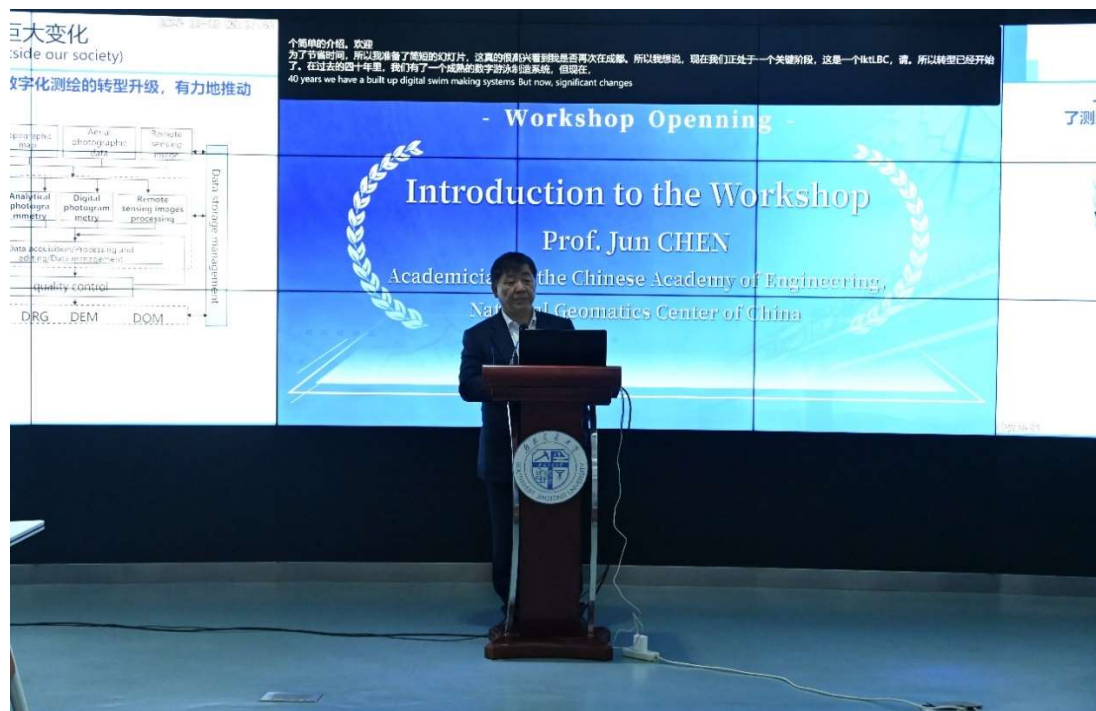


## Summary Report of 2023 International Workshop on National 3D Mapping and 8<sup>th</sup> International workshop on Dynamic and Multi-dimensional GIS

