



# Digital Earth & Space

Sep.23 Saturday, Grand Ballroom II , 3F	
Presider: Nan Chi, School of Information Science and Technology, Fudan University	
13:30-14:00 (Keynote)	<b>Infrared Intellectual Perception and Space Metaverse</b> Shengli Sun Shanghai Institute of Technical Physics, Chinese Academy of Sciences
14:00-14:30 (Keynote)	<b>Intelligent interpretation of remotely sensed big data</b> Bing Zhang Aerospace Information Research Institute, Chinese Academy of Sciences
14:30-15:00 (Keynote)	<b>From Earth to Deep Space Objects: Recent Advance in Remote Sensing and Mapping</b> Xiaohua Tong Tongji University
Presider: Rong Shu, Shanghai Institute of Technical Physics, Chinese Academy of Sciences	
15:00-15:20 (Invited)	<b>Improving space asset management and collision avoidance capabilities through high-precision visualization of space target situation deduction</b> Ke Zhang GeovisTT&CTechnologyCo., Ltd
15:20-15:40 (Invited)	<b>Building a globally leading integrated satellite constellation to serve the high-quality development of the digital economy</b> Dongsheng Liu PIESAT Company
15:40-16:00 (Invited)	<b>Intelligent Satellite Processing Technology and Application in Blue Carbon Economy</b> Zhiyu Yan Zhuhai Aerospace Microchips Science & Technology Co., Ltd.
Presider: Jianhua Gong, Aerospace Information Research Institute, Chinese Academy of Sciences	
16:00-16:30	Panel Discussion
16:30-16:50 (Invited)	<b>Application of artificial intelligence to smart city construction from a spatial perspective</b> Xiang Li East China Normal University
16:50-17:10 (Invited)	<b>Perceptual interaction of generalized point cloud for intelligent construction of large-scale infrastructure</b> Chun Liu Tongji University
17:10-17:20	<b>ESIT2023-0809-33</b> <b>Joint geometric calibration using multiple images for linear array optical imaging satellite</b> Hao Wu <sup>1,2</sup> , Shijie Liu <sup>1,2</sup> , Xiaohua Tong <sup>1,2</sup> 1.College of Surveying and Geo-Informatics, Tongji University, China; 2.Shanghai Key Laboratory for Planetary Mapping and Remote Sensing for Deep Space Exploration, Tongji University, China
17:20-17:30	<b>ESIT2023-0808-34</b> <b>Research on the Concept and Key Issues of Aerospace Metaverse</b> Zhong Wang; Shengli Sun; Rui Chen; Tijun Ma; Wenjun Xu; Yafeng Zhang Shanghai Institute of Technical Science



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17:30-17:40	<p><b>ESIT2023-0825-4</b>  <b>An Instant Neural Rendering and 3D Reconstruction Method and Its Application in Outdoor Scenes</b>          Jiangfeng She, Shuangpin Wu          School of Geography and Ocean Sciences, Nanjing University</p>
17:40-17:50	<p><b>ESIT2023-0809-25</b>  <b>Digital twin based high-precision deformation monitoring method for complex structures</b>          Tianhe Gao, Kuo Tian, Xuanwei Hu, Yiwei Huang          Dalian University of Technology</p>
<p><b>Sep.24 Sunday, Grand Ballroom II , 3F</b></p>	
<p>Presider: Presider: Xiaoping Du, Aerospace Information Research Institute, Chinese Academy of Sciences</p>	
8:30-9:00 (Keynote)	<p><b>A Primary Exploration of Geographic Metaverse from the Perspective of Virtual Geographic Environment</b>          Jianhua Gong          Aerospace Information Research Institute, Chinese Academy of Sciences</p>
9:00-9:20 (Invited)	<p><b>Lightweight Mobile Web3D Key Technology for Massively Multi-player Online Metaverse Platform</b>          Jinyuan Jia          Smart 3D Lab WebSite, School of Software, Tongji University</p>
9:20-9:40 (Invited)	<p><b>Next-Generation Urban Management: When Human Mobility Modeling Meets AI and Big Data</b>          Xuan Song          Southern University of Science and Technology</p>
9:40-9:50	<p><b>ESIT2023-0808-2</b>  <b>Imaging simulation and analysis of attitude jitter effect on topographic mapping for lunar satellite stereo optical cameras</b>          Chen Chen<sup>1;2</sup>; Shijie Liu<sup>3;4*</sup>; Zhen Ye<sup>3;4</sup>; Xiaohua Tong<sup>3;4</sup>          1.College of Surveying and Geo-Informatics, Tongji University; 2.Shanghai Key Laboratory for Planetary Mapping and Remote Sensing for Deep Space Exploration, Tongji University; 3.College of Surveying and Geo-Informatics, Tongji University; 4.Shanghai Key Laboratory for Planetary Mapping and Remote Sensing for Deep Space Exploration, Tongji University</p>
9:50-10:00	<p><b>ESIT2023-0808-20</b>  <b>Advancements in Digital Twin Technology for Simulation and Health Prediction of Infrared Optomechanical System</b>          Xiaozhuo wang          Shanghai Institute of Technical Physics of the Chinese Academy of Sciences</p>
10:00-10:10	<p><b>ESIT2023-0726-2</b>  <b>Structural strength digital twin modeling method</b>          Kuo Tian          Dalian University of Technology</p>
10:10-10:20	<p><b>ESIT2023-0814-1</b>  <b>A Geometry-Based Method for Visualizing Time-varying Flow Fields on Map Platforms Using Texture Polymorphism</b>          Yucheng Shu, Songshan Yue          Nanjing Normal University</p>
10:20-10:35	<p>Coffee Break</p>



