

Preface: ISPRS Geospatial Week 2023

Naser El-Sheimy¹, Alaa Abdelwahed Abdelbary², Nashwa El-Bendary³, Yahya Mohasseb³

¹ Editor, Geospatial Week Director 2023, General Chair, University of Calgary, Canada

² Co-Editor, Chair Local Organizing Committee, Arab Academy for Science, Technology & Maritime Transport, Egypt

³ Co-Editor, Arab Academy for Science, Technology & Maritime Transport, Egypt

The International Society for Photogrammetry and Remote Sensing (ISPRS) Geospatial Week 2023 (GSW'2023) is a combination of 29 workshops organized by the ISPRS Working Groups active in areas of interest of ISPRS. The Geospatial Week 2023 is held from 2–7 September 2023, at the Semiramis Cairo Hotel, on the magnificent river Nile, Egypt, and is convened by the Arab Academy for Science, Technology & Maritime Transport (AASTMT) acting as the local organizer. The GSW'2023 is the first in Africa and the Middle East. The conference was chaired by Prof. Naser EL-Sheimy and Prof. Ismail Abdelgafhar (President of AASTMT) as the Honorary Chair and host of the conference under the Auspices of H.E. Professor Mostafa Madbouly, Prime Minister of the Arab Republic of Egypt. The GSW'2023 is the fifth edition, after, Antalya Turkey in 2013, La Grande Motte France in 2015, Wuhan China in 2017, and Enschede The Netherlands in 2019.

The following 29 workshops provide state of the art and future trends in geospatial, sensors, photogrammetry, remote sensing, and spatial information sciences technologies in their applications in many industries and economic sectors:

- Cultural Heritage Visualization and Virtual Restoration
- SpACE – Spectral Remote Sensing in the era of AI, Cloud and Edge Computing
- Youth Presentation Forum
- Openness in Geospatial and Remote Sensing
- Precision GNSS: Technology Advances and Applications for Navigation and Mapping
- Photogrammetric 3D Reconstruction for Geo-Applications (PhotoGA 2023)
- Geospatial Data Analytics for Physical Geography Impact Assessment on Environment, Health and Society
- Intelligent Systems in Sensor Web and Internet of Things
- Underwater Mapping Workshop: Geospatial techniques for underwater documentation, mapping and monitoring
- SO&C: Sensor orientation and calibration for mapping and navigation purposes
- Smart Forests – Forest ecosystem assessment and monitoring using Remote Sensing, Artificial Intelligence, and Robotics
- Satellite Remote Sensing and Its Applications
- Advanced Data Preparation and Data Management for Geospatial and Remote Sensing Scenarios
- Laser Scanning 2023
- NGC of AV: Navigation, Guidance and Control of Autonomous Vehicles
- ISSDQ 2023- Artificial Intelligence and Uncertainty Modeling in Spatial Analysis
- Semantics3D – Semantic Scene Analysis and 3D Reconstruction from Images and Image Sequences
- GeoHB 2023: Geo-Spatial Computing for Understanding Human Behaviours
- GI4SDGs: The Geospatial Information and SDG Nexus
- SARcon 2023 – SAR constellations and applications
- Digital Construction
- CrowdMapping: Crowdsourcing for Global Mapping
- Indoor 3D
- IAMS – Intelligent and autonomous mapping systems
- AI-PC: AI-based Point Cloud and Image Understanding
- UAV-based mapping with imaging and LiDAR systems: challenges, data processing, and applications
- 3DS Smart Cities – 3D Sensing for Smart Cities
- Robotics for Mapping – SLAM approaches for mobile mapping and robot intelligence
- MMT and HD Maps – Mobile Mapping Technologies and HD Maps

Many of the workshops are part of well-established series of workshops convened in the past. They cover topics like UAV for mapping, laser scanning, Semantics3D, SARcon, ISSDQ hyperspectral imaging, and crowd sourcing and collaborative mapping with applications ranging from indoor mapping, smart forest and smart cities to global mapping studies and planetary mapping. The conference also includes for the first-time few workshops organized by other working groups from sister organizations and the ISPRS youth forum.

In total 172 full papers and 423 extended abstracts were submitted by authors from 68 countries. 1400 reviews have been delivered by 283 reviewers. A total of 137 full papers have been accepted for the volume X-1/W1-2023 of the ISPRS Annals of the Photogrammetry, Remote Sensing and Spatial Information Sciences (ISPRS Annals). Another 260 papers are published in volume XLVIII-1/W2-2023 of The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences (ISPRS Archives).

The editors would like to thank all contributing authors, reviewers and all workshop organizers for their role in preparing and organizing the Geospatial Week 2023. Thanks to their contributions, we can offer an excessive and varying collection in the Annals and the Archives.

The editors would like to extend their great appreciation to the President of AASTMT Prof. Ismail Abdel Ghafar for his great support in hosting the ISPRS GSW'2023. We also would like to extend our thanks to the members of the local organizing committee for great effort in making GSW'2023 conference a success, namely, Prof. Amr Ali Hanafi, Prof. Ahmed Shaker, Research Eng. Ayman Elzagh, Dr. Mengchi Ai, Dr. Adel Moussa, Dr. Yiran Luo, Mr. Yasser Elrashidi, Eng. Nagy K. Aly, Prof. Amira Zaki, Dr. Radwa Osman, Eng. Mohamed ElQurashi and Mr. Mohamed Abdallah Mahmoud.

We hope you enjoy reading the proceedings.

Editor: Prof. Naser El-Sheimy, Geospatial Week Director 2023, General Chair (University of Calgary, Canada)

Co-Editors, The Arab Academy for Science, Technology & Maritime Transport:

- **Prof. Alaa Abdelwahed Abdelbary, Chair Local Organizing Committee**
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