

## SCIENTIFIC PROGRAM

### DAY 1 – Monday, 17.10.2022

07:30 – 09:00	Registration at the Electra Palace Hotel	
09:00 – 09:15	Opening Session – Welcome (C. Kotsakis, President of IAG Commission 1)	
<b>09:15 – 10:00</b>	<b>Session 3 – Regional Reference Frames and their Applications</b> <i>Chairs: C. Bruyninx and M. Craymer</i>	
09:15 – 09:35	<i>M. Lidberg, C. Bruyninx, E. Brockmann, R. Dach, A. Kenyeres, K. Kollo, J. Legrand, T. Liwosz, B. Männel, R. Pacione, M. Sacher, J. Schwabe, W. Söhne, C. Völksen, Z. Altamimi, A. Caporali, J. Zurutuza, M. Poutanen and J-A. Torres</i>	Advancing the geodetic infrastructure in Europe through EUREF <b>(key paper)</b>
09:35 – 09:55	<i>S.M. Alves-Costa, L. Sanchez, D. Pinon, J.A. Tarrio-Mosquera, G. Guaimaraes, D. Gomez, H. Drewes, M.V. Mackern, E. Antokoletz, A.C.O.C de Matos, D. Blitzkow and A. da Silva</i>	Status of the SIRGAS reference frame: recent developments and new challenges <b>(key paper)</b>
09:55 – 10:00	Discussion	
10:00 – 10:30	Coffee break	
<b>10:30 – 12:00</b>	<b>Session 3 – Regional Reference Frames and their Applications</b> <i>Chairs: C. Bruyninx and M. Craymer</i>	
10:30 – 10:50	<i>R. Stanaway, C. Crook, K. Kelly and R. Lott</i>	Deformation Models - Progress with development of an OGC Standard <b>(key paper)</b>
10:50 – 11:05	<i>R. Steffen, A. Kenyeres, H. Steffen and M. Lidberg</i>	EuVeM2022: A 3D GNSS velocity field for Europe
11:05 – 11:20	<i>L. Huisman and H. de Ligt</i>	Validation of reference frame consistency of GNSS service products

11:20 – 11:35	<i>J. Kröger, T. Kersten, Y. Brevia and S. Schön</i>	How Do Different Phase Center Correction Values Impact GNSS Reference Frame Stations?
11:35 – 11:50	<i>J. Han, H. Yun, S.J. Lee, M.H. Lee and C. Shen</i>	Versatile Processing Program for RINEX Files
11:50 – 12:00	Discussion	
12:00 – 13:30	Lunch break	
<b>13:30 – 15:00</b>	<b>Session 3 – Regional Reference Frames and their Applications</b> <i>Chairs: C. Bruyninx and M. Craymer</i>	
13:30 – 13:45	<i>J.A. Tarrío, J. Inzunza, C. Caceres, M. Caverlotti, V. Vasquez, F. Isla, G. Jeldres, R. Urrutia and C. Mardones</i>	Transition from PSAD56/SAD69 to SIRGAS. Toward a kinematic reference frame for mining in Chile
13:45 – 14:00	<i>C. Shen, H. Yun, S.J. Lee, M.H. Lee and J. Han</i>	Comparison Analysis of Network Adjustment of 5000 Unified Control Points in South Korea using Bernese and GAMIT/GLOBK
14:00 – 14:15	<i>E. Azcue, M. Blanco, J. Grau, D. Gómez and J-A. Sánchez-Sobrino</i>	ETRS89 Realization and Maintenance in Spain
14:15 – 14:30	<i>D. Anastasiou, X. Papanikolaou and M. Tsakiri</i>	On the stability of regional reference frames in Greece using GNSS permanent stations
14:30 – 14:45	<i>D. Ampatzidis, E. Tzanou, N. Demirtzoglou and G.S. Vergos</i>	Strategies for the optimal combination between local 3D modern GNSS and 2D classical networks, expressed in different reference frames: Case study in Greece
14:45 – 15:00	<i>A. Alqahtani, R. Grebenitcharsky, S. Alshahrani, I. Golubinka, M. Alqarni and S. Alqurishi</i>	Saudi Arabia - National Spatial Reference System (SANSRS)
15:00 – 15:30	Coffee break	
15:30 – 17:00	Poster viewing and discussion	
18:00 – 20:00	<b>Ice-breaker reception (Electra Palace Hotel, roof garden)</b>	

