

ICL-GNSS 2023 PROGRAMME

Tuesday, June 6, 2023

10:00am – 10:20 am	Opening
Session Chairs: Joaquin Huerta, Universidad Jaume I, Joaquin Torres Sospedra, Univ. of Minho	
10:20am – 11:20am	Keynote: Carlos Alcaide, iTEAM, UPV, Spain Multipactor Effect on GNSS Signals
Session Chair: Joaquin Torres Sospedra, Univ. of Minho	
11:20am – 12:00pm	Coffee break
12:00pm – 1:00pm	Special Session: Galileo OSNMA
Session Chair: Sophie Damy, European Commission, Joint Research Centre	
12:00	Statistical Characterization of Snapshot OSNMA Spoofing Detection Husnain Shahid ^{1,2} , Luca Canzian ³ , Carlo Sarto ³ , Oscar Pozzobon ³ , Joaquín Reyes-González ⁴ , Gonzalo Seco-Granados ^{1,2} , José A. López-Salcedo ^{1,2} <i>1: Universitat Autònoma de Barcelona, Spain; 2: IEEC-CERES, Barcelona, Spain; 3: Qascom Srl, Bassano del Grappa, Italy; 4: EUSPA, Prague, Czech Republic</i>
12:20	An Experimental Performance Assessment of Galileo OSNMA Toni Hammarberg, José M. Vallet García, Jarno N. Alanko, Mohammad Zahidul Hasan Bhuiyan; Finnish Geospatial Research Institute FGI, Finland
12:40	Increasing the Robustness of Drone Operations with Galileo Open Service Navigation Message Authentication (OSNMA) Sophie Damy ¹ , Luca Cucchi ¹ , Alberto Mennella ² , Gianluca Luisi ² , Matteo Paonni ¹ , Ignacio Fernandez-Hernandez ³ <i>1: Joint Research Centre, European Commission, Italy; 2: TopView S.r.l, Italy; 3: DG DEFIS, European Commission, Belgium</i>
1:00pm – 3:00pm	Lunch
3:00pm – 4:00pm	Security and Privacy
Session Chair: Aleksandr Ometov, Tampere University	
15:00	Acceptable Margin of Error: Quantifying Location Privacy in BLE Localization Viktoria Shubina ^{1,2} , Aleksandr Ometov ¹ , Dragos Niculescu ² , Elena Simona Lohan ¹ <i>1: Tampere University, Finland; 2: University 'Politehnica' of Bucharest, Romania</i>
15:20	Privacy-aware location accuracy in cooperative wearable networks Elena Simona Lohan ¹ , Viktoria Shubina ^{1,2} <i>1: Tampere University, Finland; 2: University 'Politehnica' of Bucharest, Romania</i>
15:40	Secure Communication via GNSS-based Key Synchronization Maki Yoshida ¹ , Sumio Morioka ² , Satoshi Obama ³ <i>1: NICT, Japan; 2: Interstellar Technologies Inc., Japan; 3: Hosei University, Japan</i>

4:00pm – 4:40pm	Coffee break
4:40pm – 5:20pm	<i>Special Session: Positioning in GNSS-denied environments and collaborative localization methods</i>
	Session Chair: Tomi Westerlund, University of Turku
16:40	Robust Inertial Post-Processing Aided by Trimble ProPoint GNSS Technology for Urban HD Mapping and Autonomous Navigation Jau-Hsiung Wang <i>Trimble Navigation Limited, Canada</i>
17:00	UAV Tracking with Lidar as a Camera Sensors in GNSS-Denied Environments Sier Ha ^{1,2} , Xianjia Yu ² , Iacopo Catalano ² , Jorge Pena Queralta ² , Zhuo Zou ¹ , Tomi Westerlund ² 1: Fudan University, Shanghai, China; 2: University of Turku, Finland
17:20	end of program
7 pm – 9 pm	<i>Reception at Hotel Intur Bonaire's garden, Av. Gimeno Tomás, 3-1, Benicàssim</i>

