



Venue

Deutsches Zentrum für Luft und Raumfahrt e.V. (DLR)
 German Aerospace Center (DLR)
 Kalkhorstweg 53, 17235 Neustrelitz

Programme Summary IWGI2022

Monday, 26 th September 2022	8:00-	Registration
	09:00 – 09:10	Welcome
	09:10 – 9:40	Session on Space and ground-based ionosphere reconstruction techniques and measurements
	10:30 – 11:00	Coffee break
	11:00 – 13:00	Session on Space and ground-based ionosphere reconstruction techniques and measurements
	13:00 – 14:00	Lunch break
	14:00 – 15:40	Session on Data assimilation, modelling and prediction
	15:40 – 16:00	Coffee break
	16:00 – 18:00	Session on Data assimilation, modelling and prediction
Tuesday, 27 th September 2022	9:00 – 10:40	Session on Plasmasphere, ionosphere and thermosphere coupling processes
	10:40 – 11:00	Coffee Break
	11:00 – 13:00	Session on Ionospheric scintillation, Ionospheric indices and scales
	12:50 – 14:00	Lunch break
	14:00 – 14:40	Session on Ionospheric scintillation, Ionospheric indices and scales
	15:00 – 15:40	Session on Remote sensing of lower atmosphere
	15:40 – 16:00	Coffee break

	16:00 – 17:40	Session on Ionospheric effects and correction for GNSS positioning, Reflectometry
	18:00	Workshop Dinner
Wednesday, 28 th September 2022	9:00 – 10:30	Session on Space weather impact on Earth/Space systems and infrastructures
	10:30 – 11:00	Closing Workshop
	11:00 – 11:30	Coffee Break
	11:30	Excursion
	17:00	END

Detailed Programme (oral presentations) IWGI2022

Monday, 26/09/2022

Registration, Monday, 26/09/2022, 08:00 –
Welcome, Monday, 26/09/2022, 09:00 – 09:10
IWGI2022 Workshop

Space and ground-based techniques and measurements, Monday, 26/09/2022, 9:10 – 10:40 Chairs: Stephan Buchert, Norbert Jakowski	
09:10	The influence of the Equatorial Electrojet on Sporadic E layers at low latitudes as seen from GNSS radio occultations- Christina Arras
09:30	GNSS observation of ionospheric density enhancements caused by particle precipitation – Hiroatsu Sato
09:50	Generation of the Second IGS combined Real-Time Global Ionospheric Maps: Method and Analysis – Ningbo Wang
10:10	GRAS ionospheric measurements from MetOp-A end-of-life testing campaign – Mainul Hoque
10:30	Coffee Break

Space and ground-based techniques and measurements, Monday, 26/09/2022, 11:00 – 13:00 Chairs: Norbert Jakowski, Stephan Buchert	
11:00	Pre-aurora Observation on September 17th, 2017, by PALSAR-2, PFISR and Keogram – Junsu Kim

11:20	New approach for the systematic detection of anomalous ionospheric perturbations above LEOs from GNSS POD data, including possible tsunami signatures - Manuel Hernández-Pajares
11:40	Intensity dependence of ionospheric disturbances following different typhoons from GPS measurements- Shuanggen Jin
12:00	Plasmasphere and Topside Ionosphere Modelling: Latest Developments – Fabricio Prol
12:20	Uncertainty Quantification for Ionosphere Forecasting with Machine Learning – Randa Natras
12:40	Consistency of IGS combined GIMs examined by DORIS and Altimetry Observations: Real-time versus Postprocessing – Ang Li
13:00	Lunch break

