

MONDAY • SEPTEMBER 2 • Detailed Assembly Program

| Time | Lecture Hall F1 | Lecture Hall F2 | Time | Lecture Hall F3 |
|-------------|--|-----------------|-------------|--|
| | 2.4 REGIONAL GRAVITY AND GEOID STUDIES 2.4.1 Developments in the gravity field theory <i>Chairs: Urs Marti & Gabriel Strykowski</i> | | | 6.2 GNSS ALGORITHMS AND METHODS Session I <i>Chairs: Sandra Verhagen & Jinling Wang</i> |
| 09:30–10:00 | Gravity field and the figure of the Earth <i>Reiner Rummel (TU Munich, DE) & Thomas Gruber</i> | | 09:30–09:45 | Optimized Precise-Point-Positioning Service for Natural Hazard Monitoring <i>Yoaz Bar-Sever (California Inst. Technol., USA), Willy Bertiger, Angie Dorsey, Rober Meyer, Larry Romans & Jan Weiss</i> |
| 10:00–10:15 | A rectangular harmonic analysis based approach for regional gravity field modeling <i>Tao Jiang (Chinese Academy of Surveying and Mapping, Beijing, CN), YaMin Dang, Chuanyin Zhang & Baogui Ke</i> | | 09:45–10:00 | Stochastic modeling of high-performance GNSS satellite clocks and its impact on kinematic GNSS orbits <i>Kan Wang* (ETH Zurich, CH) & Markus Rothacher</i> |
| 10:15–10:30 | Developments in the implementation and use of Least-Squares Collocation <i>Carl Christian Tscherning (Copenhagen Univ., DK)</i> | | 10:00–10:15 | Predicting and correcting scale induced biases resulting from the application of regional orbit and clock corrections <i>Lennard Huismán (Kadaster, Apeldoorn, NL) & Peter J.G. Teunissen</i> |
| 10:30–10:45 | Gravity inversion by no-topography and new isostatic gravity anomalies <i>Lars E. Sjöberg (Royal Inst. of Technology (KTH), SW), Mohammad Bagherbandi & Robert Tenzer</i> | | 10:15–10:30 | Adaptive Robust Kalman Filter for Kinematic Precise Point Positioning <i>Guo Fei* (Wuhan Univ., CN) & Zhang Xiaohong</i> |
| 10:45–11:00 | Optimisation of Point Grids in Regional Gravity Field Analysis <i>Judith Schall, Annette Eicker & Jürgen Kusche (Bonn Univ., DE)</i> | | 10:30–10:45 | Refinement of the functional and stochastic models with GNSS zero-differences observables in Precise Point Positioning <i>Jiangqiang Cai (Stuttgart Univ., DE) & Congwei Hu</i> |
| 11:00 | <i>Coffee Break & Poster Session: Theme 2 (sub themes 2, 4 and 6), theme 5 and theme 6</i> | | 10:45–11:00 | RTIGS products verification and quality degradation over time <i>Tomasz Hadas* (Wroclaw Univ. Env. & Live Sci., PL), Jan Kaplon, Karina Wilgan, Jaroslaw Bosy & Jan Sierny</i> |

IAG 2013 students' talks and posters award: Students' talks (first author / presenter is a (PhD) student) are marked in this programme with an asterisk. Students' posters are marked with a green label. You will find your evaluation sheets in your conference bags. Please fill in and return until the last coffee break on Thur., September 5, to the conference secretary (check-in desk).

MONDAY • SEPTEMBER 2 • Detailed Assembly Program

| Time | Lecture Hall F1 | Lecture Hall F2 | Lecture Hall F3 |
|-------------|--|--|--|
| | 2.4 REGIONAL GRAVITY AND GEOID STUDIES 2.4.2 Gravimetry <i>Chairs: Leonid Vitushkin & Herbert Wilmes</i> | 2.6 UNIFICATION OF HEIGHT SYSTEMS Session I <i>Chair: Michael Sideris</i> | 6.2 GNSS ALGORITHMS AND METHODS Session II <i>Chairs: Dorota Brzezinska & Xiaoli Deng</i> |
| 11:45–12:00 | The geodetic-geophysical flight mission GEOHALO: Results of airborne gravimetry and further geodetic products <i>Mirko Scheinert (TU Dresden, DE), Svetozar Petrovic, Ingo Heyde, Franz Barthelmes & the GEOHALO group</i> | Conventional reference level for a global unified height system <i>Laura Sánchez (DGFI Munich, DE), R. Čunderlík, N. Dayoub, K. Mikula, Z. Minarechová, Z. Šíma, V. Vatr & M. Vajtišková</i> | Statistical Testing of Ionospheric Model Biases in Precise GNSS Positioning: Sensitivity Analysis <i>Jinling Wang (Univ. New South Wales, Sydney, AU) & Peiyuan Zhou</i> |
| 12:00–12:15 | Airborne and shipborne gravimetry at GFZ with emphasis on the GEOHALO project <i>Svetozar Petrovic (GFZ Potsdam, DE), Franz Barthelmes & Hartmut Pflug</i> | On the use of the fixed Geodetic Boundary Value Problem for global height system unification <i>Thomas Grombein* (Karlsruhe Inst. Technol. (KIT), DE), Kurt Seitz & Bernhard Heck</i> | An innovative method to predict and to detect the false fixing of the GNSS ambiguity phase <i>Paolo Dabove (Politecnico di Torino, IT) & Ambrogio Manzino</i> |
| 12:15–12:30 | Absolute gravity measurements in the Fennoscandian postglacial rebound area: history, network, results <i>Jaakko Mäkinen (Finnish Geodetic Inst. (FGI), Masala, FI), A. Engfeldt, O. Gitlein, J. Kaminski, F. Klopping, T. Oja, O.C.D. Omang, E. Paršeliunas, B.R. Pettersen, G. Strykowski & H. Wilmes</i> | A roadmap to the realization of a consistent set of regional vertical reference frames <i>D.C. Slobbe & Roland Klees (Delft Univ. Technol., NL)</i> | Partial Ambiguity Resolution for Precise Point Positioning: Joint Subset Optimization and Integer Least-squares Estimation <i>Zhibo Wen (TU Munich, DE), Patrick Henkel & Christoph Günther</i> |
| 12:30–12:45 | Inter-comparison of A10 and FG5 absolute gravity and of A10 and CG5 gravity difference measurements at the Absolute Gravity Network sites in Saudi Arabia <i>Mehmet Emin Ayhan (General Commission for Survey, Riyadh, SA), Bandar Almuslmani, Jeff Kanney & Othman Alkherayef</i> | Practical aspects of the unification of height system realizations in Europe <i>Axel Rülke (Fed. Agency for Cartography and Geodesy, Frankfurt/Main & Leipzig, DE), Gunter Liebsch, Martina Sacher, Uwe Schäfer & Johannes Ihde</i> | Near real-time coordinate estimation from double-difference GNSS data <i>Daniel Arnold (Bern Univ., CH), Simon Lutz, Rolf Dach, Adrian Jäggi & André Kloth</i> |
| 12:45–13:00 | Gravity Recordings of the transportable Gravimetric Atom Interferometer (GAIN) <i>Christian Freier* (Humboldt Univ. Berlin, DE), Vladimir Schkolnik, Matthias Hauth, Manuel Schilling, Olga Gitlein & Achim Peters</i> | Unification of vertical datums using GOCE, local gravity and topography information – Application in North America <i>Babak Amjadiparvar* (Calgary Univ. CA), E. Rangelova & M.G. Sideris</i> | Validation of IGGHZ-G near real-time troposphere model in relative instantaneous positioning <i>Pawel Wielgosz (Warmia & Mazury Univ. in Olsztyn, PL), Jacek Paziewski, Anna Krypiak-Gregorzczuk, Marta Krukowska, Tomasz Hadas, Jan Kaplon, Jan Sierny & Karina Wilgan</i> |
| 13:00–13:15 | Accuracy estimation of the IfE gravimeters Micro-g LaCoste gPhone-98 and ZLS Burris Gravity Meter B-64 <i>Manuel Schilling* (Hannover Univ., DE) & Olga Gitlein</i> | Modernization of Canada's Geodetic Vertical Datum <i>Denis Hains (Nat. Resources Canada, CA), Mark Véronneau & Jianliang Huang</i> | Mitigating Ionospheric Errors in Single-frequency GPS Measurements for Improving Orbit Accuracy of LEO Satellites <i>Dongju Peng (RMIT Univ., Melbourne, AU), Kefei Zhang, Bin Wu & Suqin Wu</i> |
| 13:15 | Lunch & Poster Session: Theme 2 (sub themes 2, 4 and 6), theme 5 and theme 6 | | |

