The 3rd International Forum on Big Data for Sustainable Development Goals (FBAS 2023)

September 6-8, 2023 Beijing, China

Programme

Host:

Organize:

CONTENT

Hosted by / Organized by / Supported by / International Partners / Co-organizers

Hosted by

Chinese Academy of Sciences (CAS)

Organized by

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

Aerospace Information Research Institute (AIR), CAS

Supported by

The World Academy of Sciences (TWAS)

Food and Agriculture Organization of the United Nations (FAO)

United Nations Environment Programme (UNEP)

United Nations Convention to Combat Desertification (UNCCD)

International Partners

(Listed in no particular order)

Group on Earth Observations

Committee on Data of the International Science Council

The United Nations Satellite Centre

Alliance of International Science Organizations

International Society for Digital Earth

Integrated Research on Disaster Risk

International Centre on Space Technologies for Natural and Cultural Heritage under the auspices of UNESCO

Digital Belt and Road Program

CAS-TWAS Centre of Excellence on Space Technology for Disaster Mitigation

Co-Organizers

The Administrative Center for China's Agenda 21

Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences

Computer Network Information Center, Chinese Academy of Sciences

Innovation Academy for Microsatellites of Chinese Academy of Sciences

Key Laboratory of Digital Earth Science, Chinese Academy of Sciences

Zhejiang Key Laboratory of Microwave Target Characteristic Measurement and Remote Sensing

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East China Normal University

China University of Geosciences, Wuhan

Nanjing Normal University

Shanghai Normal University

Henan University

University of Helsinki

University of KwaZulu-Natal

China Population and Development Research Center

Council for Scientific and Industrial Research

Asian Institute of Technology

Organization for Economic Co-operation and Development

CAST-UN Consultative Committee on Disaster Risk Reduction

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Welcome Message

The year 2023 is a critical year for the United Nations 2030 Agenda for Sustainable Development – the mid-term review year. At present, global poverty alleviation is being hampered; climate change, water security, and food and energy crises are becoming increasingly grave; the world is facing significant uncertainty in three major areas of economy, society, and environment. UN Secretary-General Guterres noted that "we are moving farther away from our goals". As a result, transformative action and solutions are urgently called for globally. The experience of the past few years has shown that as an integral part of the UN's sustainable development promotion mechanism, science and technology play an imperative role and are highly rated. In particular, cutting-edge digital technologies, represented by big data, can enable multi-dimensional, multi-disciplinary, and multi-scale monitoring and assessment of sustainable development indicators, helping us find appropriate solutions for sustainable development while fully understanding the current challenges we face.

Against this backdrop, the 3rd International Forum on Big Data for Sustainable Development Goals (FBAS2023) will be held in Beijing, China from September 6th to 8th, 2023. The 1st and 2nd International Forums on Big Data for Sustainable Development Goals were held in 2021 and 2022, with themes of "Big Data for Implementing the Sustainable Development Goals" and "Digital Technology Empowers Global Sustainable Development", respectively. More than 1,500 international experts and scholars delivered over 800 academic presentations and conducted exchanges. The forum has built a platform for cross-disciplinary and close cooperation and exchanges, considerably facilitating the sharing of big data methods, technologies, and applications for sustainable development.

With the theme of "Big Data Accelerating Implementation of 2030 Agenda for Sustainable Development", this year's forum invites a wide range of stakeholders in the field of big data for sustainable development from around the world. The forum will organize dialogues and exchanges concerning sustainable development goals such as zero hunger, clean water and sanitation, clean energy, sustainable cities and communities, climate action, life below water, life on land, and partnerships for the goals from the perspectives of scientific and technological development, regional innovation demonstration, and multi-party participation mechanisms. It aims to drive innovative methods, technology promotion, and demonstration applications of big data and digital technologies for sustainable development.

The world is collectively exploring innovative paths for transformative development to implement the 2030 Agenda for Sustainable Development. Now, on behalf of the forum, I would like to sincerely invite experts, scholars, government administrators, entrepreneurs, engineers, and other stakeholders from around the world here to share the latest achievements of big data as a changer for achieving sustainable development goals and to engage in extensive exchanges and discuss our future cooperation. We hope everyone can propose strategies and play their part to advance the global development initiatives and promote the implementation of the second half of the 2030 Agenda for Sustainable Development, thus jointly contributing to achieving the SDG goals.

Chair of the 3rd International Forum on
Big Data for Sustainable Development Goals

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Organization

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

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Ministry of Science and Technology of the People's Republic of China

Markku KULMALA
University of Helsinki, Finland

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Gregory GIULIANI	University of Geneva
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GONG Peng	University of Hong Kong
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Barbara RYAN	World Geospatial Industry Council
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ZHANG Zhonghao	Shanghai Normal University
ZUO Lijun	Aerospace Information Research Institute, CAS

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Secretary-General

XUE Mengying

Members (Alphabetical order by last name)

AI Zhuoyi / DING Yixing / MA Yuanxu / WANG Shenglei / WANG Shuo /
WU Junjun / ZHANG Meimei / ZHU Li

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Keynote Speakers

Keynote Speakers

Quarraisha Abdool Karim

The World Academy of Sciences for the advancement of science in developing countries (TWAS)

Quarraisha Abdool Karim, is an infectious diseases epidemiologist whose seminal contributions spanning over three decades have shaped the global HIV prevention landscape, notably in prevention technologies for women. She demonstrated that ARVs prevent sexually transmitted HIV that laid the foundation for HIV pre-exposure prophylaxis (PrEP); and has provided insights in Africa and globally on the impact of Covid-19 on HIV and in the evaluation of Covid-19 vaccines and therapeutics. Abdool Karim is the President of The World Academy of Sciences (TWAS). She is an elected member of the National Academy of Medicine (USA); and Fellow of The World Academy of Sciences, Royal Society of South Africa, Academy of Sciences of South Africa and the African Academy of Sciences. Her research contributions have been recognized nationally and internationally with over 30 honors including South Africa's Order of Mapungubwe, 2014 TWAS-Lenovo Prize; the John Dirks Canada Gairdner Global Health Award; the 2020 Christophe Mérieux Prize; and the 4th Hideyo Noguchi Africa Prize for Medical Research. She is the Associate Scientific Director of CAPRISA; Professor in Clinical Epidemiology, Columbia University; and Pro-Vice Chancellor for African Health, University of KwaZulu-Natal, South Africa.

GUO Huadong

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

Prof. GUO is the Director General of the International Research Center of Big Data for Sustainable Development Goals (CBAS), an Academician of Chinese Academy of Sciences (CAS), a Foreign Member of the Russian Academy of Sciences, a Foreign Member of the Finnish Society of Sciences and Letters, and a Fellow of TWAS. He presently serves as Honorary President of the International Society for Digital Earth (ISDE), Director of the International Center on Space Technologies for Natural and Cultural Heritage under the Auspices of UNESCO, Chair of the Digital Belt and Road Program, and Editor-in-Chief of the *International Journal of Digital Earth* and the journal of *Big Earth Data*. He served as a member of the UN 10-Member Group to support the Technology Facilitation Mechanism for SDGs (2018-2021), Chairman of the International Committee of Remote Sensing of Environment (2017-2020), President of ISDE (2015-2019), and ICSU Committee on Data for Science and Technology (CODATA) (2010-2014). He specializes in remote sensing, radar for Earth observation, and Digital Earth science. He is the Principal Investigator of Moon-based Earth Observation Research Project of National Natural Science Foundation of China and the Chief Scientist of the Big Earth Data Science Engineering Project of CAS. He has published more than 500 papers and 24 books, and is the awardee of 18 domestic and international prizes.

Johannes Cullmann

Office of the President of the UN General Assembly, UN-water

Johannes Cullmann is Scientific Advisor to the President of the UN General Assembly and coordinates sustainable development related issues in the Office of the President, and the vice-chair of UN water. He is on loan from the World Meteorological Organization, where he has served eight years as lead for water and climate activities.

Johannes moved to Geneva from the German Federal Institute of Hydrology, where he served as director responsible for strategy, science and partnerships. Prior to this, Johannes coordinated the German Transportation Ministry's international water affairs and directed the German committee for the water programmes of UNESCO and WMO. He was Senior Advisor to WMO's water activities and President of UNESCO`s Intergovernmental Council on water from 2012 to 2014. In his function as a department head in the German Federal Institute for Hydrology, he was the German representative to the Commission for the Hydrology of the Rhine River and co-organised the first climate change impact analysis for the Rhine River.

Keywan Riahi

International Institute for Applied Systems Analysis

Keywan Riahi is the Director of the Energy Program at the International Institute for Applied Systems Analysis (IIASA). He is lecturing as a Visiting Professor of Energy Systems Analysis at the Graz University of Technology and has recently also joined the Payne Institute of the Colorado School of Mines as a Fellow and serves as an External Faculty Member at the Institute for Advanced Study (IAS) at the University of Amsterdam. In 2021, Mr Riahi was appointed to the 10-Member Group by the United Nations Secretary-General Guterres to advise on Science, Technology and Innovation for the implementation of the Agenda 2030. Mr Riahi ranks first in the recent list of 1,000 most influential climate scientists by Reuters and has been selected as Highly Cited Researcher worldwide by the Web of Science/Clarivate Analytics (2016-2020). In 2015 he also received the IAMC award for extraordinary contributions to the field of integrated assessment modelling. His publications receive more than 10,000 citations per year and cover inter alia the following disciplines: mathematics, economics, finance, engineering/energy, and environmental sciences.

Ronald Jansen

United Nations Statistics Division

Ronald Jansen is Assistant Director of the United Nations Statistics Division in New York. He is responsible for the Division's work on data innovation and statistical capacity management since 2018. In his current position, he supports the work of the UN Committee of Experts on Big Data and Data Science for Official Statistics, including support for the Regional Hubs for Big Data and the UN Global Platform. The platform is a collaborative environment for the global statistical community to share data, services, methods and expertise, and jointly execute data innovation projects.

He joined the United Nations in June 1990 and worked for many years in the area of international trade statistics, covering trade in goods and trade in services. From 2010 to 2018 he led the initiative of the Division to better integrate international trade, business statistics and global value chain analysis. His educational background is in Statistics and Psychology; he obtained a PhD in mathematical modelling of human information processing in May 1990.

Yana Gevorgyan

Group on Earth Observations (GEO)

Yana Gevorgyan joined GEO as Secretariat Director in July 2021. Ms. Gevorgyan is an international relations expert whose career spans humanitarian relief and development, international think tanks, and government organizations. Formerly, GEO Program Manager at the U.S. National Oceanic and Atmospheric Administration's (NOAA), Ms. Gevorgyan managed the participation of the United States government in GEO and provided thought leadership to shape forward-looking strategies and policies that enable multisectoral partnerships, broad stakeholder engagement and the deserved recognition of GEO's most valuable asset – its community.

Ms. Gevorgyan is an experienced cross-cultural communicator known for building bridges between diverse communities on a global and regional scale. Her vision for the advancement of GEO is to introduce agile and innovative approaches to promote broader use of Earth observation data, technologies and knowledge for social impact. Accelerating engagement with GEO members at the national level, strategic communication for policy, economic and human impact, and collaboration across sectors and stakeholders will be key vectors in Yana's strategy to shape the work of the GEO Secretariat and the GEO community.

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Programme at a Glance

Programme at a Glance

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Programme on September 6th, 2023

2nd Floor					
	Conference Room I				
9:00-10:30	Opening Ceremony				
10:30-10:50	Break				
10:50-12:00	Plenary Session				
12:00-13:30	Break				
	Conference Room 201				
	Parallel Sessions				
	A	B	C	D	CBAS
13:30-15:00	Youth Responsibilities and Actions to Address SDGs Data and Information Gap*	Big Data on Population and Health Helps Achieve the Sustainable Development Goals			Forum on Promotion and Demonstration of Digital Technologies for Sustainable Development
15:00-15:15		Break			
15:15-16:45		Big Data and Ecological Security	Agenda 2030 and Sendai Framework Symbiosis and Geoinformatics Support		
16:45-17:00	Break				
17:00-18:30	Poster	Research Capacity Building on Key Technologies for Development of Global Partnerships and Collaboration on Multinational Scientific Data in China and Africa	New Data Technologies for DRR Early Warning and Early Actions		

*time 13:00-17:00

September 6th, 2023

6th

Opening Ceremony 9:30-10:30

Plenary Session 10:50-12:00

Moderator:

GONG Ke

Former President of World Federation of Engineering Organizations

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Keynote Speech 1:

Big Data and Getting Back on Track to Meet the 2030 SDG Goals: Lessons from the Pandemic

Quarraisha Abdool Karim

The World Academy of Sciences for the advancement of science in developing countries

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Keynote Speech 2:

Halfway to 2030: Harnessing Digital Technology to Accelerate SDGs

GUO Huadong

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

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Commentator:

LIU Wei

Coordinator of Division for Sustainable Development, United Nations Department of Economic and Social Affairs (UNDESA)

Parallel Sessions

Time 13:00-18:30, September 6th, 2023 Room: 201A

Session

Youth Responsibilities and Actions to Address SDGs Data and Information Gap

Co-Chairs

Kevin Tansey, University of Leicaster, UK

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

Event 1: Opening Remarks

JIA Gensuo (International Research Center of Big Data for Sustainable Development Goals, China)

Quarraisha Abdool Karim (The World Academy of Sciences)

Gretchen Kalonji (Institute for Disaster Management and Reconstruction, Sichuan University-The Hong Kong Polytechnic University, China)

Event 2: Young Scientists' Keynote Presentation

Big data drive innovative tools towards zero-growth of man-made mass & sustainable cities
LIU Yupeng (Institute of Urban Environment, Chinese Academy of Sciences, China)

Urban forests in support of sustainable and equitable city development
LIN Jian (The Chinese University of Hong Kong, China)

AI driven high resolution debris flow risk assessment based on public remote sensing data
Andreas Nienkötter (Institute for Disaster Management and Reconstruction, Sichuan University-The Hong Kong Polytechnic University, China)

Does having more sustainable communities bring better sustainability?
ZHANG Junze (Research Center for Eco-Environmental Sciences, CAS, China)

Event 3: Journal Editors' Keynote Presentation

Publishing in the *International Journal of Remote Sensing*
Kevin Tansey (University of Leicester, UK)

Scopes and progresses of *Journal of Remote Sensing*
LIU Liangyun (International Research Center of Big Data for Sustainable Development Goals, China)

***The Innovation* is a rising star journal**
CHEN Ke (The Innovation, China)

Event 4: Panel Discussion

Overall topic: Youth responsibilities and actions to address SDGs data and information gap

Topics:

1) Working interdisciplinary (AI &Big Earth Data & SDG&…)
2) Working internationally
3) Publishing your research/Impactful research
4) Effective career planning/ Become an entrepreneur
5) Drive and support youth responsibility and actions to address the SDG data gaps

Panel Speakers:

Baniya Binod (Tribhuvan University, Nepal)
DU Xiaoping (International Research Center of Big Data for Sustainable Development Goals, China, China)
Joseph Balkuddembe (IDMR, Sichuan University-The Hong Kong Polytechnic University, China)
Marcial Rivera Rodríguez (WFEO CDRM)
Nurfashareena Muhamad (University Kebangsaan Malaysia, Malaysia)
Simon Hodson (CODATA, France)
Suresh Chaudhary (National Society for Earthquake Technology-Nepal, Nepal)
CHEN Ke (The Innovation journal, China)
LIN Jian (The Chinese University of Hong Kong, China)
LI Yong (Tsinghua University, China)
LIAN Fang (IRDR, China)
LIU Yupeng (Institute of Urban Environment, CAS, China)
WANG Lei (International Research Center of Big Data for Sustainable Development Goals, China, China)
WANG Shaohua (International Research Center of Big Data for Sustainable Development Goals, China, China)
WANG Shenglei (International Research Center of Big Data for Sustainable Development Goals, China)
ZHANG Junze (Research Center for Eco-Environmental Sciences, CAS, China)
ZHANG Miao (The Aerospace Information Research Institute, CAS, China)
ZHANG Yiwen (Nanyang Technological University, Singapore)

Time 13:30-15:00, September 6th, 2023 Room: 201B

Session	**Big Data on Population and Health Helps Achieve the Sustainable Development Goals**
Co-Chairs	HE Dan, China Population and Development Research Center, China
	ZHANG Xuying , China Population and Development Research Center, China
	Geo demographic big data obtained from small area population projections and their applications Takashi Inoue (Aoyama Gakuin University, Japan)
	Comprehensive evaluation and influencing factors of healthy cities in China urban agglomerations based on multi-sourced urban data WU Kang (Capital University of Economics and Business, China)
	The application of mobile big data in demographics statistics GU Yang (National Bureau of Statistics of China, China)
	Trends and Features of China's Population in the 14th Five-Year Plan (2021-2025) and the Medium and Long Term LIU Houlian (China Population and Development Research Center, China)
	Using population big data to service disease control monitoring, early warning and emergency command ZHAO Hua (Smart Steps Data Technology Co., Ltd, China)
	Introduction on health-related indicators of the Sustainable Development Goals (SDGs) CAI Yue (Center for Health Statistics and Information of National Health Commission of China, China)

Time 13:30-17:00, September 6th, 2023
Room: The International Research Center of Big Data for Sustainable Development Goals(CBAS)

Special Session	**Forum on Promotion and Demonstration of Digital Technologies for Sustainable Development (Invited)**
Hosted by	The International Research Center of Big Data for Sustainable Development Goals (CBAS)
	The Administrative Center for China's Agenda 21 (ACCA21)

Time 15:15-16:45, September 6th, 2023 Room: 201B

Session	**Big Data and Ecological Security**
Chair	GAO Jun, Shanghai Normal University, China
	Strengthening machine learning reproducibility to secure ecological assessment SHAO Guofan (Purdue University, USA)
	Robustness-Resistance-Recovery based assessment of flood resilience PENG Jian (Peking University, China)
	Assessment of urban ecological risks with multimodal remote sensing and interpretable machine learning WANG Lin (Institute of Urban Environment, CAS, China)
	Comprehensive assessment of China's SDG 6 progress from 2015 to 2020 supported by big earth data SONG Xiaoyu (Northwest Institute of Ecology, CAS, China)
	Comprehensive observation of land surface and its application in ecological security monitoring LI Weiyue (Shanghai Normal University, China)

Time 15:15-16:45, September 6th, 2023 Room: 201C

Session	**Agenda 2030 and Sendai Framework Symbiosis and Geoinformatics Support**
Co-Chairs	SHEN Jie, Nanjing Normal University, China
	Milan KONEČNÝ, Masaryk University, Czech Republic
	The impact of increased water vapor on extreme heavy precipitation on the background of global warming ZHI Xiefei (Nanjing University of information science and technology, China)
	On statistics and visualization of large-scale characteristics of climate elements CHEN Youmin (Henan University, China)
	From Identification to susceptibility mapping of potential landslides on the entire Loess Plateau, China based on Sentinel-1 images and conditioning factors ZHAO Chaoying (Chang'an University, China)
	Automatic construction of indoor emergency road network for fire scenarios ZHONG Teng (Nanjing Normal University, China)

	Cartography support on disaster management and ecological civilization in the era of big data SHEN Jie (Nanjing Normal University, China) Milan Konecny (Masaryk University, Czech Republic)

Time 17:00-18:30, September 6th, 2023 Room: 201B

Session	**Research Capacity Building on Key Technologies for Development of Global Partnerships and Collaboration on Multinational Scientific Data in China and Africa**
Chair	Johannes John-Langba, University of Kwazulu-Natal, South Africa
	Panelist HU Lianglin (Computer Network Information Center, CAS, China) Ndangwa Noyoo (Southern African Policy and Development Nexus, South Africa GUAN Jian (Peking Union Medical College (PUMC) & Chinese Academy of Medical Sciences (CAMS) PUMC Hospital, China) Eugene Kofuor Maafo Darteh (University of Cape Coast, Ghana)

Time 17:00-18:30, September 6th, 2023 Room: 201C

Session	**New Data Technologies for DRR Early Warning and Early Actions**
Co-Chairs	YANG Saini, The United Nations Office for Disaster Risk Reduction Asia-Pacific Scientific and Technical Advisory Group
	CHEN Fang, International Research Center of Big Data for Sustainable Development Goals, China
	WMO efforts in MHEWS (TBC) JIANG Long (WMO-IOC in-situ Observations Programme Support Centre)
	Transforming disaster risk reduction: innovations in risk informed action & multi-hazard warning systems Bapon FAKHRUDDIN (Green Climate Fund)
	The use of digital data and remote sensing for natural hazard and risk assessments and development planning in Nepal (TBC) Amod Dixit (National Society for Earthquake Technology-Nepal, Nepal)
	FuXi A cascade machine learning forecasting system for 15-day global weather forecast (TBC) ZHANG Feng (Fudan University, China)
	Early warning in the urban context (TBC) Nurfashareena Muhamad (Southeast Asia Disaster Prevention Research Initiative, Malaysia)
	Some progress of & MHEW system in China Wang Tun (Institute of Care-life, China)
	Q&A and discussion from the audience YANG Saini (The United Nations Office for Disaster Risk Reduction Asia-Pacific Scientific and Technical Advisory Group) CHEN Fang (International Research Center of Big Data for Sustainable Development Goals, China)

Programme on September 7th, 2023

3rd Floor					
	Room 307	Room 305			
		B	C	D	E
9:00-10:10	Plenary Session				
10:10-10:30	Break				
10:30-12:00	Earth Status Reporting Halfway to the Sustainable Development Goals	Accelerating the Urban SDGs Monitoring and Implementation through Digital Technologies and Big Data Applications: Experiences from SDG 11	Data-driven and Visualization of River Basin Ecological Protection	Urban PEEX	Spatiotemporal Intelligence and Remote Sensing of the Environment Towards Sustainable Development Goals
12:00-13:30	Break				
13:30-15:00	Parallel Sessions				
	Big Data in Support of Arctic Sustainable Development Goals and Pan-Arctic International Cooperation*	Special Session at the 3rd Conference of the International Center for Big Data for the Sustainable Development Goals	Urbanization Monitoring with Big Earth Data	Data and AI Policy for the Effective Governance of Big Data During Crisis Situations for Achieving the UN Sustainable Development Goals	The 3rd Forum on Earth Observation in Support of Sustainable Development Goals
15:00-15:15	Break		Break		
15:15-16:45	Big Data for Agrifood Systems Transformation: the Perspective of Sustainable Nature Resources Management		Artificial Intelligence and Marine Big Data Support SDGs(I)	NexTus Youth Innovation: Deploy Satellite and AI to Connect and Generate Future Cities	
16:45-17:00		Break			
17:00-18:30		Space Technologies Facilitating the Sustainable Development of World Heritages	Artificial Intelligence and Marine Big Data Support SDGs(II)	Clean Energy and Dual Carbon Goals	SDGSAT-1 Applications and Subsequently Satellite Series of the Sustainable Development Goals

*time:13:15-15:15

September 7th, 2023

7th

Plenary Session 09:00-10:10

Moderator:

Gretchen Kalonji

Chair of International Advisory Committee, International Research Center of Big Data for Sustainable Development Goals

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Keynote Speech 1:

The role of digitalization and information technology for achieving Climate and SDG objectives

Keywan Riahi

International Institute for Applied Systems Analysis

Keynote Speech 2:

TBD:

Johannes Cullmann

Office of the President of the UN General Assembly, UN-water

Commentator:

Therese El Gemayel

Representitive of United Nations Environment Programme(UNEP)

Parallel Sessions

Time 10:30-12:00, September 7th, 2023 Room: 307

Session

Earth Status Reporting Halfway to the Sustainable Development Goals

Participants

Yana Gevorgyan (Group on Earth Observations Secretariat)
CHU Wenbo (Group on Earth Observations Secretariat)
GUO Huadong (International Research Center of Big Data for Sustainable Development Goals)
LIU Jie (International Research Center of Big Data for Sustainable Development Goals)
Johannes Cullmann (Office of the President of the UN General Assembly (remote))
Ronald Jansen (United Nations Statistics Division)
LIU Wei (United National Department of Economic and Social Affairs)
Richard Pearce Tonkin (United Nations Economic and Social Commission for Asia and the Pacific)
Therese El Gemayel (United Nations Programme Management officer)
Paolo Ruti (European Organisation for the Exploitation of Meteorological Satellites (remote))
Lawrence Friedl (Earth Observations for Sustainable Development (EO4SDG) Initiative and National Aeronautics and Space Administration (NASA) (remote))
Osamu Ochiai (Earth Observations for Sustainable Development (EO4SDG) Initiative and Japan Aerospace Exploration Agency (JAXA) (remote))
Earth Time (tbc)

Opening Remarks

Yana Gevorgyan (Group on Earth Observations)
GUO Huadong (International Research Center of Big Data for Sustainable Development Goals, China)

Scene setting

Johannes Cullman (United Nations General Assembly)

Demonstration of current capabilities in visualizing the Earth status

CBAS, EO4SDG, EUMETSAT, UNSD, UNEP, UNESCAP

Time 10:30-12:00, September 7th, 2023 Room: 305B

Session	**Accelerating the Urban SDGs Monitoring and Implementation through Digital Technologies and Big Data Applications: Experiences from SDG 11**
Chair	Robert Ndugwa, United Nations Human Settlements Programme, UN-Habitat
	Earth Observations and urban monitoring: local to global applications from the Earth Observation Toolkit for Sustainable cities and Human Settlements BAN Yifang (KTH Royal Institute of Technology, Sweden)
	Crowd sourcing and big data accelerating SDG 11 monitoring – experiences from OSM Nasilele Amatende Mwiimbwa (Humanitarian OpenStreetMap Team, USA)
	Future perspectives on application of big data for urban monitoring CBAS representative - TBD

Time 10:30-12:00, September 7th, 2023 Room: 305C

Session	**Data-driven and Visualization of River Basin Ecological Protection**
Co-Chairs	Milan Konecny, Henan University, China; Masaryk University, Czech Republic.
	QIN Mingzhou, Henan University, China
	AGEDA 2030 and SENDAI FRAMEWORK: Spatial data Support (U.N. GGIM and DBAR) and challenges for Geoinformatics, Geodesy and Cartography Milan KONECNY (Henan University, China; Masaryk University, Czech Republic)
	Spatial and temporal analysis methods and applications of environmental disasters in river basins JAY LEE (Kent State University, USA)
	Landscape ecological characteristics and ecological protection system planning of the Lower Yellow River reaches QIN Mingzhou (Henan University, China)
	Assessing the relationship between built environment and cardiovascular health through satellite and street view images: a cohort study of Cleveland in the Cuyahoga River watershed CHEN Zhuo (Case Western Reserve University, USA)
	How does urbanization process affect ecological landscape pattern? An empirical analysis based on scale effects ZHANG Pengyan (Capital University of Economics and Business, China)

Time 10:30-12:30, September 7th, 2023 Room: 305D

Session	**Urban PEEX**
	Joni Kujansuu, INAR, University of Helsinki, Finland
Co-Chairs	XIA Men, University of Helsinki, Finland
	YIN Rujing, University of Helsinki, Finland
	Observations and modeling of gaseous nitrated phenols in urban Beijing: insights from seasonal comparison and budget analysis XIA Men (University of Helsinki, Finland)
	Chloramines as a prominent chlorine radical source in urban atmosphere CHEN Yijing (Tsinghua University, China)
	Mechanisms of the generation of aromatics-derived highly oxygenated organic molecules and their ambient observation WANG Yuwei (Fudan University, China)
	Health risk assessment methods for exposure to PAHs HUA Chenjie (Beijing University of Chemical Technology, China)
	Resolving atmospheric oxygenated organic molecules in urban Beijing using online ultra-high-resolution chemical ionization mass spectrometry YUAN Yi (Tsinghua University, China)
	Detecti on and potential formation pathways of chlorinated organic compounds in suburban Shanghai LI Chuang (Fudan University, China)
	A network of bipolar size spectrometers in China for measuring atmospheric particle number size distributions LI Yiran (Tsinghua University, China)
	Quantification and characterization of cluster ions in an urban environment YIN Rujing (University of Helsinki, Finland)

Time 10:30-12:30, September 7th, 2023 Room: 305E

Session	**Spatiotemporal Intelligence and Remote Sensing of the Environment Towards Sustainable Development Goals**
Co-Chairs	HU ANG Zhou, Peking University, China
	LIN Peirongg, Peking University, China
	LI Meig, Peking University, China
	DONG Leig, Peking University, China
	REN Huazhong, Peking University, China
	Spatiotemporally refined understanding of global supply chains in a green transition LIU Gang (University of Southern Denmark, Denmark)
	Digital arctic environment (to revise) QIU Yubao (International Research Center of Big Data for Sustainable Development Goals, China)
	Energy-Environment nexus from the coupled human-natural system perspective QIN Yue (Peking University, China)
	Can the photovoltaic potential of urban roads meet energy consumption for inner-city traffic? FEI Teng (Wuhan University, China)

Time 13:15-15:15, September 7th, 2023 Room: 307

Session	**Big Data in Support of Arctic Sustainable Development Goals and Pan-Arctic International Cooperation**
Co-Chairs	QIU Yubao, International Research Center of Big Data for Sustainable Development Goals, China
	XU Qingchao, University of Chinese Academy of Sciences, China
Special Guests and Reports	**Opening remarks: (5')**
	GUO Huadong (International Research Center of Big Data for Sustainable Development Goals, China)
	Gao Feng (Ministry of Foreign Affairs, China)

Special Guests and Reports	**Keynote Speakers: (10')**
	Scientific cooperation and sustainable development Paul BERKMAN (Harvard University, USA)
	GEO cold regions initiative (GEO CRI) Massimo MENENTI (Delft University of Technology, the Netherlands)
	Digital arctic-environment and ecosystem LI Yifan (UArctic-HIT Training Centre, HIT, China)
	Digital geomorphology and sustainable development of the Arctic YANG Jian (Shanghai Institute of International Studies, China)
	Opinion Talks: (5')
	Data and knowledge for the Arctic or data for SDG13 climate actions Paola De SALVO (Group on Earth Observations (GEO) Secretariat)
	Green economy modelling tools, reliable metrics and measurements for achieving Arctic Sustainable Development Goals Alina STEBLYANSKAYA (Harbin Engineering University, China)
	Energy transition and sustainability in Arctic Nations DUAN Fengjun (The Canon Institute for Global Studies, Japan)
	Policy practices of Arctic indigenous traditional knowledge QU Feng (Liaocheng University, China)
	Gap analysis of the existing Arctic Science Co-Operations (AASCO) Hanna K Lappalainen (Helsinki University, Finland)
Commentary Experts Invited	CHU Wenbo (Group on Earth Observations)
	LI Xin (Institute of Tibetan Plateau Research, CAS and the Director of National Tibetan Plateau Data Center at ITP/CAS.

