins
Presented by: Carmen Boening
The use of GRACE satellite data to validate the global hydrological cycle as simulated by a global climate model
- 15:15 5 Annette Eicker, Maïke Schumacher, Jürgen Kusche, Hannes Müller Schmied, Petra Döll
Presented by: Annette Eicker
Calibration/data assimilation approach for WGHM using gridded GRACE observations
- 15:30 6 Liangjing Zhang, Henryk Dobslaw
Presented by: Liangjing Zhang
Validation of MPI-ESM Decadal Hindcast Experiments with Terrestrial Water Storage Variations as Observed by GRACE
- 15:45 **Coffee Break**

- 16:15 7 Akbar Shabanloui, Jürgen Müller
Presented by: Jürgen Müller
Assimilation of GRACE, satellite altimetry and hydrological data for determining mass variations in the Siberian permafrost region
- 16:30 8 Mohamed Sultan, Mohamed Ahmed, John Wahr, Eugene Yan
Presented by: Mohamed Sultan
Assessing the performance of land surface models over Africa using GRACE and remote sensing data
- 16:45 9 J. Kusche, A. Springer, C. Ohlwein, K. Hartung, L. Longuevergne, S. Kollet, J. Keune, H. Dobslaw, E. Forootan, A. Eicker, P. Krahe, W. You
Presented by: J. Kusche
Synergies between GRACE and regional atmospheric modeling efforts
- 17:00 10 J. Huang , G. Pavlic , A. Rivera
Presented by: Jianliang Huang
How well can synoptic groundwater storage variation be mapped from GRACE? - A case study in Alberta, Canada
- Poster 20 Leonid Zotov, Viktor Yushkin, Jaakko Makinen, Mirjam Bilker-Koivula,
Presented by: L. Zotov
Mass changes over Russia from GRACE and absolute gravimetry
- 17:15 **Poster Session**
- 18:30 - 20:30 **Social Event**

Tuesday, Sep. 30

Session A1: Analysis Techniques Inter-comparisons

Convener: Srinivas Bettadpur/Jürgen Kusche

08:30 1 T. Mayer-Guerr, N. Zehentner, B. Klinger, A. Kvas

Presented by: T. Mayer-Guerr

ITSG-Grace2014: a new GRACE gravity field release computed in Graz

08:45 2 Ulrich Meyer, Adrian Jäggi

Presented by: Ulrich Meyer

AIUB-RL02 monthly gravity field solutions from GRACE kinematic orbits and range rate observations

09:00 3 Jean-Michel Lemoine, Sean Bruinsma, Pascal Gégout, Richard Biancale, Stéphane Bourgogne

Presented by: Jean-Michel Lemoine

Release 3 of the GRACE gravity solutions from CNES/GRGS

09:15 4 B. Loomis, S.B. Luthcke, T. Sabaka

Presented by: B. Loomis

Progress towards the next generation of GSFC global mascons

09:30 5 Beate Klinger, Torsten Mayer-Gürr

Presented by: Beate Klinger

Combination of GRACE star camera and angular acceleration data: impact on monthly gravity field models

- 09:45 6 Peter L. Bender, Frank G. Lemoine, Scott B. Luthcke
Presented by: Peter L. Bender
Progress Toward Development of a Four Revolution Empirical Correction Procedure for GRACE Type Missions
- 10:00 7 A. Horvath, M. Murböck, R. Pail, M. Horwath
Presented by: Alexander Horvath
Mass signals from GRACE gravity fields with dedicated filtering using full covariance information
- 10:15 8 Jiangjun Ran, Pavel Ditmar, Roland Klees
Presented by: Jiangjun Ran
Improved post-processing of GRACE monthly gravity fields to estimate regional mass variations of the Greenland Ice Sheet
- 10:30 **Coffee Break**
- 11:00 9 Christian Gruber, Andreas Groh, Christoph Dahle, Elisa Fagiolini
Presented by: Christian Gruber
Evaluation of global and regional GRACE solutions
- 11:15 10 Y. Sun, P. Ditmar, R. Riccardo
Presented by: Y. Sun
Determination of changes in the Earth's dynamic oblateness from GRACE, an ocean bottom pressure model and a glacial isostatic adjustment model
- 11:30 11 Na Wei, Tonie van Dam, Matthias Weigelt, Thierry Meyrath
Presented by: Na Wei
Seasonal Variations of Low-degree Spherical Harmonic Derived from GPS Data and Loading Models

- 11:45 12 A. Jäggi, M. Weigelt, F. Flechtner, A. Güntner, T. Mayer-Gürr, S. Martinis, S. Bruinsma, J. Flury, S. Bourgogne
Presented by: A. Jäggi
European Gravity Service for Improved Emergency Management - a new Horizon2020 project to serve the international community and improve the accessibility to gravity field products
- Poster 20 C. Siemes, M. Fehringer, R. Floberghagen, B. Frommknecht, R. Haagmans
Presented by: Christian Siemes
Evolution of GOCE gravity gradient performance during mission lifetime
- Poster 21 Tamara Bandikova, Ulrich Meyer, Beate Klinger, Paul Tregoning, Jakob Flury, Torsten Mayer-Gürr
Presented by: Tamara Bandikova
Improved star camera attitude data and their effect on the gravity field

