

## UPINLBS 2022 REPORT

The 7th International Ubiquitous Positioning, Indoor Navigation and Location-Based Services (UPINLBS) conference, took place on 18-19 Mar 2022, in Wuhan, China. It was jointly organized by State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing (LIESMARS), Wuhan University and International Society for Photogrammetry and Remote Sensing (ISPRS) (WG III/1 Thematic Information Extraction and WG IV/5 Indoor/Outdoor Seamless Modelling, LBS and Mobility).

UPINLBS is a conference series focusing on positioning, indoor navigation and location-based services. Six previous conferences have been held in Finland, the United States, and China. This year, UPINLBS combined online and onsite participations for the first time due to the COVID-19 pandemic.

At the opening session, Prof. Deren Li (Academician of Chinese Academy of Sciences and Chinese Academy of Engineering), Prof. Chaozhi Song (Chairman of China Society of Surveying and Mapping), Prof. Jie Jiang (Chairman of ISPRS Technical Commission III on Remote Sensing), Prof.



Ruizhi Chen (General Chair of UPINLBS 2022), and Prof. Liang Chen (Executive Chair of UPINLBS 2022) make remarks on behalf of the host and organizing institutes, respectively.



Figure 1. The opening session of UPINLBS 2022

This year, UPINLBS 2022 has 17 sessions covering a wide range of topics, from Beidou + 5G Positioning and Communication, Location-based Knowledge Mining and Services, to Brain-Inspired Navigation.

Table 1. Technical Sessions of UPINLBS 2022

<b>S1:</b> Beidou + 5G Positioning and Communication	<b>S2:</b> Brain-Inspired Navigation Workshop	<b>S3:</b> Marine Geodetic Positioning and Marine Resilient PNT
<b>S4:</b> Indoor Mobile Mapping	<b>S5:</b> Underground Space Positioning and Navigation	<b>S6:</b> Multi-Source Fusion Location
<b>S7:</b> Deep Space Positioning and Autonomous Navigation	<b>S8:</b> Location-based Knowledge Mining and Services	<b>S9:</b> Smart Wearable Positioning

<b>S10:</b> Visual Perception and Visual Positioning	<b>S11:</b> Advanced Technologies of High Accuracy Indoor Positioning	<b>S12:</b> Robot Localization and Perception
<b>S13:</b> Sino-Europe Ubiquitous Positioning	<b>S14:</b> LEO Navigation Augmentation	<b>S15:</b> Brain-Inspired Spatial Cognition
<b>S16:</b> Human Body Interior Space Navigation and Positioning	<b>S17:</b> Information Perception, Localization and Semantic Mapping of Underwater Environment	

The event was featured by six inspiring keynote speeches, 72 oral presentations, and a total of more than 30 000 online visits.

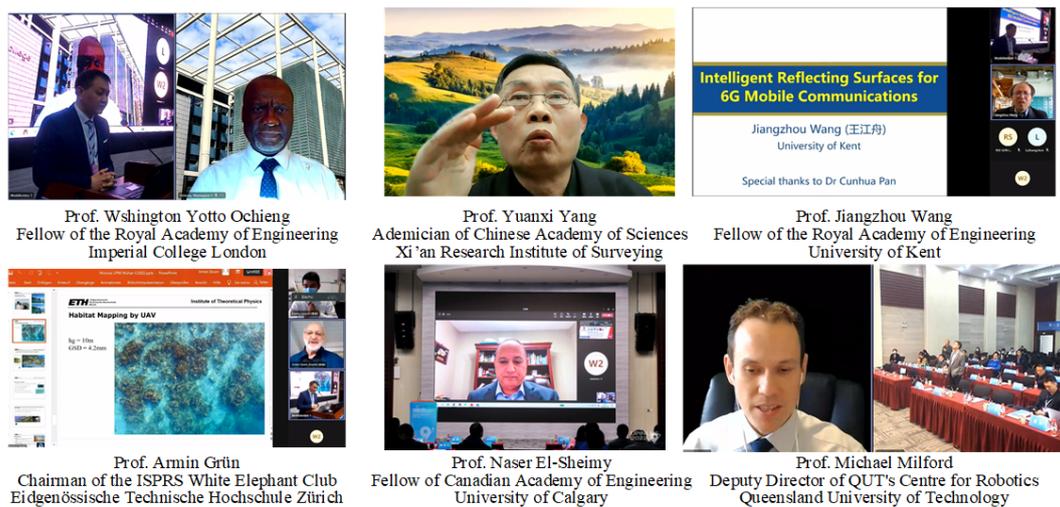


Figure 2. Keynote Speeches of UPINLBS 2022

Table 2. Keynotes of UPINLBS

<b>Keynote 1</b>	<b>Prof. Yuanxi Yang</b> (Academician of A Chinese Academy of Sciences, Xi' an Research Institute of Surveying) Comprehensive, Resilient and Intelligent PNT
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<p><b>Keynote 2</b></p>	<p><b>Prof. Naser El-Sheimy</b> (Fellow of the Canadian Academy of Engineering, University of Calgary) Technologies for Future Autonomous Navigation Systems</p>
<p><b>Keynote 3</b></p>	<p><b>Prof. Michael Milford</b> (Laureate Fellow of Australian Research Council and Microsoft Research Faculty Fellow, Queensland University of Technology) Neuroscience-inspired SLAM and Navigation: Where Are We Coming From and Where Could We Go?</p>
<p><b>Keynote 4</b></p>	<p><b>Prof. Armin Grün</b> (Chairman of the ISPRS White Elephant Club, ISPRS Honorary Member, Eidgenössische Technische Hochschule Zürich) Underwater Photogrammetry: A Powerful Tool for Coral Monitoring</p>
<p><b>Keynote 5</b></p>	<p><b>Prof. Washington Yotto Ochien</b> (Fellow of the Royal Academy of Engineering, Imperial College London) Navigation a Wayfinding for Visually Impaired People</p>
<p><b>Keynote 6</b></p>	<p><b>Prof. Jiangzhou Wang</b> (Fellow of Royal Academy of Engineering, University of Kent) Intelligent Reflecting Surfaces for 6G Mobile Communications</p>



Figure 3. Presentations

The conference attracted 193 authors from China, Finland, Australia, Canada, French and United States. Selected papers will be recommended to the journal special issue in the journals “Satellite Navigation” and “Geo-spatial Information Science” .

The conference was directed by Chinese Society for Geodesy Photogrammetry and Cartography, technically sponsored by Hubei LuoJia Laboratory, Collaborative Innovation Center of Geospatial Technology (INNOGST), Joint International Research Laboratory of Geoinformatics, and sponsored by South Surveying & Mapping Technology Co., Ltd. and China Surveying and Mapping.

Please keep checking the following news in the UPINLBS 2022 web page

[\(Link\)](#) and welcome to the next UPINLBS in 2023.

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