Time 13:30 – 16:45, September 7th, 2023 Room:305B

Session	**Promoting International Collaborations on Big Data For Sustainable Development – A Special Session by the CBAS International Advisory Committee (IAC)**
Co-Chairs	Gretchen KALONJI, Sichuan University, China
	YANG Saini, Beijing Normal University, China
Special Guests and Reports	**Keynote Speakers:** **Roles of TWAS in international science for peace and sustainable development – vision for the future** Quarraisha ABDOOL KARIM (The World Academy of Sciences, United Nations)
	Roles of professional societies in international collaborations for sustainable development GONG Ke (Former President of the World Federation of Engineering Organizations)
	Lessons from the High-Level Panel of experts and leaders on water and disasters: HELP KENZO Hiroki (Graduate Research Institute on Policy Studies, Japan)
	International collaborations on the science-policy interface Rajib SHAW (Keio University, Japan)
	Roles of youth and young professional organizations on big data for sustainable development Mizan BISRI (Kobe University, Japan)
	Lessons learned on transnational collaborations on research: top down plus bottom up? AI Likun (Institute of Tibetan Plateau Research, Chinese Academy of Science, China)
	Global cooperation and application on microbial resource data multinational collaborations on biomedical big data MA Juncai (WFCC-MIRCEN World Data Center for Microorganisms)
	Transnational collaborations on flood disaster risk reduction – case studies from Africa Anil MISHRA (UNESCO, United Nations)

Time 13:30-15:00, September 7th, 2023 Room: 305C

Session	Urbanization Monitoring with Big Earth Data
Co-Chairs	WANG Lizhe, China University of Geosciences, China
	YAN Jining, China University of Geosciences, China
	Satellite monitoring of war urban damage with a temporal knowledge-guided deep learning scheme ZHANG Liqiang (Beijing Normal University, China)
	Development of atmospheric cloud properties and surface radiation remote sensing products: application in urban solar energy monitoring Husi Letu (Aerospace Information Research Institute, CAS, China)
	Study on the impact of urbanization process on vegetation: a case study of the Beijing-Tianjin-Hebei urban agglomeration WANG Jia (Beijing Forestry University, China)
	SinoLC-1: the first 1-meter resolution national-scale land-cover map of China created with the deep learning framework and open-access data ZHANG Hongyan (China University of Geosciences, China)
	Scattering power decomposition for compact polarimetric SAR and application of urban terrain classification GAO Gui (Southwest Jiaotong University, China)
	Impacts of perceived safety and beauty of park environments on time spent in parks: examining the potential of street view imagery and phone-based GPS data ZHOU Hanlin (University of Toronto, Canada)

Time 13:30-15:00, September 7th, 2023 Room: 305D

Session	**Data and AI Policy for the Effective Governance of Big Data During Crisis Situations for Achieving the UN Sustainable Development Goals**
Co-Chairs	Simon Hodson, Committee on Data for Science and Technology
	Virginia Murray, UK Health Security Agency, UK
	Burcak Basbug, Middle East Technical Universit, Turkey
	Perihan Elif Ekmekci, TOBB University, Turkey
	Francis P. Crawley, CODATA International Data Policy Committee (IDPC)

Introduction to the session: the role of open science in achieving the UN Sustainable Development Goals (SDGs)
Representative (UNESCO) (invited)
Simon Hodson (Committee on Data for Science and Technology, France)

From the Sendai Framework to the SDGs and the UNESCO/CODATA Data Policy for Open Science in Times of Crisis
Virginia Murray (Global Disaster Risk Reduction for UK Health Security Agency, UK) [online]

Case Study: How we can understand the role of data and AI policy in Big Data during the earthquakes in Turkey and Syria: A case study
Burcak Basbug (Middle East Technical University, Turkey) [online]

The RDA/CODATA Data Systems, Tools, and Services for Crisis Situations Working Group: Connecting open science infrastructures to the needs of crises and the SDGs.
Stefanie Kethers (Australian Research Data Commons Lead, RDA/CODATA Data Systems, Tools, and Services for Crisis Situations Working Group (DSTS_CS-WG)) [online]

Audience/Panel Discussion
Why is data and AI policy needed for Big Data?
What is the relationship between crises and the SDGs?
How can data and AI policy contribute to Big Data sharing during crises?
Simon Hodson (Committee on Data for Science and Technology)
Francis P. Crawley (CODATA International Data Policy Committee)

Good governance for data and AI policy in crisis situations
Perihan Elif Ekmekci (TOBB University, Turkey)

Creating a harmonized ecosystem to streamline disaster-risk reduction in the context of the UN Strategic Development Goals (SDGs): CODATA's Working Group on FAIR Data for Disaster Risk Research (FAIR-DRR)
LI Guoqing (Aerospace Information Research Institute, CAS, China)
Bapon (Shm) Fakhruddin (Green Climate Fund (GCF), New Zealand; Co-Chairs, FAIR Data for Disaster Risk Research (FAIR-DRR))

Audience/Panel Discussion
Simon Hodson (Committee on Data for Science and Technology, France)
Francis P. Crawley (CODATA International Data Policy Committee)

Summary of the session
Ana Persic (Science Technology and Innovation Policies and Open Science)
Simon Hodson (Committee on Data for Science and Technology)

Time 13:30-16:10, September 7th, 2023 Room: 305E

Special Session — **The 3rd Forum on Earth Observation in Support of Sustainable Development Goals**

Chair — SHI Jiancheng, National Space Science Center, CAS, China

Earth Observation Technology serves SDGs
GUO Huadong (International Research Center of Big Data for Sustainable Development Goals, China)

UNOSAT's GIT Solutions for enhancing disaster and climate resilience in support of the SDGs
Samir Belabbes (The United Nations Satellite Centre)

High-Resolution Earth Observation empowers Sustainable Development
ZHAO Jian (Earth Observation System and Data Center, China National Space Administration, China)

Ecological environment of satellite remote sensing monitoring boost the global sustainable development
GAO Jixi (Satellite Application Center for Ecology and Environment, MEE, China)

Haiyang Satellite Series serve SDGs
LIN Mingsen (National Satellite Ocean Application Service, China)

FengYun' s Actions for SDG Goals
WANG Jinsong (National Satellite Meteorological Center, China)

	Guotu Satellite series Serve SDGs WANG Quan (Land Satellite Remote Sensing Application Center, MNR, China)
	SDGSAT-1 serves SDGs DOU Changyong (International Research Center of Big Data for Sustainable Development Goals, China)
High-Level Dialogue	**Construct 'Sustainable Development Satellite Constellation Plan' to better serve the implementation of the 2030 Agenda** Samir Belabbes (The United Nations Satellite Centre) Khalid Alrowaily (Planning and Statistics Authority, Qatar) Birendra Bajracharya (International Centre for Integrated Mountain Development) CHU Wenbo (Group on Earth Observations) YUE Tao (China Centre for Resources Satellite Data and Application, China) ZHONG Xing (Chang Guang Satellite Technology Co., LTD, China)

Time 15:15-18:30, September 7th, 2023 Room: 307

Special Session — **Big Data for Agrifood Systems Transformation: The Perspective of Sustainable Nature Resources Management**

Chair — LI Lifeng, Food Agriculture Organization of the United Nations

Opening remarks

GUO Huadong (International Research Center of Big Data for Sustainable Development Goals, China)

Technique presentations (15')

FAO open data for monitoring land and water productivity and achieving SDG
Livia Peiser (Food Agriculture Organization of the United Nations)

Soil mapping for a sustainable future: FAO's Data-Driven efforts in decision making
Yusuf Yigini (Food Agriculture Organization of the United Nations)

Big earth data in support of sustainable crop production
ZUO Lijun (International Research Center of Big Data for Sustainable Development Goals, China)

Global land degradation neutrality tracking and intervention platform
LI Xiaosong (International Research Center of Big Data for Sustainable Development Goals, China)

Global cropping system mapping: past, present and future
YOU Liangzhi (International Food Policy Research Institute)

Using big data to monitor cropland use and management
YU Qiangyi (Institute of Agricultural Resources and Regional Planning, CAAS)

Using big data to underpin the improvement of soil and crop system for coastal saline land
SUN Zhigang (Institute of Geographic Sciences and Natural Resources Research, CAS, China)

SDGs' Sustainable Natural Resources Management and Big Data
Therese El Gemayel (United Nations Environment Programme)

Panel discussion	**Big data underpinning agrifood systems transformation: current issues and future prospects** LIU Wei (United Nations Department of Economic and Social Affairs) Therese El Gemayel (United Nations Environment Programme) YOU Liangzhi (International Food Policy Research Institute) Marcelin Sanou (Pan-African Agency of the Great Green Wall) WU Bingfang (International Research Center of Big Data for Sustainable Development Goals, Aerospace Information Research Institute, CAS, China) JIA Li (International Research Center of Big Data for Sustainable Development Goals, Aerospace Information Research Institute, CAS, China)

Time 15:15-16:45, September 7th, 2023 Room: 305C

Session	**Artificial Intelligence and Marine Big Data Support SDGs(I)**
Co-Chairs	WANG Fan, Institute of Oceanology, CAS, China
	LI Chaolun, South China Sea Institute of Oceanology, CAS, China
	A purely data-driven transformer model for real-time predictions of the 2023-24 climate condition in the tropical Pacific ZHANG Ronghua (Nanjing University of Information Science & Technology, China)
	Introduction to a platform of information integration of China coastal sea ZHANG Fang (Institute of Oceanology, CAS, China)
	Ocean Big data in support of the sustainable development of the Maritime Silk Road TANG Shilin (South China Sea Institute of Oceanology, CAS, China)
	Big data helps to understand the diversity and geographical distribution of marine microeukaryotes ZHAO Feng (Institute of Oceanology, CAS, China)
	Global estuarine fronts monitoring using remote sensing big data FU Dongjie (Institute of Geographic Sciences and Natural Resources Research, CAS, China)

Time 15:15-16:45, September 7th, 2023 Room: 305D

Session	**NexTus Youth Innovation: Deploy Satellite and AI to Connect and Generate Future Cities**
Co-Chairs	SUN Zhongchang, International Research Center of Big Data for Sustainable Development Goals, China
	ZHAO Mingxiao, Institute of New Economic Development, China
	AI for Sustainable Development Marco Kamiya (United Nations Industrial Development Organization)
	"New Economy and Future Cities" Publication Recommendation SUN Zhongchang (International Research Center of Big Data for Sustainable Development Goals, China) ZHAO Mingxiao (Institute of New Economic Development, China) CHEN Tianhao (Tsinghua University, China)
	Ubiquitous computing in urban development WANG Leye (Peking University, China)
	Climate Change's Impact on Human Health and Well-being ZHANG Chi (Beijing Institute of Technology, China)
	Digital Twin Cities and Smart Transportation Innovative Public-Private Partnership ZENG Hui (Global Shapers Community under World Economic Forum, China)
	AIGC for Cultural Heritage HUO Ran (Tencent, China)
	Call for Youth Actions WANG Meng (The World Union of Young Earth Scientists)

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

Session	Clean Energy and Dual Carbon Goals
Co-Chairs	SHAO Yun, International Research Center of Big Data for Sustainable Development Goals, China
	WU Mingquan, International Research Center of Big Data for Sustainable Development Goals, China
	Remote Sensing Estimation of Terrestrial Ecosystem Carbon Budget: Methods and Challenges LIU Liangyun (International Research Center of Big Data for Sustainable Development Goals, China)
	Effects of afforestation on soil organic carbon and main nutrients BAO Haijun (Zhejiang University, China) GUO Yang (Zhejiang University, China)
	GEOVIS Earth enpowers the exploration and practices of Carbon Peak and Carbon Neutrality KUANG Qiuming (Geovis Environment Technology Co.,Ltd.)
	Big Earth Data Supports SDG7 Sustainable Development Goals WU Mingquan (International Research Center of Big Data for Sustainable Development Goals, China)
	Key Technologies and Paths for Earth Big Data Supporting SDG7 (Discussion)

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

Session	Artificial Intelligence and Marine Big Data Support SDGs(II)
Co-Chairs	XUE Cunjin, International Research Center of Big Data for Sustainable Development Goals, China
	SU Hua, The Academy of Digital China, China
	An introduction to IAP/CAS global ocean gridded dataset and its application CHENG Lijing (Institute of Atmospheric Physics, CAS, China)
	Spatiotemporal intelligent methods for exploring fine-scale environmental processes in coastal seas WU Sensen (Zhejiang University, China)
	Time-series satellite images reveal the dynamic equilibrium of tidal wetlands under extensive coastal reclamation WU Wenting (The Academy of Digital China, China)

	Retrieval and prediction of oceanic primary production based on machine learning PING Bo (Tianjin University, China)
	Remote Sensing Mapping of Coastal Aquaculture WANG Zhihua (Institute of Geographical Science and Natural Resources Research, CAS, China)
	3D ocean heat content estimation using remote sensing and deep learning SU Hua (The Academy of Digital China, China)

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

Session	**Space Technologies Facilitating the Sustainable Development of World Heritages**
Co-Chairs	LUO Lei, Centre on Space Technologies for Natural and Cultural Heritage (HIST), UNESCO; International Research Center of Big Data for Sustainable Development Goals, China
	Rohit JIGYASU, Urban Heritage, Climate Change & Disaster Risk Management, ICCROM
	Space-eye sensing the sustainability of world cultural heritage sites CHEN Fulong (International Research Center of Big Data for Sustainable Development Goals, China; International Centre on Space Technologies for Natural and Cultural Heritage, UNESCO)
	Harnessing the power of space technologies for reducing risks and building resilience of World Heritage Properties: Global challenges and opportunities Rohit JIGYASU (Urban Heritage, Climate Change & Disaster Risk Management, ICCROM)
	Earth observation for monitoring climate change impacts on natural world heritage sites Tales Carvalho RESENDE (World Heritage Centre, UNESCO)
	UNESCO-designated heritage spatial information platform construction HUO Sijia (International Centre on Space Technologies for Natural and Cultural Heritage, UNESCO)
	Observed Olympic effects on reshaping urban greenspace of host cities TU Ying (Tsinghua University, China)
	The role of space technologies for safeguarding World Heritage LUO Lei (CBAS, China; HIST, UNESCO)

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

Session	**SDGSAT-1 Applications and Subsequently Satellite Series of the Sustainable Development Goals**
Co-Chairs	SHI Jiancheng, National Space Science Center of the Chinese Academy of Sciences, CAS, China
	Amos Tiereyangn Kabo-bah, University of Energy and Natural Resources, Ghana
	Sea-aero target perception method based on TIS of SDGSAT-1 CHEN Fansheng (Shanghai Institute of Technical Physics, CAS, China)
	Humanitarian mapping using night-time light imagery LI Xi (Wuhan University, China)
	Localization estimation of magnetic targets using airborne magnetic anomaly detection LI Yapeng (China Academy of Space Technology, China)
	Progress of the SDGSAT-1 Satellite Application WANG Qinjun (Aerospace Information Research Institute, CAS, China)
	The introduction of Thermal Infrared Spectrometer onboard SDGSAT-1 and its radiometric calibration conditions HU Yonghong (International Research Center of Big Data for Sustainable Development Goals, China)

Programme on September 8th, 2023

3rd Floor				
	Room 307			
9:00-10:10	Plenary Session			
10:10-10:30	Break			
10:30-12:00	Big Earth Data in Support of Land Degradation Neutrality			
12:00-13:30	Break			
	Conference Room 305			
	B	C	D	E
13:30-15:00	Deep Empowerment of AI to Facilitate Sustainable and High-Quality Ur ban Development	Closing Ceremony of Youth Training Course	Big Earth Data in Support of Assessing Resilient Cities and Human Settlements	Unlocking the Potential of Big Earth Data: Tracking SDG Indicators in Southeast Asia
15:00-15:30	Break			
	Conference Room 307			
15:30-17:00	Closing Ceremony			

September 8th, 2023

8th

Plenary Session 09:00-10:10

Moderator:

JIA Gensuo

Director of the Global Change Research Center for East Asia (START-TEA), Institute of Atmospheric Physics, CAS. Deputy Director of the International Research Center of Big Data for Sustainable Development Goals (CBAS)

Keynote Speech 1:

The global statistical community and its work on Big Data and Data Science for the SDGs

Ronald Jansen

United Nations Statistics Division

Keynote Speech 2:

Leveraging Earth Intelligence for Global Sustainable Development

Yana Gevorgyan

Group on Earth Observations

Commentator:

Robert Ndugwa

Head of Data and Analytics Section, United Nations Human Settlements Programme(UN-Habitat)

Parallel Sessions

Time 10:30-12:00, September 8th, 2023 Room: 307

Session	**Big Earth Data in Support of Land Degradation Neutrality**
Chair	LI Xiaosong, International Research Center of Big Data for Sustainable Development Goals, China
	Measuring Progress: Water-related ecosystems and SDGs Therese El Gemayel (United Nations Environment Programme)
	Estimating Carbon Storage of Desert Ecosystems and the Carbon Sink Potential by Desertification Control in China WU Bo (Institute of Ecological Protection and Restoration, CAF, China)
	Land Degradation in Africa - An Opportunity for Research Partnerships Amos Tiereyangn Kabo-bah (Group on Earth Observations Land Degradation Neutrality, University of Energy and Natural Resources)
	GREAT GREEN WALL INITIATIVE: An Integrated Response to the Challenges of Climate Change, Land Degradation and Biodiversity Loss for Resilient Development of Sahelian Landscapes Marcelin Sanou (Pan-African Agency for the Great Green Wall)
	Great Green Wall Experience within the Global Mechanism Gilles Amadou Ouédraogo (United Nations Convention to Combat Desertification)
	State and dynamics of land degradation in Mongolia and LDN targets Mandakh Nyamtseren (Mongolian Academy of Sciences, Mongolia)
	Green Belt in the Taklimakan Sand Sea LEI Jiaqiang (Xinjiang Institute of Ecology and Geography, CAS, China)

Time 13:30-15:00, September 8th, 2023 Room: 305B

Session	**Deep Empowerment of AI to Facilitate Sustainable and High-Quality Urban Development**
Chair	LIU Min, East China Normal University, China
	High-resolution Earth Observation for Urban Sustainable Development Jonathan LI (University of Waterloo, Canada)
	Using big data to assess the progress of cities towards Sustainable Development Goals HUANG Bo (The University of Hong Kong, China)
	Coastal City SDGs in the era of Climate Change: A Community Engagement Approach LIU Yan (The University of Queensland, Australia)
	GeoSDG:a spatial simulation tool for exploring the future sustainable development paths LI Xia (East China Normal University, China)
	Harnessing big geodata for circular and low-carbon urban built environment transition LIU Gang (Peking University, China)

Time 13:30-15:00, September 8th, 2023 Room: 305D

Session	Big Earth Data in Support of Assessing Resilient Cities and Human Settlements
Co-Chairs	SUN Zhongchang, International Research Center of Big Data for Sustainable Development Goals, China
	ZHANG Zhonghao, Shanghai Normal University, China
	Sun Liqun, Shenzhen Institute of Advanced Technology, CAS, China
	CHEN Bin, The University of Hong Kong, China
	Urban green space remote Sensing--------multi-dimension and multi-angle perception of urban vegetation MENG Qingyan (Aerospace Information Research Institute, CAS, China)
	SDG 11 and spatial analytical tools to facilitate performance tracking Robert Ndugwa (United Nations Human Settlements Programme)
	Heatproofing our cities: the need for a global heat resilience service Martyn Clark (Group on Earth Observations Secretariat, Switzerland)
	Intelligent understanding of remote sensing image scene for sustainable urban development CHEN Jie (Central South University, China)
	Progress and challenges of coupling spatiotemporal big data analytics and deep learning for sustainable urban spatial optimization decision-making research WANG Shaohua (International Research Center of Big Data for Sustainable Development Goals, China)
	Remote sensing monitoring and comprehensive assessment of China's urbanization sustainability based on the SDGs indicator JIANG Huiping (Institute of Geographic Sciences and Natural Resources Research, CAS, China)
	Satellite observations reveal a decreasing albedo trend of global urban cities over the past 35 years WU Shengbiao (The University of Hong Kong, China)
	Analyzing patterns of urban clusters along china's mid-spine belt: a complex spatial network perspective LI Sijia (International Research Center of Big Data for Sustainable Development Goals, China)
	Monitoring urban slum and deprived area in sub-Saharan Africa LI Chengxiu (Department of Earth System Science, Tsinghua University, China)

Time 13:30-15:00, September 8th, 2023 Room: 305E

Session	**Unlocking the Potential of Big Earth Data: Tracking SDG Indicators in Southeast Asia**
Chair	LU Linlin (International Research Center of Big Data for Sustainable Development Goals, China)
	Using the SDG indicators 2.3.1 & 2.3.2 for assessing small-scale farms' income in the context of changing climate in Chiang Mai province Thailand. Thi Phuoc Lai Nguyen (Asian Institute of Technology, Thailand)
	Monitoring and Assessing Urbanization Progress in Thailand between 2000 and 2020 Using SDG Indicator 11.3.1 XUE Wenchao (Asian Institute of Technology, Thailand)
	Assessment of SDG Indicator 11.6.2: PM2.5 Concentration in Thailand using Earth Observation Data Ekbordin Winijkul (Asian Institute of Technology, Thailand)
	Monitoring for SDG indicator 14.1.1: Coastal Eutrophication across inner and coastal areas of Thailand Salvatore G.P. Virdis (Asian Institute of Technology, Thailand)

Closing Ceremony 15:30-17:00

6

Session Information

Special Session Title

Big Data for Agrifood Systems Transformation: The Perspective of Sustainable Nature Resources Management

Session Organizer

Land and Water Division (NSL), FAO, International Research Center of Big Data for Sustainable Development Goals (CBAS)

Short Description

More than halfway to the deadline for the 2030 Agenda, the world is kept off track in achieving zero hunger by 2030, due to climate variability and extremes, conflict, economic shocks and growing inequalities. It is projected that 8% of the world's population will still face hunger in 2030, the same level as in 2015, when the 2030 Agenda for Sustainable Development was launched. In order to achieving Zero Hunger, global agricultural production, as the basis, would require to increase by 28 percent over the next decade, which is more than three times of increase over the past decade.

However, all evidence points to slowing growth in agricultural productivity, rapid exhaustion of productive capacity. Yield increases for some staple crops in major breadbaskets are entering into plateau. Meanwhile, high levels of pollution and greenhouse gas emissions are stretching the productive capacity to the limit and severely degrading land and environmental services. What's more, human use of land and water for agriculture has not yet peaked. Sustainable natural resource management is fundamental to the transformation of agrifood systems for better production, better nutrition, a better environment, and a better life.

Data is a key resource for monitoring the current situation and foreseeing the future. FAO, as the custodiam agency for over 60% of the indicators of SDG2: Zero Hunger, listed data as one of the four accelerators for the implementation of the 2030 Agenda for Sustainable Development and the achievement of the strategic framework 2022-31.

Objectives

From the perspective of sustainable use of natural resources, this session aims to explore the supporting and promoting role of big data in the transformation of agrifood systems. With special focus on the indicators referring to land, water, and soil, such as SDG 2.4.1, 6.4.1, 6.4.2, 13.2.1 and 15.3.1, we will discuss the achievements and gaps of big data in support of monitoring progress of the indicators, explore interactions between indicators, and potential routes for sustainable natural resources management to support the transformation of agrifood systems.

Expected results

Through this special session, we expect to achieve the following outcomes:

1. Providing the practices and sharing experiences of big data in supporting sustainable management of nature resources and food production.

2. Exploring future directions and efforts forward on agrifood systems transformation based on big data.

Agenda

Time 15:15-18:30, September 7th, 2023 Room: 307
Introduction and opening remark

Moderator:

LI Lifeng

Director of Land and Water Division

Food Agriculture Organization of the United Nations (FAO)

Joined in FAO in August 2021, Dr. Li leads FAO's work on soil, land, water and geospatial, as well climate financing through partnership with the Adaptation Fund. He acts as FAO's Focal Point to UNCCD Convention and Ramsar Convention and co-leads UN Decade of Ecosystem Restoration with other FAO and UNEP senior staff.

He has 15 years of experience on water policy, river basin and freshwater ecosystems management through his works in WWF China, WWF International (Switzerland) and Wetlands International (Netherlands), and three years of experience on climate financing, national climate planning & programming and country readiness to access climate financing through his works in the Green Climate Fund (GCF, South Korea).

He holds a PhD in physical geography from Chinese Academy of Sciences in China.

Opening Remark:

GUO Huadong

Director General

International Research Center of Big Data for Sustainable Development Goals

Prof. GUO is the Director General of the International Research Center of Big Data for Sustainable Development Goals (CBAS), an Academician of Chinese Academy of Sciences (CAS), a Foreign Member of the Russian Academy of

Sciences, a Foreign Member of the Finnish Society of Sciences and Letters, and a Fellow of TWAS. He presently serves as Honorary President of the International Society for Digital Earth (ISDE), Director of the International Center on Space Technologies for Natural and Cultural Heritage under the Auspices of UNESCO, Chair of the Digital Belt and Road Program, and Editor-in-Chief of the International Journal of Digital Earth and the journal of Big Earth Data. He served as a member of the UN 10-Member Group to support the Technology Facilitation Mechanism for SDGs (2018-2021), Chairman of the International Committee of Remote Sensing of Environment (2017-2020), President of ISDE (2015-2019), and ICSU Committee on Data for Science and Technology (CODATA) (2010-2014). He specializes in remote sensing, radar for Earth observation, and Digital Earth science. He is the Principal Investigator of Moon-based Earth Observation Research Project of National Natural Science Foundation of China and the Chief Scientist of the Big Earth Data Science Engineering Project of CAS. He has published more than 500 papers and 24 books, and is the awardee of 18 domestic and international prizes.

Participants

15:25-17:25 Technical presentations (15 minutes/presentation)

Event 1 (15:25-15:40)

FAO open data for monitoring land and water productivity and achieving SDG

Livia Peiser

Land and Water Officer

Land and Water division of FAO

Livia Peiser has been working in the Land and Water Division of FAO for the past 12 years, applying spatial analysis to water resources assessment. Since 2015, she focuses on remote sensing applications for water productivity monitoring through the implementation of the FAO WaPOR project.

WaPOR is the FAO portal to monitor Water Productivity through Open access of Remotely sensed derived data. WaPOR data can be accessed through the portal wapor.apps.fao.org, and through the FAO Hand in Hand Geospatial Platform, as well as GEE and other common data access standards (as APIs). The portal supports monitoring and reporting on agriculture water productivity over Africa and the Near East and provides open access to the water productivity database and its thousands of underlying map layers. It allows for direct data queries, time series analyses, area statistics and data download of key variables associated to water and land productivity assessments.

The database is the backbone of the WaPOR project that, now in its second phase, works with ten partner countries to build their capacity in the use of WaPOR data for its different applications, and to generate solutions to local challenges linked to water and land productivity as well as water management.

Website: https://www.fao.org/in-action/remote-sensing-for-water-productivity

Event 2 (15:40-15:55)

Soil mapping for a sustainable future: FAO's data-driven efforts in decision making

Yusuf Yigini

Land and Water Officer

Land and Water division of FAO

Yusuf Yigini is a soil scientist who holds a Ph.D., M.Sc., and BSc. degrees in Soil Science with a focus on soil information, data, and spatial data modelling. With over 20 years in the field, he has accumulated a wealth of research and policy experience. In 2017, he joined the FAO Land and Water Division and the Global Soil Partnership (GSP) Secretariat. In his role, Yusuf coordinates various soil information and data activities, including the Global Soil Information System (GloSIS), SoilSTAT, Country Driven Global Data Products, and capacity development programmes for member countries. Before joining the FAO and the GSP Secretariat, he served at the Joint Research Centre of the European Commission as a Technical and Scientific Project Officer for six years. Additionally, he spent more than 9 years as a researcher in Turkey.

Event 3 (15:55-16:10)

Big Earth Data in support of sustainable crop production

ZUO Lijun

Professor

International Research Center of Big Data for Sustainable Development Goals, Aerospace Information Research Institute, Chinese Academy of Sciences

Dr. ZUO Lijun is professor of Aerospace Information Research Institute, Chinese Academy of Sciences (CAS), and International Research Center of Big Data for SDGs, deputy director of the National Engineering Research Center for Remote Sensing Applications of China, SDG 2 coordinator of "Big Earth Data Supporting the Sustainable Development Goals". Her research focuses on remote sensing of land use change, and impact of land use change on food security and ecosystems. She hosted more than 10 major national science and technology projects, and has published more than 70 papers in journals including Nature Sustainability, Remote Sensing of Environment, etc.

Event 4 (16:10-16:25)

Global land degradation neutrality tracking and intervention platform

LI Xiaosong

Professor

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

LI Xiaosong is a researcher of the International Research Center of Big Data for Sustainable Development Goals, deputy director of the Key Laboratory of Digital Earth, Aerospace Information Research Institute, Chinese Academy of Sciences, member of Expert Group on UNEP Sustainable Development Goals progress measuring report, SDG 15 coordinator of "Big Earth Data Supporting the Sustainable Development Goals", member of the Working Group of the International Earth Observation Organization-Land Degradation Neutrality Initiative, and member of the Expert Group on China's voluntary LDN targets setting. He has been mainly engaged in research work in the direction of big earth data to promote the realization of sustainable development goals, remote sensing big data analysis and land degradation monitoring, and hosted over more than 20 major national science and technology projects. As an associate editor, he has published 4 books, published more than 70 research articles, and won 3 National and Ministerial and Provincial-Level Science and Technology Award.

Event 5 (16:25-16:40)

Global cropping system mapping: past, present and future

YOU Liangzhi

Senior Research Fellow

International Food Policy Research Institute (IFPRI)

YOU Liangzhi is a Senior Research Fellow at the International Food Policy Research Institute (IFPRI) in Washington, DC, USA. His current research focuses on assessing the impacts of technology changes in agricultural production, with particular emphasis on developing better models to estimate the location and intensity of agricultural production, and to estimate the impact of climate change and changing climate variability on agriculture. Liangzhi earned a B.S. in hydraulic engineering from Tsinghua University, Beijing in 1990, and an M.S. in environmental economics and Ph.D. in civil and environmental engineering from Johns Hopkins University in 1999.

Event 6 (16:40-16:55)

Using big data to monitor cropland use and management

YU Qiangyi

Research Fellow

Institute of Agricultural Resources and Regional Planning (IARRP), Chinese Academy of Agricultural Sciences (CAAS)

Dr. YU Qiangyi is a Research Fellow at the CAAS-IARRP and the Director of the Smart Agriculture Research group. He obtained a PhD in Agricultural Resources and Environment in 2013 at the Graduate School of CAAS, and was a visiting researcher at the International Food Policy Research Institute (IFPRI) in 2015, and a postdoc researcher at the Institute for Environmental Studies (IVM) Vrije Universiteit Amsterdam between 2016 and 2018.

His research interests include: 1) advancing the manifestations of agricultural land system by considering crop allocation, farm management, and the all-inclusive human activities that have impacts on the state of cropland; 2) representing the highly dynamic and multi-faceted agricultural land systems by satellite, aerial, and ground-integrated (SAGI) remote sensing technology; and 3) evaluating the potentials and pathways of cropland use intensification and their implications on food security, environmental sustainability, and rural vitalization.

Event 7 (16:55-17:10)

Using big data to underpin the improvement of soil and crop system for coastal saline land

SUN Zhigang

Professor

Agroecosystem Research Center, Institute of Geographical Resources, Chinese Academy of Sciences

SUN Zhigang is Deputy director/researcher of Agroecosystem Research Center, doctoral supervisor, university professor of Chinese Academy of Sciences. In 2015, he was selected into the "Introduction of Foreign Outstanding Talents" Class A talent program of Chinese Academy of Sciences. He also served as deputy director of Yucheng Station of Chinese Academy of Sciences, Deputy director of Yellow River Delta Modern Agricultural Engineering Laboratory of Chinese Academy of Sciences, director of Yellow River Delta Research Center of Institute of Geographic Resources of Chinese Academy of Sciences, and president of Shandong Dongying Geographical Research Institute of Chinese Academy of Sciences.

Event 8 (17:10-17:25)

SDGs' Sustainable Natural Resources Management and Big Data

Therese El Gemayel

Promamme Management Officer

United Nations Environment Programme (UNEP)

Therese El Gemayel is an environmentalist, passionate about improving the understanding and techniques related to environmental assessment and monitoring to address climate change, achieve sustainable development and advocate for circular economy.

Through leveraging her experience within the international community on sustainable development goals and environment, capacity building and statistics, she worked on several environmental projects. More closely, Therese is currently managing a project on circular economy at UNEP with the aim to build countries' capacities in measuring sustainable consumption and production, and waste indicators within the SDG framework. She is responsible for UNEP's Measuring Progress report series.

Therese holds an MSc in environmental sciences and an international business management diploma from McGill university. She is fluent in Arabic, English and French.

17:25-18:20 Panel Discussion

Big data underpinning agrifood systems transformation: Current issues and future prospects)

Potential panelists:

LIU Wei

Sustainable Development Officer

United Nations Department of Economic and Social Affairs (UNDESA)

Dr. LIU Wei is the Coordinator of the UN Inter-agency Task Team on Science, Technology and Innovation for the SDGs, the Division for Sustainable Development Goals, UN DESA from 2016 to present. In his role, Dr. Liu provides both substantive and organizational support to the implementation of the science, technology and innovation (STI)-related decisions contained in the 2030 Agenda for Sustainable Development, and other related global processes. He has also developed effective partnerships with main partners in the STI field, such as the European Commission Joint Research Center, MoST China, JRC Japan, and the World Bank. Dr. Liu joined the United Nations in 2005 through the National Competitive Exam (NCE). He has mainly worked in the development policy sector and contributed to various United Nations publications, including the Global Sustainable Development Report, guidebooks, operational notes, and policy briefs of the Technology Facilitation Mechanisms. He also prepares briefing notes, talking points, speeches for UN senior staff, and makes presentations on international conferences.