**DAY 2 – Tuesday, 18.10.2022**

<b>08:30 – 10:00</b>	<b>Session 4 – Celestial Reference Frames and Earth Orientation Parameters</b> <i>Chair: B. Soja</i>	
08:30 – 08:50	<i>T. Kur, J. Śliwińska, J. Nastula, H. Dobslaw, M. Wińska and A. Partyka</i>	Annual summary of the Second Earth Orientation Parameters Prediction Comparison Campaign (2nd EOP PCC) <b>(key paper)</b>
08:50 – 09:05	<i>L. Lengert, D. Thaller, C. Flohrer, A. Girdiuk and H. Hellmers</i>	On the improvement of the consistency and the temporal regularity of combined ERP time series
09:05 – 09:20	<i>L. Biskupek, V.V. Singh, J. Müller and M. Zhang</i>	Potential of Lunar Laser Ranging for the determination of Earth orientation parameters
09:20 – 09:35	<i>L. Kern, M. Schartner, J. Böhm, S. Böhm, A. Nothnagel and B. Soja</i>	The importance of accurate a priori information for VLBI Intensive sessions
09:35 – 09:50	<i>M. Schartner, L. Petrov, C. Plötz, F.G. Lemoine, E. Terrazas, I-D. Herrera Pinzón, J.L. Dorman and B. Soja</i>	VGOS VLBI Intensives between MACGO12M and WETTZ12M for the rapid determination of UT1-UTC
09:50 – 10:00	Discussion	
10:00 – 10:30	Coffee break	
<b>10:30 – 11:15</b>	<b>Session 4 – Celestial Reference Frames and Earth Orientation Parameters</b> <i>Chair: B. Soja</i>	
10:30 – 10:45	<i>M. Karbon, S. Belda, J.M. Ferrandiz and A. Escapa</i>	A Celestial Reference Frame based on parameterized source positions
10:45 – 11:00	<i>S. Belda, M. Karbon, J.M. Ferrandiz and A. Escapa</i>	The impact of parameterized source positions on the free core nutation
11:00 – 11:15	<i>L. Petrov</i>	Single-band absolute astrometry
<b>Switch to Session 5</b>		
<b>11:15 – 12:00</b>	<b>Session 5 – Usage &amp; Challenges of Reference Frames for Earth Science Applications</b> <i>Chairs: J-P. Boy and S. Glaser</i>	

