



International Forum on Big Data for Sustainable Development Goals

Theme: Big Data for Implementing the Sustainable Development Goals

Programme

Conference Form: Online & Onsite

6-8 September, 2021 Beijing, China

Hosted by



Chinese Academy of Sciences (CAS)



United Nations Environment Programme (UNEP)



United Nations Convention to Combat Desertification (UNCCD)

Organized by



International Research Center of Big Data for Sustainable Development Goals (CBAS)



Aerospace Information Research Institute (AIR), CAS



Big Earth Data Science Engineering Program (CASEarth)

Sponsored by

(Listed in no particular order)

Ministry of Foreign Affairs of the People's Republic of China



China Association for Science and Technology (CAST)



National Natural Science Foundation of China (NSFC)



National Bureau of Statistics of China (NBS)



The Alliance of International Science Organizations (ANSO)



Group on Earth Observations (GEO)



Committee on Data of the International Science Council (CODATA)



International Society for Digital Earth (ISDE)



Integrated Research on Disaster Risk (IRDR)



International Center on Space Technologies for Natural and Cultural Heritage (HIST) under the auspices of UNESCO



Digital Belt and Road Program (DBAR)



Co-organized by

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Welcome Message

The United Nations 2030 Agenda for Sustainable Development entered its "Decade of Action" in 2020. However, its implementation still faces several constraints such as lack of data, insufficient research on indicator systems, and uneven progress in its implementation. Among these, the need for data and methods is the most important and urgent.

Scientific and technological innovations play an important role in providing solutions to several of these challenges. Therefore, the United Nations initiated the "Technology Facilitation Mechanism" (TFM) to promote and improve technological and scientific support for policy interventions and decision support systems towards achieving sustainable development goals. Many countries in recent years has increased its reliance on science, technology, and innovation to promote economic and social development and is implementing new strategies which are consistent and complementary to its commitments to the UN Sustainable Development Goals. One of the key avenues within their strategy is to improve its capacity to analyze and utilize data for scientific and technological progress through a strong focus on research on big data and its integration with data from different natural and social science domains. This encompasses land, ocean, atmosphere, urban settlements, and human activity and holds immense potential for new solutions towards sustainable development goals. UN Secretary-General has also emphasized better use of data, and harnessing science, technology, and innovation with a greater focus on digital transformation.

During his address at the 75th UN General Assembly on 22 September 2020, Chinese President Xi Jinping announced that China will set up an International Research Center of Big Data for Sustainable Development Goals to support the implementation of the United Nations 2030 Agenda for Sustainable Development. The Centre aims to be a public science and technology platform for big data for sustainable development, a center for scientific research on sustainable development, a hub for innovations in data information services and technologies, a high-end think tank on sustainable development, and a center for developing talent and improving human capacity through education and training. Through these roles, the Center will serve UN agencies and UN Member States in implementing the 2030 Agenda.

The Center will be officially inaugurated on 6 September 2021, and to mark this important occasion, the International Forum on Big Data for Sustainable Development Goals (FBAS) will be held in Beijing, China, from 6 to 8 September 2021. The theme of the

forum is " Big Data for Implementing the Sustainable Development Goals", with a special focus on building a global partnership for SDGs, innovation and demonstration of big data applications for sustainable development, cutting-edge technologies and information platforms for assessing SDGs, and Digital Earth and sustainable development.

We would like to warmly welcome experts, scholars, engineers, managers and other stakeholders from all over the world to join us at this forum. We look forward to sharing the latest achievements, scientific exchanges, and exploring future cooperation with all participants.

We look forward to meeting you physically in Beijing or virtually at the FBAS during the golden autumn to discuss the bright future of big data for global Sustainable Development Goals.



Co-Chairs of the International Forum on Big Data for
Sustainable Development Goals



GUO Huadong
International Research Center
of Big Data for Sustainable
Development Goals



Alessandro ANNONI
International Society for
Digital Earth

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ZHANG Hao、 ZU Rongxiang

Keynote Speakers

(Listed in no particular order)



Daya REDDY

President of the International Science Council (ISC)

Daya Reddy is Professor Emeritus at the University of Cape Town (UCT), South Africa. He completed a degree in civil engineering at the University of Cape Town, and a Ph.D. degree at Cambridge University in the UK. He currently holds the South African Research Chair in Computational Mechanics, his research focusing on mathematical modelling, analysis, and simulation in mechanics. Reddy recently completed two terms as Co-Chairs of the policy branch of the InterAcademy Partnership. He has served as President of the Academy of Science of South Africa and is an elected Fellow of the African Academy of Sciences and of The World Academy of Sciences (TWAS). Daya Reddy is currently President of the International Science Council (ISC), a global body that catalyses international scientific collaboration and convenes scientific and policy expertise, advice, and influence on issues of major concern to science and society.

Speech Title: International Scientific Cooperation, New Technologies, and the SDGs



GONG Ke

President of the World Federation of Engineering Organizations (WFEO)

Prof. GONG Ke is President of the World Federation of Engineering Organizations (WFEO), and Executive Director of the Chinese Institute of New Generation Artificial Intelligence Development Strategies. He is an engineer in information communication technology. He worked in Tsinghua University from 1987-2006, as Director of the Chinese National Research Center of Information Science and Technology, and Vice President for Research and Strategic Planning at the University. He was appointed as President of Tianjin University (2006-2011), and President of Nankai University (2011-2018). He has worked in WFEO since 2009, and has chaired the Committee of Information and Communication, and Committee of Engineering for Innovative Technologies. He was elected as WFEO President in 2019. He has been directing the Chinese Institute of New Generation Artificial Intelligence Development Strategies, since it was co-founded by Chinese Academy of Engineering and Tianjin Municipal Government in 2017. From 2013-2017, Prof. GONG Ke served as the member of the Scientific Advisory Board to the UN Secretary-General Ban Ki-moon. He is also a Foreign Member of the Russian Academy of Cosmonautics and Member of ASEAN Academy of Engineering and Technology.

Speech Title: Engineering for Sustainable Development – Enhanced by Big data and AI



LIU Jian

Director of the Science Division, UN Environment Programme (UNEP)

Dr. Jian Liu is currently the Director of the Science Division, UN Environment Programme (UNEP). From March 2017 to February 2021, he also served as UNEP Chief Scientist as an adjunct to his function as Director of Science Division.

Jian LIU has over 30 years of professional experience in science and policy, in the specific domains of ecosystems management, agriculture, environment and climate change at national, regional and global levels, in particular in developing countries. Jian holds a doctorate degree in Physical Geography from the Graduate School of Chinese Academy of Sciences, Beijing, China. He was the Director of UNEP's International Ecosystem Management Partnership, the first global centre on ecosystem management in the global south, which he established, as the founding director.

Prior to this appointment, he served as the Chief of UNEP's Climate Change Adaptation Unit and the Deputy Secretary of the Intergovernmental Panel on Climate Change (IPCC).

Speech Title: Measuring Progress: Environment and SDGs



David CASTLE

Professor at the University of Victoria, and Research in Residence at the Office of the Chief Science Advisor to the Prime Minister of Canada

Dr. David Castle is a Professor in the School of Public Administration and the Gustavson School of Business at the University of Victoria and a Research in Residence at the Office of the Chief Science Advisor to the Prime Minister of Canada. His research is focused on science, technology and innovation policy, with a particular emphasis on regulation, standards, intellectual property and public consultation associated with life science innovation.

Dr. Castle is a member of the Science Advisory Committee of the Council of Canadian Academies. He is a Director for Canada's national research and education network provider, Canarie, and is the Chair of Research Data Canada's Steering Committee. Since 2019 he has been a member of the Scientific Committee of the ISC's World Data System (WDS) and has recently joined the Canadian National Committee for the Committee on Data (CODATA) of the International Science Council (ISC). As a member of the OECD Global Science Forum Expert Group he contributed to the 2020 report, Building Digital Workforce Capacity and Skills for Data Intensive Science.

Speech Title: Making Big Data Relevant to Sustainable Development Goals



Dirk FRANSAER

Managing Director of VITO

Dirk Fransaer is Managing Director of VITO, the Flemish Institute for Technological Research, the largest research institute in Belgium in the field of sustainability and cleantech. Prior to joining VITO he worked as an assistant professor at the university of Ghent in the field of hydraulics research, at Baxter, a large US pharmaceutical company, on artificial organs and for 13 years in the field of aerial and satellite remote sensing. Dirk Fransaer is president of the board of directors of LIBOVITO (a 100 % daughter company in China, Beijing), of VITO Middle East (Qatar) and VITO Arabia (Dubai), member of the board of directors of VITO Asia (Hong Kong), also member of the board of directors of the Von Karman Institute for Fluid Dynamics, president of the Audit Committee and the Board of Programme Evaluation of the University of Antwerp, member of the Royal Flemish Academy of Belgium for Science and Arts, and Honorary professor Engineering at KU Leuven.

Speech Title: Big Data for the Benefit of the SDGs



Massimo MENENTI

Member of the DBAR Science Committee

Prof. Massimo Menenti is a State Specially Recruited Expert of China, a member of the DBAR Science Committee and has been full professor (Chair) of Optical and Laser Remote Sensing at the Delft University of Technology, The Netherlands. M.Menenti is an internationally renowned scientist in the fields of earth observation and global terrestrial water cycle. Prof. Menenti is one of the earliest researchers in using laser radar technology to measure surface aerodynamic roughness.

Speech Title: Evaluating a Multi-disciplinary Research and Development Program: The DBAR Approach



Markku KULMALA

Professor at University of Helsinki

Academician, prof. Markku Kulmala leads the Institute for Atmospheric and Earth System Research (INAR), University of Helsinki. He is active in international initiatives to improve comprehensive continuous measurement networks all around the world, and to solve air quality climate change interactions. Kulmala's research consists of SMEAR (Stations for Measuring the Earth surface Atmosphere Relationships) field stations and GlobalSMEAR network. Kulmala has published over 1000 original research papers, 18 of which in Nature, 17 in Science and 7 in Physical Review Letters. According to the ISI Web of Knowledge, Kulmala has been 1st in the Citation Rankings in Geosciences (1.5.2011 – 30.4.2018). The total number of citations is over 62000 (from over 20000 different papers). His H-factor is 122. Prof. Kulmala is the Foreign Member of Chinese Academy of Sciences, and Russian Academy of Sciences. He is a member of 5 other Academies. He acts as a president of European Center of International Eurasian Academy of Sciences. He is winner of many international awards (>10) and has nine honored doctoral degrees / professorships.

Speech Title: Pan-Eurasian Experiment: Significance of Continuous Comprehensive Observations - SMEAR Concept



Clovis FREIRE

Economist at the Division on Technology and Logistics of the United Nations Conference on Trade and Development (UNCTAD)

Dr. Clovis Freire is an Economist working at the Division on Technology and Logistics of the United Nations Conference on Trade and Development (UNCTAD). He is trained as a Computer Engineer with a PhD in Economics from the UNU-MERIT/University of Maastricht, specialized in Economics of Technological Change and Innovation. He coordinated and was the lead author of the Technology and Innovation Report 2021. Before joining UNCTAD, in his 18 years with the United Nations, he worked at the Department of Economic and Social Affairs in New York and the Economic and Social Commission for Asia-Pacific, in Bangkok, on various issues related to technology and socio-economic development such as Science, Technology, and Innovation for the SDGs, building productive capacities in the least developed countries, ICT and Space technologies for development, and disaster risk reduction.

Speech Title: Big Data to Bridge Big Gaps: Strategic Directions for Research



Gretchen KALONJI

Dean of the Institute for Disaster Management and Reconstruction (IDMR)

Gretchen Kalonji currently serves as the Dean of the Institute for Disaster Management and Reconstruction (IDMR), located at Sichuan University in Chengdu, and operated in collaboration with the Hong Kong Polytechnic University. She brings to this work the experience of having served almost four years as the Assistant Director–General for Natural Sciences at UNESCO, where she had responsibility for several large scale international and intergovernmental science programs and placed a strong emphasis on developing collaborations on disaster risk reduction across UNESCO’s areas of competence.

Speech Title: Integrating Global, Regional, National and Local Level Efforts on Data for Disaster Risk Reduction and Response

Program at a Glance

	September 6	September 7	September 8	
Morning	Opening Ceremony & Inauguration Ceremony of CBAS	Keynote Session II	Keynote Session III	
	Keynote Session I	Forum on Earth Observation for SDGs	Big Earth Data to support SDGs	
Afternoon	Tea Break			
	Lunch			
	Building a digital silk road and global partnership for SDGs	Innovation and demonstration of big data application for sustainable development	Digital Earth and sustainable development	Research on big Earth data to support sustainable development goals
	Cutting-edge technologies and information platforms for assessing SDGs	Forum on Earth Observation for SDGs	DBAR Science Team Meeting (Invited)	
	Building a digital silk road and global partnership for SDGs	Digital Earth and sustainable development	Closing Ceremony	
	Cutting-edge technologies and information platforms for assessing SDGs	Innovation and demonstration of big data application for sustainable development	DBAR Science Team Meeting (Invited)	
		Tea Break		

09-06 Program at a Glance

09:30-11:00	Opening Ceremony (Convention Hall No. 1)											
11:00-11:30	Tea Break											
11:30-12:30	Keynote Speech (Convention Hall No. 1)											
12:30-13:30	Lunch											
13:30-15:00	Building a Digital Silk Road and Global Partnership for SDGS					Cutting-edge Technologies and Information Platforms for Assessing SDGS						
	Environmental Dimension of SDGs	Activities around Belt and Road from Scientific Data Center	Agriculture and Food Security	Digital Belt and Road-Big Earth Data for Sustainable Development and Management of Coast and Sea	Digital Heritage and Sustainability	Achieving the SDGs in cities and regions	Hyperspectral Earth Observation-1	Frontier Technology of Microwave Earth Observation	Hyperspectral LiDAR Technology and Application	Virtual Geographic Scenario and Digital Twin	Big Space Earth Data	Frontier Methods and Techniques for Earth Observation
	203A	203B	203C	203D	201A	201CD	305E	305D	305C	305B	305A	201B
15:00-15:30	Tea Break											
15:30-17:00	Building a Digital Silk Road and Global Partnership for SDGS					Cutting-edge Technologies and Information Platforms for Assessing SDGS						
	Big Earth Data for Disaster Risk Reduction and Sustainable Development Goals	Water Resource Security and Efficient Utilization under Global Change	Big Earth Data and Sustainable Cities	Big Earth Data for Sustainable Development in High Mountain Asia and Arctic region	Digital Earth Poles and SDGs (Invited)	Digital Modeling and Simulation	Hyperspectral Earth Observation-2	Applications of Earth Observation Technology for Energy and Environment	BIM/CIM Information Model and Virtual Geographic Environment System	Application of Spatial Information Technology	LiDAR Earth Observation	Sustainable Development of the UNESCO Designated Sites
	203A	203B	203C	203D	201CD	201A	305E	305D	305C	305B	305A	201B