Therese El Gemayel

Programme Management Officer

United Nations Environment Programme (UNEP)

Therese El Gemayel is an environmentalist, passionate about improving the understanding and techniques related to environmental assessment and monitoring to address climate change, achieve sustainable development and advocate for circular economy.

Through leveraging her experience within the international community on sustainable development goals and environment, capacity building and statistics, she worked on several environmental projects. More closely, Therese is currently managing a project on circular economy at UNEP with the aim to build countries' capacities in measuring sustainable consumption and production, and waste indicators within the SDG framework. She is responsible for UNEP's Measuring Progress report series.

Therese holds an MSc in environmental sciences and an international business management diploma from McGill university. She is fluent in Arabic, English and French.

YOU Liangzhi

Professor

International Food Policy Research Institute (IFPRI)

YOU Liangzhi is a Senior Research Fellow at the International Food Policy Research Institute(IFPRI) in Washington, DC, USA. His current research focuses on assessing the impacts of technology changes in agricultural production, with particular emphasis on developing better models to estimate the location and intensity of agricultural production, and to estimate the impact of climate change and changing climate variability on agriculture. Liangzhi earned a B.S. in hydraulic engineering from Tsinghua University, Beijing in 1990, and an M.S. in environmental economics and Ph.D. in civil and environmental engineering from Johns Hopkins University in 1999.

Marcelin Sanou

Chief Manager, Forest engineer

Pan-African Agency of the Great Green Wall

Mr. SANOU is Program Manager, who responsible for "Database, S.I.G" at the National Direction of Water and Forests of Mali. Since 2015, he has been Head of the Planning, Monitoring, Evaluation and Information Management Department at the Pan-African Agency of the Great Wall, responsible in particular for these significant events:

-strategic and operational planning, monitoring and evaluation of programs and

projects, in conjunction with the National Structures of member countries of the Great Green Wall.

-Implementing and operating the GIS/GGW Information System.

He has participated in the implementation of development and environmental programs in his country, the main elements include the following:

- Environmental development program / Ecological monitoring and observatory network,

- Forest Development Project,

- Management forest and wildlife resources project Projet d'Aménagement des Ressources Forestières et Fauniques,

- National Action Plan for Wetland Management.

WU Bingfang

Professor

International Research Center of Big Data for Sustainable Development Goals, Aerospace Information Research Institute, Chinese Academy of Sciences

Dr. WU Bingfang is a professor at the Aerospace Information Institute of Chinese Academy of Sciences. He is the founder and leader of the global agricultural remote sensing monitoring team (CropWatch) of China, and the co-chair of the Global Earth Observation Global Agricultural Monitoring (GEOGLAM) Flagship. He has made outstanding achievements in agricultural remote sensing monitoring, river basin water resources management and other fields. He has published more than 400 scientific research papers and 10 books.

JIA Li

Professor

International Research Center of Big Data for Sustainable Development Goals, Aerospace Information Research Institute, Chinese Academy of Sciences

Dr. Prof. JIA Li is a leading scientist of Earth Observation for Terrestrial Water Cycle and Climate Change (EOWater) at the Aerospace Information Research Institute (AIR), Chinese Academy of Sciences (CAS). She is a distinguished scientist of the International Research Center of Big Data for Sustainable Development Goals (CBAS), focusing on SDG6. She has been recognized as High-Level Talent Program of CAS in 2009, and recently as distinguished scientist of CAS. She acts as a member of the WCRP-GEWEX Hydroclimatology Panel (GHP) (since 2019), co-chair of the Task Group on Drought Monitoring

and Evaluation of the AOGEO (Asia-Oceania Group on Earth Observations) (since 2017), co-chair of the Working Group on Water of the Digital Belt and Road (DBAR) Science Program (since 2016). She has led and participated in many projects funded by various ministries and organizations both in China, the Netherlands and Europe. She has published more than 190 scientific papers/reports, of which more than 100 as peer-reviewed journal papers. Dr. Jia has been honored with several awards in recent year, including a second-class award in Natural Science from the Ministry of Education of China in 2017, the first-class award in Surveying and Mapping Science and Technology from Chinese Society of Geodesy Photogrammetry and Cartography in 2021.

17:20-18:30 Closing Remark: Mr LI Lifeng

Special Session Title

The 3rd Forum on Earth Observation in Support of Sustainable Development Goals

Session Organizer

Alliance of Sustainable Development Goals Satellites (ASSA)

Short Description

Under the theme of 'Earth Observation in support of Sustainable Development Goals', participants are encouraged in discussions regarding the fulfillment of earth observation requirements aligned with the Sustainable Development Goals (SDGs). The exchanges encompassed innovative methods, technology promotion, and practical applications of big data and digital technologies to advance the implementation of SDGs. In addition, satellite constellation plans dedicated to SDGs will also be discussed.

Objectives

The forum featured thematic presentations and a high-level dialogue. Thematic presentations will provide an in-depth exchange of views on the value of the ASSA satellite consortium's major satellite series in contributing to the 2030 Agenda, concerning SDGs such as zero hunger (SDG 2), clean water and sanitation (SDG 6), affordable clean energy (SDG 7), sustainable cities and communities (SDG 11), climate action (SDG 13), life below water (SDG 14), life on land (SDG 15), and partnerships for the goals from the perspectives of scientific and technological development, regional innovation demonstration, and multi-party participation mechanisms.

The High-Level Dialogue session will focus on the theme 'Space technology for global sustainable development', with exchanges on space observation needs for the achievement of the SDGs, methodological innovations, technological promotion and demonstration applications of big data and digital technologies for sustainable development and the development of the Sustainable Development Satellite Constellation Plan.

Expected Results

Through this session's exchange and discussions, we aim to achieve the following expected outcomes:

1. Promoting the establishment of the Sustainable Development Satellite Constellation Programme to better serve the 2030 Agenda.

2. Exploring the methods and technologies to fill the data gaps of the 2030 Agenda, especially the acquisition of global large-scale data.

3. To identify possible ways to use existing satellites to serve the 2030 Agenda, especially for the development of virtual satellite constellations

4. To establish new co-operation and partnerships between participants for joint research projects and initiatives.

Agenda

Time 13:30-16:15 , September 7th, 2023 Room: 305E
Moderator:

SHI Jiancheng

Professor

National Space Science Center, Chinese Academy of Sciences, China

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

Participants
Event 1 (13:35-13:50)
Earth observation technology serves SDGs

GUO Huadong

Director General

International Research Center of Big Data for Sustainable Development Goals

GUO Huadong is the Director General of the International Research Center of Big Data for Sustainable Development Goals (CBAS), an Academician of Chinese Academy of Sciences (CAS), a Foreign Member of the Russian

Academy of Sciences, a Foreign Member of the Finnish Society of Sciences and Letters, and a Fellow of TWAS. He presently serves as Honorary President of the International Society for Digital Earth (ISDE), Director of the International Center on Space Technologies for Natural and Cultural Heritage under the Auspices of UNESCO, Chair of the Digital Belt and Road Program, and Editor-in-Chief of the International Journal of Digital Earth and the journal of Big Earth Data. He served as a member of the UN 10-Member Group to support the Technology Facilitation Mechanism for SDGs (2018-2021), Chairman of the International Committee of Remote Sensing of Environment (2017-2020), President of ISDE (2015-2019), and ICSU Committee on Data for Science and Technology (CODATA) (2010-2014). He specializes in remote sensing, radar for Earth observation, and Digital Earth science. He is the Principal Investigator of Moon-based Earth Observation Research Project of National Natural Science Foundation of China and the Chief Scientist of the Big Earth Data Science Engineering Project of CAS. He has published more than 500 papers and 24 books, and is the awardee of 18 domestic and international prizes.

Event 2 (13:50-14:05)

UNOSAT's GIT Solutions for enhancing disaster and climate resilience in support of the SDGs

Belabbes Samir

Associate Programme Officer

United Nations Satellite Centre

Samir Belabbes, PhD., was awarded his PhD in geophysics from the Louis Pasteur University of Strasbourg (France) and an Engineering degree from the university of sciences and technology of Algiers (Algeria). His doctorate thesis was mainly focused on the use of EO data and more specifically the radar interferometry techniques for seismic risk assessment applications in North Africa and Anatolia. He has more than twenty years of experience in remote sensing data, monitoring of ground data and field observation for environmental and geological studies. He has been working as an Associate Programme Officer for the United Nations Satellite Centre (UNOSAT) where he is primarily involved in remote sensing data processing and interpretation for environmental and biomass degradation in the tropical and sub-tropical areas, natural disasters, and risk assessment applications and is the main activation manager for rapid mapping activities. He has also professional experience in geophysical field exploration using aeromagnetic and gravimetric measurements, research and university teaching in North-Africa and Europe.

Event 3 (14:05-14:10)

ASSA Product Launch

Event 4 (14:10-14:20)

High-Resolution Earth Observation empowers Sustainable Development

ZHAO Jian

Director

Earth Observation System and Data Center, China National Space Administration

Dr. ZHAO Jian is the Director of Earth Observation System and Data Center of China National Space Administration, the Chief Designer and Deputy General Director of the China High-resolution Earth Observation System Project, and the Working Group Leader of the BRICS Remote Sensing Satellite Constellation in 2022. He has long been engaged in space development strategy and technology research, engineering construction, organization and management of major space special projects, international space exchange and promotion, etc. He has forward-looking strategic research and global vision, rich management ability, and implementation experience of major national special projects, and has contributed significantly to the rapid development of space. He is an outstanding leader across industries, fields, and systems.

As a leading technology leader in China, he will continue to be committed to promoting the construction of earth observation systems and efficient application of data, serving economic and social development, and leading China's space to help achieve the 2030 Sustainable Development Goals of the United Nations.

Event 5 (14:20-14:30)

Ecological environment of satellite remote sensing monitoring boost the global sustainable development

GAO Jixi

Director

Satellite Application Center for Ecology and Environment, MEE, China

GAO Jixi, the Director of the Satellite Application Center for Ecology and Environment, MEE. He is a member of the 14th National Committee of the Chinese People's Political Consultative Conference (CPPCC), the Committee on Population, Resources and Environment, the Standing Committee of the Central Committee of the Zhigong Party, the Director of the Committee on Ecology, Environment and Sustainable Development, and researcher.

He has long been engaged in the research and management of ecological environmental protection, the demonstration, design, development, in-orbit testing and application of ecological environmental satellites, etc. He was listed in the first batch of national environmental protection leading talents and national candidates for the National Project of One Hundred and Ten Million

Talents, and presided over the completion of a large number of pioneering work and achieved fruitful scientific research results.These scientific research achievements involve five second-class awards for national scientific and technological progress and more than 30 nationally authorized invention patents.

His honors include: National "outstanding contributions to young and middle-aged experts", the Central State organs " May 1st" Labor Award, the national outstanding professional and technical personnel, the national outstanding scientific and technological workers, the national "sand control and advanced individual" and other honors. He has been honored as "Outstanding Individual in Sand Control and Prevention" and "Outstanding Individual in the Ministry of Ecology and Environment" for two consecutive years.

Event 6 (14:30-14:40)
Haiyang Satellite Series serve SDGs

LIN Mingsen

Director General

National Satellite Ocean Application Service

LIN Mingsen received the B.S. degree in applied mechanics from the National University of Defense Technology, Changsha, China, in 1984, and the Ph.D. degree in computational mathematics from the Computing Center, Chinese Academy of Sciences, Beijing, China, in 1992.

He is the Chief Designer of the ground application system for Chinese salinity satellites, synthetic aperture radar satellites, and new generational ocean dynamic satellites and was a Deputy Chief Designer of the ground application system for HY-1 and HY-2 satellites, where he organized the framework for the Chinese Ocean Satellite outline and managed the construction of the ground application system for the Chinese Ocean Satellite with the National Satellite Ocean Application Service, Beijing, China. He is one of the Founders of satellite ocean remote sensing in China. He played a crucial role in developing the Chinese ocean satellite and manned space flight. His research interests include ocean satellite data processing, remote sensing of the ocean, and its applications.

Event 7 (14:40-14:50)
FengYun's Actions for SDG Goals

WANG Jinsong

Director General

National Satellite Meteorological Center

Dr. WANG Jing-Song, Professor, currently serves as Director-General of the National Satellite Meteorological Center(NSMC) and the National Centre

for Space Weather(NCSW). Dr. Wang is also serving as the standing council member of Chinese Society of Astronautics (CSA), the council member of Chinese Society of Space Science (CSSS) and Chinese Meteorological Society (CMS), as well as the vice chairman of China Science Writers Association (CSWA). Dr. Wang's contributions to and achievements in the fields of integrated meteorological observations, FengYun satellite development as well as space weather operation in China are also shared internationally through CMA's engagement and cooperation programs.

Event 8 (14:50-15:00)
Guotu Satellite Series serve SDGs

WANG Quan

Director General

Land Satellite Remote Sensing Application Center, MNR

WANG Quan, Director General and researcher of the Land Satellite Remote Sensing Application Center, MNR, member of the 13th National Committee of the Chinese People's Political Consultative Conference (CPPCC), vice chairman of the China Association of Remote Sensing Application (CARSA), chairman of the Subcommittee 3 on Satellite Application of National Technical Committee 230 on Geographic Information of Standardization Administration of China (TC230/SC3), one of the First National Invited Natural Resources Ombudsmen, and commander-in-chief of the High-resolution Multi-Mode Satellite Engineering Application System. He has been engaged in the construction and application of natural resources land satellite remote sensing system, and received a number of awards, including but not limited to the second prize of the State Technological Innovation Award, the second prize of the State Science and Technology Advancement Award, and the first prize of the Science and Technology Advancement Award for Geodesy Photogrammetry and Cartography of the Chinese Society for Geodesy Photogrammetry and Cartography (CSGPC), and has been granted special government allowances from the State Council.

Event 9 (15:00-15:10)
SDGSAT-1 serves SDGs

DOU Changyong

Secretary General of ASSA

International Research Center of Big Data for Sustainable Development Goals

DOU Changyong is an associate professor with International Research Center of Big Data for Sustainable Development Goals (CBAS), serving as secretary general of Alliance of Sustainable Development Goals Satellites (ASSA).

As a core staff member, he participated in the demonstration and overall design of the Sustainable Development Goals Science Satellite 1 (SDGSAT-1), he also organized and implemented the demonstration of the technical indexes and determination of the indexes of the engineering system of the SDGSAT-1. Moreover, he supervised and organized the development of the satellite engineering systems, the launch of the satellite, the release of the first map and the implementation of the SDGSAT-1 open science programme. At the same time, he also developed the theory and technical methods of joint radiometric and geometric calibration of remote sensing images on multiple platforms, and carried out joint radiometric and geometric calibration of multiple types of Earth observation payloads on airborne, SDGSAT-1 satellites and space stations, which ensured quantitative remote sensing applications and the production of high-precision data products. With regard to the work on SDGs, Dou Changyong carried out research on SDGSAT-1 services for monitoring and assessment of SDGs. He and his team took advantage of the unique advantages of the Glimmer imager, Multispectral Imager and Thermal Infrared Spectrometer data of the SDGSAT-1 satellite, in conjunction with other data sources, organized research work related to SDG2, SDG6, SDG11, SDG13, SDG14 and SDG15.

Event 10 (15:20-16:10)

High-Level Dialogue: Construct 'Sustainable Development Satellite Constellation Plan' to better serve the implementation of the 2030 Agenda

Belabbes Samir

Associate Programme Officer

United Nations Satellite Centre

Samir Belabbes, PhD., was awarded his PhD in geophysics from the Louis Pasteur University of Strasbourg (France) and an Engineering degree from the university of sciences and technology of Algiers (Algeria). His doctorate thesis was mainly focused on the use of EO data and more specifically the radar interferometry techniques for seismic risk assessment applications in North Africa and Anatolia. He has more than twenty years of experience in remote sensing data, monitoring of ground data and field observation for environmental and geological studies. He has been working as an Associate Programme Officer for the United Nations Satellite Centre (UNOSAT) where he is primarily involved in remote sensing data processing and interpretation for environmental and biomass degradation in the tropical and sub-tropical areas, natural disasters, and risk assessment applications and is the main activation manager for rapid mapping activities. He has also professional experience in geophysical field exploration using aeromagnetic and gravimetric measurements, research and university teaching in North-Africa and Europe.

Khalid Alrowaily

Head of Big Data Section

Planning and Statistics Authority

Chief Data Officer. Skilled in Business Process, Business Intelligence, Advanced Analytics, Requirements Analysis, Databases, Enterprise Architecture, and ITIL. Strong operations professional. Having a Doctor of Philosophy (PhD) focused in Data Mining and Sentiment Analysis.

Birendra Bajracharya

Senior Remote Sensing, Geoinformation Specialist

International Centre for Integrated Mountain Development (ICIMOD)

Birendra Bajracharya has over twenty five years professional experience working on various aspects of remote sensing and geoinformation system applications in relation to natural resources, land cover, biodiversity and conservation planning, decision support systems and spatial data infrastructure and have been involved extensively in developing and delivering various training courses on GIS/RS in all eight HKH countries. He has an MSc in Geo-Informatics from the International Institute of Geo-Information Science and Earth Observation, the Netherlands, an MBA from Tribhuvan University, Nepal, and BE in Civil Engineering from the University of Rajasthan, India.

CHU Wenbo

Work Programme Officer

Group on Earth Observations (GEO)

CHU Wenbo is the Work Programme Officer at the Group on Earth Observations (GEO) Secretariat. She coordinates the development and implementation of the GEO Work Programme activities. She coordinated the data sharing efforts within GEO between 2014-2017, first as a seconded expert and later as a staff member. Before joining GEO, she was the Deputy Director of Division of the National Science and Technology Infrastructure Center in China. She led several research projects on policies and mechanisms for Science and Technology resource sharing between 2007-2013. She received a master's degree in Engineering in Tsinghua University in 2007. She is also a certified Project Management Professional.

YUE Tao

Director

China Centre for Resources Satellite Data and Application

YUE Tao is the Director of China Centre for Resources Satellite Data and Application.He is also the vice president of the China Association of Remote Sensing Applications (CARSA), the vice president of the Chinese Society of Geodesy Photogrammetry and Cartography (CSGCA), and the executive

director of the Chinese Society of Astronautics (CSA).

He has long been engaged in the design and manufacture of remote sensors and space vehicles, space information processing, space technology application and promotion, and other related work.

ZHONG Xing

Assistant General Manager, Chief Designer

Chang Guang Satellite Technology Co., LTD

ZHONG Xing, doctor of engineering, doctoral supervisor, Assistant General Manager and Chief Designer of Chang Guang Satellite Technology Co., LTD. He is member of Chinese Association of Young Scientists and Technologists, Chinese Society of Space Research, Optical Society of America (OSA), and International Society for Optical Engineering (SPIE), mainly engages in the study of satellite system and optical remote sensing. He presided over and participated in more than 10 terms of 863, natural fund, general assembly pre-study and other development efforts of the aerospace project; published more than 60 academic papers in the mainstream learned periodical at home and abroad (SCI records 9 articles), and 9 academic papers was authorized patents. Won the special prize of dean in Chinese Academy of Sciences, Certificate High Distinction of the ninth Changbai Youth Science and technology Award, the first excellent young pioneer of the Changchun Association Branch, Lujiaxi young talent award of Chinese Academy of Sciences, the young post expert in provincial institutes, and excellent member of Youth Promotion Association, etc. He is in the first batch selected by the Youth Innovation Promotion Association, and takes the post of the first President of Changchun Association Branch. In 2016, the team led by him was selected in the list of the first batch of r&d talents for major science and technology projects in Jilin Province.

Special Session Title

Forum on Promotion and Demonstration of Digital Technologies for Sustainable Development

Organizer

International Research Center of Big Data for Sustainable Development Goals (CBAS)
The Administrative Center for China's Agenda 21 (ACCA21)

Objectives:

The Forum aims to comprehensively showcase the significant role and capacity of big data, Artificial Intelligence (AI), and other digital technologies in assisting global sustainable development, share the technological innovation practices and successful experiences of China's National Innovation Demonstration Zones in implementing the UN 2030 Agenda for Sustainable Development. It will contribute to the achievement of the SDGs and the advancement of the Global Development Initiative.

Special Session Title

Youth Responsibilities and Actions to Address SDGs Data and Information Gap

Session Organizer

International Research Center of Big Data for Sustainable Development Goals (CBAS);
CAS-TWAS Centre of Excellence on Space Technology for Disaster Mitigation (SDIM).

Short Description

This session will connect global organizations, international academic journals, senior professionals and young talents to seek cooperative development in the field of SDG big data, with the ultimate goal of empowering young talents to become an important scientific and technological force in the global development initiatives and the implementing of the SDGs.

Supported by

The World Academy of Sciences (TWAS);
Committee on Data of the International Science Council (CODATA);
Integrated Research on Disaster Risk (IRDR);
Digital Belt and Road (DBAR);
ISDE Young Scientist Innovation Network (ISDE-YSIN);
Youth Innovation Promotion Association CAS (YICAS);
The Innovation journal;
International Journal of Remote Sensing;
Journal of Remote Sensing.

Expected Results

Youth Responsibility and Action Initiative to Address SDGs Data and Information Gap.

Agenda

Time 13:00-18:30, September 6th, 2023 Room: 201A
Moderators:

Kevin Tansey

Professor

University of Leicester

Kevin Tansey is a professor of remote sensing and Earth observation at the University of Leicester in the UK. He is also the Editor-in-Chief of the International Journal of Remote Sensing published, since 1980, by Taylor & Francis. He is the member of the IEEE and the UK's RSPSoc. He has led more than 50 research projects funded by various institutions, including the European Commission, European Space Agency, UKRI and the Royal Society. His research interests are in remote sensing of the land surface, and is especially interested in wildfire mapping, agricultural yield estimation and crop characterization. He is interested in the use of machine learning and deep learning algorithms to process large and complex data sets. He has developed strong links with Peking University, China Agricultural University and Hohai University through various research projects and student and researcher exchanges.

LIU Liangyun

Professor

International Research Center of Big Data for Sustainable Development Goals

LIU Liangyun is Professor with the Aerospace Information Research Institute, Chinese Academy of Sciences, Beijing, China. He was awarded five government prizes, including two second-class national scientific and technological progress awards, and was also honored by National Science Fund for Distinguished Young Scholars in 2018. He is the executive Editors-In-Chief of Journal of remote sensing. His research majors in quantitative remote sensing of vegetation.

Event 1: Opening Remarks (13:00-13:30)

JIA Gensuo

Professor

International Research Center of Big Data for Sustainable Development Goals

JIA Gensuo is a professor at the Institute of Atmospheric Physics, Chinese Academy of Sciences (CAS) and the Director of CAS Global Change Research Center for East Asia (START TEA). Prof. Jia serves as deputy director of CBAS, chair of science planning panel of CAS Big Earth Data Science Engineering program (CASEarth), coordinating lead author (CLA) of IPCC Special Report

on Climate Change and Land (SRCCL), CLA of UNEP Global Environmental Outlook (GEO-7), member of UNEP-ISC Foresight Expert Panel, deputy co-chair of Group on Earth Observation (GEO) climate change working group, member of review panel for UN Global Sustainable Development Report (GSDR), and IPBES nexus assessment scoping expert. Prof. Jia has broad research interests in terrestrial ecology and atmospheric sciences, including multi-scale remote sensing of land surface processes, ecosystem-climate interactions, climate extremes and natural disasters, and climate change impacts and adaptation. He published over 100 peer reviewed papers in science journals including Science, Nature Climate Change, Science Advances, Global Change Biology, BAMS, and Remote Sensing of Environment in recent years.

Quarraisha Abdool Karim

Professor

The World Academy of Sciences for the advancement of science in developing countries

Abdool Karim, is an infectious diseases epidemiologist whose seminal contributions spanning over three decades have shaped the global HIV prevention landscape, notably in prevention technologies for women. She demonstrated that ARVs prevent sexually transmitted HIV that laid the foundation for HIV pre-exposure prophylaxis (PrEP); and has provided insights in Africa and globally on the impact of Covid-19 on HIV and in the evaluation of Covid-19 vaccines and therapeutics. Abdool Karim is the President of The World Academy of Sciences (TWAS). She is an elected member of the National Academy of Medicine (USA); and Fellow of The World Academy of Science, Royal Society of South Africa, Academy of Science of South Africa and the African Academy of Science. Her research contributions have been recognized nationally and internationally with over 30 honors including South Africa's Order of Mapungubwe, 2014 TWAS-Lenovo Prize; the John Dirks Canada Gairdner Global Health Award; the 2020 Christophe Mérieux Prize; and the 4th Hideyo Noguchi Africa Prize for Medical Research. She is the Associate Scientific Director of CAPRISA; Professor in Clinical Epidemiology, Columbia University; and Pro-Vice Chancellor for African Health, University of KwaZulu-Natal, South Africa.

Gretchen Kalonji

Professor

Institute for Disaster Management and Reconstruction, Sichuan University

Professor Kalonji was the Assistant Director General for Natural Sciences at UNESCO (2010 – 2014), where she had responsibility for multiple intergovernmental scientific programs, including the International Hydrological Program (IHP), the Man in the Biosphere Program (MAB), the International Geosciences Program (IGCP) and the International Basic Sciences Program. Her current focus is on development of multinational, multidisciplinary project-based approaches for better targeting the collaborative research efforts of our

universities towards achieving the Sustainable Development Goals.

Event 2: Young Scientists' Report (13:30-14:30)

Big data drive innovative tools towards zero-growth of man-made mass & sustainable cities

LIU Yupeng

Associate Professor

Institute of Urban Environment, Chinese Academy of Sciences

Dr. LIU Yupeng is the executive director of the Urban Health and Wellbeing Programme (UHWB), ISC and an associate professor at the Institute of Urban Environment, Chinese Academy of Sciences. Dr. Liu's studies cover urban ecology, industrial ecology and landscape sustainability. He is good at urban 3-D environment modeling and resource and environmental assessment by combining remote sensing technology, geographic information system, material flow analysis, and other ecosystem models. He has published more than 40 scientific papers and served for more than 20 peer-reviewed journals as reviewer or guest-editor.

Urban forests in support of sustainable and equitable city development

LIN Jian

Postdoctoral Scholar

The Chinese University of Hong Kong

Dr LIN Jian is a Postdoctoral Scholar at the Chinese University of Hong Kong and an Adjunct Research Fellow at the University of California Merced. Dr Lin obtained his PhD degree in Environmental Science from the State University of New York. His research focuses on urban forest modeling and ecosystem service quantification, and nature-based solutions for sustainable cities. In the past five years, he has published 18 papers in top SCI/SSCI journals including Nature Energy, and led or participated in the projects funded by the California Air Resources Board, the California Strategic Growth Council, and the United States Department of Agriculture. In addition, he is the Secretary of the ISDE Young Scientist Innovation Network and the Assistant Editor of the international journal Computational Urban Science.

AI driven high resolution debris flow risk assessment based on public remote sensing data

Andreas Nienkötter

Postdoc

Sichuan University

Andreas Nienkötter is Postdoc at the interdisciplinary Institute for Disaster Management and Reconstruction, Sichuan University - Hong Kong Polytechnic University. He received his PhD in computer science at University of Münster, Germany, in 2021. His research interests include robust aggregation of arbitrary data, distance-based vector space embedding and dimensionality reduction methods, as well as machine learning and deep learning methods. He is currently focusing on applications in geohazard risk assessment, analysis and prediction.

Does having more sustainable communities bring better sustainability?

ZHANG Junze

Doctor

Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences

ZHANG Junze is currently a postdoctoral scholar at the Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences. He received his Ph.D. degree in the field of Physical Geography from Beijing Normal University in 2021. He has been funded by the Young Scientists Fund of the National Natural Science Foundation of China and has published 17 papers as the first author in journals such as Science Bulletin, Nature Ecology and Evolution, and The Innovation. One of the papers has been selected as an ESI highly cited paper. His research focuses on ecosystem services, ecological restoration, and sustainable development.

Event 3: Journal Editors' Report (14:30-15:00)
Scopes and progresses of Journal of Remote Sensing

LIU Liangyun

Professor

Aerospace Information Research Institute, Chinese Academy of Sciences

LIU Liangyun is Professor with the Aerospace Information Research Institute, Chinese Academy of Sciences, Beijing, China. He was awarded five government prizes, including two second-class national scientific and technological progress awards, and was also honored by National Science Fund for Distinguished Young Scholars in 2018. He is the executive Editors-In-Chief of Journal of remote sensing. His research majors in quantitative remote sensing of vegetation.

Publishing in the International Journal of Remote Sensing

Kevin Tansey

Professor

University of Leicester

Kevin Tansey is a professor of remote sensing and Earth observation at the University of Leicester in the UK. He is also the Editor-in-Chief of the International Journal of Remote Sensing published, since 1980, by Taylor & Francis. He is the member of the IEEE and the UK's RSPSoc. He has led more than 50 research projects funded by various institutions, including the European Commission, European Space Agency, UKRI and the Royal Society. His research interests are in remote sensing of the land surface, and is especially interested in wildfire mapping, agricultural yield estimation and crop characterization. He is interested in the use of machine learning and deep learning algorithms to process large and complex data sets. He has developed strong links with Peking University, China Agricultural University and Hohai University through various research projects and student and researcher exchanges.

The Innovation is a rising star journal

CHEN Ke

After doctoral graduation from Peking University, CHEN Ke joined the Beijing Institute of Genomics of the Chinese Academy of Sciences (CAS) and visited MD Anderson Cancer Center from 2018 to 2019. He won the title of "Excellent Member" of the Youth Innovation Promotion Association, CAS in 2017. He is one of the founders of The Innovation, which is an international multidisciplinary English journal. Ke CHEN mainly engages in research related to oncology. He has host two projects funded by the National Natural Science Foundation of China and published 15 SCI indexed papers in per-reviewed journals such as Cell Research, Cancer Cell, and Emerging Infectious Diseases.

Event 4: Panel Discussion (15:30-17:00)

Topics:

1) Working Interdisciplinary (AI &Big Earth Data & SDG&...)

2) Working Internationally

3) Impactful Research & Publishing Your Research

4) Effective Career Planning & Become an Entrepreneur

5) Drive and Support Youth Responsibility and Actions to Address the SDG Data Gaps

Panel Speakers:

Baniya Binod (Tribhuvan University, Nepal);

DU Xiaoping (CBAS, China)

Joseph Balkuddembe (IDMR, Sichuan University-The Hong Kong Polytechnic University, China);

Marcial Rivera Rodríguez (WFEO CDRM, Costa Rica);

Nurfashareena Muhamad (University Kebangsaan Malaysia, Malaysia)

Simon Hodson (CODATA, France);

Suresh Chaudhary (National Society for Earthquake Technology-Nepal, Nepal);

CHEN Ke (The Innovation journal, China);

JIA Mingming (Northeast Institute of Geography and Agroecology, Chinese Academy of Sciences, China);

LIN Jian (The Chinese University of Hong Kong, China);

LI Yong (Tsinghua University, China);

LIAN Fang (IRDR, China);

LIU Yupeng (Institute of Urban Environment, Chinese Academy of Sciences, China);

WANG Lei (CBAS, China);

WANG Shaohua (CBAS, China);

WANG Shenglei (CBAS, China);

ZHANG Junze (Ecoenvironment Research Center, Chinese Academy of Sciences, China);

ZHANG Miao (AIRCAS, China);

ZHANG Yiwen (Nanyang Technological University, Singapore).