Data assimilation, modelling and prediction, Monday, 26/09/2022, 14:00 – 15:40 Chairs: Grzegorz Nykiel, Mainul Hoque	
14:00	Three-dimensional GPS ionospheric tomography over China using multi-GNSS data from ground-based augmentation system - Yun Sui
14:20	Variational electron density assimilation based on NEDM - Liangliang Yuan
14:40	Neural network model of Electron density in the Topside ionosphere (NET) – Artem Smirnov
15:00	Using a neural network-based TEC model to reproduce the small-scale nighttime winter anomaly feature- Marjolijn Adolfs
15:20	Assessment of GNSS-derived global ionosphere maps using satellite altimetry observations – Mateusz Poniatowski
15:40	Coffee break

Data assimilation, modelling and prediction, Monday, 26/09/2022, 16:00 – 18:00 Chairs: Mainul Hoque, Grzegorz Nykiel	
16:00	Traveling Ionospheric Disturbance observed by GNSS during the 25-26 August 2018 geomagnetic storm- Linlin Li
16:20	Investigation on the prediction of Large Scale Traveling Ionospheric Disturbances over Europe- Arthur Ferreira
16:40	A study on Nighttime Winter Anomaly based on GPS global International GNSS Service and measurements from GRACE satellite – Eman Desoky
17:00	Using DORIS Data for Validating Real-Time GNSS Ionospheric Maps- Ningbo Wang
17:20	Evaluation of the mid-latitude ionospheric trough using GRACE data- Kateryna Lubyk

17:40	Local Storm-Time Responses of the African Ionosphere GPS-derived TEC during the 15 July 2012 Geomagnetic Storm Event- Chukwuma Anoruo
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Tuesday, 27/09/2022

Plasmasphere, ionosphere and thermosphere coupling processes, Tuesday, 27/09/2022, 9:00 – 10:40 Chairs: Ludger Scherliess, Norbert Jakowski	
09:00	Spectral Properties of Kilometer-scale Equatorial Irregularities as Seen by the Swarm Satellites- Stephan Buchert
09:20	Thermospheric Neutral Winds Obtained from GNSS Observations and their Impact on the Ionosphere- Ludger Scherliess
09:40	Observations of travelling ionospheric disturbances of equatorial latitudes origin as a possible result of electrodynamics during geomagnetically disturbed conditions- John Bosco Habarulema
10:00	Geomagnetic Storm Main Phase Effect on the Ionosphere as Measured from GPS Observations at an African Low-Latitude Station- Ayomide Olabode
10:20	Potential controlling factor for the generation of LSTIDs during the geomagnetic disturbed condition: A case study- Sivakandan Mani
10:40	Coffee Break
Ionospheric scintillation, Ionospheric indices and scales, Tuesday, 27/09/2022, 11:00 – 13:00 Chairs: Yannick Béniguel, Dmytro Vasylyev	
11:00	Comparison of the ionospheric indices GIX, SIDX and ROTI under geomagnetic storms- Grzegorz Nykiel
11:20	Geometric enhancement of scintillation- Dmytro vasylyev
11:40	Artificial Phase Scintillation Observed from GLONASS Signals- Abdollah Darya
12:00	ROTI Mapping towards Real-time Ionospheric Plasma Irregularities Monitoring at Middle and Low Latitudes- Zhe Yang
12:20	Generation of Gradient Ionospheric Index (GIX) Maps over China Using Real-Time Multi-GNSS Observation Data- Ningbo Wang
12:40	Alternative scintillation data to detect and model the regional and global distribution of ionospheric irregularities- Thai Chinh Nguyen
13:00	Lunch

Ionospheric scintillation, Ionospheric indices and scales, Tuesday, 27/09/2022, 14:00 – 15:00 Chairs: Dmytro Vasylyev, Yannick Béniguel	
14:00	Characterization of ionospheric perturbations degree with GIX and SIDX- Juan Andrés Cahuasquí