September 6, 2021 Convention Hall No. 1

Opening Ceremony

9:30--11:00 FBAS Opening Ceremony

Keynote Speech 11:30- 12:30

Chair GUO Huadong

Director General of the International Research Center of Big Data for Sustainable Development Goals

International Scientific Cooperation, New Technologies, and the SDGs

Daya REDDY

President of the International Science Council (ISC)

Engineering for Sustainable Development – Enhanced by Big data and AI

GONG Ke

President of the World Federation of Engineering Organizations (WFEO)

Exhibition

No. 4 Conference Room, First Floor

11:00-11:10 Exhibition Opening

11:10- Exhibition Tour

Time: 13:30-15:00 Room: 203A

Session Environmental dimension of SDGs

Co-Chairs Gensuo Jia, International Research Center of Big Data for Sustainable Development Goals

James Terry, Zayed University, Dubai, UAE

Stream turbidity monitoring as a proxy for erosion assessment in undisturbed and disturbed forest catchments. (session invited)

James Terry, Zayed University, Dubai, UAE

Integrated remote sensing and model approach for impact assessment of future climate change on the carbon budget of global forest ecosystems (session invited)

Junfang Zhao, China Academy of Meteorological Sciences

The need for big earth data acquisition to study forest fires impact on temperate climates (session invited)

António José Dinis Ferreira, Instituto Politécnico de Coimbra, Escola Superior Agrária de Coimbra, Centro de Estudos em Recursos Naturais Ambiente e Sociedade, Portugal

Application of multi-source satellite data in estimation of surface solar energy and power generation (session invited)

Husiletu, Aerospace Information Research Institute (AIR), CAS

Reconstructing the 2014 glacial lake outburst flood in the Trans-Himalayan Ladakh using hydrodynamic modeling

Irfan Rashid, University of Kashmir, India

Extreme temperature events and human exposure over Africa

Eghosa Igun, Institute of Atmospheric Physics, CAS

The spatiotemporal dynamics of water and ecology in three poles

Lei Wang, Institute of Tibetan Plateau Research

Time: 13:30-15:00 Room: 203B

Session Activities around Belt and Road from Scientific Data Center

Chair Guoqing Li, National Earth Observation Data Center

Data sharing service for one belt, one road of NODA

Lianchong Zhang (National Earth Observation Data Center)

Use of multi-indices for drought monitoring in Mongolia

Honglin He (Institute of Geographical Sciences and resources, CAS)

Science Data and Application of CPEC

Yaonan Zhang (National Cryosphere Desert Data Center, CAS)

Integrating superior resources to build a digital maritime silk road

Chao Xu (South China Sea Institute of Oceanology, CAS)

Plant science data and one belt, one road

Changzheng Zhao (Institute of Remote Sensing and Digital Earth, CAS)

Earthquake monitoring and cooperation around Belt and Road

Rui Zhang (National Earthquake Data Center)

Time: 13:30-15:00 Room: 203C

Session Agriculture and food security

**Co-Chairs WU Bingfang, Aerospace Information Research Institute, CAS
HE Changchui, Institute of Digital China (Fujian), China
ZENG Hongwei, Aerospace Information Research Institute, CAS**

Progress of DBAR agriculture and food security working group

WU Bingfang (Aerospace Information Research Institute, CAS)

Enhancing of food production through the integration of predictive digital agricultural systems

Andries Potgieter (The University of Queensland, Australia)

GCI30: the first 30-m resolution global cropping intensity data using multisource remote sensing imagery

ZHANG Miao (Aerospace Information Research Institute, CAS)

CropWatch4GEOGLAM: Development of advanced crop monitoring methods under GEOGLAM flagship

ZENG Hongwei (Aerospace Information Research Institute, CAS)

Does equal or proportional representation of the crops result in better crop identification?

Urs Schulthess (CIMMYT-Henan Joint Center for Wheat and Maize Improvement)

World Cereal: demonstrating global stocktake of agriculture at field scale

Sven Gilliam (VITO, Belgium)

The Integration of Optical and SAR Data for Quantification of Flood Impacts on Cropland: A Case Study in Mozambique

Jose Bofana (Catholic University of Mozambique, Mozambique)

Time: 13:30-15:00 Room: 203D

Session

Digital Belt and Road-Big Earth Data for Sustainable Development and Management of Coast and Sea

Co-Chairs

Dewayany Sutrisno, Indonesian Society for Remote Sensing, Indonesia

Li Zhang, International Research Center of Big Data for Sustainable Development Goals

Big Data for Riparian Ecosystem Condition Assessment Considering the Impaired floodplain in Congaree Watershed

Adetoro Olusola-Ige O, Cuizhen (Susan) Wang, Salami Ayobami T. , Awotoye Olusegun O. (University of South Carolina , U.S.)

The Spatial data base infrastructure to support the Sustainable Development Goals

Dewayany Sutrisno (Indonesian Society for Remote Sensing, Indonesia)

Neighbourhood Sustainability Auditing: Urban Big data challenges for Bangladesh

TanJil Sowgat (Khulna University, Bangladesh)

Potential impacts of urbanization on mangroves in China

Hongsheng Zhang, Shan Wei (The University of Hong Kong, China)

A User-focused european ocean observing and forecasting system:the essential information for human wellbeing and safety, sustainable development and blue economy in a changing world

Fernandez Herrero Myriam (Environmental Inspection of the Generalitat, Spain)

Spatiotemporal Biomass and Carbon stock Assessment of Sundarbans Reserve Forest in Bangladesh Using ALOS-2 PALSAR-2

Mohammad Emran Hasan (Oxfam in Bangladesh, Bangladesh), ZHANG Li (International Research Center of Big Data for Sustainable Development Goals)

Combining time series and land cover data for analyzing spatio-temporal changes in mangrove forests

Bin Zhu, Jingjuan Liao (Aerospace Information Research Institute, CAS)

Time: 13:30-15:00 Room: 201A

Session

Digital Heritage and Sustainability

Co-Chairs

Jie He (Tianjin University, China)

Gang Chen (Nanjing University, China)

The digital visual display platform for the world heritage of Silk Road

Zhaoping Yang (Xinjiang Institute of Ecology and Geography , CAS)

RS and GIS applications in Liangzhu Sites Archaeology

Ningyuan Wang (Zhejiang Provincial Institute of Cultural Relics and Archaeology)

Tacit Knowledge and Digital Heritage: Chinese Traditional Color Studies from a Digital Humanities Approach

Jing Chen (Nanjing University)

Construction of the National Cultural Park supported by the Whole-line Image and 3D Database of the Ming Great Wall

Zhe Li (Tianjin University)

Cultural Heritage Project of Mapping Ancient Jiangsu: Digital Representation of Historical and Cultural Landscape of Jiangsu Province with Maps of Local Chronicles

Gang Chen (Nanjing University, China)

World Heritage Protection and Sustainable Development

Shizhen Xiao (Guizhou Normal University)

Time: 13:30-15:00 Room: 201A

Session Achieving the SDGs in cities and regions

Time: 13:30-15:00 Room: 305E

Session Hyperspectral Earth Observation-1

**Co-Chairs Bing Zhang (Aerospace Information Research Institute, CAS)
Liangpei Zhang (Wuhan University)**

Spaceborne SIF Hyperspectral Imaging Technology

Yinnian Liu (Shanghai Institute of Technical Physics, CAS)

Hyperspectral Remote Sensing Image Processing: From data and method driven to demand and question guided

Peijun Du (Nanjing University)

Digital Earth and Intelligent Processing for Remote Sensing Data

Mingyi He (Northwestern Polytechnical University)

Spectral Super-resolution for Satellite Images and Its Application

Weidong Sun (Tsinghua University), Xiaolin Han

Estimating the geochemical information from vegetation coverage area using the hyperspectral data

Fuping Gan (China Aero Geophysical Survey and Remote Sensing Center for Natural Resources)

Application of hyperspectral remote sensing on soil salinization in arid region

Jianli Ding (Xinjiang University)

Time: 13:30-15:00 Room: 305D

Session Frontier Technology of Microwave Earth Observation

Co-Chairs Zhen Li (International Research Center of Big Data for Sustainable Development Goals)

Guoman Huang (Chinese Academy of Surveying and Mapping)

High-Resolution Land Surface Freeze/Thaw Detection using Sentinel-1 and AMSR2 data- A Case Study of Genhe Watershed, China

Lingmei Jiang, Jian Wang (Beijing Normal University)

Passive microwave remote sensing inversion of snow parameters in Northeast China

Xiaofeng Li, Guangrui Wang, Xiuxue Chen, Yanling Wei (Northeast Institute of Geography and Agricultural Ecology, CAS)

Microwave radiometry experiment on snow in Altay China

Liyun Dai, Tao Che (Northwest Institute of Eco-Environment and Resources, CAS)

Analysis of soil moisture retrieval application over agricultural areas based on multi-incidence and multi-temporal Polarimetric SAR observations

Hongtao Shi, Jie Yang Pingxiang Li (Wuhan University)

Multi-space-scale differential correction algorithm for InSAR atmospheric phase delay

Zhigang Yu (Shandong University of Science and Technology), Guoman Huang (Chinese Academy of Surveying and Mapping)

Inter-Calibration of HY-2B Passive Microwave Data in Land Surface and First Result for SWE Retrieval

Quan Chen, Shuo Gao, Zhen Li (International Research Center of Big Data for Sustainable Development Goals), Wu Zhou (National Satellite Ocean Application Service)

Time: 13:30-15:00 Room: 305C

Session Hyperspectral LiDAR Technology and Application

Co-Chairs Wei Gong (Wuhan University, China)
Dong Liu (Hefei Institutes of Physical Science, CAS)

Earth Observation Hyperspectral LiDAR Technology, Application and Recent Progress

Wei Gong (Wuhan University, China), Shuo Shi, Shalei Song, Zheng Niu, Cheng Wang, Haiyan Guan, Wei Li, Shui Gao, Yi Lin

Development and Performance Tests of a Full-Time Hyperspectral Full-Waveform Lidar

Decheng Wu (Hefei Institutes of Physical Science, CAS), Dong Liu, Liyong Qian, Xiaojun Zhou, Liujun Zhong, Wei Wei, Shuo Shi, Shalei Song, Wei Gong, Yingjian Wang

Discussion on some technical issues and strategies in hyperspectral full-waveform lidar data processing

Zhengjun Liu (Chinese Academy of Sureying & Mapping), Yiming Chen , Wei Gong, Xiaolu Li, Jianwei Wu, Xiangguo Lin, Lin Si, Qingdong Wang, Shenghua Xu

Application of hyperspectral LiDAR for scientific exploring: Sleep characteristics of standing trees?

Yi Lin (Peking University)

Three-dimensional extraction of vegetation biochemical parameters based on hyperspectral lidar and its application

Shuai Gao (Aerospace Information Research Institute, CAS), Zheng Niu, Gang Sun, Kaiyi Bi, Changsai Zhang, Jie Bai

Mechanism of wavelength selection for Hyperspectral LiDAR

Shuo Shi (Wuhan University), Wei Gong, Jia Sun, Hongyan Zhang, Jian Yang, Lin Du, Wei Wang

Time: 13:30-15:00 Room: 305B

Session Virtual Geographic Scenario and Digital Twin

**Co-Chairs Guonian Lv (Nanjing Normal University, China)
Min Chen (Nanjing Normal University, China)**

Real 3D spatial information platform and data twin railway

Qing Zhu (Southwest Jiaotong University, China)

Scene cognition and real scene construction based on generalized point cloud

Chun Liu (Tongji University, China)

Sonic, optic, electric and magnetic data acquisition and classification in geographic scene

Chun Ye (Nanjing Normal University, China)

Key technology of digital twin road construction

Zhen Dong (Wuhan University, China)

Dynamic evolution model construction and spatial reasoning of geographic scene based on "process-event"

Yi Huang (Nanjing University of Posts and Telecommunications, China)

Marine information visualization in an immersive panoramic sphere environment

Ying Ma (Ocean University of China, China)

Time: 13:30-15:00 Room: 305A

Session

Big Space Earth Data

Chair

Lizhe Wang (China University of Geosciences, Wuhan)

Marine hydrological disasters and intelligent prediction under the background of global change

Tianyu Zhang (Guangdong Ocean University)

Application of Deep Learning in Physical Oceanography

Jiuke Wang (National Marine Environmental Forecasting Center)

Spatiotemporal Remote Sensing Image Fusion with Generative Adversarial Networks

Peng Liu (Aerospace Information Research Institute, CAS)

Remote sensing big data processing technology for the production of global changing parameter products

Yan Ma (Aerospace Information Research Institute, CAS)

An adaptive geographic meshing and coding method for remote sensing data

Xiaohui Huang (China University of Geosciences, Wuhan)

Geographic grid model-based spatial-temporal index and storage for trajectory data

Hong Liu (China University of Geosciences, Wuhan)

Time: 13:30-15:00 Room: 201B

Session

Frontier Methods and Techniques for Earth Observation

Co-Chairs

Yonghong Hu (Aerospace Information Research Institute, CAS)

Hanlin Ye (Aerospace Information Research Institute, CAS)

Absolute radiometric calibration evaluation and analysis of satellite-borne micro-optical payloads

Yonghong Hu (Aerospace Information Research Institute, CAS)

Vision-based high-precision positioning of robots in complex scenes

Shoujun Jia (Tongji University)

Application of low altitude thermal infrared ground mapping data based on forest fires

Yapeng Li (Space Star Technology Co., LTD)

Absolute radiation calibration evaluation of JL01 satellite micro-optical sensor based on point source target

Lin Yan (Aerospace Information Research Institute, CAS)

Research Progress in on-orbit geometric calibration of SDGSAT-1

Hanlin Ye (Qian Xuesen Laboratory of Space and Technology, China Academy of Space Technology)

Polarimetric calibration experiment using natural targets for Chinese Airborne PolSAR Data

Le Yang (Wuhan University)

Time: 15:30-17:00 Room: 203A

Session

Big Earth Data for Disaster Risk Reduction and Sustainable Development Goals

Co-Chairs

Fang Chen, International Research Center of Big Data for Sustainable Development Goals

Rajib SHAW, Keio University, Japan

Use of Satellite Data for Disaster Risk Management by NSET in Nepal

Amod Dixit (National Society for Earthquake Technology - Nepal)

Monitoring Glacial Lakes and Susceptibility Assessment of Glacial Lake Outburst Floods in Western Himalayas

Atta-ur-Rahman (University of Peshawar-Pakistan), Fareeha Siddique

UNDRR / ISC Sendai Hazard Definition and Classification Review and Hazard Information Profile supplement

Virginia Murray (Public Health England), Kanza Ahmed and Maddie Weir

Cooling effect from wetlands: a nature-based solution for disaster resilience?