Event 5: Poster (17:00-18:00)

Special Session Title

Promoting International Collaborations on Big Data For Sustainable Development – A Special Session by the CBAS International Advisory Committee (IAC)

Session Organizer

The International Advisory Committee of CBAS (IAC)

Short Description

We all know that international collaborations are indispensable for addressing the pressing challenges facing all of us. We need to more effectively share experiences about which models of international collaboration are most effective, and about how the lessons we have learned about what works well can be potentially replicable across disciplinary and national boundaries. Hence, the theme for the IAC Session is "Promoting International Collaborations on Big Data for Sustainable Development". The basic idea is that the session will offer insights about a diverse group of experts' experiences in international collaboration, and discuss how their experiences might be useful for the future development of CBAS.

Objectives

This session is organized to maximize participation, dialogue, and long-term collaboration. We hope our session will help to elucidate the roles of: intergovernmental scientific programs within the UN system; networks of universities and international research institutes at regional and global levels; youth and young professional organizations; contributions of professional society networks worldwide; contribution from the private sector, and from civil society networks. The overarching objective is to maximize the international impact of the work of CBAS, and to propose some concrete next steps in that regard.

Expected Results

Through the exchange of ideas and discussions in this symposium, we expect to have contributions from international experts with consultations around the following questions:

- Which existing models of international collaboration have proved most effective in promoting mutually beneficial participation, and what are the lessons learned?
- What are the main challenges to be overcome for international collaboration, especially when there is a huge resource imbalance among countries/regions?
- Examples of new and promising models of international collaboration?
- New prospects for collaboration in the context of recent technological developments?
- Next steps for CBAS? What is the strategic niche for CBAS?

Agenda

Time 13:30 – 16:45, September 7th 2023 Room: 305B

Moderators:

Gretchen KALONJI

Professor and Dean, the Institute of Disaster Management and Reconstruction, Sichuan University – the Hong Kong Polytechnic University

YANG Saini

Professor, School of National Safety and Emergency Management, Beijing Normal University. Director, International Cooperative Research Center for Disaster Risk Reduction, Beijing Normal University

Participants:

Event 1

Roles of TWAS in international science for peace and sustainable development – vision for the future

Quarraisha ABDOOL KARIM

President

The World Academy of Sciences (TWAS)

Event 2

Roles of professional societies in international collaborations for sustainable development

GONG Ke

Former President

The World Federation of Engineering Organizations (WFEO)

Event 3

Lessons from the High-Level Panel of experts and leaders on water

and disasters: HELP (online)

KENZO Hiroki

Professor

Research Institute on Policy Studies (GRIPS), Tokyo, Japan

Event4

International collaborations on the Science-Policy Interface (online)

Rajib SHAW

Professor

Keio University, Japan

Event 5

Roles of youth and young professional organizations on big data for sustainable development (online)

Mizan BISRI

Professor

Kobe University, Japan

Event 6

Lessons learned on transnational collaborations on research: top down plus bottom up?

AI Likun

Professor

Institute of Tibetan Plateau Research, Chinese Academy of Science

Event 7

Global cooperation and application on microbial resource data multinational collaborations on biomedical big data

MA Juncai

Director

WFCC-MIRCEN World Data Center for Microorganisms (WDCM) , China National Microbiology Data Center (NMDC)

Event 8

Transnational collaborations on flood disaster risk reduction – case studies from Africa (online)

Anil MISHRA
The United Nations Educational, Scientific and Cultural Organization
(UNESCO)

Session Title

Earth Status Reporting Halfway to the Sustainable Development Goals

Session Organizer

Group on Earth Observations

Short Description

By bringing together a broad range of stakeholders including researchers, practitioners, statisticians and policymakers, this special session aims to initiate discussions on creating a collaborative knowledge product that visually portrays the past trajectory, current status and future trends of the Earth based on insights derived from Earth observation. This knowledge product is envisaged to be presented to the United Nations General Assembly (UNGA) in 2024, raising awareness about the urgency of actions by governments in achieving the Sustainable Development Goals (SDGs), as well as the importance of Earth observation and its integration into the SDG monitoring framework. This session seeks to reach an in-principal agreement among key players of the knowledge product concept, and a roadmap of developing such knowledge product.

Objectives and Expected Result s

An initial demonstration of current capabilities of key stakeholders in reporting and visualizing the status of Earth

An in-principle agreement of the knowledge product concept among key stakeholders

Identification of key milestones leading up to the 2024 UNGA and SDG Summit

Agenda

Time 10:30-12:00, September 7th 2023 Room: 307
Moderator:

Yana Gevorgyan
Director
Group on Earth Observations Secretariat

Event 1 (10 minutes)
Opening Remarks

Yana Gevorgyan
Director
Group on Earth Observations (GEO) Secretariat

Huadong Guo
Director General
International Research Center of Big Data for Sustainable Development Goals (CBAS)

Event 2 (10 minutes)
Scene Setting

Johannes Cullmann
Scientific Advisor
United Nations General Assembly (UNGA)

Event 3 (30 minutes)
Demonstration of current capabilities in visualizing the Earth status

JIE Liu
Deputy Director General
International Research Center of Big Data for Sustainable Development Goals (CBAS)

Lawrence Friedl

Co-Chair

Earth Observations for Sustainable Development (EO4SDG)

Paolo Ruti

Chief Scientist

European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT)

Ronald Jansen

Assistant Director

the United Nations Statistics Division (UNSD)

Richard Pearce Tonkin

Statistician

United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP)

Illah Nourbakhsh

Professor and Lead of Earth Time

CREATE Lab of Carnegie Mellon University

Event 4 (40 minutes)
Panel Discussion and Interaction with Participants (40 minutes)

Session Title

Agenda 2030 and Sendai Framework Symbiosis and Geoinformatics Support

Session Organizer

ICA Commission on Cartography for Early Warning and Crises Management; Nanjing Normal University; Masaryk University; Henan University

Short Description

Many of the current activities are related to the 2030 Agenda (SDGs), but only a few are focused on the Sendai Framework for Disaster Reduction, which sets out goals and indicators to help measure disaster-related goals and targets in the Sustainable Development Goals of the 2030 Agenda. This session will explore the symbiotic relationship between Agenda 2030 and the Sendai Framework for Disaster Reduction, as well as their mutual data sharing and synergies. Support work and outcomes around important data such as the Global Map, the Global Spatial Data Infrastructure Initiative and Association (GSDI and GSDIA), the Global Integrated Earth Observing System (GEOSS), Digital Earth (DE), Copernicus and INSPIRE, as well as recent ground-breaking initiatives such as the United Nations Global Geospatial Information Management (UNGGIM) and the United Nations. The Digital "One Belt, One Road" will be discussed and exchanged towards the Sendai Framework and the medium-term implementation of sustainable development related goals.

Objectives

Explore symbiosis between Agenda 2030 and Sendai Framework. Enhance disaster-related goal measurement via mutual data sharing and geoinformatics support. Highlight key data sources (Global Map, GSDI, GEOSS, etc.). Discuss "One Belt, One Road" digital initiative's alignment with Sendai and sustainable development goals.

Expected Results

Through this session's exchange and discussions, we aim to achieve the following expected outcomes:

1. A deeper understanding of the symbiosis between Sustainable Development Goals of the 2030 Agenda and the Sendai Framework.

2. Integrated Data Synergy: Strengthened alignment between Agenda 2030 and Sendai Framework through mutual data sharing and utilization, promoting effective disaster-related goal measurement.

3. Holistic Development based on geoinformatics support: Improved collaboration around key data sources (Global Map, GSDI, GEOSS, DE, Copernicus, INSPIRE), and incorporation of innovative initiatives (UNGGIM, "One Belt, One Road") to support Sendai Framework alignment and medium-term sustainable development goals implementation.

Agenda

Time 15:15-16:45, September 6th 2023 Room: 201 C
Moderators:

SHEN Jie

Professor

Nanjing Normal University, China, Chair of the ICA Commission on Cartography for Early Warning and Crises Management

Prof. Dr. SHEN Jie is a professor of school of geography at Nanjing Normal university, Nanjing, China. She is engaged in cartography for early warning and disaster management, indoor and outdoor navigation map design and cartographic generalization, regional ecological civilization mapping and services, cultural map and narrative map design and production. She has been teaching cartography and map design for over 25 years. In 2023, She won the title of famous teacher in Jiangsu Province.

In 2020-2023 she served as the vice-chair of ICA Commission on Cartography for Early Warning and Crises Management and from August 2023 she was elected to be the chairwoman of the Commission. She is a member of the ICA working Group on the Cartographic Body of Knowledge, and the Registered expert of ISO/TC 268/SC 1/WG 6(Smart community infrastructures--"Disaster risk reduction".

In recent years, she has led 2 projects funded by the National Key Research and Development Program-Intergovernmental Science and Technology Cooperation Project of China, first titled-Dynamic mapping for risk and crisis management in big data era, cooperation with Masaryk University, Czech Republic, 2017.4-2019.12; latest ones titled- Urban disaster management and emergency response scenario cognition and construction method based on CIM and big data integration, cooperation with Asian Air Survey, Japan, 2021.10-2024.9. She also is the leader of 4 NSFC projects (the National Natural Science Foundation of China), as well as projects funded by the Natural Science Foundation of Jiangsu Province and the Jiangsu Provincial Department of Education. She has participated in projects under China's National High Technology Research and Development Program (863), and research funds from the Max Planck Foundation in Germany, the German Federal Agency for Cartography and Geodesy, and Sino-German international collaborative projects.

She has published over 90 papers in academic journals and important conferences. Currently, she holds 5 national invention patents and has obtained 15 computer software copyrights. She has conducted visiting research at the Technical University of Munich in Germany, Leibniz University Hanover in Germany, and the University of California, Santa Barbara in the United States.

Milan Konecny,

Professor

Masaryk University, Czech Republic, the Vice-President of International Society for Digital Earth, Vice Chair of the ICA Commission on Cartography for Early Warning and Crises Management

Prof. Dr. Milan Konecny is a professor of Cartography and Geoinformatics at Masaryk University, Brno, Czech Republic. He was/is a Guest Professor of The Chinese University in Hong Kong, The Henan University, Kaifeng, and the Shenzhen University, China, the Vienna University, Austria, Constantine the Philosopher University Nitra Slovakia, and a professor of the Nanjing Normal University, Nanjing, China. He got many international awards, the last one is a High Level Talent of the Henan Province Government, delivered on the basis of The Henan University in Kaifeng nomination.

In 2003-2007 he was a President of International Cartographic Association (ICA); he founded and served as a chairman of ICA Commission on Cartography for Early Warning and Crises Management and from July 2019 continues as its vice-chair; he was an Acting President and the Vice-President of International Society for Digital Earth and he is an Academician and Vice-President of International Eurasian Academy of Science. In all functions he enhanced the important of newest ICT technology and supported young talents.

He is an author (with co-author K. Rais) of the first textbook of GIS in the World (1985); he leaded/participated in domestic and international research projects, like Dynamic Geo visualization in Crises Management (Czech Ministry of Education and Youth); or EU- China Disaster Risk Management project of the highest level (European Commission and Chinese State Bureau) titled - Dynamic mapping for risk and crisis management in big data era, realized by Nanjing Normal University and Masaryk University (CZ), China-Czech Intergovernmental Science and Technology Cooperation Project 2017.4-2019.12; latest ones are HORIZON 2020 EU-China Sieu Soil project, SIEUSOIL - Sino-EU Soil Observatory for Intelligent Land use Management, Horizon 2020 EU-China, Call: H2020-SFS-2018-2020, (Sustainable Food Security).

He is an author/co-author of more than 120 research papers and 7 books and editor of approx. 20 Proceedings of international conferences of GIS, cartography, early warning and disaster risk management. Last items are Chapter 15 in Manual of Digital Earth titled: Digital Earth for Disaster Mitigation, 2020 and chapter Geospatial Intelligence in Dealing with COVID-19 Challenges in Czechia, pp. 393-398. In: Abbas Rajabifard Greg Foliente Daniel Paez, eds. COVID-19 Pandemic, Geospatial Information, and Community Resilience Global Applications and Lessons. Taylor & Francis Group, 2021.

Event 1 (15:15-15:30)

The impact of increased water vapor on extreme heavy precipitation on the background of global warming

ZHI Xiefei

Professor

College of Atmospheric Sciences, Nanjing University of Information Science and Technology (NUIST), China

Dr. ZHI Xiefei currently works as a professor in atmospheric sciences, at College of Atmospheric Sciences, Nanjing University of Information Science and Technology (NUIST), China. He received his Ph.D. from the Meteorological Institute, University of Bonn in 2000. His research focuses on climate change, numerical weather prediction, applications of machine learning in meteorology, as well as urban waterlogging monitoring, prediction and early warning. He has successively undertaken projects from the National Natural Science Foundation of China, National Program on Key Basic Research Project (973 Program), National Key Research and Development Program as well as international cooperation projects with Germany and Canada. He has published three books, more than 240 research papers in academic journals, such as Atmospheric Research, Journal of Climate, Monthly Weather Review, Journal of Geophysical Research-Atmosphere, Weather and Forecasting, and Remote Sensing etc. He obtained 46 Software Copyrights and holds 7 Invention Patents. He is Executive Editor-in-chief of Transactions of Atmospheric Sciences and Editor of Remote Sensing. He received the 2022 First Prize of the Innovation Award by China Invention Association, 2021 Second Prize of Meteorological Science and Technology Innovation Award by China Meteorological Service Association.

Applications.

Event 2 (15:30-15:45)

On statistics and visualization of large-scale characteristics of climate elements

Youmin Chen

Professor

College of Geography and Environment Sciences, Henan University, China

Dr. Youmin Chen currently works as a professor in College of Geography and Environment Sciences, Henan University, China. He received his Ph.D. from the Geophysics Department, Peking University in 1996. Afterwards, He joined the international research projects respectively in Germany (Max-Planck Institute for Bio-geochemistry, Sweden (University of Gothenburg), USA (University of Oklahoma), Austria (University of Graz), South Korea (APEC Climate Center), Norway (Bjerknes Centre for Climate Research) as well as UK (University of Oxford) for total 17 years. His research focuses on climate modelling, numerical weather prediction, global carbon cycle, hydrological modelling as well as climate big data sciences.

Event 3 (15:45-16:00)

From Identification to susceptibility mapping of potential

landslides on the entire Loess Plateau, China based on Sentinel-1 images and conditioning factors

Chaoying Zhao

Professor

School of Geological Engineering and Geomatics, Chang'an University, China

Dr. Chaoying Zhao currently works as a professor in geodesy and surveying engineering, at the School of Geological Engineering and Geomatics, Chang'an University, China. He received his Ph.D. from the Chang'an University in 2009. His research focuses on SAR interferometry (InSAR) techniques development and their applications on different geo-hazards identification, monitoring and explanation including land subsidence, ground fissure, and landslide. He has published more than 100 research papers in academic journals, including 46 papers with first author or corresponding author indexed by science citation index etc. He was/is the Guest editor of Special Issues 4 times in Remote Sensing and Reviewer over 60 journals.

Event 4 (16:15-16:30)

Automatic construction of indoor emergency road network for fire scenarios

Teng Zhong

Associate Professor

School of Geography, Nanjing Normal University, China

Dr. Teng Zhong currently works as an associate professor in geographical information sciences, at the School of Geography, Nanjing Normal University (NNU), China. He received his Ph.D. from the University of Hong Kong in 2017. His research focuses on the generation of pedestrian networks and geographic knowledge graph. He has published more than 20 research papers in academic journals, such as Nature Communications, Sustainable Cities and Society, Journal of Transport Geography, Transactions in GIS, and IEEE Transactions on Intelligent Transportation Systems etc. He is the awardee of the Gold Medal at the Geneva International Exhibition of Inventions.

Event 5 (16:30-16:45)

Cartography support on disaster management and ecological civilization in the era of big data

Jie Shen, Nanjing Normal University

Milan Konecny, Masaryk University, Czech Republic

Session Title

New Data Technologies for DRR Early Warning and Early Actions

Session Organizer

The United Nations Office for Disaster Risk Reduction Asia-Pacific Scientific and Technical Advisory Group, International Research Center of Big Data for Sustainable Development Goals
Co-organized by: Integrated Research on Disaster Risk (IRDR), IRDR-China, Digital Belt and Road (DBAR) Programme DRR Working Group

Short Description

The Report of the Midterm Review of the Implementation of the Sendai Framework for Disaster Risk Reduction 2015–2030 indicated that "new technology is helping overcome data gaps to enable better decisions". This has been reflected in the DRR efforts of Sendai Target G "Increase availability and access to early warning systems and risk information". The new and emerging technologies, including earth observation techniques, artificial intelligence and open science infrastructure, have the potential to provide more timely and reliable data for early warning. The progress in the development of multi-hazard early warning system (MHEWS) has been slow as one in three people globally is not adequately covered by any early warning systems. There is an increasing recognition on this global challenge and UN therefore has been calling for joint efforts in early warning and early actions.

Objectives

The overall objective of this session is to provide a platform to share the innovations, insights, knowledge and experiences of new data technology for early warning and early actions. The participants will identify the challenges and opportunities for the intersectoral and interdisciplinary collaboration and practice required. The session will contribute to the Priority 5 "Harness technologies, data and knowledge for risk reduction" and Priority 6 "Support regional and national science and knowledge for policy and action" identified in the A Framework for Global Science in support of Risk Informed Sustainable Development and Planetary Health (ISC-UNDRR-IRDR, 2021, hereafter as "Research Framework") . The output of this session will be a concrete contribution to the follow-up actions for the Sendai Midterm Review, the implementation of the Research Framework and the inputs toward IRDR 2024 Conference.

Expected Results

- Recommendations on the use of new data technology for the development of MHEWS.
- Suggestions and proposals on collaborative actions for future integrated research and policy supports.

Agenda

Time 17:00-18:30, September 6th, 2023
Moderator:

Yan g Saini

Dr. Professor

School of National Safety and Emergency Management,

Academy of Disaster Reduction and Emergency Management, Beijing Normal University

Director, International Cooperative Research Center for Disaster Risk Reduction, Beijing Normal University

Dr. YANG Saini is a professor at Beijing Normal University. She got her bachelor and master degree from Southeast University and PhD degree from University of Maryland. Her research interests include risk assessment and emergency management. She is the PI of more than twenty research projects and has published more than 100 papers in academic journals, including Nature Climate Change and Nature Communications. She is a member of the expert committee of the National Disaster Reduction Commission and a member of the Asia-Pacific Science and Technology Advisory Group of the United Nations Disaster Risk Reduction. She also serves as the editorial board of several international academic journals.

Participants:
Event 1 (17:00-17:05)
Brief opening by co-chair

Event 2 (17:05-17:15)
WMO-IOC efforts in MHEWS (pre-record)

JIANG Lon g

Dr.

Technical Coordinator, WMO-IOC in-situ Observations Programme Support Centre (Ocean-OPS)

Dr JIANG Long, is currently technical coordinator at World Meteorological Organization. Dr Jiang coordinates and provides technical supports to the

global ocean observation efforts surface buoys and open ocean fixed stations that observe atmospheric and oceanographic conditions for weather forecasts and climate predictions. Prior to WMO, Dr Jiang was seconded expert at UNESCO's Intergovernmental Oceanographic Commission from China's National Marine Environmental Forecasting Centre on modeling and forecasting of coastal hazards. Mr Jiang holds a doctorate in hydrodynamic modeling at University of Oxford, UK and masters from Tsinghua University, China.

Event 3 (17:15-17:25)

Transforming disaster risk reduction: innovations in risk informed action & multi-hazard warning systems

Bapon Fakhruddin

Dr.

Water Sector Lead, Division of Mitigation and Adaptation, Green Climate Fund

Dr Fakhruddin is the Water Sector Lead of Division of Mitigation and Adaptation, Green Climate Fund. He is an expert climate change risk assessor with 15 years' global experience in working on disaster risk and climate resilience projects. This experience is a major advantage in climate change adaptation and mitigation strategy development. His key areas of expertise are climate and hydrological assessment, early warning and emergency response, climate change adaptation, and capacity building. Dr Fakhruddin designed early warning and emergency response projects more than 25 countries in Asia and the Pacific. Dr Fakhruddin is currently work as a mentor and supervisor for post graduate study in disaster risk management in University of Auckland (UoA). He is a Science Committee Member of IRDR, Co-Chair for the Disaster Loss DATA and Risk Interpretation and Applications (RIA) Working Group of IRDR. He is also Co-Chair CODATA task group Linked Open Data for Global Disaster Risk Research (LODGD) and PSG member of the Coastal Inundation Forecasting Demonstration Project (CIFDP) and Open Panel of Commission for Hydrology Experts (OPACHE) of WMO.

Event 4 (17:25-17:35)

The use of digital data and remote sensing for natural hazard and risk assessments and development planning in Nepal (tbc)

Amod Dixit

Dr.

President, National Society for Earthquake Technology - Nepal (NSET), Nepal

Dr. Amod Mani Dixit (Nepal) is a leading earthquake disaster management professional, involved in this field for the past 25+ years. His work experience includes about 18 years of government service (Department of Mines and Geology, Nepal), 11 years of parallel consulting service to an engineering consulting firm, and 20 years with National Society for Earthquake Technology

(NSET), a non-governmental organization established by himself and his team members back in 1993. Dr. Dixit has an authored/co-authored publication record of about 70 papers including national and international conference proceedings, books and book chapters, and renowned international journals. He and his organization NSET have not only contributed to Nepal and Nepalese community but also have made a great name in the world in the field of earthquake disaster risk management.

Event 5 (17:35-17:45)

FuXi: the first machine learning forecasting system with comparable performance to ECMWF ensemble mean for 15-day global weather forecast

ZHANG Feng

Dr. Professor

Department of Atmospheric and Oceanic Sciences, Fudan University, China

Dr. ZHANG Feng received the M.S. degree in atmospheric physics from the Chinese Academy of Meteorological Sciences, Beijing, China, in 2010, and the Ph.D. degree in meteorology from the University of Chinese Academy of Sciences, Beijing, in 2013. From 2016 to 2019, he worked as a Japan Society for the Promotion of Science (JSPS) Fellow with Tohoku University, Sendai, Japan, and a Humboldt Research Fellow with the Remote Sensing Technology Institute, German Aerospace Center, Wessling, Germany. Since 2020, he has been a Professor with the Department of Atmospheric and Oceanic Sciences, Fudan University, Shanghai, China. He is also a Principal Investigator with the Shanghai Qi Zhi Institute, Shanghai. His research interests include radiative transfer theory, remote sensing, and machine learning in atmospheric sciences.

Event 6 (17:45-17:55)

Early warning in the urban context (tbc)

Nurfashareena Muhamad

Dr.

Head, Southeast Asia Disaster Prevention Research Initiative (SEADPRI-UKM)

Institute for Environment and Development

Universiti Kebangsaan Malaysia

Dr. Nurfashareena Muhamad is a Research Fellow in Universiti Kebangsaan Malaysia's Southeast Asia Disaster Prevention Research Initiative (SEADPRI-UKM). Her expertise is on optimizing the use of geospatial technology in decision support systems to facilitate knowledge-based decision making for landuse planning and development control to reduce the risk of disasters. She was a coordinator for a pilot project supported by the Newton-Ungku Omar Fund, which developed a prototype multi-hazard platform for managing

and communicating risks to enhance disaster resilience in Kuala Lumpur in collaboration with partners from the UK and Malaysia. She is also involved in an IDRC funded project to develop a multi-hazard open access system for selected local areas in Malaysia and Cambodia, where information from several global databases will be blended with crowd sourced information. The project involves intensive capacity building to mobilize social entrepreneurs in the region.

Event 7 (17:55-18:05)
Some progress of & MHEW system in China

WANG Tun

Dr. Professor

Director, Institute of Care-life, China

Dr.WANG Tun is a National level overseas high-level expert, a prof. of Sichuan University, the director of Multi-Hazard Early Warning Lab. of Sichuan Province, the director of Institute of Care-life, China. After 2008 Wenchuan Earthquake, Dr. Wang focusing on earthquake early warning (EEW) and then MHEWS for 15years, and help China establish advanced EEW system and EEW service, and set up a MHEWS in China, which has been triggered by over 1000 natural disasters including destructive earthquakes, landslides, mudslide, flood, wild fires, etc.

Event 7 (18:05-18:25)
Q&A and discussion from the audience

Speaker:

All

Event 8 (18:25-18:30)
Q&A and discussion from the audience

YANG Saini

Secretary-General of UNDRR APSTAG

Session Title

Deep Empowerment of AI to Facilitate Sustainable and High-Quality Urban Development

Session Organizer

East China Normal University

Short Description

The session will focus on the innovative role of AI technology in urban sustainable development. Influential experts and academicians in the field will be invited to share their cutting-edge research and practices, present case studies, and engage in discussions with participants. The primary aim is to explore the way to achieve sustainable and high-quality urban development in the AI era.

Objectives

This session will provide the best practices and share experiences regarding AI's role in promoting sustainable and high-quality urban development. It will also explore innovative applications of AI technology in addressing challenges related to sustainable urban development, stimulating deep thinking among experts and scholars, and offering inspiration for future research.

Expected Results

Through the exchange of ideas and discussions in this symposium, we expect to achieve the following outcomes:

1. Providing the best practices and sharing experiences of AI in driving sustainable and high-quality urban development.

2. Exploring innovative applications of AI technology in addressing challenges related to sustainable and high-quality urban development.

3. Inspiring participants to engage in deep reflections on sustainable urban development issues and spark new opportunities for collaborative projects.

Agenda

Time 13:30-15:00, September 8th 2023 Room: 305 B
Moderator:

LIU Min

Professor

East China Normal University

LIU Min is a Professor of Geography and a doctoral supervisor. He currently serves as Vice Dean of the School of Earth Sciences, Dean of the School of Geographic Sciences, and Director of the Key Laboratory of Geographic Information Science, Ministry of Education, at East China Normal University. He is also the Vice Chairman of the Chinese Geographical Society, Director of the Environmental Geography Committee of the Chinese Geographical Society, and Director of the Sediment Environment Committee of the Chinese Society for Environmental Sciences. In addition, he holds the position of Chief Scientist for a key research and development project of the Ministry of Science and Technology. His research focuses primarily on physical geography and environmental geography. He has published over 200 academic papers in domestic and international journals including *Science Advances*, *Nature Communications*, and *Acta Geographica Sinica*. He has received numerous awards, including a First-class Award for provincial and ministerial scientific and technological progress and a Second-class Award for natural science from the Ministry of Education, China.

Participants:

Event 1 (13:30-14:00)

High-Resolution Earth Observation for urban sustainable development

Jonathan LI

Academician, Professor

University of Waterloo

Jonathan Li is a Fellow of the Canadian Academy of Engineering and Canadian Engineering Research Institute and a professor at the University of Waterloo in Canada. He is also a founding member of the Waterloo Artificial Intelligence

Institute. He is also a Fellow of the Institute of Electrical and Electronics Engineers (IEEE). He has led more than 50 research projects funded by various institutions, including the Natural Sciences and Engineering Research Council of Canada (NSERC), the Canada Foundation for Innovation (CFI), and federal and provincial government agencies. His research interests are in urban remote sensing and geospatial data science, especially in intelligent extraction of geometric and semantic information for earth observation images and LiDAR point clouds using machine learning and deep learning algorithms.

Event 2 (14:00-14:15)

Using big data to assess the progress of cities towards Sustainable Development Goals

HUANG Bo

Professor

Urban Systems Institute, The University of Hong Kong

Dr. HUANG Bo is a Chair Professor at the University of Hong Kong, where he is also the Associate Director of the Urban Systems Institute. He has been recognized for his outstanding contributions to research and was inducted into the National High-Level Talent Program in 2016. Dr. Huang's research focuses on spatial intelligence, satellite image fusion, spatiotemporal statistics, and spatial optimization for sustainable spatial planning. He is an Associate Editor for the International Journal of Geographical Information Science and the Editor-in-Chief of Comprehensive GIS (Elsevier). Dr. Huang has been honored with several awards in recent years, including a second-class award in natural sciences from the Ministry of Education in 2021, a gold medal from the International Exhibition of Inventions Geneva in 2021, and a CPGIS Innovation Award in 2023.

Event 3 (14:15-14:30)

Coastal city SDGs in the era of climate change: a community engagement approach

LIU Yan

Professor

School of the Environment, The University of Queensland

LIU Yan is Professor of Geographic Information Science at the University of Queensland, Australia. She currently serves at the Australian Research Council's College of Experts and leads the Spatio-Temporal Analytics Research Lab (STAR Lab) at the University of Queensland. Her research focuses on urban issues and computational urban science, including urban analysis, geospatial modeling, cellular automata simulation, GIS and spatial big data analysis, and their applications in spatial planning, policy analysis, and interdisciplinary studies in the humanities and social sciences.

Event 4 (14:30-14:45)

GeoSDG: a spatial simulation tool for exploring the future sustainable development paths

LI Xia

Academician, Professor

School of Geographic Sciences, East China Normal University

Professor LI Xia is an internationally recognized academic, a Fellow of International Eurasian Academy of Sciences, a Fellow of the Academy of Social Sciences in the United Kingdom, and a recipient of the National Distinguished Young Scientist Fund. He is also the Chief Expert of the National Key Basic Research and Development Program. Currently, he holds the position of a professor at the School of Geographic Sciences in East China Normal University. He has made significant contributions to the field of geography by creating the theory of geographic simulation systems. He further expanded the application of cellular automata to land-use simulation and developed a global land-use simulation model that integrates climate change and human activities. His research breakthroughs include addressing challenges related to large-scale, fine-grained simulation, and successfully coupling with various environmental assessment models.

Event 5 (14:45-15:00)

Harnessing big geodata for circular and low-carbon urban built environment transition

LIU Gang

Professor

College of Urban and Environmental Sciences, Peking University

LIU Gang is currently a tenured Full Professor at Peking University. He has also a dual appointment as professor at the Institute of Carbon Neutrality, Peking University, and is selected for the National High-Level Talent Program. He is a board member of the International Society for Industrial Ecology and serves as a council member of the Chinese Society of Natural Resources. Furthermore, LIU Gang is a co-Editor-in-Chief of *the Journal of Industrial Ecology* and serves on the editorial boards of several other journals in the field of resources and the environment, including *Resources, Conservation & Recycling* and *Journal of Cleaner Production*. He has been awarded the Robert A. Laudise medal by the International Society for Industrial Ecology, the James J. Morgan Early Career Award by Environmental Science & Technology, and the Best Research for Digital Built Environment by the World of Digital Built Environment.

Session Title

Urban PEEX

Session Organizer

INAR, University of Helsinki, Finland

Short Description

Urban development has been dominant societal change during the last few decades. Especially in East China urbanization has been quick and extensive. Multiple cities in East China are forming concept named Gigacity, urban region that expand over multiple cities from Beijing to Shanghai to Xi'an. Urban processes in this Gigacity region are discussed.

Objectives

To discuss most recent progress of urban research in East China and to discuss how joint research activities within Gigacity should be developed to achieve SDG goals.

Expected Results

University of Helsinki, under PEEX program, has been active in East China during the last decade. Most important Chinese collaborators have been invited and early-stage scientist are presenting latest results. Discussion about future direction of collaboration is discussed and roadmap formed.