MONDAY • SEPTEMBER 2 • Detailed Assembly Program

| Time | Lecture Hall F1 | Lecture Hall F2 | Lecture Hall F3 |
|-------------|--|---|---|
| | 2.4 REGIONAL GRAVITY AND GEOID STUDIES 2.4.3 Improvements in gravity field methodology <i>Chairs: Roland Klees & Heiner Denker</i> | 2.6 UNIFICATION OF HEIGHT SYSTEMS Session II <i>Chair: Laura Sanchez</i> | 6.4 TRENDS IN GNSS POSITIONING, NAVIGATION AND TIMING <i>Chairs: Guether Retscher & Charles Toth</i> |
| 14:30–14:45 | Downward continuation and prediction of GOCE gravitational gradients <i>Pavel Novák (West Bohemia Univ., Plzeň, CR), Josef Sebera, Michal Šprlák, Miloš Valko & Roger Haagmans</i> | The importance of the orthometric correction in the North of Italy considering a global model of geoid: a real case study <i>Ambrogio Maria Manzino, Paolo Dabove (Politecnico di Torino, IT) & Cinzia Taglioretti</i> | Current trends in PNT research and applications <i>Dorota A. Grejner-Brzezinska (Ohio State Univ., USA)</i> |
| 14:45–15:00 | Searching for the optimal method to combine terrestrial, satellite and airborne gravity into a high resolution geoid model <i>Yan Ming Wang (National Geodetic Survey, USA), X. Li, D.R. Roman & D.A. Smith</i> | Orthometric height determination using GNSS signals and a proposal for unifying the height datum system <i>WenBin Shen (Wuhan University, CN)</i> | |
| 15:00–15:15 | Detecting regional scale water mass variations with GRACE <i>Elisa Fagiolini (GFZ Potsdam, DE), Ch. Gruber, H. Apel, N.V. Dung, Y. Hundedcha & A. Güntner</i> | Tide Gauge Benchmark Monitoring – The IGS TIGA Project <i>Tilo Schöne (GFZ, DE) & the International GNSS Service (IGS) TIGA Working Group</i> | Attitude Determination and Relative Positioning for LEO Satellites Using Arrays of GNSS Sensors <i>Nandakumaran Nadarajah (Curtin Univ., AU), Peter J.G. Teunissen & Sandra Verhagen</i> |
| 15:15–15:30 | On the efficiency of atmospheric corrections for gravity time series obtained from numerical weather models <i>Thomas Klügel, Maria Karbon, Hartmut Wziontek (Fed. Agency for Cartography and Geodesy, Leipzig, DE) & Beatriz Cordoba</i> | Long-term time changes of the North American Wo potential <i>Elena Rangelova, W. van der Wal, E. Boergens, F. Tang & Michael G. Sideris (Calgary Univ., CA)</i> | Receiver clock modeling in kinematic GNSS applications <i>Thomas Krawinkel (Hannover Univ., DE) & Steffen Schön</i> |
| 15:30–15:45 | Application of the Levenberg-Marquardt algorithm in local gravity field modeling using radial basis functions <i>Ismael Foroughi (Tehran Univ., IR), Robert Tenzer & Abdoreza Safari</i> | Unification of the Italian height system using GPS-levelling and global satellite gravity models <i>Riccardo Barzaghi (DICA-Politecnico di Milano, IT), D. Carrion, A. Gatti, M. Reguzzoni & G. Venuti</i> | Precise Velocity and Acceleration Determination from High-Rate GPS under Various Dynamic Stress Scenarios <i>Christian Bischof (Hannover Univ., DE) & Steffen Schön</i> |
| 15:45–16:00 | Gravity model of the lithosphere and upper mantle of Eurasia <i>Mikhail K. Kaban (GFZ Potsdam, DE) & Ward Stolk</i> | Simulation of Earthbound Atomic Clock Comparisons for Relativistic Geodesy <i>Enrico Mai (Hannover Univ., DE) & J. Müller</i> | Optimal Integration of Time-Differenced Carrier Phases with Inertial Measurements for Positioning, Navigation and Timing <i>Jinling Wang (Univ. of New South Wales, Sydney, AU)</i> |
| 16:00 | Coffee Break & Poster Session: Theme 2 (sub themes 2, 4 and 6), theme 5 and theme 6 | | |

MONDAY • SEPTEMBER 2 • Detailed Assembly Program

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|-------|---|---|-----------------|
| 16:30 | | <p>Plenary Session: Opening</p> <p><i>Chair: Hermann Drewes</i></p> <p>16:30 Welcome <i>Reinhard Hüttl, GFZ Scientific Executive Director</i></p> <p>16:45 Introduction <i>Chris Rizos, IAG President</i></p> <p>17:00 Short welcome speeches <i>Federal Minister of Education and Research (BMBF)</i> <i>Prime Minister of the State of Brandenburg</i> <i>IUGG President (including all sister associations)</i> <i>JBGIS President (including all sister organisations)</i></p> <p>17:30 Presentation of the IAG Young Authors Awards 2011 & 2012 <i>Chris Rizos, IAG President</i></p> <p>17:40 Programme overview <i>Hermann Drewes, IAG Secretary General</i></p> <p>17:50 Organisational remarks <i>Harald Schuh, LOC Chairman</i></p> | |
| 18:00 | <i>Icebreaker at the Conference Venue</i> | | |

TUESDAY • SEPTEMBER 3 • Detailed Assembly Program

| Time | Lecture Hall F1 | Lecture Hall F2 | Lecture Hall F3 |
|-------------|--|---|-----------------|
| | 2.4 REGIONAL GRAVITY AND GEOID STUDIES 2.4.4 Developments in approaches related to geoid determination <i>Chairs: Hussein Abd-Elmotaal & Pavel Novak</i> | Plenary Panel Discussion <i>Chair: Ruth Neilan</i> | |
| 09:00–09:15 | Astrogeodetic Vertical Deflections for the Validation of Gravity Field Models <i>Heiner Denker & Christian Voigt (Hannover Univ., DE)</i> | Panel – <ul style="list-style-type: none"> <i>Hansjörg Kutterer, Chair of GGOS, BKG, DE</i> <i>Gary Johnston, Chair, GGOS Interagency Committee Geoscience, AU</i> <i>Richard Gross, Chair, GGOS Science Panel NASA/JPL, USA</i> <i>Chris Rizos, IAG President, UNSW, AU</i> <i>Gerhard Beutler, Past President IAG, AIUB, TU Munich, DE (to be confirmed)</i> <i>Reiner Rummel, TU Munich, IAPG, DE</i> | |
| 09:15–09:30 | Contributions of different gravity field quantities to the geoid computation <i>Christian Pock* (TU Graz, AT), Torsten Mayer-Gürr, Daniel Rieser & Norbert Kühtreiber</i> | <i>The panel will be moderated by Ruth Neilan, Vice-Chair of GGOS, NASA/JPL.</i> | |
| 09:30–09:45 | An Alternative Geoid Fitting Technique <i>Norbert Kühtreiber (TU Graz, AT) & Hussein A. Abd-Elmotaal</i> | | |
| 09:45–10:00 | A further improvement of the 5'x5' global geoid 2013 (GG2013) based on shallow-layer approach <i>WenBin Shen (Wuhan University, CN) & Jiancheng Han</i> | This special plenary session on the IAG's Global Geodetic Observing System (GGOS) will be a panel discussion with time devoted to questions and interactions with the attendees of this IAG General Assembly. Invited speakers will highlight views on various components of GGOS and engage in a lively dialog with participants. Highlights will be the historical basis for GGOS, integration of GGOS with the well-functioning IAG scientific services, the multi-disciplinary themes of GGOS, GGOS engagement with external bodies such as Committee on Earth Observing Satellites (CEOS), Group on Earth Observations (GEO), United Nations, International Council of Science's World Data System (ICSU WDS), IUGG and the evolution of GGOS. | |
| 10:00–10:15 | Precise geoids from airborne gravimetry: Two case studies <i>Robert Kingdon (Fugro Airborne Surveys Ottawa, CA) & Detang Zhong</i> | The main focus is: where will GGOS, through our collective efforts, take global geodesy in the next decade? (Please note: presentations of viewpoints by the panel will be ~7–8 minutes each, allowing about half of the allotted session time for questions and dialog.) | |
| 10:15–10:30 | Development of a high precision gravimetric geoid for the Indonesian archipelago <i>Adolfientje Kasenda (TU Denmark, DK), A.V. Olesen, M.A. Sjafei, R. Forsberg & S. Kenyon</i> | | |
| 10:30 | Coffee Break & Poster Session: Theme 2 (sub themes 2, 4 and 6), theme 5 and theme 6 | | |