Harsha Dias Dahanayake (University of Colombo, Sri Lanka), Deepthi Wickramasinghe, D.D.G.L Dahanayaka

Modeling the Disaster Chain Mechanism under Landscape Evolution after an Earthquake in a Mountainous area

Congrong Li (Aerospace Information Research Institute, CAS), Bo YU, Lei WANG

Exposure Elements in Disaster Databases and Availability for Local Scale Application: Case Study of Kuala Lumpur, Malaysia

Nurfashareena Muhamad (Universiti Kebangsaan Malaysia), Joy Jacqueline Pereira

Time: 15:30-17:00 Room: 203B

Session Water Resource Security and Efficient Utilization under Global Change

**Co-Chairs Li Jia, Aerospace Information Research Institute, CAS
Bob Su, University of Twente, Netherlands**

DBAR Water: Progress and Future Plan

Li Jia (Aerospace Information Research Institute, CAS)

A framework for multi-dimensional drought assessment

Bob Su (University of Twente, Netherlands)

Monitoring of water Irrigation by Remote Sensing: impact of climate change in the irrigated area of Doukkala, Morocco

Kamal Labbassi (Chouaib Doukkali University, Morocco)

Recent advances and current needs for improving our understanding of glacier and hydro-climatic processes in the southern Andes

Ricardo Villalba (Instituto Argentino de Nivología, Glaciología y Ciencias Ambientales (IANIGLA) - CONICET, Mendoza, Argentina)

Rapid land use changes and impacts on water resources in Ghana

Amos T. Kabo-bah (University of Energy and Natural Resources, Ghana)

Climate Smart Agriculture Approach and Smart Irrigation System for Management of Water Resources in Developing Countries

Zakaria Fouad Fawzy Hassan (Agriculture and Biological Research Division- National Research Centre, Egypt), Shaymaa I. Shedeed

Transboundary hydrology, Climate change and its impact on flood factors in the Kabul-Swat floodplain, Pakistan

Atta-ur Rahman (University of Peshawar, Pakistan)

Flood changes in the large endorheic Tarim Basin

Gonghuan Fang (Xinjiang Institute of Ecology and Geography, CAS)

Time: 15:30-17:00 Room: 203C

Session Big Earth Data and Sustainable Cities

**Co-Chairs Yifang Ban, KTH Royal Institute of Technology, Sweden
Linlin Lu, International Research Center of Big Data for Sustainable Development Goals**

Big Open Data and standardized methodologies to generate harmonized indicators for SDG 11

Martino Pesaresi (Joint Research Centre, European Commission, Italy), Daniele Ehrlich, Thomas Kemper

Developing a regional-specific set of indicators and baseline assessment for enhanced achievement of SDGs for Bangkok Metropolitan Region

Vilas Nitivattananon (Asian Institute of Technology, Thailand), Sirinapha Srinonil

Earth Observation Big Data and Deep Learning for Urbanization Monitoring to Support Sustainable Urban Development

Yifang Ban (KTH Royal Institute of Technology, Sweden), Sebastian Hafner

Scenarios simulation and analysis of future land use under the constraints of multiple SDGs indicators

Lijiao Chang, Min Cao (Nanjing Normal University, China), Min Chen et al.

Future "Local Climate Zone" spatial change simulation in Greater Bay Area under the shared socioeconomic pathways and ecological control line

Guangzhao Chen (The Chinese University of Hong Kong, China), Jing Xie, Chao Ren

Exploratory Analysis of Hydraulic Simulation and Satellite Images for Flood Hazard Characterization: A Case Study of Indus River at Muzaffargarh, Punjab,

Aqil Tariq (State Key laboratory of Information Engineering in Surveying, Mapping and Remote Sensing, Wuhan University, China), Hong Shu, Linlin Lu

Assessing the impact of urban ventilation corridors to environmental benefits: Application in Hefei, China

Yunhao Fang (Huazhong University of Science and Technology, China), Liyuan Zhao

Monitoring and modeling the patterns and trends of urban growth in Karachi, Pakistan

Salma Hamza (Bahria University Karachi Campus, Pakistan), Muhammad Fahad Baqa, Meiling Zhou, Linlin Lu

Time: 15:30-17:00 Room: 203D

Session

Big Earth Data for Sustainable Development in High Mountain Asia and Arctic region

Co-Chairs

**Andrea Marinoni, Arctic University of Norway (UiT), Norway
Massimo Menenti, Delft University of Technology, Netherlands**

Atmospheric and Ecosystem Big Data and United Nations' Sustainable Development Goals

Hanna k Lappalainen (PEEX, Helsinki University, Finland)

Research on the ice climatology of cold region lakes

Matti J Leppäranta (Helsinki University, Finland)

Glacier related hazards in Sino-Pakistan and Sino-Nepal Corridors

Qiao Liu (Institute of Mountain Hazards and Environment,CAS)

Synthetic aperture radar data analysis by deep learning for automatic sea ice classification

Andrea Marinoni (Arctic University of Norway, Norway)

Supraglacial drainage density of the Greenland Ice Sheet estimated from high-resolution satellite imagery and climate models

Kang Yang (Nanjing University, China)

Development and application of NMEFC Arctic Ice-Ocean Prediction System

Xi Liang (NMEFC, China)

Cold Regions Cross-Continental Open Data Sharing in Support of The Sustainable Development Goals

Bente Lilja Bye (BLB, Norway)

Time: 15:30-17:00 Room: 203CD

Session

Digital Earth Poles and SDGs (Invited)

Time: 15:30-17:00 Room: 201A

Session

Digital Modeling and Simulation

Chair

Xicheng Tan (Wuhan University)

Research on Flood Emergency Analysis Method Based on Distributed Integrated Workflow of Geological Model

Xicheng Tan (Wuhan University)

A Recurrent Neural Network Based Asphalt Pavement Aging Condition Detection Method

Xiao Chen (Peking University)

Research on Construction Technology of Visual Positioning Dataset in Indoor Complex Illumination Environment

Chen Chen (Tongji University)

A fast cloud detection method for thermal infrared images of CASEarth satellite

Kaiqiang Ge (Aerospace Information Research Institute, CAS)

Design and implementation of global remote sensing real-time monitoring and fixed-point update cloud platform

Qingyang Li (Capital Normal University)

Time: 15:30-17:00 Room: 305E

Session Hyperspectral Earth Observation-2

**Co-Chairs Yinnian Liu (Shanghai Institute of Technical Physics, CAS)
Peijun Du (Nanjing University)**

Research and application of hyperspectral imaging technology based on unmanned platform

Qingsheng Xue (Ocean University of China)

Hyperspectral Remote Sensing Image Information Extraction Based on Deep Learning

Lianru Gao (Aerospace Information Research Institute, CAS)

Enhanced Spatiotemporal Fusion via MODIS-like Images

Jun Li (Sun Yat-sen University)

Cross-Scene Hyperspectral Image Classification

Wei Li (Beijing Institute of Technology)

Hyperspectral Image Quality Improvement: Combination of Variational Model and Deep Learning Model

Qiangqiang Yuan (Wuhan University)

Construction and application of mangrove index using Hyperspectral Remote Sensing

Weiwei Sun (Ningbo University)

Time: 15:30-17:00 Room: 305D

Session Applications of Earth Observation Technology for Energy and Environment

**Co-Chairs Yong Xue (China University of Mining and Technology, China)
Kai Qin (China University of Mining and Technology, China)**

Practice and Application of Coal Big Data and Price Index

Yu Feng (China Coal Transportation and Distribution Association; China Coal Market Website)

Achieving Win-Win Carbon Neutrality and Environmental Benefits Using a New Quantitative All Forms of Carbon Emissions Framework

Jason Blake Cohen (China University of Mining and Technology, China)

Application of multi-source satellite data in estimation of surface solar energy and power generation

Letu Husi (Aerospace Information Research Institute, CAS)

Long-term variations of surface solar radiation in China from observation and estimation using different techniques

Lunche Wang (China University of Geosciences, Wuhan)

Ecological restoration monitoring based on multi-remote sensing data from large surface coal mine area of grassland

Nisha Bao (Northeastern University, China)

Research on 3D implicit modeling and automatic updating method of orebody and software development

Jiateng Guo (Northeastern University, China)

Time: 15:30-17:00 Room: 305C

Session BIM/CIM Information Model and Virtual Geographic Environment System

**Co-Chairs Guonian Lv (Nanjing Normal University, China)
Songsan Yue (Nanjing Normal University, China)**

Definition and capabilities of CIM

Bin Song (Beijing Freedo Technology Company Ltd.)

Practice of City Information Model (CIM)

Tao Yang (China Academy of Urban planning and Design)

3D building modeling method based on construction data

Liangchen Zhou (Nanjing Normal University)

A Data Acquisition Method for Digital Base in Urban Space

Wang Guo (Shanghai Huace Navigation Technology Company Ltd.)

Airport experimental platform based on the definition of digital twin model

Xuefeng Wang (Beijing Boneng Technology Co., Ltd.), Pin Li, Jingting Han, Huanran Qi

Representation and Construction of Multi-LOD Model for Buildings

Yunfei Shi (Linyi University)

Time: 15:30-17:00 Room: 305B

Session Application of Spatial Information Technology

**Co-Chairs Jiantao Bi (Aerospace Information Research Institute, Chinese Academy of Sciences)
Lisa Liu (Beijing SUYOO Infrmation Technology Co.,Ltd.)**

Digital Agriculture Applications Support for Sustainable Rural Development

Yanghua Liu (PIESAT Information Technology Co., Ltd.)

Consolidate the foundation of the digital earth and enhance the development pattern of the spatial information industry

Jingye Shi (Geovis Technology Co.,Ltd)

Geological Hazard Early Warning System Based on Radar Remote Sensing

Zhen Shi (Quanzhou Zhongke Xingqiao Aerospace Technology Co., Ltd.)

Construction of Urban Comprehensive Governance Grid System

Wei Chen (Wuhan Emap Information Technology Co., Ltd.)

Time: 15:30-17:00 Room: 305A

Session

LiDAR Earth Observation

Co-Chairs

Sheng Nie (Aerospace Information Research Institute, CAS)

YanJun Su (Institute of Botany, CAS)

Application of lidar technology in forest carbon sink estimation

Yanqiu Xing (Northeast Forestry University)

The applications of LiDAR in precision silviculture and sustainable management for subtropical forests

Lin Cao (Nanjing Forestry University)

Interpolation-guided neural network for mapping canopy height of China's forests by integrating GEDI and ICESat-2 data

YanJun Su (Institute of Botany, CAS)

Polar application of multi-source satellite laser altimetry data

Guoyuan Li (Land Satellite Remote Sensing Application Center, MNR)

High-resolution Mapping of Forest Vertical Structures at Regional Scale

Wenli Huang (Wuhan University)

Vegetation parameter retrievals using ICESat-2 data

Sheng Nie (Aerospace Information Research Institute, CAS)

Time: 15:30-17:00 Room: 201B

Session

Sustainable Development of the UNESCO Designated Sites

Co-Chairs

Xinyuan Wang, International Research Center of Big Data for Sustainable Development Goals

Rosa Lasaponara, IMAA-CNR, Italy

World Heritage Conservation & Sustainable Development

Feng Jing (Asia-Pacific Unit, World Heritage Centre, UNESCO)

Towards Integrated approach for risk assessment of Cultural Heritage Sites

Rohit Jigyasu (Programme Unit of the Urban Heritage, Climate Change & Disaster Risk Management, International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM))

UNESCO Designated Sites' Contributions in Achieving the Sustainable Development Goals

Lei Luo (International Centre on Space Technologies for Natural and Cultural Heritage (HIST) under the Auspices of UNESCO)

Digital Transformation in Culture Heritage: Pakistan

Shahina Tariq (COMSATS University Islamabad, Pakistan)

SAR Interferometry to assess vulnerability over cultural heritage sites: The SCIENCE Greece-China project and Acropolis of Athens results

Issaak Parcharidis (Harokopio University, Greece)

Space for Heritage: towards a Sustainable Development

Rosa Lasaponara (Institute of Methodologies for Environmental Analysis (IMAA), National Research Council (CNR), Italy)

09-07 Program at a Glance

09:00-10:20	Keynote Speech (Conference Room 201)														
10:20-10:45	Tea Break														
10:45-12:15	Forum on Earth Observation for Sustainable Development Goals (Conference Room 201)														
12:15-13:30	Lunch														
13:30-15:00	Innovation and Demonstration of Big Data Application for Sustainable Development						Digital Earth and Sustainable Development						DBAR Science Team Meeting (Invited) 307		
	Big Earth Data in Support of SDG 2: Zero Hunger-1	Big Earth Data in Support of SDG 6: Clean Water and Sanitation-1	Big Earth Data in Service of SDG 11: Sustainable Cities and Communities-1	Big Earth Data in Service of SDG 13: Climate Change and Climate Action-1	Big Earth Data in Support of SDG14: Life Below Water-1	Big Earth Data in Support of SDG 15: Life on Land-1	Digital Agriculture and Food Security	Digital Mountain for Mountain Sustainable Development	Digital Earth Poles and SDGs: Science and Application	Digital Ocean Supporting for Sustainable Ocean Development-1	Digital Earth Theory and Model	Digital Earth Frontier Application-1			
	203A	203B	203C	203D	305E	305D	305C	305B	305A	201A	201B	201CD			
15:00-15:30	Tea Break														
15:30-17:00	Innovation and Demonstration of Big Data Application for Sustainable Development						Digital Earth and Sustainable Development							DBAR Science Team Meeting (Invited) 307	
	Big Earth Data in Support of SDG 2: Zero Hunger-2	Big Earth Data in Support of SDG 6: Clean Water and Sanitation-2	Big Earth Data in Service of SDG 11: Sustainable Cities and Communities-2	Big Earth Data in Service of SDG 13: Climate Change and Climate Action-2	Big Earth Data in Support of SDG 14: Life Below Water-2	Big Earth Data in Service of SDGs: Trade-offs and Synergies	Digital Disaster Reduction Technology for Sustainable Development	Digital Earth Poles and SDGs: Methods and Technique	Digital Ocean Supporting for Sustainable Ocean Development-2	Digital Earth and Big Data-1					
	203A	203B	203C	203D	305E	305D	305C	305A	201A	201B					
19:00-21:00	Joint Workshop of CASEarth-CODATA														

September 7, 2021 Conference Room 201

Keynote Speech 09:00- 10:20

Co-Chairs LIAO Xiaohan

Deputy Director of the International Research Center of Big Data for Sustainable Development Goals

CHEN Fang

Deputy Director of the International Research Center of Big Data for Sustainable Development Goals

Measuring Progress: Environment and the SDGs

LIU Jian

Director of the Science Division, UN Environment Programme (UNEP)

Making Big Data Relevant to Sustainable Development Goals

David CASTLE

Professor at the University of Victoria, and Research in Residence at the Office of the Chief Science Advisor to the Prime Minister of Canada