14:20	Observations of multi-scale size ionospheric irregularities at L- and S-band from an anomaly crest location- Ashik Paul
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Remote sensing of lower atmosphere, Tuesday, 27/09/2022, 15:00 – 16:20 Chairs: Daniela Banys, Tamal Basak	
14:40	A numerical approach to look at the response of D-region ionosphere in presence of solar energetic flares- Tamal Basak
15:00	The VLF network GIFDS for a ground-based monitoring of solar disturbances- Daniela Banys
15:20	VLF measurements and their use for investigating the ionospheric D-layer with the example of the October effect- Marc Hansen
15:40	Coffee break

Ionospheric effects and correction for GNSS positioning, Reflectometry, Tuesday, 27/09/2022, 16:00 – 18:00 Chairs: Maximilian Semmling, Florian Zus	
16:00	On the Global Kinematic Positioning Variations during the September 2017 Solar Flare Events- Wengfeng Nie
16:20	Analysis of ionospheric delay correction models for GPS, Galileo, and BDS-3 in SPP mode- Beata Milanowska
16:40	Ionospheric corrections for precise spaceborne sea-surface altimetry with GNSS- Florian Zus
17:00	Excess Path Model for Space-based GNSS Reflectometry: A PRETTY mission concept study- Maximilian Semmling
17:20	Atmospheric effects resolved in coherent airborne GNSS reflectometry- Mario Moreno
18:00	Workshop Dinner

Wednesday, 28/09/2022

Space weather impact on Earth/Space systems and infrastructures, Wednesday, 28/09/2022, 9:00 – 11:00 Chairs: Jens Berdermann, Mainul Hoque	
09:00	Comparative analysis of new pre-operational global ionosphere models from UWM and DGFI-TUM- Pawel Wielgosz
09:20	Pre-operational Space Weather Services at the DLR Institute for Solar-Terrestrial Physics- Martin Kriegel
09:40	Ionospheric Threat Monitoring and Mitigation in Future Dual-frequency Multi-constellation Ground Based Augmentation Systems- Maria Caamano Albuerne

10:00	Space geodetic techniques for tsunami early warning detection- Mahdi Alizadeh
10:20	Closing Workshop
11:00	Coffee Break
11:30	Excursion

12:00 Guided tour to THE OLD CASTLE OF PENZLIN

14:00 Guided tour to SCHLIEMANN MUSEUM ANKERSHAGEN

15:30 Coffee and Cakes

16:30 Return to DLR

12:00 Guided tour to THE OLD CASTLE OF PENZLIN



(reprinted from <http://alte-burg.amt-penzliner-land.de/>)

The Old Castle of Penzlin attracts thousands of visitors to its centuries-old walls every year.

Guests are particularly impressed by the Knights' Hall with its Gothic cross vault and the Black Kitchen with a 12-meter-high chimney. The museum of everyday magic and witch hunts in Mecklenburg

Mecklenburg recorded an above-average number of witch trials, with nearly 4,000 cases. The museum in the Old Castle of Penzlin with its torture cellar, witch dungeon and a permanent exhibition is dedicated to the historical phenomenon of everyday magic as well as witchcraft and its legal persecution in Mecklenburg in the early modern period. Special emphasis is placed on the cultural-historical significance of the subject in its political, literary and art-historical afterlife.

14:00 Guided tour to SCHLIEMANN MUSEUM ANKERSHAGEN



(reprinted from <https://www.mecklenburgische-seenplatte.de/reiseziele/heinrich-schliemann-museum>)

This year marks the bicentenary of the birth of the important Mecklenburg merchant, archaeologist and cosmopolite Heinrich Schliemann. Even after 200 years, his life provides sufficient material for a wide variety of research approaches.

Controversial discussions are still taking place, perspectives are being changed, and connections are being reestablished, because Schliemann not only polarized the professional world during his lifetime. He also operated a consistent and, above all, successful press and public relations campaign.

Although Schliemann was interested in the past, he was equally forward-looking in his actions and open to new ideas. And the controversy over the appreciation of his achievements as an archaeologist continues in the present.

15:30 Coffee and Cakes

16:30 Return to DLR