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| | 2.4 REGIONAL GRAVITY AND GEOID STUDIES 2.4.5 Regional and local geoid determination I <i>Chairs: Jonas Agren & Jan Krynski</i> | 5 OBSERVATION SYSTEMS AND SERVICES 5.1 Services <i>Chair: Urs Hugentobler</i> | 6.2 GNSS ALGORITHMS AND METHODS Session III <i>Chairs: Terry Moore & Robert Odolinski</i> |
| 11:15–11:30 | Precise gravity field determination around the Japanese Antarctic Station, Syowa, by combining satellite and in-situ gravity data <i>Yoichi Fukuda (Kyoto University, JP), Yoshifumi Nagi & Kazuya Matsuzaki</i> | 10 Years of Precise Geometrical Positioning in Space: Geometrical Model of Solar Radiation Pressure Based on High-Performing Clocks Onboard new GNSS Satellites <i>Drazen Svehla (ESA, DE), M. Rothacher, U. Hugentobler & M. Ziebart</i> | Nonlinearity of Distance Function and Its Effects on Geodetic Adjustment <i>Shuang Xue (Chinese Academy of Surveying and Mapping, Beijing, CN), Yamin Dang & Yuanxi Yang</i> |
| 11:30–11:45 | Regional geoid modelling in the area of subglacial Lake Vostok, Antarctica <i>Joachim Schwabe* (TU Dresden, DE), Heiko Ewert, Mirko Scheinert & Reinhard Dietrich</i> | Monitoring of antenna changes at IGS stations in Iceland <i>Peter Steigenberger (TU Munich, DE), U. Hessels, K. Röttcher, S. Lutz, R. Dach & U. Hugentobler</i> | Research on GNSS Integrity Monitoring with Heibei Province GPS/BDS CORS Network <i>Jinzhong Mi (Chinese Academy of Surveying and Mapping, Beijing, CN) Yamin Dang, Shouzhou Gu, Shushan Fang & Chuanhua Zhao</i> |
| 11:45–12:00 | Gravity surveys and quasi-geoid model for South America <i>Denizar Blitzkow (Sao Paulo Univ., BR), Ana Cristina Oliveira Cancoro de Matos, Gabriel do Nascimento Guimarães, Maria Cristina Pacino & Maria Cristina Barboza Lobianco</i> | The International VLBI Service for Geodesy and Astrometry (IVS): Recent and Future Developments <i>Axel Nothnagel (Bonn Univ., DE) & multiple colleagues of the IVS</i> | Global optimization of GNSS station reference networks <i>David Coulot, Arnaud Pollet (IGN/LAREG, Paris Diderot Univ., FR), Paul Rebeschung, Guillaume Collot & Loïc Grondin</i> |
| 12:00–12:15 | Gravity Field of Himalayas from GOCE and airborne gravity <i>Hasan Yildiz (General Command of Mapping, TR), Rene Forsberg & Arne Vestergaard Olesen</i> | The International DORIS Service (IDS) – Recent developments in preparation for ITRF2013 <i>Pascal Willis (IGN, Saint-Mande, FR), Frank G. Lemoine, Guilhem Moreaux, Laurent Soudarin, Pascale Ferrage, John Ries, Michiel Otten, Jerome Saunier, Carey Noll, Richard Biancale & Brian Luzum</i> | Impact of Group Delay Variations on Wide- and Narrowlane Linearcombinations <i>Tobias Kersten (Hannover Univ., DE) & Steffen Schön</i> |
| 12:15–12:30 | The local geoid undulation model for Tete, Mozambique: comparison with global models <i>Rui M.S. Fernandes (SEGAL (UBI/IDL), Covilhã, PT), M.S. Bos, P. Almeida, M. Cordeiro, W. Coetzee, M. Ferrão & M. Mzunzu</i> | BGI (International Gravimetric Bureau): Status of the IAG Service <i>Sylvain Bonvalot (Bureau Gravimetrique Int. (BGI), Toulouse, FR), F. Reinquin, G. Balmino, R. Biancale, A. Briais, G. Gabalda, L. Seoane, H. Wilmes & H. Wziontek</i> | Empirical estimation of transfer functions for high-rate GNSS receivers <i>Simon Häberling* (ETH Zurich, CH), Markus Rothacher & Alain Geiger</i> |
| 12:30–12:45 | Approach to the A10 Gravimeter Total Uncertainty Budget Estimation <i>Przemyslaw Dykowski (Inst. Geodesy and Cartography, PL), Jan Krynski & Marcin Sekowski</i> | Toward the establishment of the GGP-ICET Service, a new component of IGF5 <i>Jean-Paul Boy (EOST/IPGS, Strasbourg, FR), Jacques Hinderer, Séverine Rosat, Hartmut Wzontiek, Herbert Wilmes, Christoph Foerste, Bernd Ritschel, Vojtech Palinkas, Milos Valko, Jean-Pierre Barriot & David Crossley</i> | GNSS on-board autonomous OD using singularity-free analytical theory <i>Guochang Xu (GFZ Potsdam, DE)</i> |
| 12:45 | Lunch & Poster Session: Theme 2 (sub themes 2, 4 and 6), theme 5 and theme 6 | | |

TUESDAY • SEPTEMBER 3 • Detailed Assembly Program

| Time | Lecture Hall F1 | Lecture Hall F2 | Lecture Hall F3 |
|-------------|--|--|--|
| | 2.4 REGIONAL GRAVITY AND GEOID STUDIES 2.4.6 Regional and local geoid determination II <i>Chairs: Yoichi Fukuda & Denizar Blitzkow</i> | 5 OBSERVATION SYSTEMS AND SERVICES 5.2 Services & Infrastructure <i>Chair: Riccardo Barzaghi (approached)</i> | 6.3 MULTI-CONSTELLATION GNSS AND EMERGING GNSS <i>Chairs: Allison Kealy & Craig Roberts</i> |
| 14:00–14:15 | Dynamic sea surface topography corrections for radar altimeter data and their impact on the computation of a quasi-geoid in the North Sea <i>D.C. Slobbe & Roland Klees (Delft Univ. Technol, NL)</i> | ICGEM – status of the IAG service for global Earth gravity field models after the first decade <i>Franz Barthelmes (GFZ Potsdam, DE) & W. Köhler</i> | Developments in Multi-Constellation GNSS <i>Terry Moore (Nottingham Univ., NGI, UK)</i> |
| 14:15–14:30 | Errors in geoid and quasigeoid models as propagated from systematic uncertainties in the Digital Elevation Model <i>Jonas Ågren (Lantmäteriet, Swedish mapping, cadastre and registry auth., Gävle, SE) & Lars E. Sjöberg</i> | The Future International Global Geodynamics and Earth Tides Session: Tasks and Challenges <i>Jean-Pierre Barriot (French Polynesia Univ., FP), Bernard Ducarme & Bernd Ritschel</i> | |
| 14:30–14:45 | Quasigeoid and the relation of ETRS to the Bpv system in the Czech Republic <i>Otakar Nesvadba (Land Survey Office, Prague, CR), Petr Holota & Martin Lederer</i> | Geodetic Infrastructure in Antarctica <i>Mirko Scheinert (TU Dresden DE), Alessandro Capra, Markku Poutanen & the GIANT team</i> | Application-driven critical values for GNSS ambiguity acceptance testing <i>Sandra Verhaagen (TU Delft, NL) & Peter J.G. Teunissen</i> |
| 14:45–15:00 | The determination of national, provincial and urban quasi-geoids in China <i>Jiancheng Li (Wuhan University, CN), Weiping Jiang, Yibin Yao & Xiancai Zou</i> | Renewal of Metsähovi fundamental station <i>Markku Poutanen (Finnish Geodetic Inst., FI), Ulla Kallio, Hannu Koivula, Jaakko Mäkinen, Jyri Näränen, Arttu Raja-Halli, Heikki Virtanen & Nataliya Zubko</i> | Combined GPS, BeiDou-2, Galileo, and QZSS Single- and Multi-frequency RTK Performance Analyses <i>Robert Odolinski* (Curtin Univ. Technol., AU), Peter Teunissen & Dennis Odijk</i> |
| 15:00–15:15 | Simulated Ocean Bottom Pressure Signals and Their Impact on <i>In-Situ</i> Gravimetry in Sutherland, South Africa <i>Julian Kuhlmann* (GFZ Potsdam, DE), Henryk Dobsław, Maiko Abe, Christoph Förste & Maik Thomas</i> | Challenges for geodetic observatories: SGF Herstmonceux, UK <i>Graham M. Appleby (NERC Space Geodesy Facility, UK), Christopher Potter, Jose Rodriguez, Toby Shoobridge, Vicki Smith, Robert Sherwood & Matthew Wilkinson</i> | The CODE MGEX orbit and clock solution <i>Lars Prange (Bern Univ., CH), Rolf Dach, Simon Lutz, Stefan Schaer & Adrian Jäggi</i> |
| 15:15–15:30 | Astro-geodetic observations using digital zenith camera system in Istanbul, Turkey <i>Kerem Halicioğlu* (Bogazici Univ. Kandilli Observatory, Istanbul, TR), Rasim Deniz & Haluk Ozener</i> | From NASA's GCMD DIF standard to a Semantic Web driven approach using RDF <i>Bernd Ritschel (GFZ Potsdam, DE), Friederike Borchert, Christoph Förste, Maiko Abe, R. Kopischke, Günther Neher, Susanne Schildbach, Gregor Kneitschel, Toshihiko Iyemori, Akiyo Yatagai, Yukinobu Koyama, Tomoaki Hori, Dominic Lowe, Ivan Galkin & Todd King</i> | Analytical Conditions for Minimizing the GDOP of GNSS Constellation and Its Optimization with Geostationary Satellites <i>Shuang Xue (Chinese Academy of Surveying and Mapping, Beijing, CN), Yuanxi Yang, Yamin Dang & Wu Chen</i> |
| 15:30 | Coffee Break & Poster Session: Theme 2 (sub themes 2, 4 and 6), theme 5 and theme 6 | | |