Big Data for the Benefit of the SDGs

Dirk FRANSAER

Managing Director of VITO

**Evaluating a Multi-disciplinary Research and Development Program:
the DBAR Approach**

Massimo MENENTI

Member of the DBAR Science Committee,

10:45-12:15 Forum on Earth Observation for Sustainable Development Goals
Room: 201

13:30-17:00 DBAR Science Team Meeting (Invited)
Room: 307

Time: 13:30-15:00 Room: 203A

Session Big Earth Data in Support of SDG 2: Zero Hunger-1

**Co-Chairs Bingfang Wu, Aerospace Information Research Institute, CAS
Lijun Zuo, Aerospace Information Research Institute, CAS**

Spatial pattern of cropland in China: evolution process, effects and reconstruction

Xiangbin Kong (China Agricultural University)

Observation and simulation of global agricultural land dynamics based on remote sensing

Le Yu (Tsinghua University)

Crop growth monitoring based on UAV multi-source remote sensing

Ran Meng (Huazhong Agricultural University)

Cropped land dynamic change and spatial variations from 2010-2020 in Mediterranean Regions

Hongwei Zeng (Aerospace Information Research Institute, CAS)

Sustainable Intensification of cropland in China

Lijun Zuo (Aerospace Information Research Institute, CAS)

Time: 13:30-15:00 Room: 203B

Session Big Earth Data in Support of SDG 6: Clean Water and Sanitation-1

**Co-Chairs Colin Herron, Global Water Partnership (GWP)
Shanlong Lu, Aerospace Information Research Institute, CAS**

Rethinking water for SDG 6

Edoardo Borgomeo (University of Oxford)

Monitoring freshwater ecosystems from space in support of implementing SDG target 6.6

Stuart Crane (Freshwater Unit, Ecosystems Division, UNEP)

Spatiotemporal dynamics of vegetated wetlands in China, 2000-2020

Zongming Wang (Northeast Institute of Geography and Agroecology, CAS)

Long time series water extent analysis for SDG 6.6.1 based on the GEE platform

Weiguo Jiang (Beijing Normal University)

Time: 13:30-15:00 Room: 203C

Session **Big Earth Data in Service of SDG 11: Sustainable Cities and Communities-1**
Co-Chairs **Qihao Weng, Hong Kong Polytechnic University**
Xiaoling Zhang, City University of Hong Kong

Big Data from Space – How data can change the way we see the urban world

Hannes Taubenböck (Deutsches Zentrum für Luft- und Raumfahrt)

Remaking sustainability science in the era of big data

Xiaoling Zhang (City University of Hong Kong)

Big Earth Data in support of the Urban Sustainable Development

Zhongchang Sun (Aerospace Information Research Institute, CAS)

Community resilience in a post-COVID world: data for climate resilience and disaster risk reduction

Bapon (shm) Fakhruddin (Tonkin + Taylor International Ltd, New Zealand)

Urban landscape modelling and sustainable analysis with fusing crowdsourcing and remote sensing data

Shihong Du (Peking University)

Global observation of urban land-cover composite and thermal environment for improving urban sustainability

Wenhui Kuang (Institute of Geographic Sciences and Natural Resources Research, CAS)

Time: 13:30-15:00 Room: 203D

Session **Big Earth Data in Service of SDG 13: Climate Change and Climate Action-1**
Co-Chairs **Gensuo Jia, International Research Center of Big Data for Sustainable Development Goals**
Lei Huang, Aerospace Information Research Institute, CAS

IPCC and Extreme Weather

Panmao Zhai (Chinese Academy of Meteorological Sciences)

Climate Change and Climate Action

Tianjun Zhou (Institute of Atmospheric Physics, CAS)

Climate actions over southeast Asia

Monthip Sriritana (NECT, Thailand)

Recent Changes of the Cryosphere and its Impacts

Cunde Xiao (Beijing Normal University)

Time: 13:30-15:00 Room: 305E

Session Big Earth Data in Support of SDG 14: Life Below Water-1

**Co-Chairs Rencheng Yu, Institute of Oceanology, CAS
Futao Wang, Aerospace Information Research Institute, CAS**

Spatial distribution pattern and challenges of marine microplastics

Jingxi Li (First Institute of Oceanography, MNR)

Assessment of eutrophication and ecological consequences in the South China Sea

Haifeng Gu (Third Institute of Oceanography, MNR)

Risk assessment of harmful algal blooms in the Bohai Sea

Huixia Geng / Yifan Li (Institute of Oceanology, CAS)

Simulation of marine ecosystem health in China coasts

Ziyuan Hu (Institute of Oceanology, CAS)

Time: 13:30-15:00 Room: 305D

Session Big Earth Data in Support of SDG 15: Life on Land-1

**Co-Chairs Qunli Han, Integrated Research on Disaster Risk (IRDR)
Juanle Wang, Institute of Geographic Sciences and Natural Resources Research, CAS**

Land degradation pattern and dynamics from 1990 to 2020 in Mongolia

Juanle Wang (Institute of Geographic Sciences and Natural Resources Research, CAS)

Earth observation to support scientific understanding and informative decision making towards LDN and drought resilience building

Xiaoxia Jia (UNCCD)

Spatial Planning of National Parks in China

Weihua Xu (Research Center for Eco-Environmental Sciences, CAS)

China's Solutions: One of the Best LDN Practices

Qi Lu (Institute of Desertification Studies, Chinese Academy of Forestry)

Applications of citizen data in the conservation of waterbirds and their habitats in China

Xiubo Yu (Institute of Geographic Sciences and Natural Resources Research, CAS)

Time: 13:30-15:00 Room: 305C

Session Digital Agriculture and Food Security

**Co-Chairs Nana Yan (Aerospace of Remote Sensing and Digital Earth, CAS)
Huanjun Liu (Northeast Institute of Geography and Agroecology, CAS)**

Mapping Paddy Rice in Two Major Planting Techniques over Jiangsu Province of China Using Multitemporal SAR Imagery: Direct-seeded Rice vs Transplanted Rice

Tao Chen (Nanjing Agricultural University)

Spatial-Temporal Variations and Driving Factor Analysis of Winter Fallow Fields in Jiangnan Plain

Zhongyuan Li (Hubei University)

Blacksoil area conservation with digital agriculture

Huanjun Liu (Northeast Institute of Geography and Agroecology, CAS)

Integrated AI & RS Technology Application in Grain Security

Gong Zhang (Beijing GAGO Ltd)

Applications of Precision Decision-making for family farm based on Ground-UAV-Satellite multi-source perceptual information fusion

Xingang Xu (National Engineering Research Center for Information Technology in Agriculture)

Drought monitoring method and system for Mongolia

Sheng Chang (Aerospace of Remote Sensing and Digital Earth, CAS)

Time: 13:30-15:00 Room: 305B

Session Digital Mountain for Mountain Sustainable Development

**Co-Chairs Ainong Li (Institute of Mountain Hazards and Environment, CAS)
Zongming Wang (Northeast Institute of Geography and Agroecology, CAS)**

Remote Sensing Monitoring and Integrated Assessment for the Eco-environment along China-Pakistan Economic Corridor

Ainong Li (Institute of Mountain Hazards and Environment, CAS)

Global high-resolution monitoring of mountain green cover index (SDG 15.4.2)

Jinhu Bian (Institute of Mountain Hazards and Environment, CAS)

Monitoring land cover changes over the last three decades in mountainous areas of the China Central-Asia West-Asia economic corridor

Amin Naboureh (Institute of Mountain Hazards and Environment, CAS)

Digital Terrain Analysis for Mountain Sustainable Development

Liyang Xiong (Nanjing Normal University)

Green Vegetation Estimation and Location Analysis of Nature Reserves in Fujian Province, China Using the Shadow-Eliminated Vegetation Index (SEVI)

Hong Jiang (Fuzhou University, The Academy of Digital China)

Slow-moving landslide activity and intensity assessment using the SBAS method in the Fujin catchment, Northwest China

Shibiao Bai (Institute of Mountain Hazards and Environment, CAS, Nanjing Normal University)

Time: 13:30-15:00 Room: 305A

Session Digital Earth Poles and SDGs: Science and Application

**Co-Chairs Jiancheng Shi (National Space Science Center, CAS)
Zemin Wang (Wuhan University)**

Snow cover model and its validation

Jiancheng Shi (National Space Science Center, CAS)

The surface and basal melting characteristics of the Antarctic ice shelf

Zemin Wang (Wuhan University)

Polar Remote Sensing and Global Sea Level Rise

Rongxing Li (Tongji University)

Spatial and temporal change patterns of near-surface CO₂ and CH₄ concentrations in different permafrost regions on the Mongolian Plateau from 2010 to 2017

Tonghua Wu (The Northwest Institute of Eco-Environment and Resources, CAS)

Influence of Gas Flaring on Vegetation Changes in Siberia Area

Yubao Qiu (International Research Center of Big Data for Sustainable Development Goals)

Earth three poles remote sensing: change and comparative

Wenjin Wu (Aerospace Information Research Institute, CAS)

Time: 13:30-15:00 Room: 201A

Session Digital Ocean Supporting for Sustainable Ocean Development-1

**Co-Chairs Song Sun (Institute of oceanology, CAS)
Yan Bai (Second Institute of Oceanography, MNR, China)**

Data-model-driven ocean big data analysis

ZhenHong Du (Zhejiang University)

Remote Sensing of Deepsea and its application in ocean warming

Hua Su (FuZhou University)

Prediction of Sea Surface Temperature in the South China Sea Based on Deep Learning

Zengzhou Hao (Second Institute of Oceanography, MNR, China)

A Preliminary Study on the Application of Artificial Intelligence in Oceanography

Le Gao (Institute of oceanology, CAS)

Spaceborne SAR and artificial intelligence for Arctic sea ice and ocean dynamics

Xiaoming Li (Aerospace Information Research Institute, CAS)

Research on microwave scattering characteristics of emulsified crude oil

Jie Guo (Yantai institute of coastal zone research, CAS)

Time: 13:30-15:00 Room: 201B

Session Digital Earth Theory and Model

Chair Xiaoping Du (Aerospace Information Research Institute, CAS)

A Spatio-Temporal Data Model for Dynamic Earth's Magnetosphere

Cifeng Wang (Space Science Big Data Technology Laboratory, National Space Science Center, CAS)

Key technologies and applications of remote sensing big data platform

Chen Xu (Aerospace Information Research Institute, CAS)

Modeling vague spatiotemporal objects based on interval type-2 fuzzy sets

Yue Yin (Nanjing Normal University)

Dynamic processing coordinate datum of digital earth and new generation of spatial information datum system

Zhengkang Zuo (Peking University)

Travel-mode classification based on GPS-trajectory data and geographic information using XGBoost classifier

Huiling Jin (Tongji University)

Time:13:30-15:00 Room: 201CD

Session Digital Earth Frontier Application-1

**Co-Chairs Lihui Luo (Northwest Institute of Eco-Environment and Resources, CAS)
Mingyang Lv (Aerospace Information Research Institute, CAS)**

Vulnerability assessment of freeze-thaw disasters in High Mountain Asia

Lihui Luo (Northwest Institute of Eco-Environment and Resources, CAS)

Spatial and temporal variation of near-surface permafrost freezing and thawing in high Asia based on remote sensing data

Xuting Liu (Aerospace Information Research Institute, CAS)

A dataset of surge-type glaciers in the High Mountain Asia based on earth observation

Mingyang Lv (Aerospace Information Research Institute, CAS)

Vegetation community characteristics and diversity changes of glacier foreshore based on aerial photography by UAV

Tianfeng Wei (Gansu Agricultural University)

High-resolution Freeze-thaw Intensity Extraction Method of Antarctic Ice Sheet Based on Time-series SAR Data

Qi Zhu (Aerospace Information Research Institute, CAS)

Time: 15:30-17:00 Room: 203A

Session Big Earth Data in Support of SDG 2: Zero Hunger-2

**Co-Chairs Lijun Zuo, Aerospace Information Research Institute, CAS
Bingfang Wu, Aerospace Information Research Institute, CAS**

Delivery of land-based climate mitigation actions on the SDGs

Pete Smith (University of Aberdeen, UK)

Global Crop Pest and Disease Habitat Monitoring and Risk Forecasting

Wenjiang Huang (International Research Center of Big Data for Sustainable Development Goals)

Food production and climate change in China----spatial-temporal variations derived from modelling results with high resolution datasets

Wen Zhang (The Institute of Atmospheric Physics, CAS)

Big data for food security: case studies for SSA and SEA

Patricio Grassini (University of Nebraska, USA)

Global cropping system modelling: past, present and future

Liangzhi You (Institute of Food Policy Research Institute, USA)

Time: 15:30-17:00 Room: 203B

Session
Co-Chairs

Big Earth Data in Support of SDG 6: Clean Water and Sanitation-2

Yajun Liu, International Eco-safety Cooperative Organization (IESCO)
Hongtao Duan, Nanjing Institute of Geography & Limnology, CAS

Precise Water and Sanitation Service Delivery through e-Household-based Survey: a case study from Indonesia

Fany Wedahuditama (GWP-South-East Asia)

Remote-sensed Forel-Ule Index, water clarity, and trophic state of global large lakes and reservoirs

Junsheng Li (Aerospace Information Research Institute, CAS)

The evaluation of global water use efficiency changes of crops based on remote sensing

Chaolei Zheng, Li Jia (Aerospace Information Research Institute, CAS)

Observations of water clarity in large lakes in eastern China with multi-source remote sensing: Implications for SDG 6.3.2 evaluation

Ming Shen, Hongtao Duan (Nanjing Institute of Geography & Limnology, CAS)

Time: 15:30-17:00 Room: 203C

Session
Co-Chairs

Big Earth Data in Service of SDG 11: Sustainable Cities and Communities-2

Dengsheng Lu, Fujian Normal University

Chunlin Huang, Northwest Institute of Eco-Environment and Resources, CAS

Big EO Data Analytics and the Contemporary Urbanization in the Brazilian Amazon: Challenges and Opportunities for Bringing more Safety, Resilience and Sustainability in Rural-Urban Continuum Regions

Antonio Miguel Vieira Monteiro (Instituto Nacional de Pesquisas Espaciais - INPE)

Global impervious surface mapping using multi-source data and implication to SDG11

Dengsheng Lu (Fujian Normal University)

The indicator of surface disturbances for the sustainability assessment of world cultural heritage sites

Fulong Chen (Aerospace Information Research Institute, CAS)

Where to live? Housing affordability assessment of cities in China

Haimeng Liu (Institute of Geographic Sciences and Natural Resources Research, CAS)

Large-scale road extraction from optical and SAR images using deep learning networks

Hongsheng Zhang (The University of Hong Kong)

Interannual Variation of Natural Disaster Risk in China - A Municipal View from 2010 to 2020

Peng Zhang (National Disaster Reduction Center of China, Ministry of Emergency Management of the People's Republic of China)