Agenda

Time 10:30-12:30 September 7th 2023 Room: 305D

Moderators:

Joni Kujansuu

Research Coordinator

INAR, University of Helsinki, Finland

XIA Men

Post-doctoral researcher

INAR, University of Helsinki, Finland

Participants

Event 1 (120 minutes, 12+3min presentations)

Observations and modeling of gaseous nitrated phenols in urban Beijing: insights from seasonal comparison and budget analysis

XIA Men

Post-doctoral researcher

INAR, University of Helsinki, Finland

Event 2 (10:45-11:00)

Chloramines as a prominent chlorine radical source in urban atmosphere

CHEN Yijing

School of Environment, Tsinghua University, China

Event 3 (11:00-11:15)

Mechanisms of the Generation of Aromatics-Derived Highly Oxygenated Organic Molecules and Their Ambient Observation

WANG Yuwei

Department of Environmental Science and Engineering, Fudan University, China

Event 4 (11:15-11:30)

Health risk assessment methods for exposure to PAHs

HUA Chenjie

Beijing University of Chemical Technology, China

Event 5 (11:30-11:45)

Resolving atmospheric oxygenated organic molecules in urban Beijing using online ultra-high-resolution chemical ionization mass spectrometry

YUAN Yi

School of Environment, Tsinghua University, China

Event 6 (11:45-12:00)

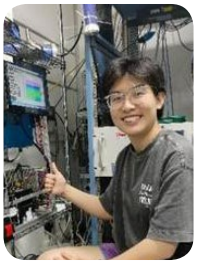
Detection and potential formation pathways of chlorinated organic compounds in suburban Shanghai

LI Chuang

Department of Environmental Science and Engineering, Fudan University, China

Event 7 (12:00-12:15)

A network of bipolar size spectrometers in China for measuring atmospheric particle number size distributions



LI Yiran

School of Environment, Tsinghua University, China

Event 8 (12:15-12:30)

Quantification and characterization of cluster ions in an urban environment

YIN Rujing

Post-doctoral researcher

INAR, University of Helsinki, Finland

Session Title

Research Capacity Building on Key Technologies for Development of Global Partnerships and Collaboration on Multinational Scientific Data in China and Africa

Session Organizer

University of Kwazulu-Natal, Computer Network Information Center, Chinese Academy of Science

Short Description

In alignment with the UNESCO Recommendations on Open Science and based on the characteristics and comparative advantages of China and Africa, the aim of this panel discussion is to examine the issue of research capacity building on key technologies for development of global partnerships and collaboration on multinational scientific data for facilitating the implementation of the SDGs in China and African countries.

China and African countries

Objectives

In the contexts of African countries and China, this session would:

- Identify key technologies and collaborative services of multinational scientific data in Africa and China of relevance to the SDGs
- Examine issues related to data ethics, data inter-operation standards or specification for facilitating the implementation of SDGs
- Review research on key technologies such as semantic web, associated data, and privacy computing
- Identify basic scientific data needed to develop a demo platform for sharing scientific data in Africa and China

Expected Results

- Solutions on data ethics, data inter-operation standards and specification identified.
- Potential training or courses for postgraduate students on data science for facilitating the implementation of SDGs in China and Africa identified.
- Key issues related to data ethics, data inter-operation standards/specification for facilitating the implementation of SDGs in Africa and China identified.

Agenda

Time 17:00-18:30, September 6th, 2023 Room: 201B
Panel Discussion (Duration : 90 minutes)

Moderator:

Johannes John-Langba
Professor
School of Applied Human Sciences, University of Kwazulu-Natal, south africa
JohnLangbaJ@ukzn.ac.za

Johannes John-Langba, PhD., MPH is Professor and Director of the College of Humanities Doctoral Academy at the University of KwaZulu-Natal in South Africa. Prof John-Langba also has extensive international development work experience, having worked for various multilateral and international non-profit organizations including the United Nations. He is the recipient of a number of international fellowships, scholarly awards, and recognition including the Dr Inabel Burns Lindsay Social Work Education Leadership Award from Howard University (United States) for outstanding leadership in social work education in Africa and was recently recognized in the 2023 Class of Global Top 100 Most Influential People of African Descent (MIPAD). Prof John-Langba is the current Africa Regional Vice President of the World Federation for Mental Health (WFMH) and Co-chair of the Data Ethics Working Group of the Committee on Data (CODATA) of the International Science Council (ISC).

Participants:

HU Lianglin
Professor
Computer Network Information Center, Chinese Academy of Sciences, China
Hull@cnic.cn

HU Lianglin is the Vice Director of Scientific Data Center of CNIC, the director of National Basic Science Data Center, the Secretary-General of CODATA China, the co-chair of CODATA Data Ethics Working Group, and also the secretary of CODATA GOSC Data interoperability working group. His work focus on the research and practice of scientific data governance, open sharing, and application.

Ndangwa Noyoo

Professor

Southern African Policy and Development Nexus (SAPDN), South Africa

Ndangwa45@gmail.com

Prof. Ndangwa Noyoo is the Director of the Southern African Policy and Development Nexus (SAPDN). He holds a Doctor of Philosophy (Ph.D) from the University of the Witwatersrand, Master of Philosophy (MPhil) in Development Studies from the University of Cambridge and Bachelor of Social Work (BSW) from the University of Zambia. He was a postdoctoral fellow at the Fondation Maison des Sciences de l'Homme (FMSH) Paris, France (2005-2006).

GUAN Jian

Professor

Peking Union Medical College (PUMC) & Chinese Academy of Medical Sciences (CAMS), PUMC Hospital, CHINA

gjpumch@126.com

Professor GUAN Jian, M.D., is the Appointed Chairman of the Medical Science Research Management Branch of Chinese Medical Association(CMA). Currently, She is the deputy editor-in-chief of Chinese Journal of Medical *Research Management*, deputy chief editor of *Chinese Medical Ethics,* and editorial board member of *Journal of Bio-X Research*. One of her representative works is "Medical Science Data Sharing Application Governance Management" (in Chinese, the Science and Technology Literature Press. Beijing, Jan.2023).

Eugene Kofuor Maafo Darteh

Professor

Department of Population and Health, University of Cape Coast, Ghana

edarteh@ucc.edu.gh

Eugene K.M. Darteh is a Professor of Social Dimensions of Sexual and Reproductive Health. His research focuses on Social Determinants of Sexual and Reproductive Health; Social and Behaviourial Change Communication; Sexual and Gender-Based Violence, and HIV/AIDS. Prof Darteh teaches post graduate and undergraduate courses. He has successfully graduated over 30 Master of Philosophy and 5 Doctor of Philosophy students. He has over sixty (60) peer reviewed journal articles in journals of international repute.

Session Title

Big Earth Data in Support of Land Degradation Neutrality

Session Organizer

International Research Center of Big Data for Sustainable Development Goals, Land Degradation Neutrality (GEO-LDN)

Short Description

Land degradation is a huge global challenge. 40% of the land has been degraded, directly affecting half of the global population, and about half of the global GDP (US$44 trillion) is threatened. Achieving "land degradation neutrality" by 2030 is one of the important SDG goals (SDG 15.3). It is of great value to make use of the advantages of earth observation and artificial intelligence to fill the gaps in large-scale data, methods and tools. The applicants of the conference have cooperated with UENP, GEO-LDN, PAGGW, and Mongolia in the early stage on SDG progress measuring, land degradation monitoring and decision-making support tool research and development.

Objectives

This session mainly focused on the theme of SDG progress measuring, land degradation neutrality and exchanged the application of big data in the monitoring and intervention. This session aims to demonstrate the usefulness of big earth data for SDG accountability, focusing on developing countries. The connections between technologies and the human sphere, considering socio-economic implications will be explored. By fostering discussions and sharing insights, this session will seek to identify concrete steps to mainstream big earth data into policy making, ensuring its effective integration into the decision-making process and implementation.

Expected Results

The expected result is a more stable and healthy Land Degradation Neutrality partner relation.

Agenda

Time 10:30-12:00, September 8th, 2023 Room: 307
Moderator:

LI Xiaosong

Professor

International Research Center of Big Data for Sustainable Development Goals, Aerospace Information Research Institute, CAS

LI Xiaosong, Ph.D., researcher of the International Research Center of Big Data for Sustainable Development Goals, Aerospace Information Research Institute, Chinese Academy of Sciences, member of Expert Group on UNEP Sustainable Development Goals progress measuring report, SDG 15 coordinator of "Big Earth Data Supporting the Sustainable Development Goals", member of the Working Group of the International Earth Observation Organization-Land Degradation Neutrality Initiative, and member of the Expert Group on China's voluntary LDN targets setting. He has been mainly engaged in research work in the direction of big earth data to promote the realization of sustainable development goals, remote sensing big data analysis and land degradation monitoring, and hosted over more than 20 major national science and technology projects. As an associate editor, he has published 4 books, published more than 70 research articles, and won 3 National and Ministerial and Provincial-Level Science and Technology Award.

Participants
Event 1 (10:30-10:45)
Measuring progress: water-related ecosystems and SDGs

Therese El Gemayel

Promamme Management Officer

United Nations Environment Programme (UNEP)

Therese El Gemayel is an environmentalist, passionate about improving the understanding and techniques related to environmental assessment and monitoring to address climate change, achieve sustainable development and advocate for circular economy.

Through leveraging her experience within the international community on sustainable development goals and environment, capacity building and

statistics, she worked on several environmental projects. More closely, Therese is currently managing a project on circular economy at UNEP with the aim to build countries' capacities in measuring sustainable consumption and production, and waste indicators within the SDG framework. She is responsible for UNEP's Measuring Progress report series.

Therese holds an MSc in environmental sciences and an international business management diploma from McGill university. She is fluent in Arabic, English and French.

Event 2 (10:45-11:00)

Estimating carbon storage of desert ecosystems and the carbon sink potential by desertification control in China

WU Bo

Professor

Institute of Ecological Protection and Restoration, Chinese Academy of Forestry

WU Bo, researcher of the Institute of Ecological Protection and Restoration, Chinese Academy of Forestry, Executive Deputy Director of the Institute of Desertification, Director of the Key Laboratory of Desert Ecosystem and Global Change, National Forestry and Grassland Administration, Leader of the Innovation Team in Key Areas of the Ministry of Science and Technology, National Key Research and Development Program Chief Scientist of the project "Research and Demonstration of Key Technologies for Sandy Land Control in the Beijing-Tianjin-Hebei Sandstorm Source Area". Main research fields: desert ecosystem pattern and process, desert ecosystem response and adaptation to global change, desertification monitoring and evaluation, desertification prevention and control.

Event 3 (11:00-11:15)

Land degradation in Africa - an opportunity for research partnerships

Amos Tiereyangn Kabo-bah

Associate Professor, Co-Chair

Land Degradation Neutrality (GEO-LDN)

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

Hangzhou, China and Ocean Observations Conference 2019 in Hawaii, USA. He is also a steering committee member of the Global Climate Observing System (GCOS). He led to establishment of the Earth Observation Research and Innovation Centre in Ghana. He has a Doctoral Degree in Water Resources and Hydrology at Hohai University in Nanjing, China: Masters in Environmental Hydrology from University of Twente, the Netherlands, and BSc in Civil Engineering from the Kwame Nkrumah University of Science and Technology. He has 100+ publications in reputable international journals. He co-edited two books published with Elsevier - ''Sustainable Hydropower in West Africa: Planning, Operation, and Challenges 2018'' and ''Pumped Hydro Energy Storage for Hybrid Systems 2022''. His research interests spans between water-energy-food nexus, climate change, land degradation and restoration, varied satellite applications in support of the SDGs.

Event 4 (11:15-11:30)

Great Green Wall Initiative: an integrated response to the challenges of climate change, land degradation and biodiversity loss for resilient development of Sahelian landscapes

Marcelin Sanou

Chief of the planning, monitoring-evaluation and information management at the Pan-African Agency for the Great Green Wall

Mr Marcelin SANOU is Forest engineer. He also holds a :

• Advanced Diploma in Agronomic Sciences and Biological Engineering from Catholic University of Louvain (Louvain La Neuve/Belgium,

• University Diploma on «Management of Protected Areas» from Senghor University of Alexandria

Mr. SANOU has participated in the implementation of development and environmental programs in his country, notably

- Environmental development program / Ecological monitoring and observatory network,

- Forest Development Project,

- Management forest and wildlife resources project Projet d'Aménagement des Ressources Forestières et Fauniques,

- National Action Plan for Wetland Management.

He was Program Manager "Database, S.I.G" at the National Direction of Water and Forests of Mali.

Since 2015, he has been Head of the Planning, Monitoring, Evaluation and Information Management Department at the Pan-African Agency of the Great Wall, responsible in particular for (i) strategic and operational planning, monitoring and evaluation of programs and projects, in conjunction with the National Structures of member countries of the Great Green Wall (ii) Implementing and operating the GIS/GGW Information System.

Event 5 (11:30-11:45)
Great Green Wall Experience within the Global Mechanism

Gilles Amadou Ouédraogo

Programme Management Officer, Great Green Wall Accelerator, Global Mechanism, UNCCD

Gilles Amadou Ouedraogo is a Programme Management Officer within the Global Mechanism of UNCCD, more specifically within the Great Green Wall Accelerator. In this role, Gilles Amadou manages a project which supports the coordination and implementation of the Great Green Wall Initiative. He plays a key role in monitoring the progress of the world's largest Nature-Based solution towards land restoration, job creation and Greenhouse Gas sequestration in over eleven Sahel countries. In this role, Gilles Amadou streamlines regional support, project management, donor relations, partner engagement, strategic planning for the implementation of the GGW, as well as country support ranging from capacity building to benchmarking and impact measurement. He is keen on sharing his experience and learning from his peers during this Global Conference.

Event 6 (11:45-12:00)
State and dynamics of land degradation in Mongolia and LDN targets

Mandakh Nyamtseren

Senior researcher

Mongolian Academy of Sciences

Ms.Mandakh Nyamtseren is graduated from the Irkutsk State University, Russia in 2001 and since then worked at the Institute of Geography and Geoecology from research assistant to senior researcher. The major field of her research is desertification mapping and assessment, landscape ecology, land degradation and restoration, and land policy. In 2018 she defended her Ph.D. degree at the National University of Mongolia majoring in physical geography. During her research career, she published 8 books and more than 20 research papers, have participated in the implementation of the international and bilateral projects and programs. The major outcomes include the development of National Action Plan to Combat Desertification in Mongolia, National reports to UNCCD and UNFCCC, and various thematic maps supporting planning and implementation actions for biodiversity conservation, restoring land degradation and mitigating climate change targets. The latest accomplishment is related to developing National Target to Achieve Land Degradation Neutrality in Mongolia.

Event 7 (12:00-12:15)
Green belt in the Taklimakan Sand Sea

LEI Jiaqiang

Professor

Xinjiang Institute of Ecology and Geography, CAS

LEI Jiaqiang, male, born in July, 1961, is the Supervisor of PH.D student of Xinjiang Institute of Ecology and Geography, Chinese Academy of Sciences. Director of the Pan-African “Great Green Wall” Research Center, Xinjiang Institute of Ecology & Geography, Chinese Academy of Sciences. Director of the Base for International Science & Technology Cooperation of "Silk Road Economic Belt" Ecological Construction Technology Demonstration. Director of Alliance of International Science Organizations on Association for Combating Desertification (ANSO-ACD).

Lei's primary research focus lies in aeolian sand environments and sand prevention and control. He has been responsible for overseeing the completion of more than 30 national, Chinese Academy of Sciences, and Xinjiang science and technology projects. He has been honored with 2 second-class National Science and Technology Progress Awards, 10 first and second-class provincial and ministerial science and technology progress awards, the National May Day Labor Medal, the National Model Worker in Sand Control, the National Excellent Scientific and Technological Worker award, the National Innovation Competition Award, the Chinese Academy of Sciences "Science Garden Famous Craftsman" title, the Xinjiang Science and Technology Progress Special Prize, and other honorary distinctions. He is also a recipient of the State Council's special government allowance.

Session Title

Big Data on Population and Health Helps Achieve the Sustainable Development Goals

Session Organizer

China Population and Development Research Center

Short Description

Population is the basic element of national economic and social development, and health is an important goal of sustainable development. The collection, integration and application of population and health data provides key support for optimizing economic and social decision-making and achieving the Sustainable Development Goals. Traditional population and health data mainly come from conventional statistical sources such as censuses, special surveys and administrative records. With the popularization of digitalization and information technology, big data from the Internet, location-based services (LBS), remote sensing, navigation, geographic information and other massive behavior records generated by application services provide an important supplement to traditional data. It provides new opportunities for comprehensive, accurate and real-time monitoring of population and health levels and characteristics. This session invites contributions from the above topics to address SDG 3, 11, and will focus on the integration and application of traditional data and big data to discuss possible future research directions and topics.

Objectives

This session brings together expertise in multi-source big data such as population, health, geographic information, and mobile signaling data, as well as their in-depth application in population monitoring, health assessment, and urban planning.

Expected Results

Audience of 50; Promote the collection and application of population and health data and strengthen SDGs monitoring and evaluation capacity.

Agenda

Time 13:30-15:00, September 6th, 2023 Room: 201B

Moderator:

ZHANG Xuying

Deputy Director-general

China Population and Development Research Center

Mr. ZHANG Xuying, Deputy Director-general and researcher of China Population and Development Research Center; Ph.D. in Economics; Standing member of the board for China Population Association; Expert enjoying special government allowance of the State Council; Expert to the Seventh National Census Advisory Committee; Consultant to the National Territorial Plan (2020-2035) development; having long been engaged in researches on population policy, population projection, among others.

Participants

Event 1 (13:30-13:45)

Geodemographic big data obtained from small area population projections and their applications

Takashi Inoue

Professor

Department of Public and Regional Economics, College of Economics, Aoyama Gakuin University

Dr. Inoue is a professor of demography at Aoyama Gakuin University and a vice president of the Population Association of Japan. His recent work is to conduct small area population projections for many regions in the world and to construct a web mapping system for each country/region using the big data generated by those projections. He has already released web mapping systems for Japan, the State of Washington (the US), Taiwan China, and the US, and is developing a few web systems for other countries. Dr. Inoue received some awards from the Population Association of Japan, the Association of Japanese Geographers, and so on. He served as a co-chair of the International Conference on Population Geographies 2022.

Event 2 (13:45-14:00)

Comprehensive evaluation and influencing factors of healthy cities in China urban agglomerations based on multi-sourced urban data

WU Kang

Professor

Beijing Key Labortory of Megaregions Sustainable Development Modelling, Capital University of Economics and Business

Dr. WU Kang is the professor and director of Beijing Key Labortory of Megaregions Sustainable Development Modelling at Capital University of Economics and Business. His research interests include urban economic geography and spatial planning. His most recent research focus on polycentric city regions and urban networks, urban big data analysis, and the sustainable development of shrinking cities in China. His ongoing research is to understand the urban growth and urban shrinkage from a network perspective, especially to reveal the mechanism of urban growth and shrinkage based on the framework of tele-coupling and local coupling by using multi-source data. His research also simulates the urban growth and shrinkage according to scenario analysis and puts forward the urban sustainable mode and strategy of urban policy. His research findings in terms of shrinking cities in China has been accepted by the Central Government, and his policy suggestions has been incorporated in the "Key Tasks on the New- type Urbanization Construction" issued by the National Development and Reform Commission in 2019 and 2020.

Event 3 (14:00-14:15)

The application of mobile big data in demographics statistics

GU Yang

Chief Section III

Census Division, Department of Population and Employment Statistics, National Bureau of Statistics of China

GU Yang participated in the seventh national population census and multiple population sample surveys, and has rich experience in sampling and data processing. At present, he is mainly engaged in the application research of mobile phone big data in annual population statistics. Together with his colleagues, he formulated the application plan of mobile phone big data, determined the statistical standards, and achieved some results in population migration calculation.

Event 4 (14:15-14:30)

Trends and features of China's population in the 14th Five-Year Plan (2021-2025) and the medium and long term

LIU Houlian

Associate Researcher

China Population and Development Research Center

Dr. LIU Houlian is an associate researcher from the China Population and

Development Research Center. He has graduated from the School of Economics of Nankai University, also a member of the China Population Association and a reviewer of several core journals such as Population Research. At present, he is mainly engaged in population and development research, and continues to study population trends, demographic dividend, population aging, and population and economic development issues. He has undertaken the National Social Science Foundation project, published two monographs, and published over 20 papers.

Event 5 (14:30-14:45)

Using population big data to service disease control monitoring, early warning and emergency command

ZHAO Hua

Chief Marketing Officer

SmartSteps Data Technology Co., Ltd

Ms. ZHAO Hua has been working in the field of innovation and transformation for telecommunications operators for a long time, responsible for brands, operations, and business innovation such as ICT, cloud computing, and data technology. In recent years, she has led a team dedicated to deep cooperation with multiple national ministries, urban planning agencies, large financial institutions, well-known enterprises and universities, and has made leading case demonstrations. The company has become the first service provider of economy, employment, city and statistics. This report will share the principles and application demonstrations of population big data technology based on mobile signaling, especially the practice and exploration of its application in multiple scenarios such as infectious disease monitoring, early warning, and emergency command.

Event 6 (14:45-15:00)

Introduction on Health-Related Indicators of the Sustainable Development Goals (SDGs)

CAI Yue

Associate Researcher

Center for Health Statistics and Information, National Health Commission of China

Serving as the United Nations (UN) Sustainable Development Goals China focal point, the World Health Organization (WHO) Vital Registration work China focal point, and a member of the Health Statistics Special Committee of the China Health Information and Health Big Data Association. Engaged in long-term health statistical work, involved in establishing the working mechanism between the National Health Commission and the National Bureau of Statistics on life expectancy estimation, and drafting guidelines for

health statistical work. Conducted in-depth analysis of health and medical big data, including estimation of life expectancy and Healthy Life Expectancy (HLE), research on disease spectrum transformation, analysis of disease and economic burden, etc. As a principal investigator, led national key research and development project, National Natural Science Foundation project, WHO biennial planning projects, and projects by the Children's Foundation. As a sub-project leader/core member, participated in major national social science project and technology support projects. Published over 40 academic papers.

Session Title

Unlocking the Potential of Big Earth Data: Tracking SDG Indicators in Southeast Asia

Session Organizer

Asian Institute of Technology

Short Description

Recent advancements in computing and data science enable quasi real-time processing of large volumes of data, complementing traditional statistics. This allows us to delve deeper into the human and socio-economic spheres, gaining valuable insights into human behaviours and experiences. By analysing big earth data, we can understand the interactions between physical, chemical, biological, and human components of the Earth system, shedding light on the impacts of human activities on the environment.

However, the application of big earth data in policy making is in its early stages, lacking standards and integration strategies. To effectively utilize big earth data, there is the need of bridging the gap between traditional and big data ecosystems. This requires developing clear frameworks, methodologies, and integration approaches that consider both technical aspects and socio-economic factors. By integrating big earth data with traditional data sources, we can generate high-quality information that is more detailed, timely, and relevant, empowering policymakers to make informed decisions.

Objectives

This session aims to demonstrate the usefulness of big earth data for SDG accountability, focusing on SEA Region. The connections between technologies and the human sphere, considering socio-economic implications will be explored. By fostering discussions and sharing insights, this session will seek to identify concrete steps to mainstream big earth data into policy making, ensuring its effective integration into the decision-making process and implementation.

Expected Results

The session expects to show cases of the current research on applying big earth data in support SDG study, evaluation, and reporting in Thailand and SEA region. Through productive interaction and in-depth discussion, we expect to explore potential opportunities for strengthening the capacity to use big earth data in tackling SDG challenges and supporting regional development policies in SEA through extensive regional research collaboration and partnership.

Agenda

Time: 13:30-15:00, September 8th, 2023 Room: 305E

Moderator:

LU Linlin

Associate Professor

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

Dr. Lu Linlin is currently an Associate Professor in Aerospace Information Research Institute, Chinese Academy of Sciences (AIR, CAS). Dr. Lu obtained a Ph.D. in remote sensing from the Institute of Remote Sensing Applications, CAS. Her research interests include image information detection, image classification and time series analysis applied to urban environment, urban resilience and sustainability. She is the author of more than 120 journal articles and conference proceeding papers. Dr. Lu was appointed as member of Sino-EU Panel on Land and Soil (SEPLS), member of Group on Earth Observations (GEO) Global Urban Observation and Information Initiative and Human Planet Initiative. She presently co-chairs the Urban Environment Working Group in the Digital Belt and Road program.

Participants

Event 1 (13:30 – 13:50)

Using the SDG indicators 2.3.1 & 2.3.2 for assessing small-scale farms' income in the context of changing climate in Chiang Mai Province Thailand.

Thi Phuoc Lai Nguyen

Assistant Professor

Development Planning Management and Innovation, Asian Institute of Technology

Dr. Thi Phuoc Lai Nguyen is a social scientist. Her research crosses beyond conventional social science discipline and integrates interdisciplinary aspects to address the complexity and uncertainty that challenge development planning. It centers upon understanding the human dimension in planning and managing the environment regarding social attitudes, epistemological processes, and behaviors of understanding, mitigating, and adapting to social and environmental changes. Specific areas of interest are coupled human-environment complex systems, social and environmental changes, social actors and environmental inequalities, governance of socio-ecological systems, education, and innovation for sustainable development.

Event 2 (13:50 – 14:10)

Monitoring and assessing urbanization progress in Thailand between 2000 and 2020 using SDG indicator 11.3.1

XUE Wenchao

Associate Professor

Environmental Engineering Management, Asian Institute of Technology

Personal Profile: Dr. XUE Wenchao is an Associate Professor at the Department of Energy, Environment and Climate Change, School of Environment, Resources and Development of the Asian Institute of Technology (AIT). Dr. Xue obtained her Ph.D. in Urban Engineering from the University of Tokyo, Japan and earned both her Master and Bachelor in Environmental Science and Engineering from Tsinghua University, China.

Her research encompasses the areas of sustainable watershed environmental management, application of big earth data in support of SDGs, environmental emerging contaminants, and resources/energy productive wastewater treatment, monitoring and elimination.

Event 3 (14:10 – 14:30)

Assessment of SDG indicator 11.6.2: PM2.5 concentration in Thailand using earth observation data

Ekbordin Winijkul

Associate Professor

Environmental Engineering Management, Asian Institute of Technology

Dr. Ekbordin Winijkul is an Associate Professor in the Environmental Engineering and Management program, Asian Institute of Technology. He got his Ph.D. in Environmental Engineering from the University of Illinois at Urbana-Champaign, USA in 2015. Before joining AIT, Dr. Ekbordin worked as project coordinator for the World Bank project to reduce air pollution emission from diesel vehicles in Bangkok. He also worked at Argonne National Laboratory (USA), International Institute for Applied System Analysis (Austria) and Atmospheric and Environmental Research, Inc. (USA), focusing on emission inventory development of multiple anthropogenic combustion sources. His research interests are emission inventory, air pollution modeling and monitoring, air quality management, and environmental technology and management.

Event 4 (14:30 – 14:50)

Monitoring for SDG indicator 14.1.1: Coastal Eutrophication across inner and coastal areas of Thailand

Salvatore G.P. Virdis

Associate Professor

Remote Sensing and Geographic Information Systems, Asian Institute of Technology

Dr. Salvatore G.P. Virdis is an Associate Professor at the Asian Institute of Technology (AIT), Thailand. His formal background is in applied geological sciences and remote sensing. Dr. Virdis recent and current research interests center upon Geo-Information and Earth Observation Science to assess and evaluate present and future changes of anthropogenic origin as well as their effects on natural and non-natural physical/human environment. He uses integrated field-based, remote/proximal sensing techniques and advanced geospatial modelling on a variety of spatial and temporal scales, ranging from seasonal to decadal processes. He has several publications in high impact factor international journals and more than 19 years of teaching experience. At AIT is supervising and mentoring several Master and PhD candidate students.

Session Title

Big Earth Data in Support of Assessing Resilient Cities and Human Settlements

Session Organizer

International Research Center of Big Data for Sustainable Development Goals; Shenzhen Institute of Advanced Technology, CAS; The University of Hong Kong; Shanghai Normal University

Short Description

Rapid urbanisation worldwide and climate change bring various challenges for urban development, including social inequality, unbalanced economic development and inadequate environmental protection. The Sustainable Development Goal 11 (SDG 11) of the 2030 Agenda for Sustainable Development calls for "making cities and human settlements inclusive, safe, resilient and sustainable". The New Urban Agenda (NUA) aims to create conditions for a fundamental transformation of sustainable urban development patterns and implement SDG 11 indicator monitoring and evaluation. Resilient Cities and Human Settlements is one of China-GEO's four priorities. Therefore, it is important to monitor and assess the resilient cities and human settlements using advanced digital technologies.

Comprehensive and synthesized studies with multiple sourced data in urban environment, society, and sustainability are urgently needed. Comparing with the traditionally statistical techniques, new approaches involving the big earth data show great advantages in acquiring data for urban sustainability studies. Big earth data including geo-spatial data and remotely sensed data provide critical data sources for studying and improving coupled environmental, social, and economic systems to achieve urban sustainability. Therefore, big earth data has played important roles in monitoring urban infrastructure, disaster, air pollution, heat island effect and others, providing data products, algorithms and models for urban sustainable development research.

Objectives

The objective of this session will be to strengthen the collective understanding of the needs, opportunities, and challenges of big earth data in support of urban sustainable development. It will also provide the best practices and share experiences regarding big earth data in support of assessing resilient cities and human settlements.

Expected Results

Through this session's exchange and discussions, we aim to achieve the following expected outcomes:

1. Discussing the needs, opportunities and challenges of big earth data in urban sustainable development.

2. Providing the best practices and sharing experiences of big earth data in support of assessing resilient cities and human settlements.

3. Initiative to form international urban sustainable development research team through strengthening international cooperation, especially with UN-Habitat and GEO.

Agenda

Time 13:30-15:00, September 8th, 2023 Room: 305D
Moderators:

SUN Zhongchang

Professor

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

Dr. SUN Zhongchang is a professor at Aerospace Information Research Institute (AIR), Chinese Academy of Sciences (CAS). He also serves as deputy director of the Key Laboratory of Digital Earth Science, CAS, as well as head of the Cooperation & Development Office at the International Research Center of Big Data for Sustainable Development Goals (CBAS). He received his Ph.D. from the Center for Earth Observation and Digital Earth (CEODE), CAS in 2011. From 2016-2017, he visited the Department of Geography at the University of South Carolina as a CSC (China Scholarship Council) scholar. He had been a visiting researcher at the German Aerospace Center (DLR) in 2013 supported by the DAAD scholarship. He was honored as Nanhai Young Talent in 2020 and CAS Distinguished Core Researcher in 2022. Recently, his research interests include urban remote sensing and urban sustainability. He has published more than 80 papers in different academic journals, including more than 40 SCI papers, as well as 6 books as an associate editor. He also presided over more than 10 projects funded by agencies including the National Natural Science Foundation of China, the National Key R&D Program, and the Strategic Priority Research Program of the Chinese Academy of Sciences.

ZHANG Zhonghao

Associate Professor

Institute of Urban Studies, Shanghai Normal University, China

Dr. ZHANG Zhonghao current works as an associate professor in Institute of Urban Studies, Shanghai Normal University (SHNU), China. His research focuses on the urban ecology and urban sustainability with GIS modelling and Remote Sensing approaches. He received his Ph.D. from the Institute of Remote Sensing and Information Technology in Zhejiang University in 2014, and a postdoc in Northwest Institute of Ecology and Environmental Resources, Chinese Academy of Sciences, China. As a scholar with global perspective and

extensive experiences in international cooperation, he visited the Department of Geography in Michigan State University (2016-2017), as well as School of Sustainability in Arizona State University (2019-2020). During his visit to Tanzania in 2014, he served as a senior engineer to guide the construction of agricultural facilities in University of Dar es Salaam. He was also honored as Croucher Scholar by Education University of Hong Kong, Excellent Young Teacher by SHNU, and "Chenguang Scholar" by Shanghai Municipal Education Committee. Recently, his work explores the urban sustainable development, big data in geo-statistics with remote sensing, and GIS application based on multi-source datasets and data assimilation. He has published more than 50 papers in different academic journals, such as *Cities, Landscape and Urban Planning*, *Applied Geography*, *Land Use Policy*, *Environment International*, *Journal of Cleaner Production*, *Urban Forestry & Urban Greening*, *Growth and Change*, *Ecological Indicators. Currently*, he is the associate editor of Stochastic Environmental Research and Risk Assessment, and also serves as a guest editor for the journal Remote Sensing.

SUN Liqun

Associate Professor

Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences, China

Dr. SUN Liqun is associate professor at Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences (CAS). He received his Ph.D. from the University of Hong Kong. His research field focuses on urbanization and sustainable development. He has published more than 20 papers in Chinese and English including Nature Communications. His research was selected as a highlight case in the "Big Earth Data in Support of the Sustainable Development Goals (2022)" and was reported by CCTV News.