Wednesday, June 7, 2023

9:50am	Opening of the second day
10:00am – 11:00am	<i>Keynote: Maarten Weyn, IDLab, University of Antwerp, Belgium</i> <i>Potential of LEO for Outdoor/indoor Localization</i> Session Chair: Joaquin Torres Sospedra, Univ. of Minho
11:00am – 11:40am	Coffee break
11:40am - 1:00pm	<i>Neural Networks in Positioning</i> Session Chair: Joaquin Torres Sospedra, Univ. of Minho
11:40	RNN-Based GNSS Positioning using Satellite Measurement Features and Pseudorange Residuals Ibrahim Sbeity ^{1,2} , Christophe Villien ¹ , Benoît Denis ¹ , E. Veronica Belmega ^{2,3} 1: CEA-Leti, Université Grenoble Alpes, France; 2: ETIS UMR 8051, CY Cergy Paris Université, ENSEA, CNRS, France; 3: Univ. Gustave Eiffel, CNRS, LIGM, France
12:00	Deep Learning Based Kalman Filter for GNSS/INS Integration: Neural Network Architecture and Feature Selection Shuo Li ^{1,3} , Maxim Mikhaylov ² , Nikolay Mikhaylov ¹ , Thomas Pany ³ 1: Robert Bosch GmbH, Germany; 2: ITMO University, Russia; 3: Bundeswehr University Munich, Germany
12:20	Convolutional neural network based approach for estimating ionospheric delay from GNSS observables Mika Saajasto, Maija Mäkelä, Fabricio S. Prol, M. Zahidul H. Bhuiyan, Sanna Kaasalainen <i>Finnish Geospatial Research Institute FGI, Finland</i>
12:40	Fast and Precise Neural Network-Based Environment Detection utilizing UWB CSI for Seamless Localization Applications Ghazaleh Kia ¹ , David Plets ² , Ben Van Herbruggen ² , Jaron Fontaine ² , Leen Verloock ² , Eli De Poorter ² , Jukka Talvitie ³ 1: University of Helsinki, Finland; 2: Ghent University-imec, Belgium; 3: Tampere University, Finland

1:00pm – 3:00pm	Lunch
3:00pm – 3:40pm	<i>Indoor Positioning</i>
	Session Chair: Joaquin Huerta, Universidad Jaume I
15:00	Time-multiplexed AoA Estimation and Ranging David Märzinger, Bernhard Etzlinger, Philipp Peterseil, Andreas Springer <i>Johannes Kepler University Linz, Austria</i>
15:20	Indoor Asset Tracking in Dense Industrial Environments Using Low-cost Wireless Technologies Mahmoud Elsanhoury ¹ , Jyri Nieminen ¹ , Petri Välisuo ¹ , Akpo Siemuri ¹ , Janne Koljonen ¹ , Mohammed Elmusrati ¹ , Heidi Kuusniemi ^{1,2} <i>1: University of Vaasa, Finland.; 2: National Land Survey, Finnish Geospatial Institute FGI, Finland</i>
3:40pm – 4:20pm	Coffee break
4:20pm – 5:00pm	<i>Special Session: Low complexity/low energy consumption solutions in positioning and communications</i>
	Session Chair: Aleksandr Ometov, Tampere University
16:20	Will Edge Computing Enable Location based Extended/Mixed Reality Mobile Gaming? Demystifying Trade-off of Execution Time vs. Energy Consumption Aleksandr Ometov, Jari Nurmi <i>Tampere University, Finland</i>
16:40	Towards Benchmarking GNSS Algorithms on FPGA using SyDR Antoine Grenier ¹ , Hans Jakob Damsgaard ¹ , Jie Lei ² , Enrique S. Quintana-Ortí ² , Aleksandr Ometov ¹ , Elena Simona Lohan ¹ , Jari Nurmi ¹ <i>1: Tampere University, Finland; 2: Universitat Politècnica de València, Spain</i>
17:00	End of program