Time: 15:30-17:00 Room: 203D

- Session** **Big Earth Data in Service of SDG 13: Climate Change and Climate Action-2**
- Co-Chairs** **Gensuo Jia, International Research Center of Big Data for Sustainable Development Goals**
Lei Huang, Institute of Remote Sensing and Digital Earth, CAS
- Global Real Time Carbon monitoring**
Zhu Liu (Tsinghua University)
- Spatial pattern of atmospheric CO₂ concentration and its driving factors derived from satellite observations**
Liping Lei (Aerospace Information Research Institute, CAS research)
- National-level NPP distribution and its drivers**
Dailiang Peng (Aerospace Information Research Institute, CAS research)
- New understanding of climate change driven by Big Earth Data**
Gensuo Jia (International Research Center of Big Data for Sustainable Development Goals)

Time: 15:30-17:00 Room: 305E

- Session** **Big Earth Data in Support of SDG 14: Life Below Water-2**
- Co-Chairs** **Rencheng Yu , Institute of Oceanology, CAS**
Futao Wang , Aerospace Information Research Institute, CAS
- Delivery of land-based climate mitigation actions on the SDGs**
Chengyi Wang (Aerospace Information Research Institute , CAS)
- Identifying spatiotemporal patterns of coastal aquaculture ponds in China for SDG 14**
Dehua Mao (Northeast Institute of Geography and Agroecology, CAS)
- Declining oxygen in temperate marginal shelf under multiple stressors: a case study in the Yellow and Bohai Seas**
Qinsheng Wei (First Institute of Oceanography, MNR)
- Towards a more sustainable coastal environment: how big earth data contributes the SDG14 in MSR countries**
Li Zhang / BOWEI CHEN (Aerospace Information Research Institute , CAS)

Time: 15:30-17:00 Room: 305D

- Session** **Big Earth Data in Service of SDGs: Trade-offs and Synergies**
- Co-Chairs** **Jinwei Dong, Institute Of Geographic Sciences And Natural Resources Research, CAS**
Yu Chen, Aerospace Information Research Institute, CAS
- How to integrate global data efforts to realize SDGs in different states**
Milan Konečný (Masaryk University, Czech Republic)
- Geospatial big data for sustainable infrastructure development**
Zeyong Song (Curtin University)
- Scenario prediction and analysis of SDG 11.3.1 under the constraints of multiple SDGs indicators**
Zijun Zhao (Nanjing Normal University)
- Interactions of food, water, and ecological security goals in North China Plain**
Jinwei Dong (Institute Of Geographic Sciences And Natural Resources Research, CAS)
- Big Earth Data in Service of SDGs: Progress and Prospects**
Yu Chen (Aerospace Information Research Institute, CAS)

Time: 15:30-17:00 Room: 305C

- Session** **Digital Disaster Reduction Technology for Sustainable Development**
- Co-Chairs** **Jianjun Wu (Beijing Normal University)**
Fang Chen (International Research Center of Big Data for Sustainable Development Goals)
- Geological Hazard Identification, risk assessment, monitoring and early warning**
Zhengwei He (Chengdu University of Technology)
- Natural Disaster Monitoring and Evaluation Innovation and Emergency Response Services**
Jianjun Wu (Beijing Normal University, China)
- Meteorological big data and satellite remote sensing methods for major agrometeorological disasters**
Shibo Fang (Chinese Academy of Meteorological Sciences)
- Coseismic displacement field and large-scale tectonic deformation observation technology**
Wenyu Gong (Institute of Geology, China Earthquake Administration, China),
Xinjian Shan

Impact assessment of remotely sensed multi-parameters on winter wheat yield using deep learning

Pengxin Wang (China Agricultural University, China), Jingqi Zhang (China Agricultural University, China), Hui ren Tian (China Agricultural University, China), Shuyu Zhang (Shaanxi Provincial Meteorological Bureau, China), Hongmei Li (Shaanxi Provincial Meteorological Bureau, China), Kevin Tansey (University of Leicester, UK)

Remote Sensing Dynamic Monitoring and Sudden Flood Characteristics of Merzbacher Lake

Fengze Han (Yunnan University, China)

Time: 15:30-17:00 Room: 305A

Session Digital Earth Poles and SDGs: Methods and Technique

**Co-Chairs Xiao Cheng (Sun Yat-sen University)
Xinwu Li (International Research Center of Big Data for Sustainable Development Goals)**

Polar observation and detection technology perspective

Xiao Cheng (Sun Yat-sen University)

Comprehensive remote sensing interpretation of stratigraphic structure and ice thickness of Mars Zurong landing area

Zhizhong Kang (China University of Geosciences)

Multi-source satellite data for sea-ice remote sensing

Shiming Xu (Tsinghua University)

Velocity remote sensing mapping of Southeast Antarctic ice sheet in 1960-1980s

Gang Qiao (Tongji University)

Automatic identification of ice water based on joint time-frequency analysis

Tong Hao (Tongji University)

Study on the remote sensing inversion method of the polar sea ice parameters

Shuang Liang (Aerospace Information Research Institute, CAS)

Time: 15:30-17:00 Room: 201A

Session Digital Ocean Supporting for Sustainable Ocean Development-2

**Co-Chairs Xiaoming Li (Aerospace Information Research Institute, CAS)
Jie Guo (Yantai institute of coastal zone research, CAS)**

Marine Satellite Online Analysis Platform (SatCO2) and application in the changing coastal ecologic environment

Yan Bai (Second Institute of Oceanography, MNR, China)

Ocean Environment Information Platform of the Sea Silk Road

Shilin Tang (South China Sea Institute of Oceanology, CAS)

The development of Marine satellites and its application in China

Bin Zou (National Satellite Ocean Application Service)

HiSea-1 SAR Small Satellite: Experience and Future

Xupu Geng (Xiamen University)

Research on spatial and temporal characteristics of island coastline along the Maritime Silk Road

Yuxin Zhang (Yantai Institute of Coastal Zone Research, CAS)

Spatiotemporal variability of global ocean wave power for sustainable utilization

Chuanchuan Cao (Ocean University of China)

Time: 15:30-17:00 Room: 201B

Session Digital Earth and Big Data-1

Chair Shunlin Liang (University of Maryland, College Park)

China's first global climate dataset based on satellite observation data

Shunlin Liang (University of Maryland, College Park)

Xinjiang Regional Biodiversity Database

Liping Li (Aerospace Information Research Institute, CAS)

Theoretical Model and Technical Method for Efficient Retrieval of Huge Volume of Remote Sensing Data at PB Level

Xiaoyao Sun (Zhejiang University)

An analysis of rural access index with global open big data

Qi Zhou (China University of Geosciences, Wuhan)

Land use change and driving forces at county level in China: A case study of Jiaxing city

Tianyu Zhou (NanHu Laboratory)

Time: 19:00-21:00

Session Joint Workshop of CASEarth-CODATA

09-08 Program at a Glance

09:00-10:00	Keynote Speech (Conference Room 201)							
10:00-10:30	Tea Break							
09:00-12:30	HIST 10th Anniversary Symposium (Room 305)							
10:30-12:00	Research on Big Earth Data to Support Sustainable Development Goals							
	Big Data Curation and Cloud Computing for SDGs	Big Earth Data to Support the UN Sustainable Development Goals in the Earth's Three Poles	"Big Earth Data: A New Power to Support the Sustainable Development Goals	Big Earth Data in Support of SDG 15: Life on Land-2	Digital Earth and Big Data-2	Digital Earth and Big Data-3	Digital Earth and Remote Sensing Modeling	Digital Earth and Moon Based Observation
	203A	203B	203C	203D	201A	201B	201CD	303
12:00-13:30	Lunch							
13:30-15:00	Research on Big Earth Data to Support Sustainable Development Goals							
	Biodiversity Big Data Mining and Protection Application	Big Earth Data for Building Beautiful China	Digital Earth Technology System and Global Basic Spatial Information Products	Ocean Big Data in Support of the Sustainable Development Goals	Digital Earth Frontier Application-2	Digital Earth Frontier Application-3	Digital Earth and Remote Sensing Retrieval	Digital Earth Frontier Application-4
	203A	203B	203C	203D	305A	305B	305C	305D
15:30-16:30	Closing Ceremony Conference Room 201							

September 8, 2021 Conference Room 201

keynote Speech 09:00-10:00

Co-Chairs

JIA Gensuo

Deputy Director of the International Research Center of Big Data for Sustainable Development Goals

LI Jianhui

Deputy Director of the International Research Center of Big Data for Sustainable Development Goals

Pan-Eurasian Experiment: Significance of Continuous Comprehensive Observations - SMEAR Concept

Markku Kulmala

Professor at University of Helsinki

Big Data to Bridge Big Gaps: Strategic Directions for Research

Clovis Freire

Economist at the Division on Technology and Logistics of the United Nations Conference on Trade and Development (UNCTAD)

Integrating Global, Regional, National and Local Level Efforts on Data for Disaster Risk Reduction and Response

Gretchen Kalonji

Dean of the Institute for Disaster Management and Reconstruction (IDMR)

09:00-12:30 HIST 10th Anniversary Symposium (Invited)

Time:10:30-12:00 Room: 203A

Session Big Data Curation and Cloud Computing for SDGs

Co-Chairs Jianhui Li (International Research Center of Big Data for Sustainable Development Goals)

Wei Wang (Institute of Software, CAS)

Curating Big Data on Population and Settlements to Monitor the Sustainable Development Goals (SDGs)

Robert R. Downs (Center for International Earth Science Information Network (CIESIN), The Earth Institute, Columbia University)

GuangMu Cloud: a Big Earth Data Platform Supporting SDGs

Haili Xiao (Computer Network Information Center, CAS)

Databox Engine: Enhancing on-demand computing of Remote Sensing Data

Jianghua Zhao (Computer Network Information Center, CAS)

Interactive online analysis technology and system for SDGs

Jie Liu(Institute of Software, CAS)

Cloud Services Integration Platform and Solution for SDG

Ze Luo (Computer Network Information Center, CAS)

Time:10:30-12:00 Room: 203B

Session Big Earth Data to Support the UN Sustainable Development Goals in the Earth's Three Poles

Co-Chairs Xin Li (Institute of Tibetan Plateau Research, CAS)

Tao Che (Northwest Institute of Eco-Environment and Resources, CAS)

Tripole ice flow velocity field: space-time reconstruction, method optimization, and development tendency

Rongxing Li (Tongji University)

On the Arctic Rapid Change

Xianyao Chen (Ocean University of China)

Big Earth data to support the UN Sustainable Development Goals in the Earth's three poles: Advances and Prospects

Xin Li (Institute of Tibetan Plateau Research, CAS)

Precipitation anomaly over the Tibetan Plateau in mid-autumn associated with tropical Pacific-Indian Ocean sea surface temperature anomaly

Anmin Duan (Institute of Atmospheric Physics, CAS)

Glacier variation and its instability in the China-Pakistan Economic Corridor

Donghui Shangguan (Northwest Institute of Eco-Environment and Resources, CAS)

Detection method and Application study of Polar Ice sheet using microwave remote sensing

Xinwu Li, Shuang Liang, Lei Liang, Di Jiang, Jingjing Zhao (Aerospace Information Research Institute, CAS)

Time:10:30-12:00 Room: 203C

Session

Big Earth Data: A New Power to Support the Sustainable Development Goals

Co-Chairs

Guojin He (Aerospace Information Research Institute, CAS)

Dongmei Yan (International Research Center of Big Data for Sustainable Development Goals)

Changes in spatial extent of China's wetlands towards SDG 6.6.1

Zongming Wang (Northeast Institute of Geography and Agroecology, CAS)

Synthetic Aperture Radar (SAR) for the Sustainable Development Goals

Chao Wang, Hong Zhang, Yixian Tang, Fan Wu, Bo Zhang, Lu Xu (Aerospace Information Research Institute, CAS)

Big Earth Data Resource Architecture for Supporting SDGs

Juanle Wang (Institute of Geographic Sciences and Natural Resources Research, CAS), Dongmei Yan, Kun Bu

Study on spatial and temporal variation of Antarctic ice sheet with Big Earth Data

Dong Liang (Aerospace Information Research Institute, CAS)

Monitoring 30 meter resolution Burned Area as an Indicator of SDGs

Zhaoming Zhang (Aerospace Information Research Institute, CAS), Guojin He, Tengfei Long, Mingyue Wei

Estimation of Terrestrial Water Storage Changes at Small Basin Scales Based on Multi-source Data

Mengmeng Wang (China University of Geosciences), Xiuguo Liu, Yulong Zhong, Qin Li, Shuang Zhu, Dongdong Kong

Time:10:30-12:00 Room: 203D

Session

Big Earth Data in Support of SDG 15: Life on Land-2

Co-Chairs

Keping Ma, Institute of Botany, CAS

Xiaosong Li, Aerospace Information Research Institute, CAS

Quantitative, species-level indicators for global biodiversity monitoring and assessment

Walter Jetz (Yale University, U.S.)

Use of land surface phenology for assessing plant species diversity

Andres Vina (Michigan State University, U.S.)

Countries' differentiated responsibilities to fulfill global conservation area targets

Xiaoli Shen (Institute of Botany, CAS, China), Mingzhang Liu, Jeffrey O. Hanson, Harvey Locke, James E. M. Watson, Erle C. Ellis, Nina Bhola, Naomi Kingston, Sheng Li, Keping Ma

Spillover effects among global green efforts in a COVID-19 spreading world

An Li (San Diego State University, U.S.)