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| | 2.2 GLOBAL GRAVITY FIELD MODELS Session I <i>Chair: Yan Ming Wang</i> | 5 OBSERVATION SYSTEMS AND SERVICES 5.3 GGOS <i>Chair: Hansjörg Kutterer</i> | 6.1 IMAGING AND RF SENSOR INTEGRATION AND MODELLING Session I <i>Chairs: Pawel Wielgosz & Jaroslaw Bosy</i> |
| 16:00–16:15 | Numerical Computation of Spherical and Oblate Spheroidal Harmonics of Arbitrary Degree and Order <i>Toshio Fukushima (National Astron. Obs. Japan, Tokyo, JP)</i> | The Global Space Geodesy Network and its Role in GGOS <i>Michael Pearlman, Chopo Ma, Erricos Pavlis (Goddard Earth Science and Technology Center (GEST), USA), Carey Noll, Frank Lemoine, Scott Wetzel, Graham Appleby & Ruth Neilan</i> | GLONASS-R: GNSS reflectometry with an FDMA based satellite navigation system <i>Thomas Hobiger (NICT, JP) & Tadaihiro Gotoh</i> |
| 16:15–16:30 | EIGEN-6C3 – The newest high resolution global combined gravity field model based on the 4 th release of the GOCE Direct Approach <i>Christoph Förste (GFZ Potsdam, DE), Sean Bruinsma, Oleg Abrikosov, Frank Flechtner, Christoph Dahle, Karl Hans Neumayer, Franz Barthelmes, Rolf König, Jean-Charles Marty & Jean-Michel Lemoine & Richard Biancale</i> | The GGOS Bureau for Standards and Conventions <i>Detlef Angermann (Deutsches Geodätisches Forschungsinst., DE), Thomas Gruber, Michael Gerstl, Robert Heinkelmann, Urs Hugentobler, Laura Sánchez & Peter Steigenberger</i> | Airborne GNSS Reflectometry for Sea Surface Height Estimation as part of the GEOHALO Mission <i>Maximilian Semmling (GFZ Potsdam, DE), G. Beyerle, S. Schön, J. Beckheirrich, J. Wickert & M. Scheinert</i> |
| 16:30–16:45 | Global gravity field modelling from GOCE measurements using the method of fundamental solutions <i>Róbert Čunderlik (Slovak Univ. Technol. Bratislava, SK)</i> | Satellite Laser Ranging – a tool to realize GGOS? <i>Mathis Bloßfeld* (Deutsches Geodätisches Forschungsinst. (DGF), DE), Vojtech Stefka, Horst Müller & Michael Gerstl</i> | Snow surface air temperature variations from ground GNSS receivers in Greenland <i>Shuanggen Jin (Chinese Acad. Sci., CN) & Nasser Najibi</i> |
| 16:45–17:00 | Determining and Reducing the Required Data Extent for the Residual Terrain Reduction in Gravity Gradiometry <i>Christopher Jekeli (Ohio State University, USA)</i> | Lunar Laser Ranging Contribution to GGOS <i>Jürgen Müller (Hannover Univ., DE), Liliane Biskupek, Franz Hofmann & Enrico Mai</i> | Absolute 3D persistent scatterer reconstruction with TerraSAR-X: case studies with corner reflectors and facade patterns <i>Christoph Gisinger* (TU Munich, DE), Ulrich Bals, Stefan Auer, Roland Pail & Michael Eineder</i> |
| 17:15–17:30 | Ellipsoidal spectral forward modelling of the topographic potential <i>Sten Claessens (Curtin Univ., Perth, AU) & Christian Hirt</i> | SLR Tracking of GNSS Constellations for Improved Future GGOS Products (ITRF) <i>Erricos C. Pavlis (GEST/UMBC and NASA Goddard, Maryland, USA), M. Kuzmich-Cieslak & D. König</i> | Sub-band splitting technique for reducing ionospheric effects on L-band InSAR measurements <i>Zhenhong Li (Glasgow Univ., UK), Dominique Derauw & Wanpeng Feng</i> |
| 17:30–17:45 | A New Analysis of Atmospheric De-aliasing Data Products for the Reduction of Satellite Gravimetry Observations <i>Ehsan Forootan* (Bonn Univ., DE), O. Didova, J. Kusche, H. Dobsław & A. Löcher</i> | Scheduling Scenarios for VLBI Observations of Satellites <i>Thomas Artz (Bonn Univ., DE), Axel Nothnagel, Judith Leek & Laura La Porta</i> | Predicting Landslide Hazards Based on Airborne LiDAR Data <i>Charles K. Toth (Ohio State Univ., USA) & Dorota A. Grejner-Brzezinska</i> |
| 18:00 | IAG Council | | |

WEDNESDAY • SEPTEMBER 4 • Detailed Assembly Program

| Time | Lecture Hall F1 | Lecture Hall F2 | Lecture Hall F3 |
|-------------|--|--|--|
| | 2.2 GLOBAL GRAVITY FIELD MODELS Session II <i>Chair: Christoph Förste</i> | 4 SCIENCE AND APPLICATIONS OF EARTH ROTATION AND DYNAMICS Session I <i>Chairs: Richard S. Gross & Aleksander Brzezinski</i> | 6.1 IMAGING AND RF SENSOR INTEGRATION AND MODELLING Session II <i>Chairs: Zhenhong Li & Shuanggen Jin</i> |
| 09:00–09:15 | Assessment of the recently released GOCE-based models in terms of spectral and spatial resolution <i>Konstantinos Patlakis* (Aristotle Univ. of Thessaloniki) & Dimitrios Tsoulis</i> | Estimation of the Chandler wobble parameters based on the stochastic modeling of the observed free polar motion and its excitation <i>Aleksander Brzezinski (Warsaw Univ. Technol., PL) & Marcin Rajner</i> | Towards regional ionosphere modeling from GNSS measurements <i>Michael Schmidt, Denise Dettmering, Wenjing Liang* (Deutsches Geodätisches Forschungsinst. (DGFI), Munich, DE) & Marco Limberger</i> |
| 09:15–09:30 | Recovering Finer Scale Structures of the Global Mean Ocean Circulation using GOCE Gravity Models <i>P. Knudsen, Ole B. Andersen (TU Denmark, DK), J. Benveniste & GUT team</i> | | Multi-dimensional model of ionosphere/plasmasphere electron density using various space geodetic techniques <i>M. Mahdi Alizadeh (TU Berlin, DE) & Harald Schuh</i> |
| 09:30–09:45 | The DTU13 Global marine gravity field <i>Ole B. Andersen (TU Denmark, DK), J. Maulik & P. Knusen</i> | Estimating the Period and Q of the Chandler Wobble from mass variability <i>Jolanta Nastula (Space Research Centre, PAS, Warsaw, PL) & Richard S. Gross</i> | Combination of GNSS observations and electron density profiles from Radio Occultation data for the determination of a multi-scale regional ionosphere model <i>Wenjing Liang* (Deutsches Geodätisches Forschungsinst. (DGFI), Munich, DE), Michael Schmidt, Denise Dettmering, Urs Hugentobler, Marco Limberger, Norbert Jakowski, Mainul M. Hoque, Volken Wilken, Tatjana Gerzen & Jens Berdermann</i> |
| 09:45–10:00 | A GOCE only gravity model from space-wise observables along the orbit based on the least-square method <i>Xinyu Xu (Wuhan University, CN), Xiancai Zou, Hui Wei & Tangting Wu</i> | The new Joint IAG/IAU Working Group on Theory of the Earth Rotation <i>José M. Ferrándiz (Alicante Univ., ES) & Richard S. Gross</i> | GNSS tomography assembled multi model solution <i>Witold Rohm (Royal Melbourne Inst. Technol., SPACE Res. Center, AU), H. Brenot, M. Kačmařík, M. Bender, T. Manning, L. Rapant & A. Geiger</i> |
| 10:00–10:15 | A Comparison of Least-Squares and Simulated Annealing to Estimate Fault Parameters from Gravity Gradient Data <i>Sibel Uzun & Christopher Jekeli (Ohio State Univ., USA)</i> | The moment of inertia and global dynamical flattening of the Earth calculated from a generalized theory of the figure of the Earth <i>Chengli Huang (Shanghai Astron. Obs., CN), Chengjun Liu & Yu Liu</i> | Merging and interpolating integral and point measurements of wet refractivity <i>Fabian Hurter* (ETH Zurich, CH) & O. Maier</i> |
| 10:15–10:30 | Validation of GOCE/GRACE satellite only and combined global geopotential models over Greece, in the frame of the GOCESeaComb Project <i>Ilias N. Tziavos (Aristotle University of Thessaloniki, GR), G.S. Vergos, V.N. Grigoriadis, E.A. Tzanou & D.A. Natsiopoulos</i> | Evidence of the Earth's frequency-dependent responses from numerical tests of the meteorological excitations of polar motion <i>Wei Chen (Wuhan University, CN), Jim Ray, Wenbin Shen & Chengli Huang</i> | Critical Analysis of Different Methods to Retrieve Atmosphere Humidity Profiles from GNSS Radio Occultation Observations <i>Catia Benedetto & Francesco Vespe (ASI Agenzia Spaziale Italiana – CGS Matera, IT)</i> |
| 10:30 | Coffee Break & Poster Session: Theme 1, theme 2 (sub themes 1, 3 and 5), theme 3 and theme 4 | | |

WEDNESDAY • SEPTEMBER 4 • Detailed Assembly Program

| Time | Lecture Hall F1 | Lecture Hall F2 | Lecture Hall F3 |
|-------------|---|---|---|
| | 2.3 SATELLITE ALTIMETRY ANALYSIS & APPLICATIONS Session I <i>Chairs: Xiaoli Deng & Ole Andersen</i> | 4 SCIENCE AND APPLICATIONS OF EARTH ROTATION AND DYNAMICS Session II <i>Chairs: Richard S. Gross & Aleksander Brzezinski</i> | 1.3 INTERACTION BETWEEN THE CELESTIAL AND TERRESTRIAL REFERENCE FRAMES <i>Chairs: Johannes Boehm & Z. Malkin</i> |
| 11:15–11:30 | Unique Contributions of CryoSat-2, Jason-1, and Envisat to the Recent Improvements in the Global Marine Gravity Field <i>David T. Sandwell (Scripps Inst. Oceanography, La Jolla, CA, USA) & Emmanuel Garcia</i> | A reassessment of degree-2 Stokes coefficients from Earth rotation data <i>Thierry Meyrath (Luxembourg Univ., LU), Tonie van Dam, Matthias Weigelt & Minkang Cheng</i> | The ICRF-3: A Proposed Roadmap to the next generation International Celestial Reference Frame <i>Christopher S. Jacobs (California Inst. Technol., Pasadena, USA) on behalf of the IAU's ICRF-3 working group & Robert Heinkelmann (GFZ Potsdam, DE)</i> |
| 11:30–11:45 | The impact of using Jason-1 and Cryosat-2 geodetic mission altimetry for gravity field modelling <i>Ole B. Andersen (TU Denmark, DK) & J. Maulik</i> | Regional equivalent water thickness (EWT) based on the GRACE gravity fields, and relationship to polar motion <i>Jolanta Nastula (Polish Acad. Sci., PL), David Salstein & Tomasz Nagalski</i> | International collaboration for improvement of the Celestial Reference Frame in the southern hemisphere <i>Oleg Titov (Geoscience Australia, AU), Jim Lovell, Alet de Witt, Sergey Gulyaev, John Dawson & John Dickey</i> |
| 11:45–12:00 | A regional high-resolution marine gravity field around Taiwan from retracked altimetry Jason-1 GM and Cryosat-2 LRM data <i>Xiaoli Deng (Newcastle Univ., NZ), Cheinway Hwang, Ole B. Andersen, Mark G. Stewart, Nurul H. Idris & Yung-Sheng Cheng</i> | Earth orientation parameters determined by VLBI <i>Robert Heinkelmann (GFZ Potsdam, DE), Maria Karbon, Tobias Nilsson, Virginia Raposo-Pulido & Harald Schuh</i> | Development of a Combination Procedure for Celestial Reference Frame Determination <i>Andreas Ildink (Bonn Univ., DE), Axel Nothnagel & Thomas Artz</i> |
| 12:00–12:15 | Contributions to Large Scale Sea Level Changes in the North Atlantic during the Last Decade <i>Saskia Esselborn (GFZ Potsdam, DE)</i> | Rapid UT1 estimation by combining the VLBI Intensives with GNSS <i>Tobias Nilsson (GFZ Potsdam, DE), Maria Karbon, Virginia Raposo-Pulido, Robert Heinkelmann & Harald Schuh</i> | Simulating the effects of quasar structure on VLBI observations <i>Stanislav Shabala (Tasmania Univ., AU), Jamie McCallum, Lucia Plank & Johannes Böhm</i> |
| 12:15–12:30 | Mean Dynamic Topography with full covariance information from multi mission altimetry and GOCE <i>Alexander Horvath* (TU Munich, DE) & Roland Pail</i> | Daily and sub-daily estimations of EOP via a combination at observation level for CONT08 and CONT11 campaigns <i>Arnaud Pollet (Paris Diderot Univ., FR) & Myriam Zoullida</i> | Simultaneous computation of TRF and CRF <i>Manuela Seitz, Peter Steigenberger (DGFI Munich, DE) & Thomas Artz</i> |
| 12:30–12:45 | Global Ocean Tide Modeling Using Satellite Altimetry <i>C.K. Shum (Ohio State Univ., USA), Hok-Sum Fok, Yuchan Yi & H. Baki Iz</i> | The Contribution Analysis of BeiDou Navigation Satellite System Observation Data for Earth Rotation Parameters Determination <i>Qianxin Wang (Chinese Acad. Surveying & Mapping, Beijing, CN), Yuanxi Yang, Yamin Dang & Tianhe Xu</i> | VLBI satellite tracking of the GNSS constellation – observing strategies <i>Lucia Plank* (Vienna Univ. Technol., AT), Johannes Böhm & Harald Schuh</i> |
| 12:45 | Lunch & Poster Session: Theme 1, theme 2 (sub themes 1, 3 and 5), theme 3 and theme 4 | | |
| 14:30 | History Session at the GFZ (Telegrafenberg – please see next page for detailed programme) | | |
| 18:30 | Barbeque at the GFZ (Telegrafenberg) | | |

