Session title: **SDGSAT-1 Applications and Subsequently Satellite Series of the Sustainable Development Goals**

Session Organizer: **International Research Center of Big Data for Sustainable Development Goals**

Short Description

This academic conference aims to provide a platform for researchers, scientists, and industry professionals to discuss and exchange knowledge on the application and follow-up satellite verification of the Sustainable Development Science Satellite-1 (SDGSAT-1). The conference will focus on the latest advancements, research findings, and technological innovations related to sustainable development and satellite technology.

Objectives

(1) To showcase the diverse applications of the SDGSAT-1 satellite and its relevance to sustainable development goals (SDGs).

(2) To facilitate discussions on the challenges, opportunities, and future potential of satellite verification in achieving sustainable development objectives.

(3) To foster collaboration and networking among researchers, scientists, engineers, and policy-makers in the field of satellite technology and sustainable development.

Expected Results

(1) Enhanced understanding of the SDGSAT-1 satellite's potential contributions to addressing global sustainable development challenges.

(2) Identification of key areas for future research and development related to satellite verification and sustainable development.

(3) Establishment of new collaborations and partnerships among participants for joint research projects and initiatives.

(4) Dissemination of cutting-edge research findings, technological advancements, and best practices in the application of satellite technology for sustainable development.

Agenda

Time 17:00-18:30, September 7th 2023 Room: 305 E

Chair:

SHI Jiancheng

Professor

National Space Science Center, Chinese Academy of Sciences, China

SHI Jiancheng is a distinguished expert of the Thousand Talents Program, a researcher at the National Space Science Center of the Chinese Academy of Sciences, director of the State Key Laboratory of Remote Sensing Science, and a Fellow of the Institute of Electrical and Electronics Engineers (IEEE), the Society of Photo-Optical Instrumentation Engineers (SPIE), and the International Academy of Electromagnetics and Electronic Sciences. He is mainly engaged in microwave remote sensing and water cycle research. He is now the deputy editor of Remote Sensing of Environment, the Chief editor of Remote Sensing Technology and Application, the deputy editor of the Journal of Space Science, and the editorial board of Science-Earth Science in China. As the chief scientist, he has presided over 1 project of the 973 program, 1 project of the 863 program and 2 key funds. A total of 232 SCI indexed papers were published in international journals, and the total number of citations was more than 16,500; For many years, he has been the chairman, member and sub-chairman of the technical committee of many important international remote sensing conferences such as IGARSS, PIERS, SPIE, International Quantitative Remote Sensing Progress Conference, International SAR Inversion Physical Earth Parameters and Applications Conference.

Co-Chair:

Amos Tiereyangn Kabo-bah

Associate Professor

University of Energy and Natural Resources, Ghana

He is currently a Visiting Scientist under the CAS President's International Fellowship Initiative, PIFI. He is the Focal Person for the DBAR ICoE-Sunyani, Ghana. He is an Associate Professor for the Department of Civil and Environmental Engineering and the Dean for International Relations Office for the University of Energy and Natural Resources (UENR) in Ghana. He co-chairs the GEO Programme Board and the GEO Land Degradation Flagship. He has led to the hosting of a number of strategic conferences in Ghana such as: GEO Week 2022, Accra and UNOOSA Conference for Water Management Accra, 2022. He was Programme Committee Member for UNWDF 2023 in Hangzhou, China and Ocean Observations Conference 2019 in

Hawaii, USA. He is also a steering committee member of the Global Climate Observing System (GCOS). He led to establishment of the Earth Observation Research and Innovation Centre in Ghana. He has a Doctoral Degree in Water Resources and Hydrology at Hohai University in Nanjing, China: Masters in Environmental Hydrology from University of Twente, the Netherlands, and BSc in Civil Engineering from the Kwame Nkrumah University of Science and Technology. He has 100+ publications in reputable international journals. He co-edited two books published with Elsevier - "Sustainable Hydropower in West Africa: Planning, Operation, and Challenges 2018" and "Pumped Hydro Energy Storage for Hybrid Systems 2022". His research interests spans between water-energy-food nexus, climate change, land degradation and restoration, varied satellite applications in support of the SDGs.