The UNCCD's role as a catalyst in application of big data to land degradation and drought

Barron Joseph Orr (United Nations Convention to Combat Desertification (UNCCD))

Time:10:30-12:00 Room: 201A

Session

Digital Earth and Big Data-2

Co-Chairs

Liangyun Liu (Aerospace Information Research Institute, CAS)

Mingquan Wu (Aerospace Information Research Institute, CAS)

Global 30m Land Cover Fine Classification and Change Update Algorithms and Products

Liangyun Liu (Aerospace Information Research Institute, CAS)

A study on wetland classification and mapping based on Google Earth Engine

Chao Fan (Yantai Institute of Coastal Zone Research, CAS)

An integration method to improve the quality of global land cover

Xinyu Qian (Aerospace Information Research Institute, CAS)

Spatial Analysis of Land Cover Classification Accuracy Based on Google Earth Engine and Deep Learning

Yue Wan (Wuhan University)

Multi-scale Convolution Block Attention Network for Local Climate Zone Classification from Sentinel-2 image

Renfeng Wang (China University of Geosciences, Wuhan)

SDG9.1.1: estimation of population proportion on both sides of rural roads and Remote Sensing Extraction Method Research

Mingquan Wu (Aerospace Information Research Institute,CAS)

Time:10:30-12:00 Room: 201B

Session

Digital Earth and Big Data-3

Co-Chairs

Liangfu Chen (Aerospace Information Research Institute, CAS)

Honghe Xu (Nanjing Institute of Geology and Paleontology, CAS)

China's current demand for satellite big data for ozone pollution prevention and control

Liangfu Chen (Aerospace Information Research Institute, CAS)

Fitness-of-use of Multi-source Geospatial Big Data for assessing urban green space in SDG 11.7: A Case Study in Ningbo

Minwen Jin (University of Nottingham Ningbo China;.Institute of Geographic Sciences and Natural Resources Research, CAS)

Reconstruction methods for high spatiotemporal continuous remotely sensed land surface temperature: a case study of hubei province

Ran Li (China University of Geosciences, Wuhan)

Research on Time-Series Feature Correlation Analysis Method Based on DTW Algorithm

Yiming Liu (Peking University)

Geological resource visualization research based on Earth's paleobiodiversity data

Xu Honghe (Nanjing Institute of Geology and Paleontology, CAS)

Distributed Management and WEB Visualization of large-scale Spatio-temporal Heatmap

Qi Xu (Wuhan Universtiy)

Time:10:30-12:00 Room: 201CD

Session

Digital Earth and Remote Sensing Modeling

Chair

Xiyong Hou (Yantai Institute of Coastal Zone Research, CAS)

Near-term monitoring and multi-scenario analysis to 2100 for land use and land cover change in China's coastal zone

Xiyong Hou (Yantai Institute of Coastal Zone Research, CAS)

Acoustic Observation and Evaluation for the Benthic Habitat in the Artificial Reef Area

Dong Li (Yantai Institute of Coastal Zone Research, CAS)

A Standardized GIS Web Service Oriented Shared-nothing Architecture - Taking Species Distribution Modeling as an Example

Xiaoyu Liu (Fuzhou University)

Research on global potential distribution of main cold spring coral reef based on integrated modeling method

Ruiju Tong (Fujian University of Technology)

Study on sediment changes of west islet based on Sentinel-2 and GF-2 images

Hongrong Wu (Aerospace Information Research Institute, CAS; Yangtze University)

Time:10:30-12:00 Room: 303

Session

Digital Earth and Moon Based Observation

Co-Chairs

Guang Liu (Aerospace Information Research Institute, CAS)

Lu Zhang (Aerospace Information Research Institute, CAS)

Moon-based Earth observations- a new means to monitor Earth energy budget

Guang Liu (Aerospace Information Research Institute, CAS)

Distribution of Earth's short-wave outward radiated energy at lunar orbital altitude

Jie Wu (Aerospace Information Research Institute, CAS)

Anisotropy analysis of Earth outgoing radiation viewed from a Moon-based platform

Jing Huang (Aerospace Information Research Institute, CAS)

Exploration of Moon-based observations for polar vortex variation

Yu Deng (Peking University)

Time:13:30-15:00 Room: 203A

Session

Biodiversity Big Data Mining and Protection Application

Co-Chairs

Keping Ma (Institute of Botany CAS)

Qinghua Guo (Institute of Botany, CAS)

Cross-scale vegetation mapping and biodiversity research supported by big ecological remote sensing data in China

Qinghua Guo (Institute of Botany, CAS)

Prioritizing the biodiversity variables that can be retrieved from satellite

Andrew Skidmore (University of Twente, Netherland)

International Barcode of Life – DNA tools for science, conservation and sustainability

Donald Hobern (International Barcode of Life Consortium, Australia)

How could Global Biodiversity Information Facility better support post 2020 global biodiversity framework

Joe Miller (GBIF Secretariat, Denmark)

The new Catalogue of Life for a better service to biodiversity informatics

Olaf Banki (Naturalis Biodiversity Center, Netherlands)

Towards the Atlas of the Russian Flora: e-data are changing our reality

Alexey Seregin (Irkutsk State University, Russia)

Time:13:30-15:00 Room: 203B

Session

Big Earth Data for Building Beautiful China

Co-Chairs

Chunlin Huang (Northwest Institute of Eco-Environment and Resources, CAS)

Chaoyang Wu (Institute of Geographical Sciences and Natural Resources Research, CAS)

Big earth data in support of the research on vegetation phenology

Xiaoyue Wang (Institute of Geographical Sciences and Natural Resources Research, CAS)

SDG Clean Air Big Data Application Innovation Research

Ting Yang (Institute of Atmospheric Physics, CAS)

Sustainable development path analysis in poverty-stricken city of China from the perspective of Production-Living-Ecology Space

Dong Jiang (Institute of Geographical Sciences and Natural Resources Research, CAS, China), Jingying Fu, Gang Lin, Mengmeng Hao

Identifying high-risk areas of airborne disease in “movement-encounter” network

Fangye Du (Institute of Geographical Sciences and Natural Resources Research, CAS)

Mega-city region sustainability assessment and obstacles identification with GIS-entropy-TOPSIS model: A case in Yangtze River Delta urban agglomeration, China

Zhonghao Zhang (Shanghai Normal University, China), Jun Gao, Xueyan Xu, Shimeng Sun, Tao Long

Analysis of determinants dominating sustainability in the endorheic regions

Yinchun Ge (Northwest Institute of Eco-Environment and Resources, CAS)

Spatial-temporal changes of China’s mangrove forests over the past 50 years: An analysis towards the Sustainable Development Goals (SDGs)

Mingming Jia (Northeast Institute of Geography and Agroecology, CAS), Zongming Wang, Dehua Mao

Time:13:30-15:00 Room: 203C

Session

Digital Earth Technology System and Global Basic Spatial Information Products

Co-Chairs

Xiangtao Fan (Aerospace Information Research Institute, CAS)

Wenjiang Huang (International Research Center of Big Data for Sustainable Development Goals)

Operational Monitoring of Near Real-time Land Surface Dynamics from Polar-orbiting and Geostationary Satellites in Support of Sustainable Agriculture and Land Management

Xiaoyang Zhang (South Dakota State University)

The Swiss Data Cube - Towards a Digital Earth solution for Sustainable Development

Gregory Giuliani (UN Environment GRID-Geneva/ University of Geneva, Switzerland)

New generation digital earth engine and platform

Xiangtao Fan (Aerospace Information Research Institute, CAS)

Comprehensive Information Platform for Ecological and Environment Management: Construction and Prospect

Mingxiang Huang (Information Center, Ministry of Ecology and Environment, China)

Global crop pest and disease habitat monitoring and risk forecasting

Wenjiang Huang (International Research Center of Big Data for Sustainable Development Goals)

Spatiotemporal changes of forest density in China since 2000

Ronggao Liu (Institute of Geographic Sciences and Nature Resources Research, CAS)

Time:13:30-15:00 Room: 203D

Session

Ocean Big Data in Support of the Sustainable Development Goals

Chair

Chaolun Li (Institute of Oceanology, CAS)

Sustainable Development of coastal ecosystem: opportunity and challenge

Song Sun (Institute of Oceanology, CAS)

Advanced ocean coupled model is the core for big data

Fangli Qiao (First Institute of Oceanography, MNR, China)

Ocean AI: A new bridge from data to knowledge

Ge Chen (Ocean University of China, China)

Big Data supports SDG with a new global mangrove data

Fenzhen Su (Institute of Geographic Sciences and Natural Resources Research, CAS)

Mitigation strategies of marine ecological disaster: observation and data requirements

Rencheng Yu (Institute of Oceanology, CAS)

Time:13:30-15:00 Room: 305A

Session Digital Earth Frontier Application-2

Chair Shiyong Yan (China University of Mining and Technology, China)

Deformation Pattern Observation and Analysis by TS-InSAR in coal resource-exhausted region

Shiyong Yan (China University of Mining and Technology, China)

Characterization of seasonal movement of Cheeping landslide based on time-series InSAR technology

Yiting Go (Aerospace Information Research Institute, CAS)

Research on monitoring urban construction waste dust film cover based on remote sensing

Li Zilu (Key Laboratory of Digital Earth Science, Aerospace Information Research Institute, CAS)

Landscape pattern and ecological sustainability analysis of watershed ecosystem using spatial information entropy

Liu Xintong (Tsinghua University)

Comparative study on health evaluation of typical cities in China based on multi-source data

Zhuoran Lv (Aerospace Information Research Institute, CAS)

A practical method for extracting displacement of segments in shield tunnels using mobile laser scanning data

Shida Wang (Tongji University)

Time:13:30-15:00 Room: 305B

Session Digital Earth Frontier Application-3

Chair Kai Qin (China University of Mining and Technology, China)

Remote Sensing Monitoring of Atmospheric Environment in China's Energy Golden Triangle

Kai Qin (China University of Mining and Technology, China)

Fine-grained crop classification method for airborne SAR time-series images supported by migration learning

Xingli Qin (Wuhan University)

Dynamic of alpine timberline and its response to climate change in Hengduan Mountains over the past 3 decades

Lei Tian (Aerospace Information Research Institute, CAS)

A novel approach to winter wheat mapping by automatic generation of training samples and one-class classification on Google Earth Engine

Gaoxiang Yang (Nanjing Agricultural University)

Spatial and temporal variation patterns and aggregation of crop residue burning at county scale in Northeast China

Yi Wang (Northeast Normal University)

A hybrid ANN and Bayesian approach for retrieving GAI from several decametric satellites: Calibration, modification and validation

Jingwen Wang (Aerospace Information Research Institute, CAS)

Time:13:30-15:00 Room: 305C

Session

Digital Earth and Remote Sensing Retrieval

Co-Chairs

Kebin Zhang (Beijing Forestry University)

Tingting Zhang (Aerospace Information Research Institute, CAS)

Case studies of land degradation monitoring & assessment by use of earth big data in China

Kebin Zhang (Beijing Forestry University)

Soil Erosion Dynamics Evaluation in Inner Mongolia with Long Time Series Remote Sensing Data

Wei Jiang (China Institute of Water Resources and Hydropower Research)

A full element study on microwave characteristics of soil salinization process under controlled environment

Tingting Zhang (Aerospace Information Research Institute, CAS)

A study on full element measurement of microwave characteristics of soil water content change process under controlled environment

Qiang Gao (Aerospace Information Research Institute, CAS)

Retrieval technology of soil water content in corps cotton field based on UAV hyperspectral data

Kailei Xu (MEIHANG Remote Sensing Information Co., Ltd)

Analysis of the impact of snowpack changes on the Qinghai-Tibet Plateau on drought in the Yangtze and Yellow River basins

Heng Zhou (Aerospace Information Research Institute, CAS)

Time:13:30-15:00 Room: 305D

Session Digital Earth Frontier Application-4

**Co-Chairs Hongzhong Li (Shenzhen Institutes of Advanced Technology, CAS)
Shibing Zhu (Institute of Nature Sources and Ecology, HAS)**

Extraction of Hainan rubber forest based on multi-temporal Sentinel-2 images

Hongzhong Li (Shenzhen Institutes of Advanced Technology, CAS)

Application analysis of change detection based on sentinel-2 remote sensing image in urban expansion -- a case study of Xiong'an Area

Yu Du (Capital Normal University)

The rapid production methods of global forest cover products and the current status of forest cover

Xiaomei Zhang (Aerospace Information Research Institute, CAS)

High-precision vegetation data interpretation in the Xiaoxinganling region based on remote sensing data

Shibing Zhu (Institute of Nature Sources and Ecology, HAS)

Urban forest canopy height inversion using spaceborne laser ICESAT2 LiDAR

Shufan Wang (Tongji University)

15:30-16:30 Closing Ceremony

Conference Room 201

Poster Session

2nd China Digital Earth Conference

- CDEC-01 **Study on the optimal spatial resolution of high resolution images suitable for Cantaloupe greenhouse monitoring**
Bei Cui (Aerospace information research institute, CAS, Sanya Institute of Remote Sensing)
- CDEC-02 **Object-oriented rubber forest monitoring by remote sensing technology**
Bei Cui (Aerospace information research institute, CAS, Sanya Institute of Remote Sensing)
- CDEC-03 **Research on Multi-spectral Remote Sensing Detection of Sea Surface Crude Oil based on Multi-core SVM Decision Fusion Model**
Yuxin Dai (First Institute of Oceanology, Ministry of Natural Resources)
- CDEC-04 **A fast source term estimation and real-time visualization method for atmospheric release**
Zhuo Deng (Fuzhou University)
- CDEC-05 **Reflections on the development of aerospace culture industry in the context of commercial spaceflight**
Yaping Ding (Aisino Sea Eagle Satellite Operation Division)
- CDEC-06 **A High Performance Remote Sensing Image Reprojection Method Based on Distributed System**
Yi Dong (Shaanxi Engineering Technology Research Center for Geospatial Information)
- CDEC-07 **Research on Multispectral Remote Sensing Detection Method of Oil Spill based on CBF-CNN Model**
Kai Du, Yi Ma (First Institute of Oceanology, Ministry of Natural Resources)
- CDEC-08 **Extraction of GF3 Radar Image Farming Bamboo Raft Based on Deep Learning Method**
Xiaomeng Geng (Wuhan University)
- CDEC-09 **A global multi-scale drought monitoring index based on the water balance principle combining terrestrial water storage and saturated water vapor pressure difference**
Jiaqi Han (Aerospace Information Research Institute, CAS)
- CDEC-10 **Landsat-8-based snow cover data set in the middle of the Himalayas (2013~2020)**
Siyu He (Liaoning Technical University)
- CDEC-11 **Study on expression of spatial and temporal distribution characteristics of marine ecology**
Haiyan Huang (National Marine Data Information Center)

- CDEC-12 **Remote Sensing Image Scene Classification Method Based on Self-Attention Mechanism**
Qingwen Li (Aerospace Information Research Institute, CAS)
- CDEC-13 **Spatial characteristics analysis of hydrological and meteorological elements in typical Chinese offshore waters based on ocean observation data from 2017 to 2020**
Yifan Li (The Institute of Oceanology, CAS)
- CDEC-14 **Dynamic monitoring and analysis of ecological environment in sanya coastal tourism area**
Zhichao Li (Aerospace information research institute, CAS, Sanya Institute of Remote Sensing)
- CDEC-15 **Characteristics of the Geological Tourism Resources in Hainan Island, China**
Zhichao Li (Aerospace information research institute, CAS, Sanya Institute of Remote Sensing)
- CDEC-16 **Analysis of carbon sink estimation and its spatial and temporal pattern changes in Shaanxi Province**
Zhipeng Li (Aisino Sea Eagle Group Co.)
- CDEC-17 **Spatiotemporal evolution and factor analysis of comprehensive urbanization level in Hainan Island**
Anning Liang (Aerospace Information Research Institute, CAS)
- CDEC-18 **Real-time data infrastructure for sea ice monitoring in key Arctic waters**
Bo Lin (National Marine Forecasting Station)
- CDEC-19 **Active contour building segmentation model based on CNN**
Mengjia Liu (Aerospace Information Research Institute, CAS)
- CDEC-20 **The impact of canopy space occupation on the thermal environment of pedestrians in rural streets**
Yamin Liu (Fuzhou University)
- CDEC-21 **Digital earth intelligent sensing system based on artificial intelligence and remote sensing big data**
Xiaoliang Ma (Geovis Spatial Technology Co.,Ltd)
- CDEC-22 **A hierarchical network indexing method considering road network connectivity and data distribution characteristics**
Xiangqiang Min (Key Laboratory of Virtual Geographic Environment, Ministry of Education, Nanjing Normal University)
- CDEC-23 **Long time series Sentinel-1 SAR data monitoring of water body changes in Poyang Lake**
Guozhuang Shen (Aerospace Information Research Institute, CAS)