11:15 – 11:35	<i>S. Rudenko, M. Bloßfeld, J. Zeitlhöfler, A. Kehm, D. Dettmering, M. Glomsda, D. Angermann and M. Seitz</i>	Application of the ITRS2020 realizations for precise orbit determination of SLR and altimetry satellites <b>(key paper)</b>
11:35 – 11:50	<i>A. Girdiuk, D. Thaller, G. Engelhardt and D. Ullrich</i>	ITRF2020 application in the geodetic products for IVS
11:50 – 12:00	Discussion	
12:00 – 13:30	Lunch break	
<b>13:30 – 15:00</b>	<b>Session 5 – Usage &amp; Challenges of Reference Frames for Earth Science Applications</b> <i>Chairs: J-P. Boy and S. Glaser</i>	
13:30 – 13:45	<i>C. Bruyninx, R. Fernandes, M. Lidberg and W. Söhne</i>	EUREF's contribution to EPOS' GNSS Services
13:45 – 14:00	<i>K. Balidakis, R. Dill and H. Dobsław</i>	Predicting Non-tidal Loading Contributions Induced by Environmental Loading
14:00 – 14:15	<i>J. Nicolas, J. Verdun, J-P. Boy, F. Durand, A. Koulali and P. Clarke</i>	Improved Hydrological Loading Models in South America: Analysis of 3D GPS Displacements Using M-SSA
14:15 – 14:30	<i>H.P. Kierulf, J. Kohler, J-P. Boy, E.C. Geyman, A. Memin, O. Omang, H. Steffen and R. Steffen</i>	Glacial induced uplift variations in Svalbard – is it a challenge for the reference frame?
14:30 – 14:45	<i>A. Klos, J. Bogusz, R. Pacione, V. Humphrey and H. Dobsław</i>	Spatio-temporal consistency of the stochastic component of the ZTD time series over Europe
14:45 – 15:00	Discussion	
15:00 – 15:30	Coffee break	
<b>15:30 – 16:15</b>	<b>Session 5 – Usage &amp; Challenges of Reference Frames for Earth Science Applications</b> <i>Chairs: J-P. Boy and S. Glaser</i>	
15:30 – 15:45	<i>J. Freymueller</i>	Reference Frame and Identifying Localized vs Regional Deformation: Examples from Hawaii and the North Atlantic
15:45 – 16:00	<i>C. Danezis, D. Kakoullis, K. Fotiou, M. Pekri, M. Chatzinikos, C. Kotsakis, M. Nikolaidis, G. Ioannou, M. Eineder, R. Brcic, A. Christofe, G. Melillos, Y. Vacanas, M. Christoforou, S. Pilidou, M. Tzouvaras, C. Papoutsas, K. Themistocleous, D. Hadjimitsis</i>	CyCLOPS: Establishment of a Strategic Integrated Permanent GNSS and InSAR Array in Cyprus to Enhance Monitoring of Geohazards and Promote Infrastructure Resilience
16:00 – 16:15	<i>K. Aspioti, D. Anastasiou, M. Gianniou, V. Andritsanos and V. Pagounis</i>	Velocity and strain field estimation from episodic GNSS campaigns (2012-2021) for the region of Attica, Greece

16:15 – 17:00	Poster viewing and discussion
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### **DAY 3 – Wednesday, 19.10.2022**

<b>08:30 – 10:00</b>	<b>Session 1 – Global Reference Frame Theory, Concepts and Computations</b> <i>Chairs: X. Collilieux and E.C. Pavlis</i>	
08:30 – 08:50	<i>Z. Altamimi, P. Rebischung, X. Collilieux, L. Métivier and K. Chanard</i>	ITRF2020: An overview of its features and results <b>(key paper)</b>
08:50 – 09:05	<i>P. Rebischung, Z. Altamimi, X. Collilieux, L. Métivier and K. Chanard</i>	ITRF2020 seasonal geocenter motion model
09:05 – 09:20	<i>E.C. Pavlis, V. Luceri, A. Basoni, D. Sarrocco, M. Kuzmich-Cieslak, K. Evans and G. Bianco</i>	The ILRS Analysis Standing Committee Contribution to ITRF2020
09:20 – 09:35	<i>C. Kotsakis and M. Chatzinikos</i>	Evaluation of common-mode errors in global multi-year frames: A case study in the ITRF solution series
09:35 – 09:50	<i>J. Bogusz, A. Klos and G. Moreaux</i>	Noise evolution in IDS contributions: from ITRF2014 to ITRF2020
09:50 – 10:00	Discussion	
10:00 – 10:30	Coffee break	
<b>10:30 – 12:00</b>	<b>Session 1 – Global Reference Frame Theory, Concepts and Computations</b> <i>Chairs: X. Collilieux and E.C. Pavlis</i>	
10:30 – 10:50	<i>M. Seitz, M. Bloßfeld, M. Glomsda, D. Angermann, S. Rudenko and J. Zeitlhöfler</i>	DTRF2020: the ITRS 2020 realization of DGFI-TUM <b>(key paper)</b>
10:50 – 11:10	<i>R. Gross, C. Abbondanza, T.M. Chen, M. Heflin and J. Parker</i>	Sequentially Estimating and Updating Terrestrial Reference Frames <b>(key paper)</b>
11:10 – 11:25	<i>M. Moreira, E. Azcue, M. Karbon, S. Belda, V. Puente, R. Heinkelmann, D. Gordon and J. Ferrándiz</i>	VLBI-based assessment of the consistency of the conventional EOP series and the terrestrial reference frames
11:25 – 11:40	<i>D. Thaller, C. Flohrer, G. Engelhardt, A. Girdiuk, H. Hellmers, D. König, S. Modiri, S. Bachmann, W. Dick, S. Geist, M. Goltz, L. Lengert, S. Schneider-Leck and D. Ullrich</i>	The contributions by BKG to the realization of the global geodetic reference frame