WEDNESDAY • SEPTEMBER 4 • Detailed Assembly Program

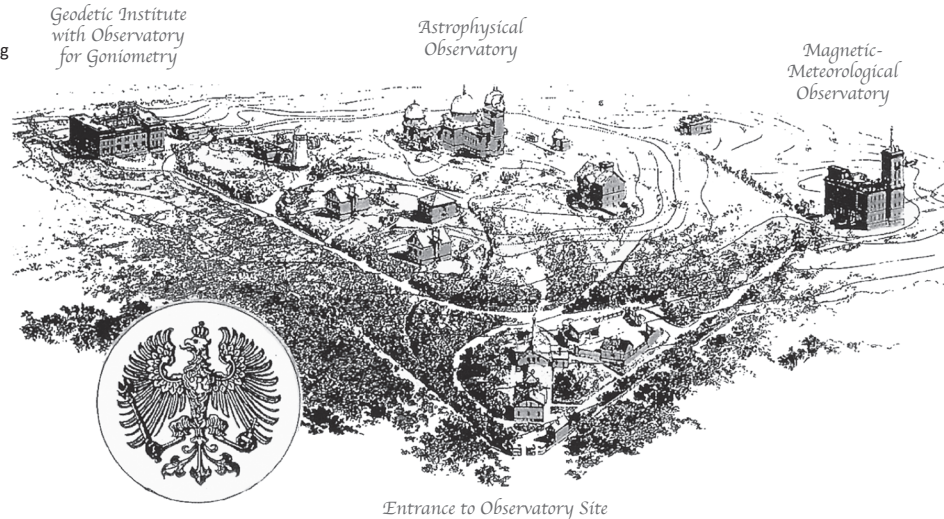
HISTORY SESSION

Place: Potsdam, Telegrafenberg, GFZ Building

Chair: Hermann Drewes

- 14:30 Welcome to GFZ
Harald Schuh
- Introduction
Chris Rizos
- Greetings of the Research Minister of the State of Brandenburg
Sabine Kunst
- 14:45 From a regional project to an international organization:
The »Baeyer-Helmert Era« of the International Association
of Geodesy (1862–1916)
Wolfgang Torge
- 15:20 The years of the World Wars and aftermath (1917–1959)
Claude Boucher
- 15:55 The Space Age (1960–1990)
Ivan I. Mueller
- 16:30 Guided tours in groups on the historical facilities at
Telegrafenberg (*first group*)
A geodetic exhibition containing a huge variety of fascinating historical devices and pieces of equipment as well as some noteworthy documents can be visited in the library of Telegrafenberg campus in building A 17, the former Prussian Royal Geodetic Observatory, accommodating today, besides the library, Department 1 »Geodesy and Remote Sensing« of GFZ. Around 17:30 h you should begin to stroll back to building H where the barbeque should be ready for conquest.
- 16:30 Videos from previous IAG Assemblies
Christian Tscherning
- 17:30 Barbecue celebration »150 Years IAG« (free food and drinks)
- 18:00 Guided tours in groups on the historical facilities at
Telegrafenberg (*second group*)
- 19:30 Ignite IAG with ad hoc presentations to the IAG 150th anniversary
Ruth Neilan & her team
- 21:30 End of History Day

The Royal Prussian Observatories near Potsdam at Telegraph Hill (1892)



Source: Wilhelm Ernst & Son, Berlin, after a draft of Spieker

Logistic information: After lunch, guides will be around in case that there are any questions how to get to Telegraph Hill. You will go by bus (no. 695) from the Dorint Hotel to Potsdam main station (about 20 min). After a 15 min walk up Telegraph Hill, you'll reach the entrance to »Albert Einstein Science Campus«. For persons who will not be able to walk up Telegraph Hill, a bus will be available from Dorint Hotel – please contact the conference secretary's desk. The way back to town at night has to be handled individually (walking down to the station and then by public transport or by taxi – we call it for you on request).

THURSDAY • SEPTEMBER 5 • Detailed Assembly Program

| Time | Lecture Hall F1 | Lecture Hall F2 | Lecture Hall F3 |
|-------------|---|---|---|
| | 2.5 MASS TRANSPORT STUDIES Session I <i>Chairs: Annette Eicker & Shuanggen Jin</i> | 3.1 TECHNOLOGIES AND METHODOLOGIES OF HAZARD WARNING SYSTEMS <i>Chairs: Richard Gross & Manabu Hashimoto</i> | 1.5 REGIONAL REFERENCE FRAMES <i>Chairs: Joao Torres & J. Dawson</i> |
| 09:00–09:15 | An inversion approach for determining water storage change from 3-D GPS coordinates time series in Europe <i>Lin Wang*</i> (Luxembourg Univ., LU), <i>Tonie van Dam</i> , <i>Matthias Weigelt</i> , <i>Qiang Chen</i> , <i>Mohammad Tourian</i> & <i>Nico Sneeuw</i> | On the disasters and hazards (natural and anthropogenic). A synoptic overview of their categories and of the (existing or prospect) services provided by geodesy <i>Ioannis (John) D. Doukas</i> (Aristotle Univ. Thessaloniki, GR) | SIRGAS: the core geodetic infrastructure in Latin America and the Caribbean <i>Laura Sánchez</i> , <i>Virginia Mackern</i> , <i>Hermann Drewes</i> , <i>Claudio Brunini</i> (Univ. Nacional de La Plata, AR) & <i>William Martinez</i> |
| 09:15–09:30 | Separation of large scale water storage patterns using GRACE, hydrological and altimetry data, case study: Iran <i>Ehasan Forootan*</i> (Bonn Univ., DE), <i>R. Rietbroek</i> , <i>J. Kusche</i> , <i>M.A. Sharifi</i> , <i>J. Awange</i> , <i>M. Schmidt</i> , <i>J. Famiglietti</i> & <i>P. Omondi</i> | | The Antarctic regional GPS network densification – status and results <i>Reinhard Dietrich</i> (TU Dresden, DE) & <i>the SCAR GPS Epoch Campaign team</i> |
| 09:30–09:45 | Least squares prediction of discharge over ungauged basins <i>Robin Thor</i> , <i>Mohammad J. Tourian</i> & <i>Nico Sneeuw</i> (Stuttgart Univ., DE) | Integration of geodetic observation results for assessment of land subsidence hazard risk in urban areas of Indonesia <i>Hasanuddin Z. Abidin</i> (Inst. Technol. Bandung, ID), <i>Heri Andreas</i> , <i>Irwan Gumilar</i> , <i>Teguh P. Sidiq</i> , <i>Dodid Murdohardono</i> , <i>Supriyadi</i> , <i>Yoichi Fukuda</i> , <i>Tilo Schöne</i> & <i>Ibnu Sofian</i> | The spherical wavelet modeling of GPS Velocity Field in China <i>Hanjiang Wen</i> (Chinese Acad. of Surveying & Mapping, Beijing, CN), <i>Pengfei Cheng</i> , <i>Yingyan Cheng</i> , <i>luoqing Sun</i> , <i>Hua Wang</i> & <i>Jingzhong Mi</i> |
| 09:45–10:00 | Does GRACE see the water cycle ‘intensifying’? <i>Jürgen Kusche</i> (Bonn Univ., DE), <i>Annette Eicker</i> , <i>Anne Springer</i> , <i>Roelof Rietbroek</i> , <i>Christian Ohlwein</i> , <i>Kerstin Hartung</i> , <i>Harry Vereecken</i> , <i>Stefan Kollet</i> & <i>Andreas Fink</i> | Monitoring of the ground surface at Canadian oil fields using InSAR techniques <i>Jin Baek*</i> (Calgary Univ., CA), <i>Jeong Woo Kim</i> , <i>Sang-Wan Kim</i> & <i>Ik Woo</i> | A High-Precision Deformation Model to support Geodetic Datum Modernisation in Australia <i>Richard Stanaway*</i> (New South Wales Univ., Sydney, AU) & <i>Craig Roberts</i> |
| 10:00–10:15 | Correlation analysis between the melting of the Eastern Tibetan Plateau glacier and the change of Yangtze River water storage <i>Neng-Fang Chao*</i> (Wuhan Univ., CN) & <i>Zheng-Tao Wang</i> | New Zealand absolute sea level rise: contribution of the vertical land motion from GPS, altimeter-gauge, and geological data <i>Abdelali Fadil</i> , <i>Paul Denys</i> (Otago Univ., NZ), <i>Robert Tenzer</i> , <i>Hugh R. Grenfell</i> & <i>Pascal Willis</i> | Densification of the ITRF velocity field through a collaborative approach <i>Juliette Legrand</i> (Royal Observatory of Belgium, BE), <i>C. Bruyninx</i> , <i>E. Saria</i> , <i>J. Griffiths</i> , <i>M. Craymer</i> , <i>J. Dawson</i> , <i>A. Kenyeres</i> , <i>A. Santamaria-Gómez</i> , <i>L. Sánchez</i> & <i>Zuheir Altamimi</i> |
| 10:15–10:30 | Calibration/data assimilation approach for integrating GRACE data into the WaterGAP Global Hydrology Model (WGHM) using an ensemble Kalman filter <i>Maike Schumacher*</i> (Bonn Univ., DE), <i>Annette Eicker</i> , <i>Jürgen Kusche</i> , <i>Hannes Müller Schmied</i> & <i>Petra Döll</i> | Study of sea level variability and vertical crustal motions at Gran Canaria (Canary Islands) from altimetry and tide gauge data <i>Maike Benavent</i> (Univ. Complutense de Madrid, ES), & <i>J. Arno</i> | African Reference Framework: Today and Beyond <i>Ivan Farayi Muzondo</i> (Tshwane Univ. Technol., ZA), <i>L. Combrinck</i> & <i>O.J. Botai</i> |
| 10:30 | <i>Coffee Break & Poster Session: Theme 1, theme 2 (sub themes 1, 3 and 5), theme 3 and theme 4</i> | | |