CHEN Bin

Assistant Professor

The University of Hong Kong, China

Dr. CHEN Bin is an Assistant Professor at the Faculty of Architecture, The University of Hong Kong. Before joining HKU, he worked as a Postdoctoral researcher at the University of California Davis. Dr. CHEN has been broadly trained in geospatial science and environmental science. His research aims to leverage geospatial big data, data-model fusion, and advanced interdisciplinary approaches to investigate the interaction loops between urban environmental change, human activities, and public health, with the ultimate goal of contributing to sustainable and healthy cities. He has published more than 60 SCI journal articles, including *Science*, *PNAS, Nature Communications, Science Advances, Science Bulletin*, RSE, EI, ISPRS P&RS, etc. He is the Associate Editor of *Remote Sensing in Ecology and Conservation*. He received the 2022 Global

Young Scientist Award, China New Talents in Science and Technology-Shining Potential Award, 2021 AAG Early Career Award in Remote Sensing, HKU-100 Scholar Award, ISPRS Best Young Author Award, and LI Xiaowen Remote Sensing Excellent Youth Award.

Event 1

Urban green space remote Sensing--multi-dimension and multi-angle perception of urban vegetation

MENG Qingyan

Researcher

Aerospace Information Research Institute, China

MENG Qingyan is a researcher and doctoral supervisor at the Aerospace Information Research Institute, Chinese Academy of Sciences. His main research areas include urban land surface environment remote sensing, seismic infrared remote sensing, and agricultural land surface environment remote sensing, which provide technical support and services for ecological city construction, smart city construction, urban management, and earthquake monitoring. He has published more than 190 academic papers in journals such as Remote Sensing of Environment, authored 4 books, obtained 27 software copyrights, holds 36 patents and awarded 19 prizes, and has been involved in more than 50 research projects. His work on "Urban Greenness Spatial Remote Sensing" was awarded the 10th Qian Xuesen Urban Studies Gold Award and recognized as one of the top ten events in China's remote sensing field in 2020. He also serves as the Vice Chairman of the Professional Committee on Ecological Remote Sensing Monitoring and Assessment of the Chinese Society for Environmental Sciences, Director of the Sixth Council of the Urban Planning Society of China, and Vice Chairman of the Loess Plateau Remote Sensing Branch of the Chinese Association of Remote Sensing Applications.

Event 2

SDG 11 and spatial analytical tools to facilitate performance tracking

Robert Ndugwa

Chief

UN-Habitat

Robert Ndugwa is the Chief of Data and Analytics Section at UN-Habitat where he oversees the urban statistical methodology development in areas such as housing, transport, public spaces, etc. He has supported several countries to improve their urban statistical and analytical systems, and has authored and contributed to the production of various United Nations urban related analytical reports. Prior to joining UN-Habitat, Robert served as a lead for Research,

Monitoring and Evaluation at UNICEF Kenya office. Robert has published widely in the field of urban monitoring and co-authored many papers in the fields of urban health, epidemiology and statistical, etc

Event 3 (TBD)

Heatproofing our cities: the need for a global heat resilience service

Martyn Clark

Coordinator

GEO Secretariat, Switzerland

Martyn is an urban development specialist with 15 years' experience in the public and private sector in Africa, Asia and the UK. Martyn has worked with a range of development agencies including UK FCDO (formerly DFID), the Cities Alliance, UNICEF, UN-HABITAT, FAO, WFP, Asian Development Bank, Agence française de développement (AFD), Global Green Growth Initiative, as well as national, sub-national and municipal governments. He has a decade's experience working on urban development programmes in Africa and Asia, much of which has focused on developing low-cost, replicable tools and approaches to managing urbanization. Martyn has extensive experience in providing technical assistance, capacity development support, and research design and implementation on land-use and urban planning issues in the global south. This advice has covered spatial and land-use planning, climate resilience and adaptation, Strategic Environmental and Social Assessment of plans, policies, and programmes, local economic and industrial development, urban land markets, infrastructure planning and municipal service delivery in rapidly urbanizing contexts in east and west Africa.

Event 4

Intelligent understanding of remote sensing image scene for sustainable urban development

CHEN Jie

Professor

Central South University, China

Dr. CHEN Jie currently holds a Full Professor position and is a doctoral supervisor. He serves as an editorial board member for journals such as *National Remote Sensing Bulletin* and a member of the Intelligent Surveying and Mapping Committee of the China Society for Geodesy Photogrammetry and Cartography. He has been engaged in the research of theories, methods, and applications of remote sensing image analysis and understanding. He has made innovative achievements in the interpretation of remote sensing images based on computer vision and artificial intelligence, as well as in the geospatial intelligent cognition driven by remote sensing big data. He has led

three projects funded by the National Natural Science Foundation of China, one sub-project of National Key Research and Development Program of China, and two projects funded by the Natural Science Foundation of Hunan Province. He has published more than 50 SCI/EI papers, obtained 10 granted patents, and served as the chief editor for four books. He has received the Second Prize of the Natural Resources Science and Technology Award, the Second Prize of the Geographic Information Technology Progress Award, and the Excellent Teaching Achievement Award at the University GIS Forum. He has served as a reviewer for multiple authoritative and important academic journals both domestically and internationally.

Event 5

Progress and challenges of coupling spatiotemporal big data analytics and deep learning for sustainable urban spatial optimization decision-making research

WANG Shaohua

Innovative Professor

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

WANG Shaohua, PhD, is an innovative professor and graduate supervisor at the Aerospace Information Research Institute, Chinese Academy of Sciences. His research focuses on spatiotemporal big data analysis, spatial optimization for SDGs, geospatial intelligence, and social remote sensing geocomputation. He worked as a postdoctoral researcher at the Department of Geography at the University of California, Santa Barbara, the SPARC Center at Arizona State University, and the CyberGIS Center at the University of Illinois Urbana-Champaign from 2016 to 2021. He has received awards such as the Special Award for Progress in Chinese Geographic Information Technology and the First Prize for Science and Technology in Beijing. In recent years, he has published over 100 academic papers, with more than 20 SCI/SSCI articles as the first or corresponding author in authoritative journals such as *the International Journal of Geographical Information Science, Future Generation Computer Systems*, and *Sustainable Cities and Society*. Additionally, he is a board member of the International Association of Chinese Professionals in Geographic Information Sciences (CPGIS) and the vice-chairman of the Social Remote Sensing Geocomputation Committee of the China Remote Sensing Application Association.

Event 6

Remote sensing monitoring and comprehensive assessment of China's urbanization sustainability based on the SDGs indicator

JIANG Huiping

Assistant Researcher

Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, China

JIANG Huiping received the Ph.D. degree in cartography and geographic information system from the University of Chinese Academy of Sciences in 2019. Following his three-year postdoctoral study with the International Research Center of Big Data for Sustainable Development Goals (CBAS), he has joined the Key Laboratory of Regional Sustainable Development Modeling as an Assistant Research Fellow at the Chinese Academy of Sciences since 2023. His research interests focus on urban remote sensing, big data for SDG 11, sustainable urbanization, and human dimensions of global environmental change.

Event 7

Satellite observations reveal a decreasing albedo trend of global urban cities over the past 35 years

WU Shengbiao

Research Assistant Professor

The University of Hong Kong, China

Dr. WU Shengbiao is a research assistant professor in the Division of Landscape Architecture at the University of Hong Kong. He received a Ph.D. degree in Cartography and Geography Information System at University of Chinese Academy of Sciences in 2019. His research interests focus on leveraging multi-source satellite observations and geospatial big data to study urban-built environment and human environmental exposure injustice, including greenspace, urban heat stress, and 3-D urban morphology etc., with the ultimate goal towards achieving SDG11. He received the American Association of Geographers (AAG) Early-Career Award in Remote Sensing in 2023, Special Prize of Chinese Academy of Sciences (CAS) President Award in 2019, and Li Xiaowen Remote Sensing Excellent Youth Award in 2019.

Topic: Satellite observations reveal a decreasing albedo trend of global urban cities over the past 35 years

Event 8

Analyzing patterns of urban clusters along China's mid-Spine Belt: a complex spatial network perspective

LI Sijia

PhD candidate

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

LI Sijia, the third-year Ph.D. student of joint education from International Research Center of Big Data for Sustainable Development Goals and Chengdu University of Technology. Her research field is urban remote sensing, with a focus on monitoring and analyzing the indicators of United Nations Sustainable Development Goals (SDGs) at the city level, mainly focusing on SDG11.3 "Sustainable Cities and Communities" and SDG11.A "Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning", as well as comprehensive evaluations of localized urban SDGs.

Event 9
Monitoring urban slum and deprived area in sub-Saharan Africa

LI Chengxiu

Research fellow

Department of Earth System Science, Tsinghua University, China

LI Chengxiu is a research fellow in the Department of Earth System Science at the Tsinghua University. Her current research field focuses on Urbanization and slum monitoring, rural-urban interaction and agriculture development using earth observation, with a specific focus on sub-Saharan Africa. She received a PhD degree from the Department of Geography at the University of Zurich, Switzerland in 2019. From 2019 to 2022, she worked on a project addressing challenges in food and water security using remote sensing in sub-Saharan Africa at the University of Southampton, UK.

Session Title

Big Data in Support of Arctic Sustainable Development Goals and Pan-Arctic International Cooperation

Session Organizer

International Research Center of Big Data for Sustainable Development Goals (CBAS); University of Chinese Academy of Sciences (UCAS)

Short Description

With the development of Arctic geo-strategic environment and climate changes in recent years, the realization of Sustainable Development Goals (SDGs) in the Arctic has been facing increased uncertainties. In this context, how Big Data promote the Arctic sustainable development and the Pan-Arctic international cooperation? Thus, it makes sense to examine the latest developments of the big data in support of Arctic SDGs and trends in pan-Arctic international scientific cooperation in the foreseeable future.

Big data has unique capabilities in supporting Arctic scientific cooperation, especially in hosting the assessment of sustainable development goals and building information services. It plays a key role in global cooperation in the fields of climate, environment and energy, and provides strong support for developing Arctic scientific cooperation.

Strengthening the implementation of big data in the field of Arctic sustainable development can facilitate good use of the Arctic region's research and data resources and improve the environmental, economic and social conditions of Arctic communities as a whole. So as to better promote the realization of Arctic sustainable development goals and pan-Arctic cooperation.

The session is to focus on the following SDGs as example, aiming to promote peace, collaboration and prosperity in the Arctic region with efficient scientific and technological resolutions. The first is the SDG 13 (climate action) in the Arctic region, highlighting the Arctic amplification effect and its implications for global climate governance as great power competition and cooperation emerges. The second is SDG 3 (good health and well-being) in the Arctic region, examining the efficiency of the One Health program during the COVID-19 Pandemic; The third is the SDG 7 (affordable and clean energy), explaining the variation of the Arctic energy landscape against the background; and the last one is the SDG 4 (quality education) in the Arctic region, involving the international scientific communication, cooperation as well as challenges in the framework of the UArctic.

Objectives

1. To examine the implementation of the SDG 13, SDG3, SDG7 and SDG4 in the Arctic region.

2. To find solutions with Big Data in supporting Arctic sustainable development and the Pan-Arctic international cooperation.

3. Based on these problems and solutions, this session is to promote international scientific cooperation and to provide constructive recommendations to policy-makers.

Expected Results

1. a summary of the session as required;
2. a policy briefer about the session for related sector of the government;
3. potential papers co-authored by some of the panelists for future publication.

Agenda

Time 13:15-15:15, September 7th, 2023 Room: 307

Guest Speakers (13:15-13:25) :

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

GAO Feng Ministry of Foreign Affairs, China

Moderators:

QIU Yubao

Professor in remote sensing

CBAS

Dr. QIU Yubao, Research Professor at the International Research Center of Big Data for Sustainable Development Goals (CBAS), and the Aerospace Information Research Institute Chinese Academy of Sciences (AIR-CAS). He is currently the director of Digital Environment Division in CBAS, and co-lead (PoC) of the Group on Earth Observations Cold Regions Initiative (GEOCRI) and co-chair to the High Mountain and Cold Regions (HiMAC WG) Working Group of the “Digital Belt and Road" Program.

XU Qingchao

Associate Professor in international relations

UCAS

Ph.D. Associate Professor of University of Chinese Academy of Sciences (UCAS); Research Fellow & Director of the Center for Arctic Sustainability Studies at China Institute for Innovation and Development Strategy (CIIDS), Chinese Academy of Sciences (CAS).

Commentary Experts Invited:

LI Xin

Institute of Tibetan Plateau Research (ITP), Chinese Academy of Sciences (CAS)

Dr. LI Xin is currently a professor at Institute of Tibetan Plateau Research (ITP), Chinese Academy of Sciences (CAS) and the Director of National Tibetan Plateau Data Center at ITP/CAS. His primary research interests include land data assimilation, remote sensing and integrated modeling of hydrological and cryospheric processes in river basin scale. He received the B.S. degree in GIS and Cartography from Nanjing University in 1992 and the Ph.D. degree in Remote Sensing and GIS from CAS in 1998. He was a member of WCRP GEWEX (World Climate Research Programme/The Global Energy and Water Exchanges) scientific steering committee, and is a member of the International Science Advisory Panel of Global Water Futures programme.

CHU Wenbo

Work Programme Officer Group on Earth Observations (GEO) Secretariat

CHU Wenbo is the Work Programme Officer at the Group on Earth Observations (GEO) Secretariat. She coordinates the development and implementation of the GEO Work Programme activities. She coordinated the data sharing efforts within GEO between 2014-2017, first as a seconded expert and later as a staff member. Before joining GEO, she was the Deputy Director of Division of the National Science and Technology Infrastructure Center in China. She led several research projects on policies and mechanisms for Science and Technology resource sharing between 2007-2013. She received a master's degree in Engineering in Tsinghua University in 2007. She is also a certified Project Management Professional.

Participants
Event1 (13:25-13:35)
Scientific cooperation and sustainable development

Paul BERKMAN

Faculty Associate, Program on Negotiation at Harvard Law School (Associate Director of Science Diplomacy, Harvard-MIT Public Disputes Program)
Harvard University

Paul Arthur BERKMAN is Faculty Associate, Program on Negotiation at Harvard Law School (Associate Director of Science Diplomacy, Harvard-MIT Public Disputes Program); Fulbright Arctic Chair 2021-2022, United States Department of State and Norwegian Ministry of Foreign Affairs; Professor of Practice in Science Diplomacy, Fletcher School of Law and Diplomacy Tufts University; Director, Science Diplomacy Center, Tufts University. Paul Arthur Berkman is science diplomat, polar explorer and global thought leader applying international, interdisciplinary and inclusive processes with informed decisionmaking to balance national interests and common interests for the benefit of all on Earth across generations.

Event2 (13:35-13:45)
GEO Cold Regions Initiative

Massimo MENENTI

Professor and PoC to GEO CRI

Delft University of Technology

Prof. Dr. Massimo MENENTI/PoC, Professor Optical and Laser Remote Sensing, Department of Geoscience and Remote Sensing, Faculty of Civil Engineering, Delft University of Technology Educational background: Physics (Univ. of Rome), Environmental Sciences (PhD Univ. of Wageningen). Research Interests: Land surface processes and remote sensing with emphasis on hydrology and water management. In recent years he has coordinated an EU research project Hydrological Determinants of Agricultural Production in South America: the contribution of numerical crop growth models and remote sensing. He is currently the coordinator of an EU network dealing with Climate Impact on Water and Drylands Agriculture (CLIWARDA). This is a worldwide network with participants from China, India, Argentina, Egypt and Niger besides UK, Italy and The Netherlands. Past investigations include studies of groundwater hydrology in the deserts of Libya and Egypt, the use of advanced Earth Observation sensors systems to improve the performance of atmospheric models and irrigation water management in several countries.

Event3 (13:45-13:55)
Digital Arctic-environment and ecosystem

LI Yifan

Member of the Norwegian Scientific Academy for Polar Research and Director

UArctic-HIT-TC

LI Yifan was a Senior Research Scientist with Environment & Climate Change Canada before 2013 and has become a professor at the School of Environment, Harbin Institute of Technology since then. He also held adjunct professor positions in Dalian Maritime University, China, and University of Ryerson and University of Regina, Canada. In 2021, Dr. Li was selected as the member of the Norwegian Scientific Academy for Polar Research. At the present, Dr. Li is the co-Editor of the Springe Book Series “From Pole to Pole”, the Director of the UArctic-HIT Training Centre, the first regional center of the UArctic, the Vice Chair of the Specialized Committee for Polar Environment and Ecosystem, Chinese Society for Environmental Sciences (SCPEE-CSES), the Chief Scientist of the Polar Academy, Harbin Institute of Technology (PA-HIT). His research has focused on long-range transport of persistent organic pollutants (POPs), the emissions, monitoring, and modeling of POPs and Chemicals of Emerging Concern (CECs), and indoor environment and human health. Dr. Li has published more than 330 peer-reviewed papers with more than 16,000 citations and has selected as one of the most Cited Chinese Researchers by

Elsevier since 2014.

Event4 (13:55-14:05)

Digital geomorphology and sustainable development of the Arctic

YANG Jian

Professor and Vice president

Shanghai Institute of International Studies

Dr.YANG Jian is a senior research fellow at Shanghai Institutes for International Studies (SIIS) , Director of the Shanghai Institute for International Organization and Global Governance at Shanghai University of Finance and Economics, Deputy Director of the China-Nordic Arctic Research Center, and Vice Chairman of the Pacific Society of China. He is also a member of the Arctic Circle Mission Council on GlobalArctic and chairman of the academic steering committee of the polar research center at South China Business College.

Event5 (14:05-14:10)

Data and Knowledge for the Arctic or Data for SDG13 climate actions

Paola De Salvo

Group on Earth Observations (GEO) Secretariat

Italian National, after receiving her Master's degree in Environmental Biology cum laude, from the University of Roma Tre, Rome Italy, she started her Geospatial career within the International Institute of Aerospace Survey and Earth Science (ITC) in the Netherlands. She later brought her GIS and Remote Sensing competencies to the United Nations Specialized Agencies of Food and Agriculture Organization (FAO) and World Food Programme (WFP) to ensure Earth Observations are used for decision making in developing countries. After 12 years of applying her skills within the UN System, she transitioned to the private sector where she worked for Esri Inc, as a solution engineer in support of United Nations and NGO GIS / Remote Sensing related projects. Believing in the power of Open Earth Observations Data and Knowledge she joined the Group on Earth Observations (GEO) Secretariat as an Information Technology Officer coordinating GEOSS Platform and GEO Knowledge Hub development, implementation and users uptake.

Event6 / (14:10-14:15)

Energy transition and sustainability in Arctic Nations

DUAN Fengjun

Senior Research Fellow

General Incorporated Foundation, The Canon Institute for Global Studies

Dr. DUAN Fengjun received his PhD from the Department of Urban and Environmental Sciences of Peking University. He is serving as a senior research fellow at the Canon Institute for Global Studies (CIGS). Before joining CIGS, he has been a researcher at the Center for Spatial Information Science of the University of Tokyo, Japan Science and Technology Corporation, and the Disaster Prevention Center of Kyoto University, an assistant professor at the School of Engineering of the University of Tokyo, a researcher at Ocean Policy Research Foundation. His main research fields include ocean resources development and environment protection, and energy system and climate change.

Event7 (14:15-14:20)

Green Economy modelling tools, reliable metrics and measurements for achieving Arctic Sustainable Development Goals

Alina STEBLYANSKAYA

Associate professor, School of Economics and Management

Harbin Engineering University

Alina STEBLYANSKAYA, Associate Professor, Doctor of Engineering and Management, Visiting Scholar of Central Institute of Economics and Mathematics of Russian Academy of Sciences and Russian Jiaotong University; Director of the Russia-China Committee for Cooperation in Science, Technology and Innovation of the Russian National public social organization "Russian Transport Research Institute", member of the Association "System Economics". He has been engaged in energy economy, environmental economics, Belt and Road digital economy cooperation, green energy finance, complex economics research for a long time. Harbin Engineering University "Green Technology Management and science and technology entrepreneurship Research Center" Xinghai team member.

Event8 (14:20-14:25)

Policy practices of arctic indigenous traditional knowledge

QU Feng

Professor and the founding Director of Arctic Studies Center

Liaocheng University

The founding Director, and Professor of Arctic Studies Center at Liaocheng

University, and a professor in archaeology at the Nanjing Normal University, China, He received PhD in anthropology from University of Alaska Fairbanks. He focuses his research on Arctic anthropology and ethnography, environmental history, ecological cosmologies, and TEK.

Event9 (14:25-14:30)

Gap analysis of the existing Arctic Science Co-Operations (AASCO)

Hanna K Lappalainen

Pan-Eurasian Experiment (PEEX) Program Secretary General, Helsinki University, Finland

PhD, Docent, Pan-Eurasian Experiment (PEEX) Program Secretary General at the University of Helsinki, Institute for Atmospheric and Earth System Research (INAR) (FI) and the Lead of the Atmosphere and Climate Competence Center (ACCC) Impact Program. She has a long-term experience of coordinating large-scale research projects and, at the moment she is coordinating the Arena for the gap analysis of the existing Arctic Science Co-Operations (AASCO) project funded by Prince Albert Foundation. She is a Co-Leader of the Universities of Arctic network "Arctic-boreal Hub". She has received NASA Goddar Team Award EOS-AURA satellite OMI-Team in 2005 and an International Eurasian Academy of Sciences, IEAS, Silver medal in 2015. Lappalainen is a representative of Finland in the SAON ROADS Advisory Board, a national delegate of ISAC - The International Science Initiative in the Russian Arctic (ISIRA), Co-chair of the of the Artic-GEOSS-High Mountain and Cold Regions HiMAC (2020-), Academy Member of IEAS. She obtained her PhD. from the University of Helsinki, Finland, and has been engaged in analysis of the atmospheric biogenic volatile organic compounds and plant phenology.

Panel Discussion (14:30-15:00)

Topic: Big Data in Support of Arctic Sustainable Development Goals and Pan-Arctic International Cooperation

Panelist: All members.

Audience questions (15:00-15:10) (onsite only)

Session Conclusion (Closing) (15:10-15:15)

Session Title

Data-driven and Visualization of River Basin Ecological Protection

Session Organizer

Henan University, Masaryk University

Short Description

Milan Konecny, Professor of overseas lectures, Henan University, China. Professor, University of Massachusetts, Czech Republic. Former chairman of International Cartographic Association (ICA); Vice-chairman of the International Society for Digital Earth (ISDE), vice-director of International Eurasian Academy of Sciences. Research field: Geographic Information System, Disaster Management, etc.

QIN Mingzhou: Professor, Distinguished professor, Henan University. Head of scientific and technological innovation base for ecological construction and rural revitalization along the Yellow River in Henan Province. Chairman of Henan Land Society, Committee of ILEA-China International Landscape Ecology Society China Branch, Committee of China Land Society.

Objectives

Exploring the mechanism, process and driving factors of basin ecosystem evolution, using various GIS tools, inversion, simulation and visualization technologies, which have a direct supporting role in the priority of basin ecological protection, key protection areas and key species protection, and have made important scientific contributions to the scientific research of basin processes, patterns and their evolutionary mechanisms.

Expected Results

We hope that the speakers of the conference can provide the latest achievements in the study of ecological protection of river basins driven by big data, and submit research papers and reports on the use of big data technology in flood prevention and control of river basins, wetland protection, water quality protection, soil erosion, soil quality change, etc. Share and exchange experience and latest achievements on ecological management and conservation policies for river basins in achieving the Sustainable Development Goals (SDGs)

Agenda

Time: 10:30-12:00, September 7th 2023 Room: 305 C
Moderators:

Milan KONECNY

Professor

Henan University, Masaryk University, Czech Republic

Ove rseas Chair Professor, Henan University, China. Professor, Masaryk University, Czech Republic, Member and Vice President of the International Eurasian Academy of Sciences, former President of the International Cartographic Association (ICA); Vice President, International Society for Digital Earth (ISDE). Research interests: Geographic Information system, disaster management, etc.

QIN Mingzhou

Professor

Henan University, China

Sec ond-level professor, Distinguished Professor, doctoral supervisor of Henan University; Director of the scientific and technological Innovation Base of Ecological Construction and Rural Revitalization in the Yellow River Basin of Henan Province, and Director of the postdoctoral innovation team of the geography discipline in Henan Province. Chairman of Henan Land Society, member of China International Society of Landscape Ecology China Branch council, member of China Land Society council. Experts of Henan Province natural resources, land and space planning think tanks. Expert of the third national soil census, expert leader of the third soil census platform in Henan Province, expert of Henan Provincial government college reform work group.

Participants

Event 1 (25 minutes)

AGEDA 2030 and SENDAI FRAMEWORK: Spatial data Support (U.N. GGIM and DBAR) and challenges for Geoinformatics, Geodesy and Cartography

Milan KONECNY

Henan University, Masaryk University, Czech Republic.

Event 2 (20 minutes)

Spatial and temporal analysis methods and applications of

environmental disasters in river basins.

JAY LEE

Kent State University, USA

Jay Lee, professor, doctoral supervisor, Kent State University, USA. In 1989, he received his Ph.D. in geography from Western Ontario National University, Canada, under the guidance of Professor Goodchild, the father of geographic information science and an American Academician of science. He has served as chairman of the Geography Department of Kent State University, Vice chairman and Chairman of the Research Committee of Kent State University, and has long been an expert of the Technical Review and Geographic Analysis Group of the U.S. Department of Housing and Urban Development and the National Department of Justice.

Event 3 (15 minutes)

Landscape ecological characteristics and ecological protection system planning of the Lower Yellow River reaches

QIN Mingzhou

Henan University, China.

Event 4 (15 minutes)

Assessing the relationship between built environment and cardiovascular health through satellite and street view images: a cohort study of Cleveland in the Cuyahoga River watershed

CHEN Zhuo

Case Western Reserve University, USA

Dr. CHEN Zhuo is a postdoctoral scholar at Case Western Reserve University, specializing in geospatial modeling and analysis of cardiometabolic health outcomes. He holds a Ph.D. in Geography from Kent State University. Dr. Chen has extensive research experience applying GIS and spatial analysis to study public health issues. His work focuses on examining spatial determinants of chronic disease, health disparities, and environmental risks. He has co-authored several publications on topics including neighborhood walkability, air pollution, and social media diffusion modeling. Dr. Chen has received grant funding to conduct fine-scale socio-environmental phenotyping of cardiometabolic risk factors. His current research focuses on leveraging state-of-the-art machine learning techniques with clinical data and remotely sensed imagery to examine patients' residential built environment, and thus predict adverse cardiovascular events.

Event 5 (15 minutes)

How does urbanization process affect ecological landscape pattern? An empirical analysis based on scale effects.

ZHANG Pengyan

School of Urban Economics and Public Administration, Capital University of Economics and Business, China

ZH ANG Pengyan, Ph.D., Professor and doctoral supervisor of Capital University of Economics and Business. Visiting scholar of Kent State University, USA. Central Plains youth top talents, Henan Universities science and technology innovation talent (natural science). His main research interests are land use and resource and environmental protection. He has published more than 80 high-level articles, including 18 papers in Top journals. He edited 3 books and participated in editing 3 books.

Session Title

NexTus Youth Innovation: Deploy Satellite and AI to Connect and Generate Future Cities

Session Organizer

CBAS and Institute of New Economic Development (iNED)

Short Description

In 2023, AIGC once again set off a wave of global digital technology innovation; LLMs and various kinds of vertical models continue to emerge, which significantly improves productivity. Meanwhile, new digital infrastructures such as satellite internet, are making the world more connected and expand the scale of digitalization ranging from individuals, industries, and cities to earth planet, where SDGs provide broad application prospect. Combining released productivity and application scenarios, new products and models are springing up and in urgent need to be verified and deployed. This session will focus on the Youth-Led SDGs innovations deploying digital technologies, especially satellite and AI. Representative young scholars and entrepreneurs would be invited to share their thinking, experiments and practices. The primary goal is to connect, present, and empower young innovators by building the bridge between academia and industries as well as promoting SDGs via sci-tech innovations and cross-disciplines cooperation.

Objectives

This session mainly includes three objectives: (1) share youth-led experiences and best practices deploying satellite, AI and other digital technologies to promote SDGs; (2) discuss future trends, opportunities and risks of the emerging technologies and their impact on the sustainable agenda; (3) call for actions from public and private sectors to encourage and support youth-led innovations.

Expected Results

Through this cross-field sharing and dialogue, we aim to:

1. Reaching out SDGs young innovators' community and make youth-led innovations to be seen;

2. Discovering and documenting SDGs experiments and best practices by sending out an invitation to young innovators and following activities;

3. Discuss the difficulties facing youth innovation and call for academia and industries to empower young innovators.

Agenda

Time 15:15-16:45, September 7th, 2023 Room: 305D
Moderators:

SUN Zhongchang

Division Head, Cooperation and Development Office,

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

Dr. SUN Zhongchang is a professor at Aerospace Information Research Institute (AIR), Chinese Academy of Sciences (CAS). He also serves as deputy director of the Key Laboratory of Digital Earth Science, CAS, as well as head of the Cooperation & Development Office at the International Research Center of Big Data for Sustainable Development Goals (CBAS). He received his Ph.D. from the Center for Earth Observation and Digital Earth (CEODE), CAS in 2011. From 2016-2017, he visited the Department of Geography at the University of South Carolina as a CSC (China Scholarship Council) scholar. He had been a visiting researcher at the German Aerospace Center (DLR) in 2013 supported by the DAAD scholarship. He was honored as Nanhai Young Talent in 2020 and CAS Distinguished Core Researcher in 2022. Recently, his research interests include urban remote sensing and urban sustainability. He has published more than 80 papers in different academic journals, including more than 40 SCI papers, as well as 6 books as an associate editor. He also presided over more than 10 projects funded by agencies including the National Natural Science Foundation of China, the National Key R&D Program, and the Strategic Priority Research Program of the Chinese Academy of Sciences.

ZHAO Mingxiao

Vice Dean

Institute of New Economic Development, Chengdu

ZHAO Mingxiao is the vice dean of Institute of New Economic Development, based in Chengdu. She ranks among 2020 Forbes China 30 Under 30 listees and gets the May 4th Youth Award by Chengdu Municipal Government. She is the co-initiator and editor of the UNHABITAT "Future Cities and the New Economy" publication series. She used to work for top international consulting agencies and has rich experiences in industrial transformation and urban consulting, including industrial planning, digital transformation, and policy suggestions. She is the cofounder of iNED. Now, she is committed to help local governments to adapt to the digital trend, upgrade business environment, build city brand and foster new growth drivers. She is actively engaged in researches and activities to encourage innovations for sustainable development agenda and worked with UN agencies, such as UNIDO, UN Habitat, UNDP and UN WOMEN.

Event 1 (15:15-15:20) Opening Address
AI for Sustainable Development (via video)

Marco Kamiya

Chief

Division of Digital Transformation and Artificial Intelligence Strategies, UNIDO

Dr. Marco Kamiya is Chief of the Division of Digital Transformation and Artificial Intelligence Strategies at UNIDO, the United Nations Industrial Development Organization. The Division works on frontier technologies, innovation ecosystems, and digital transformation, including intangibles and branding as major components. Marco Kamiya was the Chief of the Urban Economy and Finance Branch at UN-HABITAT in Kenya. Previously a senior officer at CAF Development Bank for Latin America in Caracas, the Inter-American Development Bank in Washington DC. Earlier, as senior economist of PADECO Co., Ltd., in Tokyo, implemented projects globally funded by JICA and JBIC, and briefly was with the World Bank at the Private Sector Development Department as an exchange professional.

Event 2 (15:20-15:35) New economy and future cities publication recommendation and youth special edition call for papers

The "New Economy and Future Cities" publication series joint-initiated by iNED and UN Habitat deliver an interdisciplinary approach from professionals and scholars working in government, the United Nations, academia, scientific research, and private sector. The purpose of the publications is (1) to raise awareness on new technological innovations and how these changes affect urban infrastructure and the quality of living of urban dwellers; (2) to enhance collective knowledge on different user cases of new technologies in cities and the potential benefits and risks; and (3) to call for collaboration and collective actions from all cities to smartly use and govern new tech solutions for a safer, more inclusive, and more prosperous urban environment. We would invite the editors' team, CBAS, and potential partners of the Youth Special Edition to share the experiences and launch the 3rd publication invitation.