11:40 – 11:55	<i>L. Sanchez, J. Huang, R. Barzaghi and G.S. Vergos</i>	Advances in the determination of a global unified reference frame for physical heights
11:55 – 12:00	Discussion	
12:00 – 13:30	Lunch break	
<b>13:30 – 15:15</b>	<b>Session 1 – Global Reference Frame Theory, Concepts and Computations</b> <i>Chairs: X. Collilieux and E.C. Pavlis</i>	
13:30 – 13:50	<i>F. Pollinger, C. Eschelbach, C. Courde, L. Garcia-Asenjo, J. Guillory, P.O. Hedekvist, U. Kallio, T. Klügel, M. Lösler, P. Neyezhnikov, D. Pesce, M. Pisani, J. Seppä, R. Underwood, K. Wezka and M. Wiśniewski</i>	The GeoMetre project: a comprehensive study to advance local tie metrology <b>(key paper)</b>
13:50 – 14:05	<i>X. Collilieux, Z. Altamimi, P. Rebischung, L. Métivier, K. Chanard and M. de la Serve</i>	Consistency evaluation of seasonal signals in ITRF2020
14:05 – 14:20	<i>B. Männel, S. Glaser, A. Brandt and H. Schuh</i>	The impact of non-tidal surface loading deformation on GNSS coordinate time series
14:20 – 14:35	<i>J-P. Boy, P. Rebischung and Z. Altamimi</i>	Comparison of ITRF2020 residual displacements with environmental loading models
14:35 – 14:50	<i>M. Glomsda, M. Seitz, M. Bloßfeld and D. Angermann</i>	Effects of non-tidal loading applied in VLBI reference frames
14:50 – 15:05	<i>P-K. Diamantidis and R. Haas</i>	Assessment of geodetic products from 24 h VGOS sessions using ITRF2020
15:05 – 15:15	Discussion	
15:15 – 15:45	Coffee break	
15:45 – 17:00	Poster viewing and discussion	
18:30 – 21:00	<b>Guided tour at the Museum of Byzantine Culture and Conference Dinner</b>	

**DAY 4 – Thursday, 20.10.2022**

<b>08:30 – 10:00</b>	<b>Session 2 – Space Geodetic Measurement Techniques</b> <i>Chairs: U. Hugentobler and K. Sośnica</i>	
08:30 – 08:45	<i>M. Poutanen, M. Bilker-Koivula, J. Eskelinen, U. Kallio, N. Kareinen, H. Koivula, S. Lahtinen, J. Näränen, J. Peltoniemi, A. Raja-Halli and N. Zubko</i>	Upgrading the Metsähovi Geodetic Research Station
08:45 – 09:00	<i>V. Husson, P. Dunn, J. Laing, T. Oldham and T. Carpenter</i>	NASA SLR Systematic Error Analysis
09:00 – 09:15	<i>P. Dunn, T. Oldham and V. Husson</i>	Accuracy Improvement to SLR network stations from Reference Frame Analysis
09:15 – 09:30	<i>R. Handirk, P-K. Diamantidis, K. Le Bail, T. Nilsson and R. Haas</i>	Assessment of thermal deformation modelling for the geodetic VLBI telescopes at Onsala Space Observatory
09:30 – 09:45	<i>L. Petrov, J. York, J. Skeens, R. Ji-Cathrinier, D. Munton and K. Herrity</i>	Precise VLBI/GNSS ties with micro-VLBI
09:45 – 10:00	Discussion	
10:00 – 10:30	Coffee break	
<b>10:30 – 12:00</b>	<b>Session 2 – Space Geodetic Measurement Techniques</b> <i>Chairs: U. Hugentobler and K. Sośnica</i>	
10:30 – 10:50	<i>K. Le Bail, T. Nilsson, R. Haas and F.L. Nyström</i>	Understanding the change in the VLBI scale behavior <b>(key paper)</b>
10:50 – 11:05	<i>P. Steigenberger and O. Montenbruck</i>	Consistency of Galileo Satellite Antenna Phase Center Offsets
11:05 – 11:20	<i>K. Sośnica, R. Zajdel, G. Bury and K. Kazmierski</i>	Draconitic, tidal, and orbital aliasing signals in multi-GNSS solutions
11:20 – 11:35	<i>H. Wolf, J. Böhm, U. Hugentobler and A. Nothnagel</i>	Adjustment of orbital elements of Galileo satellite arcs with simulated VLBI observations