THURSDAY • SEPTEMBER 5 • Detailed Assembly Program

| Time | Lecture Hall F1 | Lecture Hall F2 | Lecture Hall F3 |
|-------------|---|---|---|
| | 2.5 MASS TRANSPORT STUDIES Session II <i>Chair: Shuanggen Jin</i> | 3.2 GEOMETRIC & GRAVIMETRIC TECHNIQUES IN OBSERVING & ASSESSING EARTHQUAKE HAZARDS I <i>Chairs: Jeff Freymueller & Teruyuki Kato</i> | 1.1a REFERENCE FRAMES: THEORY, HISTORY, REALISATION <i>Chairs: C. Boucher & Zuheir Altamimi</i> |
| 11:15–11:30 | Assimilation of GRACE derived oceanic mass distributions with a global ocean circulation model <i>Jan Saynisch (GFZ Potsdam, DE), Inga Bergmann-Wolf & Maik Thomas</i> | Real-time crustal deformation monitoring algorithm based on RTK-GPS: Application to 2011 Tohoku earthquake and its improvement for implementation to actual GPS network <i>Yusaku Ohta (Tohoku Univ., JP), Satoshi Miura, Ryota Hino, Tatsuya Kobayashi & Hiroaki Tsumhima</i> | The International Terrestrial Reference Frame: Current status and future challenges <i>Zuheir Altamimi (Inst. Nat. de l'Information Géographique et Forestière, FR), Xavier Collieux, Laurent Métivier, Paul Rebischung & Daphné Lercier</i> |
| 11:30–11:45 | Eustatic Sea-level Variations from GRACE: Implications for Geocenter Estimates <i>Inga Bergmann-Wolf, Liangjing Zhang, Volker Klemann & Henryk Dobsław (GFZ Potsdam, DE)</i> | | |
| 11:45–12:00 | High-resolution global ocean bottom pressure variability for the performance assessment of future satellite gravity constellations <i>Christof Petrick & Henryk Dobsław (GFZ Potsdam, DE)</i> | A study of extracting co- and post- seismic deformations of mainshock and aftershocks from high-rate GPS time series <i>Caijun Xu (Wuhan Univ., CN) & Jieming Niu</i> | A collinearity diagnosis of the GNSS geocenter determination <i>Paul Rebischung* (Paris Diderot Univ., FR), Zuheir Altamimi & Tim Springer</i> |
| 12:00–12:15 | Time variable mass signal from CHAMP, GRACE and GOCE <i>Christian Gruber (GFZ Potsdam, DE), Oleh Abrykosov, Christoph Dahle, Hans Neumayer, Elisa Fagiolini, Johann Wunsch & Pirmin Schelchshorn</i> | Earth's surface movements in relation to Parkfield 2004 earthquake: Interpretation of permanent GPS observations <i>Vladimir Kaftan & Roman Krasnoperov (RAS, Moscow, RU)</i> | Validation of local ties between SLR and GNSS by using space ties <i>Daniela Thaller (BKG, DE), Ole Roggenbuck, Krzysztof Sosnica, Maria Mareyen, Rolf Dach & Adrian Jäggi</i> |
| 12:15–12:30 | High-resolution pattern of secular ice mass loss for Greenland from tailored GRACE solutions <i>Annette Eicker (Bonn Univ., DE), Judith Schall & Jürgen Kusche</i> | Investigation on the postseismic deformation associated with the 2011 Tohoku Earthquake based on terrestrial and seafloor geodetic observations – to evaluate the further seismic hazard potential on the plate interface beneath the northeastern Japanese Islands <i>Takeshi Iinuma (Tohoku Univ., JP), Ryota Hino, Motoyuki Kido, Yukihito Osada, Daisuke Inazu, Yoshihiro Ito, Syuichi Suzuki, Yusaku Ohta & Hiromi Fujimoto</i> | A state-of-the-art SLR-only TRF available on a daily basis from JCET <i>Erricos C. Pavlis (GEST/UMBC and NASA Goddard, Maryland, USA), M. Kuzmicz-Cieslak, D. König & K. Evans</i> |
| 12:30–12:45 | Greenland Ice Sheet Mass balance (2003–2012) from geodetic observations <i>Shfaqat Abbas Khan (TU Denmark, DK), Mike Bevis, John Wahr, Michiel van den Broeke & Jan van Angelen</i> | The evaluation of GRACE and GOCE combined gravity data to enhance coseismic slip distribution of the Japan-Tohoku-Oki 2011 earthquake <i>Martin Fuchs* (German Geodetic Inst. (DGFI), Munich, DE) J. Bouman, T. Broerse & P. Visser</i> | Epoch reference frames as short-term realizations of the ITRS - recent developments and challenges <i>Mathis Bloßfeld* (German Geodetic Inst. (DGFI), Munich, DE), Manuela Seitz & Detlef Angermann</i> |
| 12:45 | Lunch & Poster Session: Theme 1, theme 2 (sub themes 1, 3 and 5), theme 3 and theme 4 | | |