Potential Partner Sharing
Embracing digitalization in urban life: challenges and adaptations

CHEN Tianhao

Associate professor

School of Public Policy & Management, Tsinghua University

Dr. CHEN Tianhao is an associate professor of School of Public & Management, Tsinghua University, China. He is also an associate professor of School of Law, Tsinghua University, Zhongying Youth Scholar of Tsinghua University, the Fourth "Legal Research Scholars" of the Supreme People's Court. Dr. Chen received a Ph.D of public law in the university of Bordeaux, France. His research interests

include administrative law, French and European Union law, administrative agreement law, social science law and data law. Dr. CHEN has published articles in authoritative Chinese and foreign journals, including *Chinese Journal of Law, China Legal Science*, Law Science, *Revue française de droit administrat*if and so forth. Dr. Chen offers the course 'Digital Governance: Law, Policy, and Practice' at Tsinghua University. In terms of social engagements, Dr. CHEN is a council member in China Law Society Cyber and Information Law Society, and a committee member within the Central Committee of the Rule of Law of the China Zhi Gong Party. He actively participates in legislative endeavors with various ministry agencies such as the Ministry of Justice, Ministry of Science and Technology, and the Cyberspace Administration of China."

Event 3 (15:35-15:50) Keynote Speech
Ubiquitous computing in Urban Development

WANG Leye

Assistant Professor

School of Computer Science, Peking University

Dr. WANG Leye is an assistant professor at Key Lab of High Confidence Software Technologies, School of Computer Science, Peking University, China. His research interests include ubiquitous computing, mobile crowdsensing, and urban computing. Wang received a Ph.D. in computer science from the Institut Telecom SudParis and University Paris 6, France, in 2016, and was a postdoc researcher with Hong Kong University of Science and Technology. He has published 80+ papers and received 5,500+ citations according to Google Scholar.her mainstream journals at home and abroad.

Event 4 (15:50-16:05) Keynote Speech
Climate change's impact on human health and well-being

ZHANG Chi

Professor, School of Management and Economics, Beijing Institute of Technology

Deputy Director, the Lancet Countdown Asia Center

Dr. ZHANG Chi is a professor of School of Management and Economics, Beijing Institute of Technology. She is also the deputy director of the Lancet Countdown Asia Center. She was enrolled in the 2019 Overseas High-level Talent Introduction Program Youth Program. Her research interests include climate change and health economy, energy and environmental economy and management, sustainable development and global governance, and digital economy.

Event 5 (16:05-16:20) Keynote Speech

Digital twin cities and smart transportation innovative public-private partnership

ZENG Hui

Former Vice Curator of Global Shapers Community under World Economic Forum

ZENG Hui is the director of policy and strategy research for autonomous driving at Meituan. He was selected by Global Shapers Community under World Economic Forum and obtained Tsinghua MPA-CityU EMBA dual degree. He successively served as a senior expert in Strategic Investment at Meituan, a senior researcher of the AI Department at Webank, Director of Technology Development at CAUPD-Alibaba UrbanX Lab, involved in AI CITY solutions and digital platform development for Shanghai, Sanya, Chongqing, Chengdu, and Hangzhou. He was also awarded the Excellent Scholar of Vigorous Water Program by Alibaba Research Institute, joined the Alibaba CIO College, and acted as the research head and chief editor of the Future Cities and New Economy research project for UN-Habitat. He has participated in AI-ESG platform design and AI city solutions and digital platforms in Shanghai, Sanya, Chongqing, Chengdu, Hangzhou, etc. Before that, he worked for the Cisco Strategic Consulting Department, UNDP, and Tsinghua University Institute of Financial Engineering and contributed to China Development Bank's "Green Smart Town Development Guidelines and Cases", and exchanged in Stanford and LSE.

Event 6 (16:20-16:35) Keynote Speech

AIGC for cultural heritage

HUO Ran

Senior Engineer

Tencent

HUO Ran is a senior engineer of Tencent Group. She is former Wechat data analyst and Tencent Academy lecturer. She served as a reviewer of the International Information and Knowledge Management Conference (CIKM) for two consecutive years, and published a technical patent. She graduated from the University of Hong Kong and has worked in international sustainable development organizations. She is engaged in AIGC research and practices nowadays and published the book "How to Become a super Individual in the Era of Large Models".

Event 7 (16:35-16:45) Panel Discussion and Call for Actions

WANG Meng

Executive Secretary, the World Young Scientists Summit, President, the World Union of Young Earth Scientists, Senior engineer

Xinjiang Institute of Ecology and Geography, Chinese Academy of Sciences

Dr. WANG Meng studies tectonic structure and paleoclimate at the Chinese Academy of Sciences. He has participated in several international scientific research and collaborative projects and has extensive experience in the field of international cooperation and innovation. Since the first World Young Scientists Summit, he has served as the executive Secretary, leading the establishment of the World Young Scientists Ⓟ community, guiding the young generation of scientists to engage in dialogue with senior scientists, entrepreneurs, and innovators, and exchanging results, and actively promoting the incubation of talent innovation at home and abroad and the implementation and transformation of international scientific and technological achievements.

Session Title

Spatiotemporal Intelligence and Remote Sensing of the Environment Towards Sustainable Development Goals

Session Organizer

Peking University

Short Description

Achieving sustainable development goals (SDGs) on adapting to and mitigating climate change, urban sustainable development, water resources safety, biodiversity, etc. all requires powerful tools in RS/GIS/GNSS and spatiotemporal intelligence for a comprehensive assessment of these goals. This session invites contributions from the above topics to address SDG 6, 11, 13, and will facilitate discussions and frontiers on these topics.

Objectives

This session brings together expertise in remote sensing, GIS, GNSS, and other digital techniques, and their in-depth applications in monitoring climate change, urban informatics, biodiversity, water resources management, and land use land cover changes.

Expected Results

Audience of 50; promoting discussions and frontiers on digital techniques empowering SDGs.

Agenda

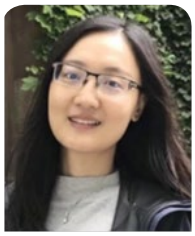
Time 10:30 – 12:00, September 7th 2023 Room: 305 E
Moderators:

DONG Lei

Assistant Professor

Peking University

Dr. DONG Lei is an Assistant Professor at the School of Earth and Space Sciences, Peking University, focusing on urban science and complex systems. He develops empirical and theoretical methods in urban systems, especially on human mobility, scaling laws, and geospatial big data. His research has been published in prestigious journals such as Nature, Nature Communications, and PNAS, and featured in major media outlets.



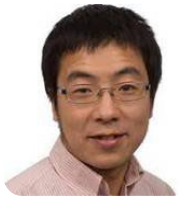
LIN Peirong

Assistant Professor

Peking University

Dr. LIN Peirong is an Assistant Professor at the School of Earth and Space Sciences, Peking University. Her research focuses on leveraging geospatial big data, remote sensing, and hydroclimate models to understand the fundamentals of the river-climate and river-human relationships. She receives the CBAS Young Scientist Award, and her research has been published in Nature Sustainability, Remote Sensing of Environment, Geophysical Researcch Letters, Water Resources Research, etc.

Participants
Event 1 (10:50–11:10, 20 minutes)
Spatiotemporally refined understanding of global supply chains in a green transition



LIU Gang

Professor

University of Southern Denmark

Dr. LIU Gang is currently working as Associate Professor at University of Southern Denmark, Denmark. He has completed his Ph.D. in Environmental Science from Norwegian University of Science and Technology, Norway. His main area of interest focuses on Environmental Sciences. His area of expertise includes Environmental System Analysis, Material Flow Analysis, Industrial Ecology, Urban Metabolism, and Resources Management. He has published 20 research articles in journals contributed as author/co-author. Gang LIU from SDU Life Cycle Engineering has received 'The Laudise Young Researcher Prize'.

Gang Liu has been awarded this Robert A. Laudise medal in recognisation of his outstanding contributions to the field of industrial ecology.

Event 2 (11:10– 11:30, 20 minutes)
Digital Arctic Environment (to revise)

QIU Yubao

Professor

International Research Center of Big Data for Sustainable Development Goals

Dr. QIU Yubao, Research Professor at the International Research Center of Big Data for Sustainable Development Goals (CBAS), and the Aerospace Information Research Institute Chinese Academy of Sciences (AIR-CAS). His research interest are remote sensing of snow and ice, Arctic environment research, digital environment, and data science; He won the first "ScienceDB Scientific Data Award", He is currently the co-lead (PoC) of the Group on Earth Observations Cold Regions Initiative (GEOCRI) and co-chair to the High Mountain and Cold Regions (HiMAC WG) Working Group of the “Digital Belt and Road" Program.

Event 3 (11:30– 11:50, 20 minutes)
Energy-Environment nexus from the coupled human-natural system perspective

QIN Yue

Associate Professor (tenure-track)

Peking University

Dr. QIN Yue is currently a tenure-track associate professor at the College of Environmental Science and Engineering at Peking University. Before that, she worked as a tenure-track assistant professor at the Department of Geography and Sustainability Institute at the Ohio State University. She holds a Ph.D. degree in Science, Technology, and Environmental Policy (STEP Program) from Princeton University. Her research focuses on the modeling the coupled human system and the natural environment on characterizing 1) the multi-aspect impacts of human activities on the natural environment, and 2) unraveling the feedbacks of the natural system on human society (e.g., food, energy, and water system vulnerability under climate change and carbon neutrality).

Event 4 (11:50 – 12:10, 20 minutes)
Can the photovoltaic potential of urban roads meet energy consumption for inner-city traffic?

FEI Teng

Associate Professor

Wuhan University

Dr. FEI Teng, Associate Professor of the School of Resource and Environmental Sciences, Wuhan University. He obtained his Ph.D from University of Twente, the Netherlands, and has published more than 100 academic papers in the journals of geographic information science (GIS), urban sciences, and remote sensing technology. His main research interests include spatial big data analysis and representation, remote sensing application on urban ecology, health geography, and social geocomputing.

Session Title

Big Data and Ecological Security

Session Organizer

Shanghai Normal University

Short Description

The session will center around the critical theme of "Big Data and Ecological Security" within the FBAS 2023 conference. Esteemed experts and researchers in the field will convene to explore the dynamic interplay between big data applications and the preservation of ecological security. Through insightful presentations, case studies, and discussions, the session aims to illuminate the potential of data-driven approaches in ensuring a sustainable and secure environment.

Objectives

The central objective of this session is to facilitate the exchange of best practices and experiential insights that underscore the significance of big data in fortifying ecological security. By leveraging illuminating presentations and invigorating discussions, the session endeavors to delve into the uncharted territories of innovative big data applications aimed at surmounting challenges intrinsic to maintaining ecological balance. This collective exploration aspires to catalyze profound contemplation among distinguished experts and scholars, cultivating a fertile ground for novel perspectives to flourish.

Expected Results

Through the discussions and interactions in this symposium, we anticipate achieving the following outcomes:

1. Increased Insight: Attendees will gain a deeper understanding of how big data can contribute to ecological security, enhancing their grasp of the potential benefits and applications.

2. Ideas and Innovation: The exchange of perspectives is expected to foster new ideas and innovative approaches at the intersection of big data and ecological security.

3. Catalyst for Future Action: The symposium is likely to inspire participants to further explore collaborations, research directions, and practical implementations that align with the enhancement of ecological security through big data strategies.

Agenda

Time 15:15-16:45, September 6th 2023 Room: 201B
Moderator:

GAO Jun

Professor

Shanghai Normal University

Professor GAO Jun currently holds several distinguished positions, including being the Director of the National Field Scientific Observation and Research Station for Wetland Ecosystems in the Yangtze River Delta Green Integration Development Demonstration Zone, Chief of the Academic Committee at Shanghai Normal University, Head of the Postdoctoral Mobile Station for Environmental Science at Shanghai Normal University, and Discipline Leader for the Ph.D. program in Environmental Science and Engineering. His extensive experience also encompasses his role as the Head of the Americas Division for the Liaison Group of the Shanghai World Expo 2010 Bid Working Group from 2002 to 2003. With a comprehensive career, Professor Gao has made substantial contributions as Dean of the School of Environmental and Geographical Sciences at Shanghai Normal University, and in various leadership roles in academic and research organizations. His expertise lies in urban ecology, landscape ecology, sustainable sciences, national parks, and ecological tourism, evident through his prolific research and teaching endeavors. Notably, he currently spearheads significant research projects focused on sustainable development models for the Qinghai-Tibet Plateau National Park Cluster and ecological security in the Yangtze Economic Belt. Professor Gao's scholarly influence extends internationally, as evidenced by his collaboration with the United Nations World Tourism Organization and the publication of comparative studies. His contributions encompass over twenty authored or co-authored books and textbooks, as well as over a hundred research papers. His dedication has led to numerous awards, notably including the second prize for academic achievements awarded by the China National Tourism Administration for his work on the Atlas of Shanghai Tourism Resources.

Participants
Event 1 (15:15-15:45)
Strengthening machine learning reproducibility to secure ecological assessment

SHAO Guofan

Professor

Purdue University

Prof. SHAO Guofan is affiliated with the Department of Forestry and Natural Resources, Purdue University. He serves as Editor-in-Chief for

Journal of Sustainable Development and World Ecology. His research career started with geospatial applications in forest ecosystem modeling and monitoring. He became a post-doc at the Department of Environmental Sciences, University of Virginia in 1991. He joined Purdue University in 1997, where he has been teaching and studying remote sensing applications in land use and land cover mapping and its accuracy assessment. He has contributed to research on the mixed forests in eastern Eurasia and central hardwood forests in the US. His current research interest focuses on machine learning classification of remotely sensed imagery acquired from different platforms. He and his collaborators invented image classification efficacy as a transformed metric to consistently evaluate the performance of classifiers that deal with datasets with imbalanced classes. He has authored or co-authored 6 books, 23 book chapters, and 192 peer-reviewed journal papers. The book chapters include Satellite Data and Remote Sensing in Encyclopedia of Environmetrics in 2012 and 2016, and Optical Remote Sensing in International Encyclopedia of Geography in 2014 and 2019.

Event 2 (15:45-16:00)

Robustness-Resistance-Recovery based assessment of flood resilience

PENG Jian

Professor

Peking University

PENG Jian is a Professor at College of Urban and Environmental Sciences, Peking University, majoring in Landscape Ecology, Ecosystem Servies, and Integrated Physical Geography. His recent research interest is the coupling of landscape patterns and social-ecological processes. He is one of Editors-in-Chief of Applied Geography.

Event 3 (16:00-16:15)

Assessment of urban ecological risks with multimodal remote sensing and interpretable machine learning

WANG Lin

Research associate

Institute of Urban Environment, Chinese Academy of Sciences

WANG Lin is a research associate at the Institute of Urban Environment, Chinese Academy of Sciences. She received PhD degree from University of Chinese Academy of Sciences in 2021 through training at Emory University from 2018 to 2019. Her current work focuses on computer modeling of UERs induced by air pollution and extreme weather events based on big data. She has published 16 research papers in journals such as *Remote Sensing of Environment*, *ISME Communications*, *Journal of Environmental Management*, Proceedings of the Chinese Academy of Sciences and *Acta Ecologica Sinica*. She is the PI for a Fujian Provincial Natural Science Foundation project (non-joint) and a sub-project of

National Key R&D Plan.

Event 4 (16:15-16:30)

Comprehensive assessment of China's SDG 6 progress from 2015 to 2020 supported by big earth data

SONG Xiaoyu

Associate research fellow

Northwest Institute of Ecology, Chinese Academy of Sciences

SONG Xiaoyu is an Assistant Researcher at the Northwest Institute of Eco-Environment and Resources, Chinese Academy of Sciences. His primary research area is focused on ecological economics. With a strong academic background, he has contributed significantly to his field. Having authored numerous works and garnered substantial citations, Song's research impact is evident with an H-index of 10 and a total of 259 citations. He has received funding from prominent sources such as the National Natural Science Foundation of China, the National Key R&D Program of China, and the Knowledge Innovation Program of the Chinese Academy of Sciences. His involvement in research projects, including the National Natural Science Foundation project focusing on integrated ecological and hydrological processes in the Heihe River Basin, underscores his dedication to advancing understanding in his field.

Event 5 (16:30-16:45)

Comprehensive observation of land surface and its application in ecological security monitoring

LI Weiyue

Associate professor

Shanghai Normal University

LI Weiyue is an Associate Professor and Master's Supervisor at the School of Environmental and Geographical Sciences, Shanghai Normal University. He also serves as the Deputy Director of the National Field Observation Research Station for Urban Wetland Ecosystems in the Yangtze River Delta. With a doctoral degree in Cartography and Geographic Information Engineering from Tongji University in 2014, LI has a strong academic foundation. From 2016 to 2021, he conducted postdoctoral research at the Northwest Institute of Eco-Environment and Resources, Chinese Academy of Sciences. His research focus lies in areas such as field observation, data integration, multi-source data fusion, and assimilation. He has particularly concentrated on addressing environmental and ecological issues in the Yangtze River Delta and the integration of ecological observation methods to serve environmental security assessments, carbon source-sink estimation, and application demonstrations.

Session Title

Artificial Intelligence and Marine Big Data support SDGs(I)

Session Organizer

Institute of Oceanology, Chinese Academy of Sciences; South China Sea Institute of Oceanology, Chinese Academy of Sciences

Short Description

This session will be of interest to researchers, methodologists, and policy makers on SDG 13/14 targets. This session will also be of interest to those who care about marine development and those related to the marine economy.

Objectives

The session will focus on SDG 13/14 and discuss the following important points. Like reducing marine hazards and disaster losses, protecting marine and coastal pollution, protecting and Restoring of Marine Ecosystems, minimizing and addressing the impacts of ocean acidification and big ocean data in helping to understand of the ocean. The objective of the session is destined to the presentation of new ocean science and efficient technologies in supporting the implement of SDG 13/14 targets.

Expected Results

1.The supporting of the latest progress in ocean science on sustainable development

2.Providing data, methods and means for implement of SDG 13/14 goals from the discussion of ocean scientists

3.Efforts should be taken in the next steps to protect the health and sustainable development of the ocean

Agenda

Time 15:15-16:45, September 7th 2023 Room: 305C
Moderators:

WANG Fan

Professor

Institute of Oceanology, Chinese Academy of Sciences

WANG Fan, Researcher, Director of the Institute of Oceanology, CAS (IOCAS). He is mainly working on ocean circulation dynamics, including the western boundary currents in the low-latitude Pacific, tropical ocean circulation, shelf circulations in the China Seas and mesoscale processes, etc. He undertook more than 30 projects funded by National Basic Research Program, National High Technology Research and Development and National Natural Science Foundation of China, etc. He has published over 140 papers and 3 Academic Monographs. He has been awarded "National Advanced Science and Technology Workers", "National Science and Technology Innovation Talents" and many other awards for his remarkable works.

LI Chaolun

Professor

South China Sea Institute of Oceanology, Chinese Academy of Sciences

LI Chaolun, Researcher, Director of South China Sea Institute of Oceanology,CAS. He obtained my PhD degree from Institute of Oceanology, Chinese Academy of Sciences in 2002. Since then, he worked in the zooplankton team of IOCAS. As a visiting scientist, I worked in the University of Tromsø, Norway during 2004-2005, and in the University of Connecticut, USA in 2007. His research interests include zooplankton population dynamics, ecological disasters (jellyfish bloom) in China coastal waters, extreme environment and ecosystem exploration in the deep sea and polar sea. Now he the member of Standing Scientific Group on Life Sciences of SCAR.

Event 1 (15:15-15:33)

A purely data-driven transformer model for real-time predictions of the 2023-24 climate condition in the tropical Pacific

ZHANG Ronghua

Professor

Nanjing University of Information Science & Technology

ZHANG Ronghua is a professor at School of Marine Sciences, Nanjing University of Information Science and Technology, Nanjing, China. He received

his Ph. D. from the Institute of Atmospheric Physics, Chinese Academy of Sciences in 1989. Then, he worked respectively at the Meteorological Research Institute/Japan Meteorological Agency (Japan), the National Oceanic Data Center (NODC)/NOAA (USA), the University of Rhode Island (USA), the Columbia University (USA), the University of Maryland (USA), and the Institute of Oceanology, Chinese Academy of Sciences (IOCAS). His research interests include coupled ocean-atmosphere interactions and numerical modeling, ENSO prediction and predictability, and climate simulations. Currently, he serves as an Associate Editor in Chief for journal of oceanology and limnology (JOL), an Assistant Editor in Chief for *Acta Oceanologica Sinica* and as an Editor for atmospheric and oceanic science letters (AOSL).

Event 2 (15:33-15:51)

Introduction to a platform of information integration of China coastal sea

ZHANG Fang

Professor

Institute of Oceanology, Chinese Academy of Sciences

Dr. ZHANG Fang, is currently working as the Professor of CAS Key Laboratory of Marine Ecology and Environmental Sciences, IOCAS. Her research interests include population dynamics of zooplankton, trophic ecology of gelatinous zooplankton, large jellyfish bloom forming mechanism, monitoring, prediction and control. She has been supported by several state level projects from the China National Natural Science Foundation (NSFC) and Ministry of Science and Technology (MoST) of China, she has published more than 70 peer-reviewed scientific papers.

Event 3 (15:51-16:09)

Ocean big data in support of the sustainable development of the Maritime Silk Road

TANG Shilin

Professor

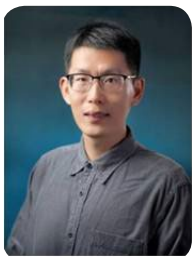
South China Sea Institute of Oceanology, Chinese Academy of Sciences

Dr. TANG Shilin received a B.S. degree in Exploration Technology and Engineering from the China University of Petroleum in 2003 and a Ph.D. degree in Physical Oceanography from Graduate University of Chinese Academy of Sciences in 2008. In 2008, he worked as an assistant scientist at the Center for Earth Observation & Digital Earth, Chinese Academy of Sciences. In 2009, he was supported by the Natural Sciences and Engineering Research Council of Canada (NSERC) and worked in Fisheries and Oceans Canada. Currently, he is working as a research professor in the State Key Laboratory of Tropical Oceanography, South China Sea Institute of Oceanology, Chinese Academy of

Sciences, and working as an adjunct scientist at the Sanya Institute of Ocean Eco-Environmental Engineering. His research interests include ocean remote sensing and ocean big data.

Event 4 (16:09-16:27)

Big data helps to understand the diversity and geographical distribution of marine microeukaryotes



ZHAO Feng

Associate Researcher

Institute of Oceanology, Chinese Academy of Sciences

Dr. ZHAO Feng served as the deputy director of the Laboratory of Marine Organism Taxonomy and Phylogeny, Institute of Oceanology, Chinese Academy of Sciences. He was successfully selected as a member of the Youth Innovation Promotion Association of the Chinese Academy of Sciences (2022). Dr. ZHAO'S research focuses on the diversity and distribution of protist, particularly ciliates, in the deep sea. He serves as a young editorial board member of the international journal *iMeta* and *the Chinese journal Acta Hydrobiologica Sinica*.

Event 5 (16:27-16:45)

Global estuarine fronts monitoring using remote sensing big data

FU Dongjie

Associate Researcher

Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences

Dr. FU Dongjie is Associate Professor at the Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences. Dr. Fu's research focuses on coastal remote sensing, remote sensing big data. He has been honored with first-class of Marine Science and Technology Award from Chinese Society for Oceanography in 2021.

Session Title

Artificial Intelligence and Marine Big Data support SDGs(II)

Session Organizer

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

Short Description

The session will focus on the innovative role of AI and marine big data technology in SDG14. Influential experts and academicians in the field will be invited to share their cutting-edge research and practices, present case studies, and engage in discussions with participants. The primary aim is to explore the way to achieve our sustainable and high-quality blue ocean.

Objectives

This session will provide the best practices and share experiences regarding with AI and marine big data technologies in promoting a sustainable and high-quality blue ocean. It will also explore innovative applications of AI technology in addressing challenges related to sustainable marine environments, stimulating deep thinking among experts and scholars, and offering inspiration for future research.

Expected Results

Through the exchange of ideas and discussions in this symposium, we expect to achieve the following outcomes:

1. Providing the best practices and sharing experiences of AI and marine big data in driving a sustainable and high-quality blue ocean.

2. Exploring innovative applications of AI technology in addressing challenges related to a sustainable and high-quality blue ocean.

3. Inspiring participants to engage in deep reflections on a blue ocean and spark new opportunities for collaborative projects.

Agenda

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

XUE Cunjin

Professor

International Research Center of Big Data for Sustainable Development Goals; Aerospace Information Research Institute, Chinese Academy of Sciences

Dr. XUE Cunjin is a Professor at the Aerospace Information Research Institute, Chinese Academy of Sciences, P.R. China. Dr. XUE's research focuses on marine spatiotemporal data mining and digital twin of the ocean, including process-oriented marine spatiotemporal representing and graph storing model, process-oriented marine abnormal variation extracting technology, and process-oriented marine spatiotemporal clustering and associating methods. He is the author more than 80 articles, and holds 10 patents.

SU Hua

Professor

The Academy of Digital China, Fuzhou University

Dr. SU Hua is now a professor at Fuzhou University and deputy director of the National & Local Joint Engineering Research Center of Satellite Geospatial Information Technology, leading a group dedicated to ocean remote sensing investigation with more than 15 researchers and students. He has had professional experience in ocean remote sensing and AI oceanography for about 14 years. Dr. SU has achieved the honors of IEEE Senior Member, Distinguished Young Scholars of Fujian Province of China, and High-level talents of Fujian Province of China. His research outputs are outstanding, hosting more than 10 projects as PI or Co-PI funded by the National Natural Science Foundation of China and Fujian Province, etc. His study on AI-based subsurface and deeper ocean remote sensing is promising and productivity. He has published high-level papers and datasets, which IPCC adopted and served for climate change studies and Sustainable Development Goals. Dr. SU is also active in the academic community of ocean remote sensing, and serves as a youth editor of *The Innovation*, a topical advisory panel member of *Remote Sensing*, guest editor of *Remote Sensing*, peer reviewer for more than 20 international journals, and section chair for international conferences, etc.

Participants

Event 1 (17:00-17:15)

An introduction to IAP/CAS global ocean gridded dataset and its application

CHENG Lijing

Professor

Institute of Atmospheric Physics, Chinese Academy of Sciences

CHENG Lijing received his Ph.D from the Institute of Atmospheric Physics, Chinese Academy of Science in 2014. His researches focus on monitoring the ocean changes and understanding the associated mechanisms, including ocean heat content, ocean salinity, and stratification changes. His dataset (IAP ocean observational gridded product) has been widely used and well-recognized in recent years. He has published over 90 papers, with more than 40 first/corresponding author papers. The total citation of is >7,000 times (Google Scholar). His research have been adopted by more than 40 international reports organized by IPCC, WMO, among others, and have been selected as "Top-10 advances in science and technology in Chinese Society for Oceanography and Limnology" three times. Lijing was awarded to "International Data Prize" by WCRP/GCOS, and "XIE Yibing Young Meteorologist Award" in 2020, Fofonoff Early Career Award from the American Meteorological Society and "The Xplorer Prize" in 2023. He was selected as a Lead Author for IPCC Special Report on the Ocean and Cryosphere in a Changing Climate between 2017-2019; Lead Author of United Nations World Ocean Assessment -2 within 2016-2020.

Event 2 (17:15-17:30)

Spatiotemporal intelligent methods for exploring fine-scale environmental processes in coastal seas

WU Sensen

Associate Professor

School of Earth Sciences, Zhejiang University

Dr. WU Sensen is an associate professor at the School of Earth Sciences, Zhejiang University. He currently serves as deputy secretary-general and deputy director of the Youth Work Committee of the Zhejiang Geographical Society. His research mainly focuses on the theories and methods of spatiotemporal modeling and prediction in geoscience big data. He has published more than 30 papers in domestic and foreign journals, such as the International Journal of Geographical Information Science. He also obtained more than 20 national invention patents and software copyrights. Dr. Wu presided over and participated in more than 10 scientific research projects, such as the National Natural Science Foundation of China, the National Key Research and Development Program of China, and the Deep-time Digital Earth (DDE) Big Science Program.

Event 3 (17:30-17:45)

Time-series satellite images reveal the dynamic equilibrium of tidal wetlands under extensive coastal reclamation

WU Wenting

Associate Professor

Academy of Digital China (Fujian), Fuzhou University

Dr. WU Wenting is an Associate Professor at Fuzhou University. He received his Ph.D. degree from the State Key Laboratory of Estuarine and Coastal Research, East China Normal University in 2019. His research interests include topics related to disturbances detection, the evolution of coastal wetlands, and risk assessment under the impacts of land reclamation in the coastal zone. He currently focus on the impacts of land reclamation on coastal wetland, and has published more than 20 papers, which made contributions to the existing knowledge by detecting the evolution in landscape and geomorphology of coastal wetlands under extensive land reclamation using an integrated method with remote sensing and numerical modeling.

Event 4 (17:45-18:00)

Retrieval and prediction of oceanic primary production based on machine learning

PING Bo

Lecturer

School of Earth System Science, Tianjin University

PING Bo obtained a bachelor's degree from the School of Remote Sensing and Information Engineering at Wuhan University in 2009 and obtained a doctoral degree from the same school in 2015. The primary research areas include multisource satellite data fusion, marine data retrieval and reconstruction, marine feature extraction, and more. As the first author, I have published over 20 papers in relevant fields and have led a total of 6 research projects, including those at the national and provincial levels.

Event 5 (18:00-18:15)

Remote sensing mapping of coastal aquaculture

WANG Zhihua

Associate Professor

State Key Lab. of Resources and Environmental Information System, Institute of Geographic Science and Natural Resources Research, Chinese Academy of Sciences

WANG Zhihua received his Ph. D from the Institute of Geographic Science and Natural Resources Research, Chinese Academy of Sciences in 2018.

His researches focus on remote sensing image intelligent interpretation, and the coastal resources and environment monitoring. His team mapped the first global aquaculture ponds region distribution and the first Chinese coastal offshore marine aquaculture distribution by remote sensing big data. The offshore aquaculture dataset has attracted >40,000 times views and downloads, and are widely used in marine resource management and research. He has published over 50 papers, with more than 20 first/corresponding author papers, authorized 10 invention patents, and won 3 awards, including the first prize of Geographic Information Technology Progress and the first prize of Marine Science and Technology.

Event 6 (18:15-18:30)

3D ocean heat content estimation using remote sensing and deep learning

SU Hua

Professor

The Academy of Digital China, Fuzhou University

Session Title

Urbanization Monitoring with Big Earth Data

Session Organizer

China University of Geosciences

Short Description

The process of urbanization is accompanied by the expansion of urban area, population growth and GDP increase. However, urbanization has also caused ecological and geological environmental effects such as air pollution, water pollution, urban heat island, land subsidence, and landslides. Big Earth data, such as remote sensing data, has played an important role in monitoring the dynamic changes of urban land use, human settlements, ecological environment, and geological environment due to its advantages of uninterrupted, objective, and all-round observation. In-depth mining and analysis of urban spatial big data is of great significance for understanding urban dynamics and their effects on ecology, human settlements, and geological environment, and making suggestions for urban planning and governance decisions.

Objectives

1) Advanced classification techniques of urban land use and land cover, including rule-based approaches, data-driven approaches, reinforcement learning approaches, and ensemble methods of rule-based, data-driven, and reinforced learning

2) Spatio-temporal dynamics of urban growth, including semi-supervised, unsupervised, supervised urban land cover/use time-series change detection, etc.

3) Urban geological environment monitoring, including the use of big earth data to carry out urban land subsidence monitoring, urban landslide monitoring, urban soil erosion risk assessment, urban debris flow risk early warning, etc.

4) Urban ecological environment monitoring, including the use of big earth data to carry out urban air pollution monitoring, water pollution monitoring, wetland degradation monitoring, heat island effect analysis, and urban carbon emission monitoring, etc.

5) Urban human settlement monitoring, including the use of big earth data to monitor population growth, GDP growth, and land use rate changes in the process of urbanization, etc.

6) State-of-the-art spatial data analysis technologies related to urbanization process monitoring

Expected Results

This conference aims to bring together researchers, practitioners and stakeholders to share their experiences and discuss the latest progress, applications and challenges of Big Earth Data underpinning urbanization process monitoring.