11:35 – 11:50	<i>A. Reinhold, P. Schreiner, R. Koenig and K-H. Neumayer</i>	Precise orbit and reference frame determination using multiple altimetry satellite missions with DORIS technique
11:50 – 12:00	Discussion	
12:00 – 13:30	Lunch break	
<b>13:30 – 15:00</b>	<b>Session 2 – Space Geodetic Measurement Techniques</b> <i>Chairs: U. Hugentobler and K. Sośnica</i>	
13:30 – 13:50	<i>P. Schreiner, N. Mammadaliyev, S. Glaser, R. Koenig, K-H. Neumayer and H. Schuh</i>	On how multi-technique co-location in space can contribute to the Global Geodetic Observing System goals <b>(key paper)</b>
13:50 – 14:05	<i>S. Raut, S. Glaser, N. Mammadaliyev, P. Schreiner, R. König and H. Schuh</i>	Assessing the potential of VLBI transmitters on next generation GNSS satellites for geodetic products
14:05 – 14:20	<i>G. Bury, K. Sośnica, R. Zajdel, D. Strugarek and U. Hugentobler</i>	Global reference frame realization onboard GNSS satellites
14:20 – 14:35	<i>R. Zajdel, P. Steigenberger and O. Montenbruck</i>	Quality assessment of the BeiDou-3 phase center offset calibrations in terms of the realization of the terrestrial reference
14:35 – 14:50	<i>W. Huang, B. Männel, A. Brack and H. Schuh</i>	GNSS-based scale realization by integrating LEOs
14:50 – 15:00	Discussion	
15:00 – 15:30	Coffee break	
<b>15:30 – 16:30</b>	<b>Session 2 – Space Geodetic Measurement Techniques</b> <i>Chairs: U. Hugentobler and K. Sośnica</i>	
15:30 – 15:45	<i>R. Haas, P-K. Diamantidis, G. Elgered, J. Johansson and T. Nilsson</i>	Assessment of parameters describing the signal delay in the neutral atmosphere derived from VGOS R&D sessions
15:45 – 16:00	<i>I-D. Herrera Pinzón and M. Rothacher</i>	On the Impact of Local- and Tropospheric Ties for the Rigorous Combination of GNSS and VLBI
16:00 – 16:15	<i>K. Balidakis, R. Sulzbach, R. Dill and H. Dobsław</i>	How Do Atmospheric Tidal Loading Displacements Differ Temporally as Well as between Models?
16:15 – 16:30	<i>T. Nikolaidou, M. Ali Goudarzi, B. Donahue, E. Maia, R. Ghoddousi-Fard, O. Kamali and Y. Mireault</i>	New generation of NRCan’s Final GNSS orbit and clock products: overview and validation



16:30 – 16:45	Closing Session
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**LIST OF POSTER PAPERS**  
**(to be displayed throughout the duration of the conference)**