THURSDAY • SEPTEMBER 5 • Detailed Assembly Program

| Time | Lecture Hall F1 | Lecture Hall F2 | Lecture Hall F3 |
|-------------|--|--|---|
| | 2.5 MASS TRANSPORT STUDIES Session III <i>Chairs: Shuanggen Jin & Annette Eicker</i> | 3.3 GEOMETRIC & GRAVIMETRIC TECHNIQUES IN OBSERVING & ASSESSING EARTHQUAKE HAZARDS II <i>Chairs: John Doukas & Kosuke Heki</i> | 1.1b REFERENCE FRAMES: THEORY, HISTORY, REALISATION <i>Chairs: Tonie van Dam & Zuheir Altamimi</i> |
| 14:00–14:15 | Mass loss of Greenland, Antarctica and minor ice caps from GRACE and satellite altimetry <i>Rene Forsberg (TU Denmark, DK), Louise Sørensen, Valentina Barletta & Johan Nilsson</i> | Improved Constraints of Seismic Source Parameters for the 2011 March Tohoku-Oki Earthquake from GRACE Gravity and Gravity Gradient Change Measurements <i>Chunli Dai* (Ohio State Univ., USA), Lei Wang, C.K. Shum, Junyi Guo & Kun Shang</i> | The development of geodetic reference frames from 1862 to present <i>Hermann Drewes (German Geodetic Inst. (DGFI), Munich, DE)</i> |
| 14:15–14:30 | Antarctic Peninsula mass balance over that past 100 years and constraints from GRACE data 2003–2012 <i>Erik Ivins (California Inst. Technol., USA), David Weiss, Dah-Ning Yuan, Michael Watkins, Felix Landerer & Alexander Simms</i> | Lessons of the 2011 Tohoku-oki earthquake for estimating seismic hazard along plate subduction zones: observation data and modeling perspective <i>Takeshi Sagiya (Nagoya Univ., JP)</i> | |
| 14:30–14:45 | Ice mass changes in the West Antarctic from a combination of GRACE and GOCE <i>Johannes Bouman (German Geodetic Inst. (DGFI), Munich, DE), Martin Fuchs, Martin Horwath, Erik Ivins, Verena Lieb, Roland Pail, Moritz Rexer, Michael Schmidt, Ernst Schrama, Pieter Visser & Wouter van der Wal</i> | Monitoring of coupling distribution and small Short-term SSEs in southwest Japan based on GEONET data <i>Akio Fujita* (Tokyo Univ., JP), Ryoya Ikuta, Teruyuki Kato & Mikio Satomura</i> | Assessing Differences Between Existing Atmospheric Non-Tidal Loading Models <i>S. Nahmani, Xavier Collilieux, Tonie van Dam (Luxembourg Univ., Luxembourg), L. Métivier, J. Ray & Z. Altamimi</i> |
| 14:45–15:00 | Towards the full exploitation of satellite gravimetry for ice mass balance and glacial isostatic adjustment in Antarctica <i>Martin Horwath (TU Munich, DE), Roland Pail, Moritz Rexer, Alexander Horvath, Ingo Sasgen & Michiel van den Broeke</i> | Using absolute gravity measurements to augment hazard studies of the northern Cascadia Subduction Zone: The heavier and lighter side of long-term and transient deformation monitoring <i>Joseph Henton (Nat. Resources Canada, CA), Herb Dragert, Anthony Lambert, Stéphane Mazzotti & Nicholas Courtier</i> | Incorporating Seasonal Deformation Models into the Terrestrial Reference Frame – Toward a more Accurate Model for the Time Evolution of Coordinates <i>Jeff Freymueller (Alaska Fairbanks Univ., USA) & Rong Zou</i> |
| 15:00–15:15 | Signatures of accumulation-driven mass variations in Antarctic GPS records <i>Ingo Sasgen (GFZ Potsdam, DE), Elizabeth Petrie, Peter Clarke, Volker Klemann, Martin Horwath & Jonathan L. Bamber</i> | Crustal deformation in Mongolia and tectonics in eastern Asia <i>Teruyuki Kato (Tokyo Univ., JP), Amarjargal Sharav & Makiko Iwakuni</i> | A geocenter time series from a combination of LAGEOS and GRACE observations <i>Rolf Koenig (GFZ Potsdam, DE), Christoph Dahle & Margarita Vei</i> |
| 15:15–15:30 | Lateral variations in lithosphere structure of Antarctica – Impact on GIA response <i>Volker Klemann (GFZ Potsdam, DE), Zdeněk Martinec, Ingo Sasgen, Hannes Konrad & Roland Pail</i> | Global and regional deformation models from geodetic observations before and after large earthquakes <i>Hermann Drewes (German Geodetic Inst. (DGFI), Munich, DE) & Laura Sánchez</i> | Uncertainty of the Geocenter of Orbit Solutions for Altimetry and its Effect on Sea Level Data <i>Saskia Esselborn (GFZ Potsdam, DE)</i> |
| 15:30 | Coffee Break & Poster Session: Theme 1, theme 2 (sub themes 1, 3 and 5), theme 3 and theme 4 | | |

THURSDAY • SEPTEMBER 5 • Detailed Assembly Program

| Time | Lecture Hall F1 | Lecture Hall F2 | Lecture Hall F3 |
|-------------|--|--|---|
| | 2.1 ACTUAL AND FUTURE SATELLITE GRAVITY MISSIONS GOCE <i>Chairs: Roland Pail & Isabelle Panet</i> | 3.4 GEODETIC IMAGING FOR REGIONAL AND LOCAL CASE STUDIES <i>Chairs: Richard Gross & Falk Amelung</i> | 1.2a STRENGTHS, WEAKNESSES, MODELING STANDARDS AND PROCESSING STRATEGIES OF SPACE GEODETIC TECHNIQUES <i>Chairs: T. Herring & Thomas Hobiger</i> |
| 16:00–16:15 | GOCE mission status and swan song operations scenarios <i>Rune Floberghagen (ESA, Frascati, IT), Michael Fehringer & the GOCE mission team</i> | Advanced InSAR Techniques for Hazard Assessment: Waiting for a New Space Segment <i>Alessandro Ferretti (Tele. Rilevamento Europa – T.R.E. Srl, IT), Alfio Fumagalli, Fabrizio Novali, Claudio Prati, Fabio Rocca & Alessio Rucci</i> | VLBI analysis using Kalman Filtering <i>Maria Karbon (GFZ Potsdam, DE), Tobias Nilsson, Robert , Virginia Raposo Pulido & Harald Schuh</i> |
| 16:15–16:30 | Status of the GOCE time-wise gravity field models and first analysis of the low orbit data <i>Jan Martin Brockmann* (Bonn Univ., DE), Norbert Zehentner, Eduard Höck, Ina Krasbutter, Torsten Mayer-Gürr, Roland Pail & Wolf-Dieter Schuh</i> | | The STARS methodology for detecting discontinuities in GPS coordinates time series <i>Sara Bruni*, Susanna Zerbini (Bologna Univ., IT), Fabio Raicich, Maddalena Errico & Efsio Santi</i> |
| 16:30–16:45 | – to be announced – | Geodetic Imaging: A Golden Age in Geodesy – A Bonanza for Related Sciences <i>William E. Carter (Houston Univ., USA), Craig L. Glennie & Ramesh L. Shrestha</i> | Impact of GLONASS in a rigorous combination with GPS <i>Mathias Fritsche (TU Dresden, DE), Carlos Rodriguez-Solano, Peter Steigenberger, Krzysztof Sosnica, Kan Wang, Reinhard Dietrich, Urs Hugentobler, Rolf Dach & Markus Rothacher</i> |
| 16:45–17:00 | GOCE quality analysis on gradient level <i>Phillip Brieden* (Hannover Univ., DE) & Jürgen Müller</i> | Differential SAR Interferometry as a tool for landslides mapping in the open-pit mining area of La Unión (SE Spain) <i>Roberto Tomás (Alicante Univ., ES), G. Herrera, F. Vicente, J.M. Lopez-Sanchez, J.J. Mallorquí & J. Mulas</i> | DPOD2008 – A DORIS-oriented Terrestrial Reference Frame for Precise Orbit Determination <i>Pascal Willis (IGN, FR), Nikita P. Zelensky, John Ries, Laurent Soudarin, Luca Cerri, Guilhem Moreaux, Frank G. Lemoine, Michiel Otten, Don Argus & Michael B. Heflin</i> |
| 17:15–17:30 | GPS-only gravity field determination from GOCE data <i>Heike Bock (Bern Univ., CH), Adrian Jäggi, Ulrich Meyer & Gerhard Beutler</i> | Deep-Seated Landslide Associated with the Typhoon Talas, 2011, detected by TerraSAR-X <i>Manabu Hashimoto (Kyoto Univ., JP), Masumi Yamada, Yo Fukushima, Masahiro Chigira & Yuki Matsushi</i> | Thermal tilts of GPS monuments: A case study of the Japanese GEONET monuments <i>Hiroshi Munekane (Geospatial Information Authority of Japan, JP)</i> |
| 17:30–17:45 | Dynamic orbit parameterization and assessment in the frame of current GOCE gravity models <i>Thomas Papanikolaou (Aristotle Univ. Thessaloniki, GR) & Dimitrios Tsoulis</i> | Integration of InSAR and GPS for landslide monitoring: A case study of the reservoir resettlement county of new Hanyuan in Sichuan, China <i>Ruya Xiao (Hohai Univ., CN) & Xiufeng He & Vagner G. Ferreira (on behalf of Ruya Xiao)</i> | Impacts of the imperfect data processing models on GPS coordinate time series <i>Weiping Jiang (Wuhan Univ., CN), Jiancheng Li, Zhao Li, Liansheng Deng & Xiaohui Zhou</i> |
| 19:00 | Conference Dinner: Havel Boat Tour | | |