- CDEC-24 **Construction of Cloud Platform for the Spatio-temporal Data Management and Application Based on Nature Reserve**
Fankai Sun (Shaanxi Engineering Technology Research Center for Geospatial Information)
- CDEC-25 **Analysis and performance evaluation of coupled low-level wind field forecasting effects in the Northwest Pacific**
Huijie Wang (The Institute of Atmospheric Physics, CAS)
- CDEC-26 **Analysis of Land-use/land-cover change and eco-environmental effect in the Lake Victoria Basin**
Lu Wang (Nanjing Institute of Geography and Limnology, CAS)
- CDEC-27 **Research on the 3D scene modeling method of community based on building construction/as-built drawings**
Pengxiang Wang (Jiangsu Institute of Geographic Information Industry)
- CDEC-28 **Optical properties of Asian absorbing aerosols based on MIE model and AEONET**
Shuo Wang (Sun Yat-sen University)
- CDEC-29 **Validation and refinement of several commonly used wave climbing models for the New Zealand coast**
Xiaolu Wang (Yantai Institute of Coastal Zone Research, CAS)
- CDEC-30 **Remote Sensing Monitoring of Agricultural Drought and Climate Change Impact Assessment in Henan Province, 2001-2018**
Zengyan Wang (Henan University)
- CDEC-31 **CFD pollution dispersion simulation method combined with Kalman filtering**
Jun Wu (Fuzhou University)
- CDEC-32 **Comprehensive Evaluation of UN Urban Sustainable Development Goals - A Case Study of Shanxi Province**
Yanhua Wu (China University of Mining & Technology, Beijing)
- CDEC-33 **Global passive microwave surface emissivity inversion study based on FY-3D/MWRI**
Ronghan Xu (National Satellite Meteorological Centre)
- CDEC-34 **Analysis of ecological environment change and driving force in Boao area of Hainan Province**
Jingyi Yang (Aerospace Information Research Institute, CAS)
- CDEC-35 **Multi-view imaging simulation of space born TDI CCD camera and 3 dimensional geometric reconstruction estimate**
Qingxing Yue (Land Satellite Remote Sensing Application Center)

- CDEC-36 **Characteristics of Tropical Cyclone Convection evolution during Rapid Intensification**
Da Zhang (Aerospace Information Research Institute, CAS)
- CDEC-37 **Daily Monitoring of River Ice Coverage based on MODIS.**
Yixiao Zhang (Aerospace Information Research Institute, CAS)
- CDEC-38 **Research on Marine Oil Spill Disaster Network Public Opinion Governance Based on Digital Earth and Path Turning**
Yang Zhao (Ocean University of China)
- CDEC-39 **Temperature estimates for the Belt and Road region based on MODIS and other auxiliary data for the period 2003-2019**
Minxuan Zheng (Aerospace Information Research Institute, CAS)
- CDEC-40 **Multi-angle image analysis of multi-beam sonar water body data**
Shuangqiang Zheng (The Institute of Oceanology, CAS)
- CDEC-41 **Monitoring and assessment of sustainable development of ecotourism carrying capacity of Li River basin**
Lanwei Zhu (Aerospace Information Research Institute, CAS)

The 5th Digital Belt and Road Conference (DBAR 2021)

- DBAR-01 **Crop classification and migration model in Hetao area based on GEE and Sentinel data**
Yueran Hu, Aerospace Information Research Institute, CAS
- DBAR-02 **Analysis of Spatiotemporal Variation Characteristics and Driving Mechanism of NPP in Terrestrial Vegetation Ecosystems of China**
Haiyan Tu, Xinjiang Institute of Ecology and Geography, CAS
- DBAR-03 **Counter terrorism resilience evaluation responding to climate context in BRI regions**
Yijing LI King's College London
- DBAR-04 **Coupling Model of Electric Energy Consumption and Total Noctilucent Value in Cambodia Assist the Digital Belt and Road program**
Xumiao GAO, Mingquan WU, Aerospace Information Research Institute, CAS
- DBAR-05 **Analysis of land use change and its driving force in Taiyuan City**
Yujie Zhang, Xi'an University of Science and Technology
- DBAR-06 **Water availability surpasses warmth in controlling global vegetation trends**
Anzhi Zhang, Institute of Atmospheric Physics
- DBAR-07 **Monitoring the spatiotemporal variation of Siberian crane habitats in Poyang Lake wetland, China**
Lin Zou, Jiangxi Normal University
- DBAR-08 **Spatio-temporal distribution and environmental factors of lung cancer mortality**
Jingjing Tang, Anhui Jianzhu University & Anhui Academy of Territory Spatial Planning and Ecology
- DBAR-09 **Analysis of spatial distribution of CVD and multiple environmental factors in urban residents**
Beichen Wang, Anhui Jianzhu University
- DBAR-10 **Uneven Evolution of the Ecological Environment of the Guangdong-Hong Kong-Macao Greater Bay Area in the Urbanization Process**
Hongzhong Li, Shenzhen Institute of Advanced Technology
- DBAR-11 **The global long-term vegetation dynamics inferred from satellite optical and microwave observations**
Minhua Wang, Institute of Atmospheric Physics
- DBAR-12 **Open Science for Geographical Indication Products' Geo-Ecosystem Health and Sustainability**
Chuang Liu, Institute of Geographic Science and Natural Resources Research, CAS
- DBAR-13 **Scenarios simulation of the Change of Terrestrial Carbon Storage and Carbon Emissions under the constraints of multiple SDGs indicators**
Xue Hu, Nanjing Normal University

- DBAR-14 **Impact of urban multiple environmental factors on incidence of lung cancer**
Yuwei Li, Anhui Jianzhu University
- DBAR-15 **Optimizing a Network of Drone-aided Healthcare Services in rural Rwanda**
Chinasa Ikelu, Institut de Mathematiques et de Sciences Physiques (IMSP)
- DBAR-16 **A deep learning based algorithm for detecting aerosol in the morning and evening of himawari-8 geostationary satellite**
Yuanlin Chen, Aerospace Information Research Institute (AIR)
- DBAR-17 **Arctic Region Imperious Areas Map Based on Sentinel-1 and Sentinel-2**
Xiaoqing Xu, Sun Yat-Sen University
- DBAR-18 **Long-term hydrometeorological and snow observations in the Tianshan Mountains, Xinjiang China**
Qian Li, Xinjiang Institute of Ecology and Geography, CAS
- DBAR-19 **Analysis of sea surface temperature variation in the Northeastern Passage of the Arctic in the past 30 years**
Meng Yang, Sch Earth Resources, China University of Geosciences, Wuhan, China
- DBAR-20 **Characteristic Evaluation of GPM Rainfall Remote Sensing Data in the Northeast Passage of the Arctic**
Maoce Cheng, Sch Earth Resources, China University of Geosciences, Wuhan, China
- DBAR-21 **Temporal and Spatial Variation of Surface Energy Flux in permafrost regions on the Qinghai-Tibet Plateau and Arctic Regions Using CMIP6 Models**
Ren Li, Northwest Institute of Eco-Environment and Resources (NIEER), CAS
- DBAR-22 **Surging Dynamics of South Rimo Glacier, Eastern Karakoram**
Kunpeng Wu, Yunnan University
- DBAR-23 **Study on Accuracy Evaluation and Downscaling Method of Satellite Precipitation Products**
Ning Zhao, Guilin University of Electronic Technology
- DBAR-24 **Estimating building height of China using multi-source spatial data**
Peimin Chen, Sun Yat-Sen University
- DBAR-25 **Land Cover Classification of High Resolution Remote Sensing Image by Using Deep Learning**
Qingting Li, Aerospace Information Research Institute, CAS
- DBAR-26 **Geospatial Study of Groundwater Quality and Banana (Musa spp.) Production –Uthal, Balochistan, Pakistan**
Salma Hamza, Bahria University Karachi Campus, Pakistan
- DBAR-27 **Using satellite image analysis for exploring the irrigation systems in arid and semiarid ecosystems of Tunisia in Roman Times: a case study of Taberguite (Medenine; Tunisia)**
Lamia Touil, Flsh Sousse Tunisia

Exhibition

In conjunction with the forum, the Exhibition on Big Earth Data Facilitating the Monitoring and Evaluation of SDGs will be held. This exhibition is hosted by the Chinese Academy of Sciences(CAS), and co-sponsored by the International Research Center of Big Data for Sustainable Development Goals(CBAS), the Aerospace Information Research Institute(AIR), CAS and the Big Earth Data Science Engineering Program(CASEarth). The exhibition is located on the first floor of the Beijing International Convention Center with an area of 1500 square meters.

As one of the activities to commemorate “the 50th Anniversary of the Restoration of the Lawful Seat of the China in the United Nations”, the exhibition will focus on the theme of “Science, Technology and Innovation Facilities the 2030 Agenda”. This exhibition includes four parts, i.e., 100 case studies of SDGs, the world's first sustainable development science satellite(SDGSAT-1) developed by CAS, independently developed public data products and data sharing service for SDGs, and comprehensive demonstration of Big Data promoting SDGs. The exhibition aims to present the practical values and prospects of Big Earth Data in monitoring and evaluating SDGs.

(1) 100 Case Studies of SDGs

This part shows 100 case studies, which cover six SDGs: SDG2 “Zero Hunger”, SDG6 “Clean Water and Sanitation”, SDG11 “Sustainable Cities and Communities”, SDG13 “Climate Action”, SDG14 “Life below Water”, and SDG15 “Life on Land”.

(2) SDGSAT-1

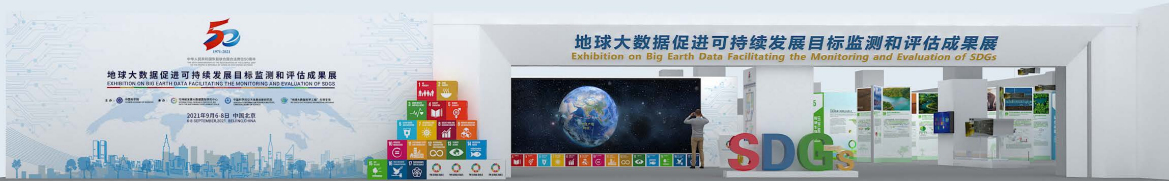
This area exhibits the world’s first SDG scientific satellite (SDGSAT-1), independently developed by CAS. Designed for meeting requirements of monitoring and evaluating the indicators related to SDGs, three payloads, i.e., thermal infrared, glimmer and multispectral imagers, are onboard the SDGSAT-1. This satellite will be launched in October, 2021. The exhibition area also showcases China's Earth observation satellite system, including a series of satellite systems in meteorology, oceans, resources, environment and Gaofen, as well as acceptable international satellite data.

(3) Data Products

Achievements of data sharing service of CASEarth are exhibited in this area, including a series of data products related to SDG, such as dynamic monitoring products of global land-cover product with fine classification system at 30m from 1985 to 2020, global cultivated land monitoring products, and global urban impervious surface remote sensing products, etc.

(4) Comprehensive Demonstration

Based on integration of multi-indicators, research and analysis have been conducted on sustainable development issues at different regional scales (countries, provinces, cities, and counties). Comprehensive applications and demonstrations of SDG monitoring and evaluation have been carried out in some typical areas, which provided decision-making support for the sustainable development of regional society and economy.



Forum Information

Conference Venue: Beijing International Convention Center (BICC)

The International Forum on Big Data for Sustainable Development Goals will be held at Beijing International Convention Center (BICC). BICC is a well-known venue in Beijing which has served almost 1,000 various international and domestic conventions, exhibitions and meetings each year since its opening in 1990.

In 2002 BICC was merged by North Star Industrial Group, creating a stronger reputation with more effective management. BICC is situated on the site of the Asian Games Village, a flourishing area of Beijing with conference centers, office buildings, shopping centers and entertainment venues. It is located on the North Fourth Ring road, just 20 kilometers from the International Capital Airport and 9 kilometers from the city center. BICC is also very close to the Olympic Games central area where the the famous Bird's Nest is located.

BICC, which comprises of 48 different conference rooms with an exhibition hall of 5000 square meters, provides 5 star services. The North Star Continental Grand Hotel adjacent to BICC is a 4 star hotel with 538 guest rooms and 5 restaurants serving different types of cuisine. It's the ideal place for international and domestic conferences, cultural events and business meetings.

www.bicc.com.cn



Secretariat

The secretariat is located in the 202 conference room on the second floor of the Beijing International Convention Center.

Registration & information desk

The registration desk will be open in the main lobby of level one at Beijing International Convention Center (BICC) based on the following schedule for the participants to check in and collect their conference materials:

Date	Time
Tuesday-September 6	11:00-17:00
Wednesday-September 7	08:00-17:00
Thursday-September 8	08:00-12:00

Name Tags

Upon arrival at the International Forum on Big Data for Sustainable Development Goals, delegates will receive the name tag and meeting materials. Please be sure to wear your tag at all sessions.

Time zone

Beijing is located in Greenwich Mean Time Zone +8:00;China's country telephone code is 0086 and Beijing's city telephone code is 010.

Forum Language

Opening Ceremony: Bilingual (Chinese & English)

On-site Meetings: Bilingual (Chinese & English)

Keynote & Online Webinar: Bilingual (Chinese & English)

WIFI

A free WIFI connection is available in public areas of BICC. Please use your device to search "BICC WLAN" and log in with your mobile phone number.

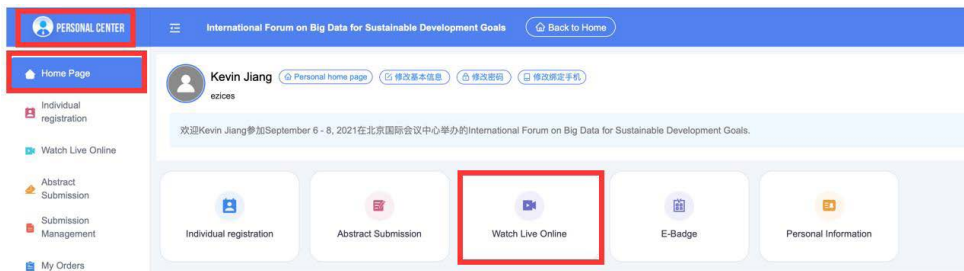
Live Streaming

Registered attendees could watch all the official sessions, including the opening ceremony and keynote presentations through the conference website.

You could click on the Watch live button to enter the broadcast.



If you have finished the registration of FBAS 2021, you could also enter the live streams through your personal center.



Remarks: All live entrances will be available at 8:00 AM (Beijing Time, UTC+8) on September 6.