Participants

Event 1 (17:00-17:15)

Sea-aero target perception method based on TIS of SDGSAT-1

CHEN Fansheng

Professor

Shanghai Institute of Technical Physics, Chinese Academy of Sciences, China

CHEN Fansheng received the B.S. degree in optoelectronic information engineering from Shandong University, Jinan, China, in 2002, and the Ph.D. degree in physical electronics from the Shanghai Institute of Technical Physics of the Chinese Academy of Sciences, Shanghai, China, in 2007. Since 2013, he has been a Professor with the Shanghai Institute of Technical Physics of the Chinese Academy of Sciences, Shanghai. His research interests include the design of spatial high-resolution remote sensing and detection payloads, high-speed and low-noise information acquisition technology, and infrared dim small target detection technology. Meanwhile, he has been committed to the research and development of space infrared staring detection instruments, high spatial and temporal resolution photoelectric payloads, and the application of infrared multispectral information acquisition technology in artificial intelligence, target recognition, and other relative aspects.

Event 2 (17:15-17:30)

Humanitarian mapping using night-time light imagery

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The 3rd International Forum on Big Data for Sustainable Development Goals
2023年9月6日-8日 中国 北京

LI Xi
Professor
Wuhan University

LI Xi is a professor, doctoral supervisor with Wuhan University. He has been working at the State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing (LIESMARS), Wuhan University, China, since 2009. He won the first class the National Science and Technology Progress Award in 2021. He is an editorial board member of International Journal of Remote Sensing, serves as head of WHU-UNOSAT intership (China). In recent years, he has published more than 40 journal papers, including Nature Food, Remote Sensing of Environment, etc,. His research interests including remote sensing of night-time light and its applications in socioeconomic analysis such as humanitarian mapping.

Event 3 (17:30-17:45)
Localization estimation of magnetic targets using airborne magnetic anomaly detection

LI Yapeng
Senior Engineer,Dr.
State Key Laboratory of Space-Ground Integrated information Technology, China

LI Yapeng earned his MS degrees from University of Chinese Academy of Sciences, and he is the Ph.D. student at Northwestern Polytechnical University. He work at State Key Laboratory of Space-Ground Integrated Information Technology, and his research focuses on Spacecraft communications and remote sensing. He serves as the Principal Investigator, the reviewer expert and the deputy Chief Engineer for multiple projects of National key research and development program..

Event 4 (17:45-18:00)
Progress of the SDGSAT-1 Satellite Application

WANG Qinjun

Professor

Aerospace Information Research Institute, Chinese Academy of Sciences (CAS), China

WANG Qinjun is a professor with Aerospace Information Research Institute, Chinese Academy of Sciences. He received the B.S. and M.S. degrees in minerals from Jilin University, Changchun, China, in 1999 and 2002, respectively, and the Ph.D. degree in geographic and geographic information system from the Graduate School of Chinese Academy of Sciences, Beijing, China, in 2006. Since 2012, he has been a Professor with the Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences. He is an expert in National Ministry of Science and Technology, the National Natural Science Foundation, the Chinese Academy of Sciences, Beijing Science and Technology Committee, Beijing Natural Science Foundation, Jiangsu Natural Science Foundation and the Xinhua News Agency. He is also a reviewer of 24 well-known Remote Sensing journals. In recent years, he has published more than 100 papers, including more than 30 SCI papers (including many international famous journals such as Remote Sensing, JSTARS, IJDE, IJRS) and more than 20 EI papers. His research interests include High Precision Extraction Methods on Optical Remote Sensing Information, Geological Remote Sensing and Digital City.

Event 5 (18:00-18:15)

The introduction of Thermal Infrared Spectrometer onboard SDGSAT-1 and its radiometric calibration conditions

HU Yonghong

Associate Professor

International Research Center of Big Data for Sustainable Development Goals, China

HU Yonghong earned his BS and MS degrees from Henan Normal University and the South China Botanical Garden, CAS. Then, he received the Ph.D. degree in atmospheric physics and atmospheric environment from the Institute of Atmospheric Physics, CAS. Currently, he hold a position of an associate Professor at International Research Center of Big Data for Sustainable Development Goals and the Aerospace Information Research Institute, CAS. His research focuses on thermal infrared radiometric calibration, TIR remote sensing for climate change, extreme weather/climate events, and urban environmental change utilizing remote sensing methods. He has published over 30 papers in prestigious journals such as IEEE

Transactions on Geoscience and Remote Sensing and ISPRS Journal of Photogrammetry and Remote Sensing, and he also published an academic monograph titled "Fundamentals of Big Data Algorithms for Earth Sciences". He serves as the Assistant to Chief Engineer of the Scientific application system of SDGSAT-1 satellite and a case study author of the report "Big Earth Data in Support of the Sustainable Development Goals (2022)"