9 pm – 12 am Gala Dinner at Hotel Voramar, Paseo Pilar Coloma 1, Benicassim

Thursday, June 8, 2023

9:55am	Opening of the third day
10:00am – 11:00am	<i>Keynote: Estefanía Díaz, Motius, Germany</i> <i>Mobility in smart cities: can you use the subway for free by deceiving your smartphone's GNSS receiver?</i>
	Session Chair: Joaquin Torres Sospedra, Univ. of Minho
11:00am – 11:40am	Coffee break

11:40am - 1:00pm	GNSS Technologies
Session Chair: Sophie Damy, European Commission, Joint Research Centre	
11:40	Detecting consistent patterns in pseudorange residuals in GNSS timing data Mikko Kotilainen ¹ , Maija Mäkelä ¹ , Kalle Hanhijärvi ² , Martta-Kaisa Olkkonen ¹ , Anders Wallin ² , Thomas Fordell ² , Sanna Kaasalainen ¹ <i>1: Finnish Geospatial Research Institute FGI, Finland; 2: National Metrology Institute VTT MIKES, Finland</i>
12:00	Methodologic Assessment of Beamforming Techniques for Interference Mitigation on GNSS Handheld Devices Guillem Foreman-Campins, Lucía Pallarés-Rodríguez, Sergi Locubiche-Serra, Gonzalo Seco-Granados, José A. López-Salcedo <i>Universitat Autònoma de Barcelona, Spain</i>
12:20	Dual-Polarization Beamforming Techniques for Multipath Mitigation in GNSS Handheld Receivers Lucía Pallarés-Rodríguez ¹ , Gonzalo Seco-Granados ^{1,2} , José A. López-Salcedo ^{1,2} <i>1: Universitat Autònoma de Barcelona, Spain; 2: IEEC-CERES, Spain</i>
12:40	Raw GNSS data analysis via an in-house simulator for LEDSOL project - preliminary results and way ahead Simona Lohan ¹ , Barthélémy Kodom ² , Hafida Lebik ³ , Antoine Grenier ¹ , Xiaolong Zhang ¹ , Oana Cramariuc ⁴ , Irina Mocanu ⁴ , Kathrin Bierwirth ⁵ , Jari Nurmi ¹ <i>1: Tampere University, Finland; 2: University of Lome, Laboratory of Applied Hydrology and Environment, Togo; 3: Unite de Developpement des Equipements Solaires, UDES/EPST- Centre de D'éveloppement des 'Energies Renouvelables, Algeria; 4: Centrul IT pentru Stiinta si Tehnologie SRL (CITST), Romania; 5: Institut fur Sozialforschung und Sozialwirtschaft (iso) e.V., Germany</i>
1:00pm – 3:00pm	Lunch
3:00pm – 3:40pm	Work in Progress in Positioning
Session Chair: Joaquin Torres Sospedra, Univ. of Minho	
15:00	Datasets for Indoor Positioning with Single-AP Wi-Fi Fingerprinting Ritesh Kumar ¹ , Joaquín Torres-Sospedra ² , Vijay Kumar Chaurasiya ¹ <i>1: Information Technology, IIIT Allahabad, India; 2: Universidade do Minho, Portugal</i>
15:20	GNSS Jammer Localization in Urban Areas Based on Carrier-to-noise Ratio and Classification Methods Zhe Yan, Ahmed Al-Tahmeesschi, Titti Malmivirta, Laura Ruotsalainen <i>Department of Computer Science, University of Helsinki, Helsinki, Finland</i>
3:40pm – 4:10pm	Coffee break
4:10pm – 4:30pm	Awards and Closing
Session Chair: Joaquin Torres Sospedra, Univ. of Minho	
6 pm – 10 pm	<i>Farewell (paddle surfing and dinner) at Maui Sup & Surf Benicassim, Av. Ferrandis Salvador, 308, 12560 Benicàssim, Castellón</i>

PARTICIPANTS

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