Online Webinar Guideline

ZOOM Webinars for all academic sessions are available during International Forum on Big Data for Sustainable Development Goals. Attendees could enter these on-line conferences through the Forum Agenda column.

If you are one of the presenters of your session, please refer to your academic task letter and enter your webinar through the Panelist channel. This guideline will help all the attendees enter the webinar through the attendee channel.

The forum website will check if you have registered or not before you enter the webinar. Please make your registration first if you haven't finished this process.

Please download the latest version of ZOOM before FBAS 2021. Download URL:

https://zoom.us/download#client_4meeting

How to join the ZOOM webinars

Step 1. Enter the Agenda page from our official website. (official website URL:

<https://fbas2021.scimeeting.cn/en/web/index/>)



Step 2. Select your interested session and click on “Enter Conference”

Breakout Room 1

2021-09-06 (UTC+8) Mon 2021-09-06 Local Time

13:30-15:00 (UTC+8) 13:30-15:00 Local Time | [Enter Conference](#)

Moderator: **Gensuo Jia** | **James Terry**

NO.	China Standard Time (UTC+8)	Local Time	Type	Subject	Speaker
1	13:30-13:43	13:30-13:43	Oral Presentation		James Terry
2	13:43-13:56	13:43-13:56	Oral Presentation		Junfang Zhao
3	13:56-14:09	13:56-14:09	Oral Presentation		António José Dinis Ferreira
4	14:09-14:22	14:09-14:22	Oral Presentation		Siletu Hu
5	14:22-14:35	14:22-14:35	Oral Presentation		IRFAN Rashid
6	14:35-14:48	14:35-14:48	Oral Presentation		Eghosa Igun
7	14:48-15:01	14:48-15:01	Oral Presentation		Lei Wang

Step 3. If you do not login your account before you enter the Forum Agenda, the website will turn to the login page. Please log in your account and re-select your webinar channel.



← Back to Home



Individual Registration

[Log in with password](#)

Please enter email

Please enter password

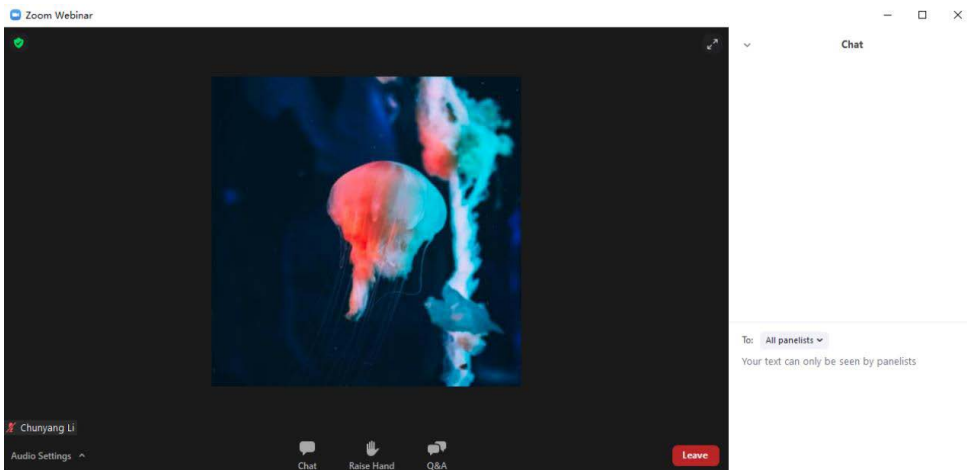
Remember account [Forget password?](#)

Log in

New user registration

[境内代表请点击此处 >](#)

Step 4. Enter the ZOOM Webinar through the attendee channel.



Remarks:

- During the forum, attendees could communicate with others through Chat/Raise hand/Q&A column. Please use appropriate words during academic exchanges. If you need any help during the session, the staff in the webinar will provide assistance.
- Screenshot and recording are not allowed during the forum. Attendees are required to observe the copyright protection of the academic group. Thanks for your cooperation.
- If you have any questions on entering the webinars, please contact us by zhenghan@chinastargroup.com.

Accommodation and Traffic

The conference will be held in Beijing International Conference Center. Please pay attention to the following hotel reservation and transportation information:

Hotel booking

The following hotels have agreed to reserve rooms for guests during the conference. Please book early due to the limited number of rooms in the hotel. All bookings are subject to successful confirmation of payment. Please indicate that you will attend this conference when booking the payment.

- (1) Beijing Continental Grand Hotel
- (2) North Star Huiyuan Prime Hotel
- (3) North Star Yayuncun Hotel
- (4) China National Convention Center Grand Hotel

Traffic and surroundings

(1) From Beijing Capital International Airport to BICC

a) Taxi

Beijing Capital International Airport provides taxi stations at the airport, so you can take a taxi from the airport to the congress venue.

Taxi Locations:

T1: Outside Gate 1 on F1

T2: Outside Gate 5 to 9 on F1

T3: Please refer to the signs inside the terminal building

Fare: About RMB 120 (USD \$ 20 including toll). The cost is subject to change depending on actual traffic conditions.

b) By Airport Shuttle

Take the shuttle bus Line 5 (to Zhongguancun) and get off at Asian Games Village (Anhui Bridge) station, then walk towards the west for about 400 meters to BICC.

Fare: RMB 24 (USD \$4)

c) By Airport Express

Airport Express (get off at Dongzhimen) – Special Public bus No.2 (get off at Anhuiqiaobei)

Airport Express (get off at Sanyuanqiao) - Subway 10 (get off at Beitucheng) - Subway 8 (get off at Olympic Sports Center)

(2) From Railway Station to BICC

a) From Beijing Railway Station to BICC

Subway 2 (get off at GulouDajie) - Subway 8 (get off at Olympic Sports Center)
Subway 2 (get off at Yonghegong) – Subway 5 (get off at Huixinxijie Beikou)
Special Public Bus No. 2 (get off at Anhuiqiaobei)

b) From Beijing West Railway Station

Subway 9 (get off at Baishiqiaonan) - Subway 6 (get off at Nanluoguxiang) - Subway 8 (get off at Olympic Sports Center)
Public Bus No.387 (get off at Anhuiqiao Bei)

c) From Beijing South Railway Station

Subway 14 (get off at Puhuangyu) – Subway 5 (get off at Huixinxijie Beikou) - Public Bus 983/658/386/490 (get off Yayuncun)
Subway 4 Daxing Line (get off at Xuanwumen) – Subway 2 (get off at Guloudajie) – Subway 8 (get off at Olympic Sports Center)
Subway 4 Daxing line (get off at Pinganli) - Subway 6 (get off at Nanluoguxiang) – Subway 8 (get off at Olympic Sports Center)

Note:

1. You may change money at the Banks or Money Exchange at the airport beforehand since you need Chinese money (RMB) for the public transportation.
2. There will be quite some walk with ups and downs especially at the subway station for transfers if you go to BICC by airport shuttle, airport express or subway. We have received quite negative feedback from our previous events about the inconveniences caused by taking airport express and subway, so we would like to suggest that you take taxi to BICC.

Dining

The buffet lunch is available during the meeting and the buffet voucher is included in your registration package.

Dining place: Beijing Continental Grand Hotel

Dining Time: 12:00-13:00

Liability and Insurance

The Secretariat and Organizers of FBAS 2021 will not take the liability for personal accidents or loss of or damage to private property of participants. Participants are advised not to leave their personal belongings unattended in conference rooms and throughout the conference venue.



International Research Center of Big Data for Sustainable Development Goals

The International Research Center of Big Data for Sustainable Development Goals (CBAS) aims to harnesses Big Earth Data to serve the UN 2030 Agenda for Sustainable Development. The Center is hosted by the Chinese Academy of Sciences (CAS), featuring multidisciplinary research related to Earth system science, social and economic sciences, as well as sustainability science. Specifically, the Center is devoted to the monitoring and evaluation of SDG indicators in the areas where Big Earth Data plays a key role, including environmental commons, urban and peri-urban development, food security and energy decarbonization.

Positioning

The Center provides a range of services essential for addressing the most challenging problems such as lack of data and technology barriers in the implementation of the SDGs, including data sharing, technology solutions, decision-making support, think tank, as well as capacity building for developing countries.

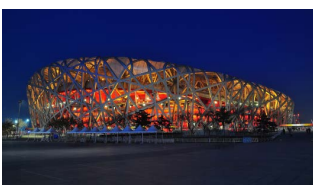
Objective

We are committed to building the Center into a public Big Earth Data S&T platform in service of the UN 2030 Agenda, which will integrate scientific research, data service, technology innovation, policy-making support, and capacity training, with a goal to facilitate the progress of SDGs around the world. Collectively, CBAS will leverage the Big Earth Data infrastructure, discipline-driving platform, and decision support system, and pool strengths from relevant stakeholders, to build itself into an international research institution capable of all-round services for SDGs progress.

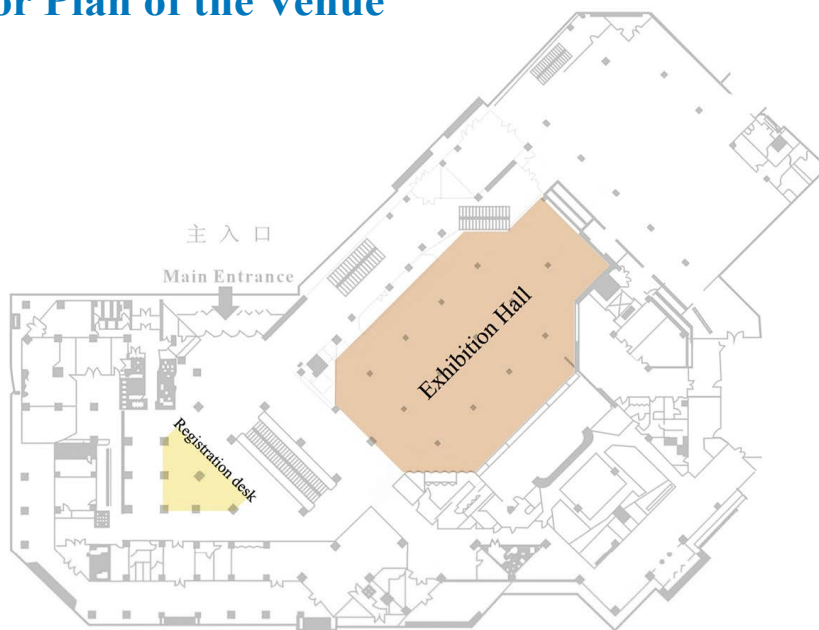


About Beijing

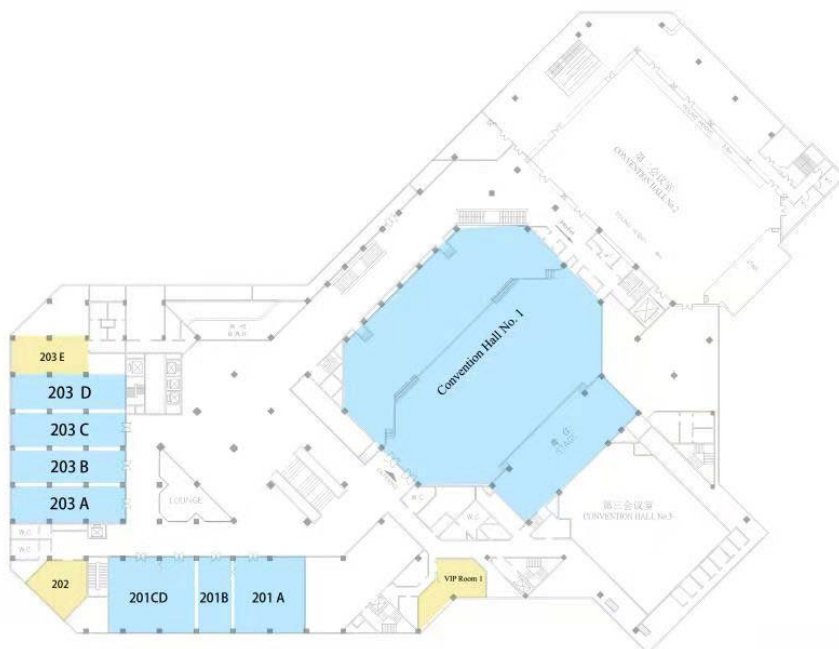
Beijing, capital of China, is the nation's political, economic, cultural, educational and international trade and communication center. With a history of more than 3,000 years, it has been an integral part of China's history. Being one of the six ancient capital cities for over 850 years, Beijing has been the heart and soul of politics and society throughout its long history and consequently there is an unparalleled wealth of discovery to delight and intrigue travelers as they explore the city's ancient past and exciting modern development. Beijing successfully hosted the 29th Olympic Games in 2008 and is welcoming the 24th Winter Olympics in February 2022. It would be the first city in the world hosting both Olympic summer and winter games.



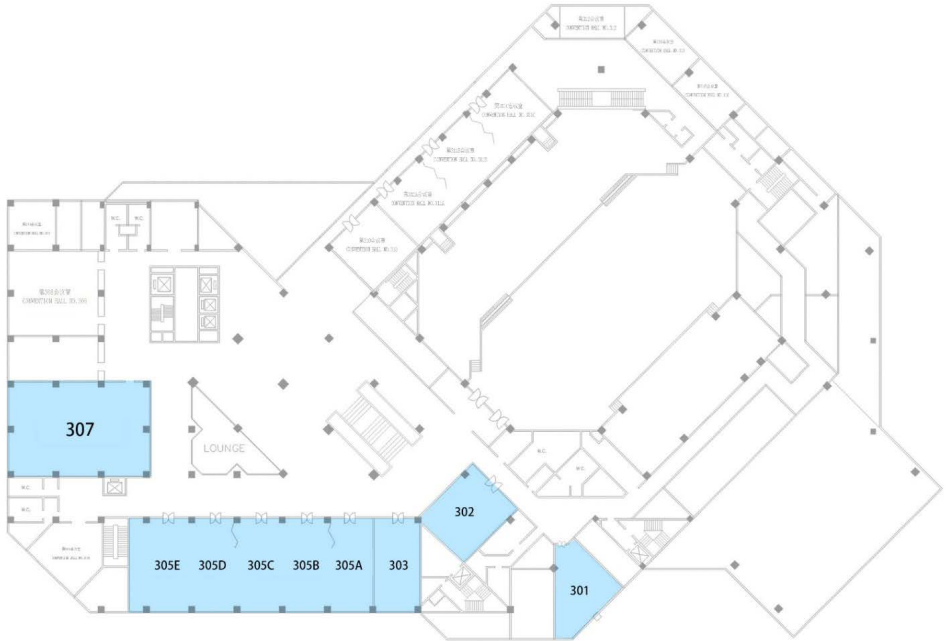
Floor Plan of the Venue



1F Floor plan



2F Floor plan



3F Floor plan

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International Forum on Big Data for Sustainable Development Goals



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Conference Website: <https://fbas2021.scimeeting.cn/cn/web/index/>

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