Session A.2: GRACE Follow-On NGGM

Convener: Mike Watkins / Frank Flechtner

- 12:00 1 Mike Watkins, Frank Flechtner, Phil Morton, Frank Webb, Franz-Heinrich Massmann, Ludwig Grunwaldt
Presented by: Mike Watkins
Status of the GRACE Follow-On Mission
- 12:15 2 Bernard Foulon, Bruno Christophe, Vincent Lebat, Damien Boulanger, Francoise Liorzou
Presented by: Bruno Christophe
Development status of the GRACE Follow-On accelerometer and first results of the Engineering Model testing
- 12:30 3 Christina Bogan for the LRI team
Presented by: Christina Bogan
The Laser Ranging interferometer for GRACE Follow On - current status

- 12:45 4 Srinivas Bettadpur, Christopher McCullough, John Ries, Minkang Cheng
Presented by: Srinivas Bettadpur
Use of GNSS and SLR tracking of LEO satellites for bridging between GRACE and GRACE-FO
- 13:00 5 M. Weigelt, T. van Dam, O. Baur, M. J. Tourian, H. Steffen, K. Sosnica, A. Jäggi, N. Zehentner, T. Mayer-Gürr, N. Sneeuw
Presented by: Matthias Weigelt
How well can the combination HISST and SLR replace GRACE? A discussion from the point of view of applications
- 13:15 **Lunch**
- 14:15 6 K. Sośnica, A. Jäggi, M. Weigelt, T. van Dam, N. Zehentner, T. Mayer-Gürr
Presented by: Krzysztof Sośnica
Time varying gravity from SLR and combined SLR and high-low satellite-to-satellite tracking data
- 14:30 7 Norbert Zehentner, Torsten Mayer-Gürr, Matthias Weigelt, Adrian Jäggi
Presented by: Norbert Zehentner
Non-dedicated satellite missions for time variable gravity field estimation
- 14:45 8 Christian Siemes, Olivier Carraz, Luca Massotti, Roger Haagmans, Pierluigi Silvestrin
Presented by: Christian Siemes
ESA's Activities related to Next Generation Gravity Mission Concepts
- 15:00 9 R. Pail, R. Bingham, C. Braitenberg, A. Eicker, R. Floberghagen, R. Haagmans, M. Horwath, T.J. Johnson, L. Longuevergne, I. Panet, C. Rolstad-Denby, B. Wouters
Presented by: Roland Pail
Consolidated science requirements for a next generation gravity field mission

15:15 10 M. Murböck, Th. Gruber and NGGM-D team

Presented by: T. Gruber

Next generation satellite gravimetry mission study (NGGM-D)

15:30 11 I. Daras, R. Pail, P. Visser, M. Weigelt, S. Iran-Pour, M. Murböck, S. Tonetti, T. Gruber, J. de Teixeira da Encarnação, S. Cesare, C. Siemes, J. van den IJssel, S. Cornara, T. van Dam, N. Sneeuw, R. Haagmans

Presented by: Ilias Daras

Treatment of temporal aliasing on future gravity satellite missions - an insight into ESA-SC4MGV project

15:45 12 M. Weigelt, S. Iran-Pour, M. Murböck, S. Tonetti, P. Visser, I. Daras, J. de Teixeira da Encarnação, S. Cesare, C. Siemes, J. van den IJssel, S. Cornara, T. Gruber, T. van Dam, R. Pail, N. Sneeuw, R. Haagmans

Presented by: Matthias Weigelt

A methodology to choose the orbit for a double pair scenario future gravity satellite mission ? experiences from the ESA SC4MGV project

Poster 20 Ilias Daras, Roland Pail

Presented by: Ilias Daras

Towards a full exploitation of next generation sensors on-board future LL-SST type gravity field missions

Poster 21 Henryk Dobslaw, Inga Bergmann-Wolf, Robert Dill, Ehsan Foroootan, Volker Klemann, Jürgen Kusche, Ingo Sasgen

Presented by: Henryk Dobslaw

The Updated ESA Earth System Model for Gravity Mission Simulation Studies

Poster 22 Matthias Ellmer, Torsten Mayer-Gürr

Presented by: Matthias Ellmer

GRACE follow-on sensor noise with realistic background models

Poster 23 Bernard Foulon, Bruno Christophe, Francoise Liorzou

Presented by: Bernard Foulon

MICROSTAR, a "miniaturized" ultra sensitive accelerometer for future space missions

Poster 24 Bernard Foulon, Bruno Christophe, Vincent Lebat, Karim Douch, Isabelle Panet

Presented by: Bernard Foulon

GREMLIT: a planar electrostatic gradiometer for airborne geodesy

Poster 25 Vitali Müller for the LRI-D team

Presented by: Vitali Müller

Inter-satellite ranging for GRACE Follow-On and NGGM

16:00 **Coffee Break**

Session B.2: Cryosphere

Convener: Isabella Velicogna

16:30 1 Jianli Chen

Presented by: Jianli Chen

Reducing Leakage Error in GRACE-Estimated Antarctic Mass Balance

16:45 2 Jennifer Bonin, Don Chambers, Himanshu Save

Presented by: Jennifer Bonin

What GRACE resolution is required to numerically separate Greenland's glacial mass balance from its surface mass balance?