FRIDAY • SEPTEMBER 6 • Detailed Assembly Program

| Time | Lecture Hall F1 | Lecture Hall F2 | Lecture Hall F3 |
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| | 2.1 ACTUAL AND FUTURE SATELLITE GRAVITY MISSIONS GRAVITY MISSIONS GRAVITY MISSIONS <i>Chairs: Isabelle Panet & Roland Pail</i> | 3.5 INNOVATIVE USE OF GEODETIC TECHNIQUES FOR VOLCANIC AND METEOROLOGICAL HAZARDS <i>Chairs: Jeff Freymueller & Haluk Ozener</i> | 1.2b STRENGTHS, WEAKNESSES, MODELING STANDARDS AND PROCESSING STRATEGIES OF SPACE GEODETIC TECHNIQUES <i>Chairs: Mathias Fritsche & Pascal Willis</i> |
| 09:00–09:15 | GRACE Mission: Status and Prospects <i>Frank Flechtner (GFZ Potsdam, DE), Srinivas Bettadpur, Byron Tapley & Michael Watkins</i> | Crustal deformation studies in Iceland: constraints on volcano dynamics and divergent plate boundary influenced by a hotspot <i>Benedikt Gunnar Ofeigsson (Icelandic Meteorol. Office, IS), Freysteinn Sigmundsson, Andy Hooper, Sigrun Hreinsdóttir, Kristín Vogfjörð, Thora Arnadóttir, Karsten Spaans, Halldor Geirsson, Pall Einarsson, Sigurjon Jonsson, Thierry Villemin, Sigurdur Fjalur Sigurdsson, Matthew Roberts, Erik Sturkell, Peter C. Lafemina, Richard Bennett, Christof Voelksen, Gudmundur Valsson & Thorarinn Sigurdsson</i> | Combination of GNSS and VLBI on the observation level – analysis strategies, merits and pitfalls <i>Thomas Hobiger (NICT, JP) & Toshimichi Otsubo</i> |
| 09:15–09:30 | Low-frequency noise in GRACE KBR-based observables: causes and mitigation <i>Hassan Hashemi Farahani (Delft Univ. Technol., NL), P. Ditmar & R. Klees</i> | On the use of bistatic TanDEM-X images to quantify volumetric changes of active lava domes <i>Julia Kubanek, Malte Westerhaus (KIT, DE) & Bernhard Heck</i> | A Bayesian Monte Carlo Markov Chain Method for the Statistical Analysis of Geo-detic Time Series <i>German Olivares* (Luxembourg Univ., LU) & Norman Teferle</i> |
| 09:30–09:45 | Modelling temporal gravity field variations from GRACE data: What spatial resolution is achievable? <i>Pavel Ditmar (Delft Univ. Technol., NL), Hassan Hashemi Farahani, Jiangjun Ran, Roland Klees, Brian Gunter & Olga Didova</i> | Observing tropical cyclones from satellite radar altimetry <i>Xiaoli Deng (Newcastle Univ., AU), Mark G. Stewart, Andersen B. Ole & Zahra Gharineiat</i> | Optical response and centre-of-mass correction of mm-precision laser ranging targets, LARES and STARLETTE <i>Toshimichi Otsubo (Hitotsubashi Univ., JP), Robert A. Sherwood, Graham M. Appleby & Reinhart Neubert</i> |
| 09:45–10:00 | A variant of the differential gravimetry approach for low-low satellite-to-satellite tracking based on angular velocities <i>Matthias Weigelt (Luxembourg Univ., LU), Tonie van Dam & Tamara Bandikova</i> | Local-scale precipitable water vapor retrieval from high-elevation slant tropospheric delays using a dense network of GNSS receivers <i>Eugenio Realini (Kyoto Univ., JP), Kazutoshi Sato, Toshitaka Tsuda, Masanori Oigawa & Yuya Iwaki</i> | Accurate reference frame access at arbitrary points on Earth <i>Henno Boomkamp (IAG Dancer project, DE)</i> |
| 10:00–10:15 | GRACE Atmosphere and Ocean Level-1B De-Aliasing (AOD1B) Product: Recent Developments in Preparation of a Future Release 06 <i>Julian Kuhlmann*, Henryk Dobszaw (GFZ Potsdam, DE), Inga Bergmann, Elisa Fagiolini & Frank Flechtner</i> | GPS observation of subdaily loading deformation in France associated with a violent storm surge <i>Marcell Ferenc* (L2G/ESGT/CNAM, FR), Zhao Li, Joelle Nicolas & Tonie Van Dam</i> | Geometrical SLR Approach for Reference Frame Determination: The First SLR Double-Difference Baseline <i>Drazen Svehla (ESA, DE), R. Haagmans, R. Floberghagen, L. Cacciapuoti, B. Sierk, G. Kirchner, J. Rodriguez, M. Wilkinson, G. Appleby, M. Ziebart, U. Hugentobler & M. Rothacher</i> |
| 10:15–10:30 | Effect of Improved Atmosphere and Ocean De-Aliasing Modeling on GRACE Gravity Field Solutions <i>C.K. Shum (Ohio State Univ., USA), Jianbin Duan, Ehsan Foroootan, Kun Shang, Junyi Guo, Thomas Gruber, Jürgen Kusche, Michael Schmidt, Kuo-Hsin Tseng & Jens Wickert</i> | A regional model to estimate the seasonal vertical crustal deformation in South America based on GRACE and GPS long-term series <i>Romina Galván* (La Plata Nat. Univ., AR), Mauricio Gende & Claudio Brunini</i> | |
| 10:30 | <i>Coffee Break & Poster Session: Theme 1, theme 2 (sub themes 1, 3 and 5), theme 3 and theme 4</i> | | |

FRIDAY • SEPTEMBER 6 • Detailed Assembly Program

| Time | Lecture Hall F1 | Lecture Hall F2 | Lecture Hall F3 |
|-------------|---|--|---|
| | 2.1 ACTUAL AND FUTURE SATELLITE GRAVITY MISSIONS Future Missions & General Studies <i>Chairs: Roland Pail & Isabelle Panet</i> | 3.6 THE CHALLENGES OF ASSESSING HAZARDS FROM GEODETIC (AND OTHER) OBSERVATIONS <i>Chairs: Manabu Hashimoto & John Doukas</i> | 1.6 SCIENTIFIC, AND OTHER APPLICATIONS OF TERRESTRIAL REFERENCE FRAMES <i>Chairs: Tonie van Dam & Shuanggen Jin</i> |
| 11:15–11:30 | Status of the GRACE Follow-On Mission <i>Frank Flechtner (GFZ Potsdam, DE), Ludwig Grunwaldt, Michael Watkins, Phil Morton & Frank Webb</i> | The Geohazard Supersites and Natural Laboratories initiative <i>Falk Amelung (Miami Univ., USA) & Jörn Hoffmann</i> | Twenty years of search for the true crustal deformation in Fennoscandia from the BIFROST project <i>Jan M. Johansson (Chalmers Univ. Technol., SE), Tong Ning, Hans-Georg Scherneck, Gunnar Elgered, Martin Lidberg, Gunnar Hedling, Lotti Jivall, Markku Poutanen, Hannu Koivula, Halfdan Kierulf, Oddgeir Kristiansen, Glenn A. Milne, James L. Davis & Jerry X. Mitrovica</i> |
| 11:30–11:45 | ESA's Studies of Next Generation Gravity Mission Concepts for Monitoring Mass Transport in the Earth System <i>Christian Siemes (ESA, NL), Luca Massotti, Davina Di Cara, Jose Gonzalez del Amo, Benedicte Girouart, Roger Haagmans & Pierluigi Silvestrin</i> | | Evaluation of glacial isostatic adjustment effects in Tibet from GRACE, GPS and models <i>Shuanggen Jin (Chinese Acad. Sci., CN) & Tengyu Zhang</i> |
| 11:45–12:00 | Optimal orbits for temporal gravity recovery with double pair low-low SST formations <i>Michael Murböck* (TU Munich, DE), Roland Pail, Thomas Gruber, Ilias Daras</i> | EPOS WG4: Towards the implementation of Pan-European Geodetic (GNSS) Services for Earth Sciences <i>Rui M.S. Fernandes (SEGAL (UBI/IDL), Covilhã, PT) & WG4 Members</i> | Assessment of parametric post-seismic models in reference frame determination <i>Daphné Lercier* (Paris Diderot Univ., FR), Xavier Collilieux, Laurent Métivier, Zuheir Altamimi & Christophe Vigny</i> |
| 12:00–12:15 | Large-scale variations of the global gravity field from high-low SST only <i>Christoph Dahle (GFZ Potsdam, DE), Karl-Hans Neumayer, Rolf Koenig & Frank Flechtner</i> | Geodetic Studies Along Western Part of North Anatolian Fault Zone and Aegean Region: WEGENER Activities in Turkey <i>Haluk Ozener (Bogazici University, TR)</i> | Validation of satellite altimetry over Central East Antarctica by kinematic GNSS: Reference frame issues <i>Ludwig Schröder* (TU Dresden, DE), A. Richter, D. Fedorov, C. Knöfel, H. Ewert, R. Dietrich, A. Matveev, M. Scheinert & V. Lukin</i> |
| 12:15–12:30 | On the capability of non-dedicated GPS-tracked satellite constellations for esti-mating mass variations: case study SWARM and COSMIC <i>Tilo Reubelt (Stuttgart Univ., DE), Oliver Baur, Matthias Weigelt, Torsten Mayer-Gürr, Nico Sneeuw, Tonie van Dam & Mohammad Tourian</i> | Rapid and Real-Time GPS/GNSS for Volcano and Earth-quake Monitoring in Alaska <i>Jeff Freymueller (Alaska Fairbanks Univ., USA)</i> | Century-Scale Geocentric Vertical Land Motion from Double-Differenced Tide Gauge and Satellite Altimetry Data <i>Alvaro Santamaría-Gómez (Inst. Geográfico Nacional, ES), Guy Wöppelmann & Médéric Gravelle</i> |
| 12:30–12:45 | Estimation of covariance functions in satellite gravimetry <i>Torsten Mayer-Gürr (TU Graz, AT)</i> | Dense GNSS array for early warning of earthquakes and missile launches <i>Kosuke Heki (Hokkaido Univ., Sapporo, JP), Mokhamad Nur Cahyadi, Yuki Nakashima & Jun Maeda</i> | Towards monitoring New Zealand tectonic motion with VLBI <i>Hiroshi Takiguchi (Auckland Univ. Technol., NZ), Tim Natusch, Stuart Weston, Jim Lovell, Mamoru Sekido & Sergei Gulyaev</i> |
| 12:45 | Lunch & Poster Session: Theme 1, theme 2 (sub themes 1, 3 and 5), theme 3 and theme 4 | | |
| 13:10 | Plenary Session: Closing (please see next page) | | |

FRIDAY • SEPTEMBER 6 • Detailed Assembly Program

| Time | Lecture Hall F1 | Lecture Hall F2 | Lecture Hall F3 |
|-------|-----------------|--|-----------------|
| 13:10 | | <p>Plenary Session: Closing</p> <p><i>Chair: Hermann Drewes</i></p> <p>13:10 Introduction <i>Chris Rizos, IAG President</i></p> <p>13:15 Highlights of Themes' Sessions:</p> <p>Definition, Implementation and Scientific Applications of Reference Frames <i>Tonie van Dam</i></p> <p>Gravity Field Determination and Applications <i>Urs Marti</i></p> <p>Observing, Understanding and Assessing Earth Hazards <i>Manabu Hashimoto</i></p> <p>Science and Applications of Earth Rotation and Dynamics <i>Richard Gross</i></p> <p>Observation Systems and Services <i>Hansjörg Kutterer</i></p> <p>Imaging & Positioning Techniques and Applications <i>Dorota Brzezinska</i></p> <p>13:45 Proceedings of the Scientific Assembly <i>Pascal Willis, IAG Symposia Series Assistant Editor</i></p> <p>13:55 Students' Best Oral Presentation and Best Poster Awards <i>Chris Rizos, IAG President</i></p> <p>14:05 Closure</p> | |
| 14:30 | End of Assembly | | |