Presider: Xuan Song, Southern University of Science and Technology	
10:35-10:55 (Invited)	<b>Urban Sensing and Simulation with AI and Spatiotemporal Big Data</b> Qingfeng Guan China University of Geosciences, Wuhan
10:55-10:15 (Invited)	<b>6G-oriented visible light communication</b> Ziwei Li Fudan University
10:15-11:35 (Invited)	<b>Simulation Technology Driven by Digital Twin of Infrared Payloads</b> Peng Rao Shanghai Institute of Technical Physics, Chinese Academy of Sciences
11:35-11:55 (Invited)	<b>Digital Earth Science Platform Supporting the SDG Applications: Cases, Challenges and Opportunities</b> Xiaoping Du Aerospace Information Research Institute, Chinese Academy of Sciences
11:55-12:05	<b>ESIT2023-0912-1</b> <b>The Digitization Concept of Fusion Sensing Equipment based on Complex Systems</b> Haibin Sun Key Laboratory of Intelligent Infrared Perception Chinese Academy Science (CAS), Shanghai Institute of Technical Physics, Chinese Academy Science (CAS), Shanghai 200043, China
Presider: Haibin Sun, Shanghai Institute of Technical Physics, Chinese Academy of Sciences	
13:30-13:50 (Invited)	<b>Revolutionizing Urban Mobility: The powerful combination of AIGC and City Simulators</b> Yong Li Tsinghua University
13:50-14:00	<b>ESIT2023-0809-14</b> <b>A constant bank angle based two-stage predictor-corrector method for Mars atmospheric entry</b> Zhixian Luo <sup>1,2</sup> , Yanmin Jin <sup>1,3*</sup> , Xiaohua Tong <sup>2,4</sup> 1.College of Surveying and Geo-Informatics, Tongji University, China; 2.Shanghai Key Laboratory of Space Mapping and Remote Sensing for Planetary Exploration, China; 3.hanghai Key Laboratory of Space Mapping and Remote Sensing for Planetary Exploration, China; 4.College of Surveying and Geo-Informatics, Tongji University, China
14:00-14:10	<b>ESIT2023-0809-2</b> <b>High fidelity digital human generation method based on polarization gradient light images</b> Shuo Huang <sup>1*</sup> , Hongyi Bu <sup>2</sup> , Yong Hu <sup>1</sup> , Cailan Gong <sup>1</sup> , Zixuan Han <sup>1</sup> , Han Wang <sup>1</sup> 1.Shanghai institute of technical physics, China; 2.Jiaxing super dimensional Information Technology Co., LTD, China
14:10-14:20	<b>ESIT2023-0807-13</b> <b>Stereo matching for lunar surface reconstruction with an improved census cost</b> Miyu Zhou;Zhen Ye;Yusheng Xu;Rong Huang;Xiaohua Tong Tongji University
14:20-14:30	<b>ESIT2023-0808-12</b> <b>Numerical validation of lunar subsurface dielectric property estimation based on full waveform inversion</b> Shurui Chen, Feng Yongjiu Tongji University
14:30-14:40	<b>ESIT2023-0817-2</b> <b>Remote Sensing Image Classification by Integrating Multiple Feature Parameters</b> Jintao Liang <sup>1</sup> , Chao Chen <sup>2*</sup> , Zhisong Liu <sup>1</sup> , Yankun Chen <sup>1</sup> 1.zhejiang ocean university, China; 2.Suzhou University of Science and Technology, China



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14:40-14:50	<p><b>ESIT2023-0822-1</b> <b>Farmland Boundary Extraction from Remote Sensing Imagery Based on Segment Anything Model</b> Mengyu Hu<sup>1,2</sup>, Jianhua Gong<sup>1,2,3*</sup>, Dongqing Cao<sup>1,2</sup>, Yousong Zhang<sup>4</sup>, Jianru Wang<sup>4</sup>, Weidong Hu<sup>3</sup>, Hongchao Cai<sup>5</sup>, Dongchuan Wang<sup>5</sup> 1.Aerospace Information Research Institute (AIR), Chinese Academy of Sciences, China; 2.University of Chinese Academy of Sciences, China; 3.Zhejiang-CAS Application Center for Geoinformatics, China; 4.Zhejiang Marine and Fishery Law Enforcement Corps, China; 5.School of Geology and Geomatics, Tianjin Chengjian University, China</p>
14:50-15:00	<p><b>ESIT2023-0813-2</b> <b>Multi-perspective regional continuity alignment network for hyperspectral-LiDAR image fusion and classification</b> Weixin Ding, Wenbo Yu, Xiao Chen, He Huang Soochow University</p>
15:00-15:10	<p><b>ESIT2023-0807-14</b> <b>Potential and performance for classifying land surface only with ICESat-2 altimetric data</b> Yuan Sun<sup>1;2</sup>;Huan Xie<sup>1;2*</sup>;Qi Xu<sup>1;2</sup>;Binbin Li<sup>1;2</sup>;Peiqi Huang<sup>1;2</sup>;Changda Liu<sup>1;2</sup>;Min Ji<sup>1;2</sup>;Xiaohua Tong<sup>1;2</sup> 1.College of Surveying and Geo-Informatics, Tongji University, China;2.Shanghai Key Laboratory of Space Mapping and Remote Sensing for Planetary Exploration, China</p>