- 17:00 3 S.B. Luthcke, B. Loomis, T. Sabaka
Presented by: S.B. Luthcke
Current estimates of land ice mass evolution from the NASA GSFC mascon solution
- 17:15 4 M. J. Talpe, R. S. Nerem, F. G. Lemoine, F. Landerer
Presented by: R. S. Nerem
Two Decades of Mass Change in Greenland and Antarctica
- 17:30 5 Isabella Velicogna
Presented by: Isabella velicogna
Regional pattern of ice mass balance with GRACE in Greenland, Antarctica and the Canadian Arctic Archipelago
- 17:45 6 Yvonne Firing, Carmen Boening, David Wiese, Michael Watkins, Nicole Schlegel, Eric Larour
Presented by: Carmen Boening
Antarctic Ice Mass Balance from GRACE

Wednesday, Oct. 01

Session B.3: Oceanography

Convener: Victor Zlotnicki/Jens Schröter

- 08:30 1 Christopher G. Piecuch, Rui M. Ponte
Presented by: Rui M. Ponte
Annual Cycle in Southern Tropical Indian Ocean Bottom Pressure
- 08:45 2 Rui M. Ponte, Christopher G. Piecuch
Presented by: Rui M. Ponte
Interannual Bottom Pressure Signals in the Australian-Antarctic and Bellingshausen Basins
- 09:00 3 B. Uebbing, J. Kusche, R. Rietbroek, C.K. Shum, Z.H. Khan
Presented by: J. Kusche
Partitioning Regional Sea Level in the Bay of Bengal from a Global GRACE and Jason-1/-2 Joint Inversion
- 09:15 4 Jessica Makowski, Don P. Chambers, Jennifer Bonin
Presented by: Jessica Makowski
Using GRACE Ocean Bottom Pressure to Observe Mass Transport of the Antarctic Circumpolar Current
- 09:30 5 S.-C. Han, R. Ray
Presented by: R. Ray
High-frequency (20 - 60 days) ocean mass variation over the Argentine basin observed from GRACE satellite gravity

- 09:45 6 Ichiro Fukumori, Ou Wang, William Llovel, Ian Fenty, Gael Forget
Presented by: Ichiro Fukumori
Coherent Near-Uniform Fluctuations of Ocean Bottom Pressure and Sea Level across the Arctic Ocean and the Nordic Seas
- 10:00 7 C. G. Piecuch, I. Fukumori, R. M. Ponte, O. Wang
Presented by: Ichiro Fukumori
Vertical Structure of Ocean Pressure Variations with Application to Satellite-Gravimetric Observations
- 10:15 8 Katrin Bentel, Felix W. Landerer, Carmen Boening
Presented by: Katrin Bentel
Monitoring Atlantic overturning circulation variability with GRACE-type gravity observations
- 10:30 **Coffee Break**
- 11:00 9 W. Llovel, J.K. Willis, F.W. Landerer, I. Fukumori
Presented by: Felix W. Landerer
Deep ocean contribution to sea level and energy budget not detectable over the past decade
- 11:15 10 Inga Bergmann-Wolf, Liangjing Zhang, Henryk Dobslaw
Presented by: Inga Bergmann-Wolf
Impact of global eustatic sea-level variations for the approximation of geocenter motion from GRACE
- 11:30 11 Sarah Kwon , Don Chambers
Presented by: Sarah Kwon
Understanding Oceanographic Contribution to Polar Motion

11:45 12 R. Ray, S. Luthcke, J.-P. Boy, M. Schindelegger

Presented by: R. Ray

Testing Tide Models and Deducing Tidal Corrections from GRACE Range-Rate Data

12:00 13 R.J. Bingham, K. Haines, D. Lea

Presented by: R.J. Bingham

How well can we measure the ocean's mean dynamic topography from space?

Poster 20 Denis Volkov, Felix Landerer

Presented by: Felix Landerer

Internal and external forcing of sea level variability in the Black Sea

Poster 21 Cecilia Peralta-Ferriz, James H. Morison

Presented by: Jennifer Bonin

Bridging a possible gap of GRACE observations in the Arctic Ocean using existing GRACE data and in situ bottom pressure sensors

Poster 22 Katherine Quinn

Presented by: Rui Ponte

Separation of signals and noise in GRACE data over the ocean