<b>Session 1 – Global Reference Frame Theory, Concepts and Computations</b>	
<i>J. Barneoud, C. Courde, J. Beilin, M. Germerie-Guizouarn, D. Pesce, M. Vidal, X. Collilieux and N. Maurice</i>	Automatic determination of the SLR reference point at Côte d’Azur multi-technique geodetic Observatory
<i>A. Mémin, J-P. Boy and A. Santamaría</i>	Mitigating seasonal changes in terrestrial reference frame realization <b>(withdrawn)</b>
<i>D. Mayer, J. Böhm, S. Böhm and H. Krásná</i>	The Vienna VLBI contribution to the ITRF2020
<b>Session 2 – Space Geodetic Measurement Techniques</b>	
<i>H. Sert, U. Hugentobler, O. Karatekin and V. Dehant</i>	VLBI and GNSS space-tie onboard Galileo satellites
<i>J. Najder, K. Sośnica and D. Srugarek</i>	Future SLR satellite constellations – a simulation study
<i>X. Papanikolaou, M. Tsakiri, S. Nahmani and A. Pollet</i>	Designing a DORIS processing software for orbit determination and estimation of geodetic parameters.
<i>J. Wang, M. Ge, S. Glaser, K. Balidakis, R. Heinkelmann and H. Schuh</i>	Impact of Tropospheric Ties in GNSS and VLBI Integrated Solution
<b>Session 3 – Regional Reference Frames and their Applications</b>	
<i>D. Natsiopoulou, E. Mamagiannou, E. Tzanou, A. Triantafyllou, G.S. Vergos, I.N. Tziavos, D. Ramnalis and V. Polychronos</i>	GeoNetGNSS, a newly established CORS network in Northern Greece in support of high-accuracy positioning applications
<i>S.J. Lee, H.S. Yun, M.H. Lee, J. Han and C. Shen</i>	Development of GNSS-based crustal Deformation monitoring system
<i>M.H. Lee, H.S. Yun, S.J. Lee, C. Shen and J. Han</i>	Development of the Crustal Deformation Model of the Korean Peninsula Using Polymer Regression

<i>C. Robin, G. Banham, R. Berg, M. Craymer, G. Cross, B. Donahue, J. Harrietha, J. Huang, R.M. Paquin, R. Tardiff and Y. Thériault</i>	Reference Frame Modernization in Canada
<i>M. Craymer, D. Roman and P. McFarland</i>	Modernizing Regional Reference Frames in North America: Current and Future Activities of IAG Regional Sub-Commission SC1.3c
<i>M. Craymer, B. Amjadiparvar, M. Piraszewski, E. Lapelle and Y. Zhao</i>	NAD83(CSRS) Version 8: A New Realization of NAD83 for Canada based on ITRF2020 and IGS Repro3 Products
<i>C. Danezis, M. Chatzinikos and C. Kotsakis</i>	Update of ITRF densification in Cyprus using IGS repro3 products
<b>Session 4 – Celestial Reference Frames and Earth Orientation Parameters</b>	
<i>H. Krasna, D. Gordon, A. de Witt and C.S. Jacobs</i>	Earth orientation parameters determined from Very Long Baseline Array experiments conducted at K-band (24 GHz)
<i>H. Krasna, D. Gordon, A. de Witt and C.S. Jacobs</i>	Celestial reference frame determined from very long baseline interferometry experiments conducted at K-band (24 GHz) over the past 10 years
<i>J. Śliwińska, J. Nastula and A. Partyka</i>	The use of sub-monthly GRACE/GRACE-FO solutions to determine gravimetric excitation of polar motion
<i>B. Soja, M.K. Shahvandi, M. Schartner and J. Gou</i>	Operational prediction of Earth orientation parameters and effective angular momentum at ETH Zurich
<b>Session 5 – Usage &amp; Challenges of Reference Frames for Earth Science Applications</b>	
<i>H.P. Kierulf, W. van Pelt, L. Petrov, M. Dähnn, A-S. Kirkvik and O. Omang</i>	Seasonal glacier and snow loading in Svalbard recovered from geodetic observations
<i>R. Steffen and E.R. Ivins</i>	Recent advances in the modelling of glacial isostatic adjustment – A report from the IAG Joint Study Group on “Geodetic, Seismic and Geodynamic Constraints on Glacial Isostatic Adjustment”
<i>N. Papadopoulos and V. Gikas</i>	Tide and storm surge analysis in Thermaikos Gulf, Greece
<i>A. Kenyeres, S. Toth, B. Magyar, J. Dehls, Y. Larsen and P. Marinkovic</i>	Regional reference velocity model based on extended EPND solution for InSAR applications