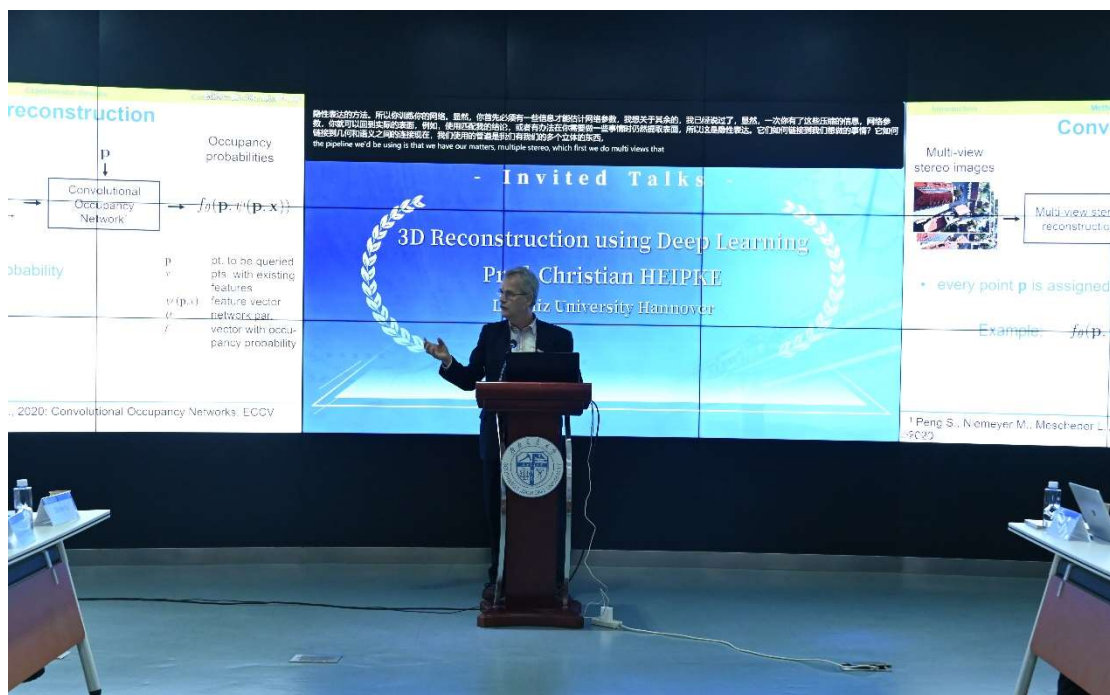
To enhance the study of dynamic and multi-dimensional modelling of the real world and its application in Digital Twins, on October 18th, the "2023 International Workshop on National 3D Mapping and 8th International Workshop on Dynamic and Multi-dimensional GIS" was successfully convened at Southwest Jiaotong University (SWJTU) in Chengdu, China. The National Geomatics Center of China (NGCC) hosted this significant event, with organization efforts from SWJTU. Additional support came from the Chinese Society for Geodesy, Photogrammetry and Cartography (CSGPC) and Beijing University of Civil Engineering and Architecture, alongside co-sponsorship from the International Society for Photogrammetry and Remote Sensing (ISPRS).



In the opening ceremony, a notable speech was delivered by Prof. CHEN Jun, Honorary Member of ISPRS. He highlighted significant societal changes and a paradigm shift, addressing major challenges in concepts, new products, and techniques. Prof. CHEN also discussed China's advancements in intelligent surveying and mapping, emphasizing the need for international collaboration.



The workshop featured an array of keynote speakers, who delved into topics such as intelligitized mapping, digital twins, 3D modeling etc. Prof. Christian Heipke, the ISPRS Past President introduced novel techniques such as deep implicit fields, revolutionizing geometric and semantic modeling. Prof. AI Tinghua provided an insightful overview of a NSFC-funded program, emphasizing the advancements in hybrid intelligent computation. The presentation by Prof. LIU Jiping, ICA Vice President, highlighted National 3D Real Scene project, offering a comprehensive look at its innovative design, technical methodologies, and practical applications. Prof. Orhan Altan, former President of ISPRS (2008-2012), focused on the paradigm shift of AI and digital twin. Prof. Sisi Zlatanova, President of ISPRS TC IV, broached the pressing challenges encountered in indoor applications, advocating for the adoption of voxelized representations for complex environment. Prof. YANG Bisheng centered around the use of point clouds in semantic modeling. Meanwhile, Prof. TANG Liang and Dr. YAO Wei demonstrated novel applications in civil engineering and multi-platform point cloud fusion, respectively, highlighting the practical implications of these technologies.







The workshop also included in-depth discussions chaired by Prof. CHEN Jun on the research, development, and international collaboration of China's 3D Real Scene Project. Contributors to these discussions including Prof. LI Zhilin and Prof. ZHU Qing from SWJTU, Keanhuat Soon, Director of the Surveying and Mapping Department of the Singapore Land Authority, Dr. WU Hao, Secretary of ISPRS TC IV, TAN Mingjian, Secretary-General of the Sichuan Association of Surveying and Mapping, and Dr. LIU Liu from Tongji University. They agreed that the international collaboration should be strengthened to improve the development of 3D mapping and related fields. Two groups initiated by Prof. LI Zhilin and Prof. YANG Bisheng will respectively organise two workshops named “AI for Geospatial Science” and “3D spatial modeling and intelligence for scene-realistic analysis and digital twin” during ISPRS Technical Commission IV Symposium 2024.