Agenda

Time 13:30-15:00, September 7th, 2023 Room: 305C

Moderator:

WANG Lizhe

Professor

China University of Geosciences

Prof. Lizhe WANG is a full professor and the Vice-Chancellor of China University of Geosciences. He is an academician of Academia Europaea, IEEE Fellow, and SPIE Fellow. Now he serves on the editorial boards of scientific data, IEEE J-MASS, IEEE J-STARS, IJDE and other international journals. His research interests include digital earth theory, remote sensing information engineering, and application of geological information.

Participants

Event 1 (13:30-13:45)

Satellite monitoring of war urban damage with a temporal knowledge-guided deep learning scheme

ZHANG Liqiang

Professor

Beijing Normal University

The State Key Laboratory of Remote Sensing Sciences, Faculty of Geographical Science, Beijing Normal University, Beijing, China. Dr. ZHANG received the Ph.D. degree from Institute of Remote Sensing Applications, Chinese Academy of Sciences, Beijing, China, July 2004. His main research interests include remote sensing imagery/point cloud parsing, spatial analysis and 3D modeling. My research work was published in the journals like IEEE TGRS and ISPRS Journal of Photogrammetry, and Remote Sensing.

Event 2 (13:45-14:00)

Development of atmospheric cloud properties and surface radiation remote sensing products: application in urban solar energy monitoring

Husi Letu

Professor

Aerospace Information Research Institute, CAS

Husi Letu (IEEE Senior Member) is currently a professor of the State Key Laboratory of Remote Sensing and Digital Earth, Aerospace Information Research Institute, Chinese Academy of Sciences (CAS). He is the Chairman and Originator of the Cloud Remote Sensing, Atmosphere Radiation and Renewal Energy (CARE) international symposium (http://www.slrss.cn/care/). He has published over 120 peer-reviewed papers in scientific journals like BAMS, Atmospheric Chemistry and Physics, Journal of Geophysical Research, etc. He has served as the Associate Editor of Journal of Atmospheric Science Letters and sits on the editorial boards of National Remote Sensing Bulletin and Chinese Journal of Space Science. He has received funding support from the National Natural Science Foundation of China's Distinguished Young Scholars. His research interests mainly include remote sensing theory and techniques, atmospheric radiative transfer simulation, light scattering calculation, cloud remote sensing and radiation energy balance.

Event 3 (14:00-14:15)

Study on the impact of urbanization process on vegetation: a case study of the Beijing-Tianjin-Hebei urban agglomeration

WANG Jia

Professor

Beijing Forestry University

WANG Jia, Professor, doctoral supervisor, Deputy Dean of College of Forestry, Beijing Forestry University, head of Geography and Information Science, head of national first-class undergraduate major construction site, Deputy director of Beijing Key Laboratory. Deputy Secretary-General of Precision Agriculture and Forestry Committee of China Geographic Information Industry Association, member of Education Committee, member of Employment Committee, director of Beijing Surveying and Mapping Society, and former director of Geography Remote Sensing and Geographic Information System Direction Flow Project of the Department of Geography, National Natural Science Foundation of China.

He is mainly engaged in the application research of remote sensing and geographic information technology in forest resources and ecological environment. He has presided over and completed 4 projects of the National Natural Science Foundation, 2 projects of the Beijing Natural Science Foundation, 1 project of the doctoral program of the Ministry of Education and more than 30 projects of various kinds. Dr. Jia Wang has published more than 80 academic papers, including over 30 papers indexed in SCI and EI. He has received the First Prize and Third Prize for Technological Advancement from the Beijing Municipal Government, the Second Prize for Technical Invention from the State Forestry and Grassland Administration, and the Second Prize for Innovation in Invention from China.

Event 4 (14:15-14:30)

SinoLC-1: the first 1-meter resolution national-scale land-cover map of China created with the deep learning framework and open-access data

ZHANG Hongyan

Professor

China University of Geosciences, China

Prof. ZHANG Hongyan received the Ph.D. degree in photogrammetry and remote sensing from Wuhan University in 2010, and was appointed as Full Professor there in 2016. He is currently the dean of Computer School, China University of Geosciences. His research interests mainly focus on image reconstruction for quality improvement, hyperspectral information processing and agricultural remote sensing. Dr. Zhang has authored/co-authored 98 journal citation report (JCR) papers, inlcuding 3 ESI Hot Papers and 16 ESI Highly Cited Papers. Prof. ZHANG is a Senior Member of IEEE, and has been recognized as the 2021 and 2022 Chinese Highly Cited Scholar by Elsevier. Meanwhile, he has served as the Associate Editor for IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, Computers & Geoscience and Photogrammetric Engineering & Remote Sensing.

Event 5 (14:30-14:45)

Scattering power decomposition for compact polarimetric SAR and application of urban terrain classification

GAO Gui

Professor

Southwest Jiaotong University, China

Gui Gao received his B.S., M.S., and Ph.D. degrees from the National University of Defense Technology (NUDT), Changsha, China, in 2002, 2003, and 2007, respectively. In 2007, he joined the Faculty of Information Engineering, School of Electronic Science and Engineering, NUDT, as an associate professor. In 2017, he joined the Faculty of Geosciences and Environmental Engineering, Southwest Jiaotong University, Chengdu, China, where he is currently a professor. He has authored more than 100 journal and conference papers and written eight books and an English chapter. He has received numerous awards, including the Excellent Master Thesis of Hunan Province in 2006, Excellent Doctor Thesis in 2008, and Outstanding Young People in NUDT and Hunan Province of China in 2014 and 2016 as well as a first-class Prize of Science and Technology Progress and a Natural Science in Hunan Province award. He was also selected as an Academic and technical leader in Sichuan Province, an Expert of Sichuan Provincial Thousand Talents Plan, a Young Talent of Hunan, a Lecture Professor of "Minjiang Scholars" in Fujian Province, and supported by the Excellent Young

People Science Foundation of the National Natural Science Foundation of China. He is also the leaders of Sichuan Natural Science Foundation Innovation Group and the Innovation Team of the Ministry of Education of China. He is the lead guest editors of IEEE GRSM, JAP, IJAP, the guest editor of Remote Sensing, and an associate editor and the lead guest editor of IEEE JSTARS, and he is on the editorial board of *Chinese Journal of Radars*.

Event 6 (14:45-15:00)

Impacts of perceived safety and beauty of park environments on time spent in parks: examining the potential of street view imagery and phone-based GPS data

ZHOU Hanlin

PhD Candidate

University of Toronto, Canada

ZHOU Hanlin is a PhD Candidate in the Department of Geography and Planning, University of Toronto, ON M5S 3G3, Canada, and Department of Geography, Geomatics, and Environment, University of Toronto Mississauga, ON L5L 1C6, Canada. His research interests encompass understanding the environmental impact on human activities, such as health behaviors and crime behaviors.

Session Title

Clean Energy and Dual Carbon Goals

Session Organizer

Aerospace Information Research Institute, Chinese Academy of Sciences

Short Description

Focusing on the global realization of the UN Sustainable Development Goals 7SDG7 Economical and Applicable Clean Energy Goal, and aiming at the five major themes of SDG7 indicators: power supply, clean cooking, renewable energy, energy efficiency improvement and international cooperation, through literature research and collection, a list of key technologies for achieving the five major themes of SDG7 Economical and Applicable Clean Energy Goal in the world is formed. Through on-site discussions in the meeting, the importance of each key technology is discussed in detail. Then, through on-site scoring and voting, the importance of each key technology is evaluated, and a list of key technologies for the five major themes of SDG7 is finally formed, providing guidance for subsequent research on SDG7 goals.

Objectives

Clarify the list of key technologies for SDG7

Expected Results

SDG7 Key Technology List

Agenda

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

SHAO Yun

Researcher, Professor

Aerospace Information Research Institute, Chinese Academy of Sciences

SHAO Yun, doctor, researcher of the Aerospace Information Innovation Institute of the Chinese Academy of Sciences. He has successively served as Deputy Director of the State Key Laboratory of Remote Sensing Science, Director of the Microwave Remote Sensing Research Office, and doctoral supervisor of the Institute of Remote Sensing Applications, Chinese Academy of Sciences; One of the participating scientists of the "Beijing Youth Science and Technology Club"; Torchbearer for the 2008 Beijing Olympics; I have been engaged in basic and applied research on radar remote sensing for a long time and am a well-known expert in the field of radar remote sensing applications in China. Representative of the 19th National Congress of the CPC.

WU Mingquan

Associate Researcher

Aerospace Information Research Institute, Chinese Academy of Sciences

WU Mingquan, doctor, master's supervisor, associate researcher of the Aerospace Information Innovation Research Institute of the Chinese Academy of Sciences, member of the Youth Innovation Promotion Association of the Chinese Academy of Sciences, has long been engaged in research on engineering remote sensing and agricultural remote sensing, and presided over more than 20 national and departmental projects such as the National Natural Science Foundation of China, the annual report of global ecological environment remote sensing monitoring, etc. Systematically carrying out research on Earth big data monitoring and analysis for overseas engineering projects in China. Published over 100 papers, including nearly 30 SCI papers by the first author/ corresponding author. Expert reviewers for international mainstream magazines such as Remote Sensing of Environment.

Participants

Event 1 (20 minutes)

Remote sensing estimation of terrestrial ecosystem carbon budget: methods and challenges

LIU Liangyun

Researcher, Professor

Aerospace Information Research Institute, Chinese Academy of Sciences

LIU Liangyun, Ph. D., researcher of the Aerospace Information Innovation Institute of the Chinese Academy of Sciences. The research direction is quantitative remote sensing and application of vegetation ecology. He served as the director of the Environmental Remote Sensing Branch of the Geographical Society of China, and undertook the postgraduate teaching of the "Vegetation Remote Sensing" course of the Graduate School of the Chinese Academy of Sciences. Received one second prize of the National Science and Technology Progress Award, one first prize of the Beijing Science and Technology Award, and one third prize each. Published over 100 journal papers both domestically and internationally, including over 20 SCI search papers and over 40 EI search papers; SCI has been cited more than 100 times by others. In 2006, he was selected for the Beijing New Century Billion Talents Project.

Event 2 (20 minutes)

Effects of afforestation on soil organic carbon and main nutrients

BAO Haijun

Professor

Zhejiang University

GUO Yang

Lecturer

Zhejiang University

Dr. GUO Yang obtained her doctoral degree from the University of Aberdeen in the United Kingdom, majoring in Environmental Science. Her primary research interests include land use and carbon-nitrogen cycles, as well as low-carbon urban development. Dr. Guo has participated in multiple international/national level research projects, published 8 SCI papers, and contributed to the writing of 2 English-language books.

Event 3 (20 minutes)

Kuang Qiuming
Senior Vice President
Geovis Environment Technology Co.,Ltd.

Ph.D. in Pattern Recognition and Intelligent Systems, served as Senior Vice President (CTO) of Geovis Environment Technology Co., Ltd., and Chairman of the Artificial Intelligence Technology Committee of the China Meteorological Service Association. He Mainly engaged in the application research of artificial intelligence technology in the meteorological field, authorized more than 10 invention patents in high impact weather recognition of remote sensing images, refined weather forecasting, automatic acquisition of meteorological service data knowledge and intelligent Q&A, and participated in writing two monographs.

Event 4 (20 minutes)

Big Earth Data supports SDG7 sustainable development Goals

WU Mingquan
Associate Researcher
Aerospace Information Research Institute, Chinese Academy of Sciences

WU Mingquan, doctor, master's supervisor, associate researcher of the Aerospace Information Innovation Research Institute of the Chinese Academy of Sciences, member of the Youth Innovation Promotion Association of the Chinese Academy of Sciences, has long been engaged in research on engineering remote sensing and agricultural remote sensing, and presided over more than 20 national and departmental projects such as the National Natural Science Foundation of China, the annual report of global ecological environment remote sensing monitoring, etc. Systematically carrying out research on Earth big data monitoring and analysis for overseas engineering projects in China. Published over 100 papers, including nearly 30 SCI papers by the first author/ corresponding author. Expert reviewers for international mainstream magazines such as Remote Sensing of Environment.

Discussion on Key Technologies of SDG7 (50 minutes)

Invite 6 experts to discuss key technologies for SDG7 monitoring and implementation.

Session Title

Space Technologies Facilitating the Sustainable Development of World Heritages

Session Organizer

International Centre on Space Technologies for Natural and Cultural Heritage under the auspices of UNESCO; Urban Heritage, Climate Change & Disaster Risk Management, ICCROM

Short Description

Even though space technologies (ST) was not developed intentionally for world heritage (WH) protection, it provides an advanced set of innovative and flexible tools that integrate scientific research into heritage science, which forms the evidential basis to support measures for the protection of WH sites. The ST also opens up paths of methodological innovation to facilitate future conservation of cultural and natural properties with new paradigms. Based on a half-century review of the applications of ST in the field of WH, we find that the ST has effectively reshaped our means for WH conservation in four major domains of application: mapping, monitoring, modeling and management of the WH.

Objectives

To share and communicate the recent advances, emerging challenges, and future prospects of employing space technologies to safeguard world's natural and cultural heritage and to discuss how joint research activities within natural and cultural heritage should be developed to promote the achievement of heritage-related SDG goals, targets and indicators.

Expected Results

HIST and ICCROM, has been active in applying space technologies for promoting the conservation and sustainable development of natural and cultural heritage during the last decade. Most important Chinese and international conservationist have been invited and early-stage scientist are presenting latest results. Discussion about future direction of collaboration is discussed and roadmap formed.

Agenda

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

LUO Lei

Associate Researcher

International Centre on Space Technologies for Natural and Cultural Heritage (HIST), UNESCO

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

Lei LUO is an associate professor of CBAS. He is also serving as the Head of First Research Department of International Centre on Space Technologies for Natural and Cultural Heritage under the auspices of UNESCO (HIST), member of International Council on Monuments and Sites (ICOMOS), and member of International Scientific Committee on Aerospace Heritage. His research interests include natural and cultural heritage and sustainability, remote sensing of biodiversity and conservation, and space archaeology. His current work also focuses on adopting multidisciplinary approaches to meet the needs of scientific cognition and evaluation of the Sustainable Development Goals (SDG11 and 15). He has published 70 papers and won 10 awards.

Rohit JIGYASU

Project Manager

Urban Heritage, Climate Change & Disaster Risk Management, ICCROM

Rohit Jigyasu is a conservation architect and risk management professional from India, currently working at ICCROM as Project Manager on Urban Heritage, Climate Change and Disaster Risk Management. He is also at present the vice president of ICOMOS International Scientific Committee of Risk Preparedness (ICORP). Rohit served as UNESCO Chair holder professor at the Institute for Disaster Mitigation of Urban Cultural Heritage at Ritsumeikan University, Kyoto, Japan, where he was instrumental in developing and teaching International Training Course on Disaster Risk Management of Cultural Heritage. He was the elected President of ICOMOS-India from 2014-2018 and president of ICOMOS International Scientific Committee on Risk Preparedness (ICORP) from 2010-2019. Rohit served as the Elected Member of the Executive Committee of ICOMOS since 2011 and was its Vice President from 2017-2020. Before joining ICCROM, Rohit has been working with several national and international organizations such as UNESCO, UNDRR, Getty Conservation Institute and World Bank for consultancy, research and training on Disaster Risk Management of Cultural Heritage. He is also the main author UNESCO Resource Manual on Managing Disaster Risks for World Heritage and the co-

editor of recently published Routledge book on Good Practices for Disaster Risk Management of Cultural Heritage. He also co-authored the revised draft of the UNESCO Policy on climate action for World Heritage Properties that is currently under discussion by the States Parties of the World Heritage Convention.

Participants

Event 1 (17:00-17:15, 90 minutes, 12+3min presentations)

Space-eye Sensing the Sustainability of World Cultural Heritage Sites

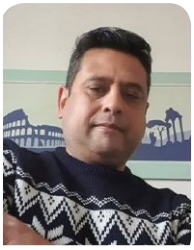
CHEN Fulong

Researcher

CBAS, China; HIST, UNESCO

Event 2 (17:15-17:30)

Harnessing the power of space technologies for reducing risks and building resilience of World Heritage Properties: Global Challenges and Opportunities



Rohit JIGYASU

Project Manager

Urban Heritage, Climate Change & Disaster Risk Management, ICCROM

Event 3 (17:30-17:45)

Earth observation for monitoring climate change impacts on natural World Heritage sites

Tales Carvalho RESENDE

Project Officer

World Heritage Centre, UNESCO

Event 4 (17:45-18:00)

UNESCO-designated heritage spatial information platform construction

HUO Sijia

Manager

International Centre on Space Technologies for Natural and Cultural Heritage, UNESCO

Event 5 (18:00-18:15)

Observed Olympic effects on reshaping urban greenspace of host cities

TU Ying

Research Assistant

Tsinghua University & The University of Hong Kong, China

Event 6 (18:15-18:30)

The role of space technologies for safeguarding World Heritage

LUO Lei

Associate Researcher

CBAS, China; HIST, UNESCO

Session Title

SDGSAT-1 Applications and Subsequently Satellite Series of the Sustainable Development Goals

Session Organizer

International Research Center of Big Data for Sustainable Development Goals

Short Description

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

Objectives

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

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

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

Expected Results

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

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

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

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

Agenda

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

SHI Jiancheng

Professor

National Space Science Center, Chinese Academy of Sciences, China

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

Co-Chair:

Amos Tiereyangn Kabo-bah

Associate Professor

University of Energy and Natural Resources, Ghana

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

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

Participants

Event 1 (17:00-17:15)

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

CHEN Fansheng

Professor

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

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

Event 2 (17:15-17:30)

Humanitarian mapping using night-time light imagery

LI Xi

Professor

Wuhan University

LI Xi is a professor, doctoral supervisor with Wuhan University. He has been working at the State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing (LIESMARS), Wuhan University, China, since 2009. He won the first class the National Science and Technology Progress

Award in 2021. He is an editorial board member of International Journal of Remote Sensing, serves as head of WHU-UNOSAT intership (China). In recent years, he has published more than 40 journal papers, including Nature Food, Remote Sensing of Environment, etc,. His research interests including remote sensing of night-time light and its applications in socioeconomic analysis such as humanitarian mapping.

Event 3 (17:30-17:45)

Localization estimation of magnetic targets using airborne magnetic anomaly detection

LI Yapeng

Senior Engineer,Dr.

State Key Laboratory of Space-Ground Integrated information Technology, China

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

Event 4 (17:45-18:00)

Progress of the SDGSAT-1 Satellite Application

WANG Qinjun

Professor

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

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

interests include High Precision Extraction Methods on Optical Remote Sensing Information, Geological Remote Sensing and Digital City.

Event 5 (18:00-18:15)

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

HU Yonghong

Associate Professor

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

HU Yonghong earned his BS and MS degrees from Henan Normal University and the South China Botanical Garden, CAS. Then, he received the Ph.D. degree in atmospheric physics and atmospheric environment from the Institute of Atmospheric Physics, CAS. Currently, he hold a position of an associate Professor at International Research Center of Big Data for Sustainable Development Goals and the Aerospace Information Research Institute, CAS. His research focuses on thermal infrared radiometric calibration, TIR remote sensing for climate change, extreme weather/climate events, and urban environmental change utilizing remote sensing methods. He has published over 30 papers in prestigious journals such as IEEE Transactions on Geoscience and Remote Sensing and ISPRS Journal of Photogrammetry and Remote Sensing, and he also published an academic monograph titled “Fundamentals of Big Data Algorithms for Earth Sciences”. He serves as the Assistant to Chief Engineer of the Scientific application system of SDGSAT-1 satellite and a case study author of the report “Big Earth Data in Support of the Sustainable Development Goals (2022)”.

Session Title

Data and AI Policy for the Effective Governance of Big Data During Crisis Situations for Achieving the UN Sustainable Development Goals

Session Organizer

CODATA: International Science Council's Committee on Data
UNESCO/CODATA Working Group on Data Policy for Open Science in Times of Crisis
CODATA's Working Group on FAIR Data for Disaster Risk Research (FAIR-DRR)
RDA/CODATA Data Systems, Tools, and Services for Crisis Situations Working Group (DSTS_CS-WG)

Short Description

In the face of escalating global crises, this session presents a forum for thought leaders, policymakers, and stakeholders to explore the paramount role of data and AI policies in crisis preparation, response, and recovery for achieving the UN Sustainable Development Goals (SDGs). Particular attention will be given to the role of data and AI policy in big data can contribute transformative action and solutions for contributing to the alleviation of poverty, responding to climate change, addressing the need for water security, and mitigating the food and energy crises.

Amidst the increasing frequency and severity of crises such as health emergencies, natural disasters, and conflict situations), the session investigates how big data should be curated and developed to drive AI insights for addressing the critical challenges facing humanity locally, nationally, and globally. Participants will examine how data and AI technologies can aid in swift and accurate crisis detection, response coordination, and resource allocation during emergency situations, facilitating the achievement of SDGs even in the most adverse circumstances.

The session aims to identify best practices in data collection, privacy protection, and ethical AI implementation, ensuring data governance adheres to humanitarian principles and respect for human rights during crisis management. Experts will data-driven strategies for the employment of AI in the governance of crisis mitigation, humanitarian aid, and rebuilding efforts.

Discussions will also delve into the potential of AI-driven predictive analytics and machine learning models to forecast crises, assess vulnerabilities, and develop proactive strategies for risk reduction and disaster preparedness. The session fosters a collaborative environment to discuss the challenges and opportunities in utilizing big data and AI responsibly, ethically, and inclusively in crisis situations.

Through an interactive exchange of knowledge and experiences, participants will emerge with insights to develop data and AI policies that align with sustainable development objectives while enabling rapid, efficient, and compassionate crisis response. By harnessing the power of data and AI during emergencies, this session seeks to contribute significantly to the realization of the UN SDGs, promoting resilience, equity, and sustainability in a world vulnerable to various crises.

This session contributes to the development of a critical platform for exploring the instrumental role

of data and AI policies in driving progress towards achieving the UN Sustainable Development Goals (SDGs).

As data continues to shape global decision-making processes, this session will examine how effective governance of big data can support well-defined and well-structured AI policies that can accelerate the attainment of the SDGs. The session will examine the need to integrate of AI technologies in data collection, analysis, and dissemination to enhance evidence-based policymaking for sustainable development.

Through presentations and interactive discussion participants will gain insights into leveraging big data's potential to address pressing challenges related to poverty, climate change, health, education, and more. The session seeks to forge actionable strategies that empower nations to harness data and AI ethically and responsibly, fostering a collective commitment towards achieving the UN Sustainable Development Goals by 2030.

Objectives

The principal objective of this session is to demonstrate the importance of data and AI policies as frameworks for cutting-edge digital technologies, specifically here the harnessing of big data, for enabling the needed multi-dimensional, multi-disciplinary, and multi-scale monitoring and assessment of sustainable development indicators. The session has the following specific objectives:

1. To explore data and AI applications in Big Data for crisis management: The session aims to examine the diverse ways data and AI technologies can be applied in crisis situations to enhance governance, decision-making, and resource allocation.

2. To promote ethical data governance: One of the primary objectives is to emphasize the significance of ethical data governance during crisis situations. The session will examine privacy concerns, data security, and the responsible use of AI to ensure that data policies adhere to humanitarian principles and respect human rights, safeguarding sensitive information while responding effectively to crises.

3. To identify challenges and solutions to data and AI policy in Big Data: The session seeks to identify the challenges and barriers in utilizing big data and AI in crisis scenarios and propose viable solutions. By discussing potential issues related to data collection, interoperability, and AI bias, the session will explore strategies to overcome these obstacles and create an inclusive and transparent data ecosystem.

4. To foster multi-disciplinary and multi-sectorial collaboration: The session will encourage collaboration between stakeholders from various disciplines and sectors to effectively manage Big Data and AI in crisis management. The session will serve as a platform to facilitate dialogue and knowledge sharing across an interdisciplinary approach that fosters innovative solutions and facilitate the exchange of best practices.

5. To contribute to a roadmap for data-driven and AI supported crisis response: An essential objective is to develop a roadmap for leveraging data and AI effectively during crisis situations to achieve the UN SDGs. The session will outline actionable steps for policymakers and organizations to harness big data insights and AI-driven models to drive better decision-making, optimize resource allocation, and enhance overall crisis response efforts in alignment with the SDGs.

By addressing these objectives, this session contributes to the development of data and AI policies that not only empower crisis management but also advance progress towards the UN Sustainable Development Goals, ensuring a more resilient and sustainable future for all.

Agenda

Time 13:30-15:00, September 6th, 2023 Room: 305D

Event 1 (13:30-13:35)

Participants

Introduction to the session: the role of open science in achieving the UN Sustainable Development Goals (SDGs)

Ana Persic

Programme Specialist

Science Technology and Innovation Policies and Open Science, UNESCO

Dr. Ana Persic is Programme Specialist for Science Technology and Innovation Policies and Open Science at the UNESCO Headquarters in Paris. An ecologist by training with a PhD in Ecotoxicology, Dr Ana Persic joined UNESCO in April 2006 in the framework of the UNESCO's Man and the Biosphere program within the Division of Ecological and Earth Sciences in Paris. She has then served as a Science Specialist at the UNESCO Liaison Office in New York from 2011-2018. Her work relates to strengthening the science-policy interface and promoting science, technology, and innovation in implementing the United Nations 2030 agenda for sustainable development and sustainable development goals (SDGs). She coordinated the development of the UNESCO Recommendation on Open Science (2021) and is currently working towards its implementation.

Simon Hodson

Committee on Data of the International Science Council (CODATA)

Dr. Hodson is an expert on data policy issues and research data management. Most recently, he chaired the European Commission's Expert Group on FAIR Data which produced the report Turning FAIR into Reality (https://doi.org/10.2777/1524). He was also vice-chair of the UNESCO Open Science Advisory Committee, with an influential role in drafting the UNESCO Recommendation on Open Science, which was adopted in November 2021. Previously he contributed to influential reports on Current Best Practice for Research Data Management Policies, to the Science International Accord on Open Data in a Big Data World, and to the OECD Global Science Forum and CODATA Report on Sustainable Business Models for Research Data Repositories. As a significant part of his CODATA role, Simon is tasked with implementing a major ISC and CODATA Decadal Programme on 'Making Data Work for Cross-Domain Grand Challenges', which will improve the coordination of specifications for data integration and interoperability for interdisciplinary research. The flagship activity is the EC-funded WorldFAIR Project, for which

Simon is the coordinator. Simon also contributes activity to the work of the CODATA Data Policy Committee. Additionally, Simon leads or participants in numerous projects, Working Groups and Steering Groups. In recent years, Simon has been a co-chair (2015-2018) of the GEO Data Sharing Working Group, to which CODATA has made a long-term contribution; co-chair of ; a member of the Board of Directors of the Dryad Data Repository (2012-2018), a not-for-profit initiative to make the data underlying scientific publications discoverable, freely reusable, and citable; Project Director, African Open Science Platform Project (2016-19); and a member of the Scientific Advisory Board of CESSDA ERIC, the European data infrastructure for the social sciences.

Event 2 (13:35-13:45)

From the Sendai Framework to the SDGs and the UNESCO/ CODATA data policy for open science in times of crisis: The critical role of data in governing crises within the UN family

Virginia Murray

Professor

Head of Global Disaster Risk Reduction for UK Health Security Agency

Professor Virginia Murray is a public health doctor committed to improving health emergency and disaster risk management. She was appointed as Head of Global Disaster Risk Reduction for UK Health Security Agency (formerly Public Health England) in April 2014. She is a member of CODATA Executive Committee. She is a member of the Integrated Research on Disaster Risk (IRDR) scientific committee and co-chair of IRDR's Disaster Loss Data (DATA) and is currently the Chair of the UNDRR/ISC Hazard Classification and Review Technical Working Group, with the report published in 2020 and the UNDRR-ISC Hazard Information Profiles: Supplement in 2021. She is a co-chair of the WHO Thematic Platform Health and Disaster Risk Management Research Network, and by working in collaboration with this network, she is one of the editors of the WHO Guidance on Research Methods for Health and Disaster Risk Management, published in October 2021 and updated in 2022. She is a visiting/honorary Professor and fellow at several universities.

Event 3 (13:45-13:50)

Case Study: How we can understand the role of data and AI policy in Big Data during the earthquakes in Turkey and Syria: A case study

Burcak Basbug

Associate Professor of Statistics

Middle East Technical University (METU), Ankara, Turkey

Burcak an Associate Professor of Statistics at the Middle East Technical University (METU), Ankara, Turkey. She was the Course Director MSc Disaster

Management and Resilience, Coventry University between August 2019 and August 2020. Before joining Coventry University back in 2018, She was the Director of the METU Disaster Management Centre between 2008 and 2018. She received her SFHEA in the UK as of October 2019. She worked as the Academic Partnerships Director of the ICPEM (Institute of Emergency Management and Civil Protection), November 2019 to date.

She is the lead of the disaster and emergency management working group of the Ankara City Council. She is the special advisor to the former Turkish PM Prof. Ahmet Davutoglu in all disaster, crisis and emergency management related policies. She has 23 years of international work in teaching, consulting and training in disaster risk reduction, disaster risk management with expertise on policy development in disaster risk reduction, disaster risk management, resilience, accountability, financial management strategies for disaster losses, the Turkish Catastrophe Insurance Pool, catastrophe insurance, disaster risk management education. She have been in the field for Syrian Refugee Camps 2015, 2011 Van Earthquakes, May 2014 Soma Mine Fire, 2020 Giresun Flood, 2020 Izmir Earthquake.

Event 4 (13:50-14:00)

The RDA/CODATA data systems, tools, and services for crisis situations working group: connecting open science infrastructures to the needs of crises and the SDGs.

Stefanie Kethers

Senior Business Analyst

Australian Research Data Commons

Dr rer. nat. Stefanie Kethers is a Senior Business Analyst at the Australian Research Data Commons and the Director of Operations of the RDA. Previously, she worked as a researcher for Monash University and CSIRO in Australia, and Aachen University of Technology, Germany. Stefanie's background is in Computer Science, with a focus on business process modelling. She has a strong interest in supporting researchers within and across disciplines by bringing data and people together.

Event 5 (14:00-14:20)

Audience/Panel Discussion

Why is data and AI policy needed for Big Data?

What is the relationship between crises and the SDGs?

How can data and AI policy contribute to Big Data sharing during crises?

Dr. Simon Hodson

Mr. Francis P. Crawley

Chairman

CODATA International Data Policy Committee (IDPC)

A philosopher specialized in research ethics, integrity & methodology as well as in data/AI ethics & law. Expertise in EU, US, international and country-specific ethics, law, and patient and community interests in health-related research. Strong experience working closely with patients, communities, researchers, and policymakers across disciplines. domains, and geographic regions in establishing consortia, developing patient registries, contributing to the development of biobanks, drafting data management and data protection plans, and contributing to building data repositories. A strong background in the methodologies for designing and reviewing health-related research supported by effective communication and leadership skills as well as diplomacy with the ability to influence changes in bioethics and law.

Event 6 (14:20-14:30)
Good governance for data and AI policy in crisis situations

Perihan Elif Ekmekci

Professor

Department of History of Medicine and Ethics at TOBB University Medical Faculty

TOBB ETU Medical Faculty; Dr. Perihan Elif Ekmekci has expertise in the fields of medicine, ethics, and history of medicine. She holds an M.D. and Ph.D. and is currently affiliated with the Department of History of Medicine and Ethics at TOBB University Medical Faculty, Ankara, Turkey. Dr. Ekmekci's educational background includes a medical degree from Ankara University Faculty of Medicine, as well as a Ph.D. in Medical Ethics and History of Medicine from Ankara University. She has also pursued additional academic training, such as a fellowship at Imperial College of London Business School, and a fellowship at the National Public Health Institute of the Netherlands on “Public Health Problems in the EU Countries.” As part of her academic journey, she was awarded the Fogarty International Fellow Master's Certification in Research Ethics program. This fellowship was based at the Boston Children's Hospital in the Division of Developmental Medicine and Harvard University School of Public Health. Further enhancing her expertise in research ethics she was a post-doctoral fellow at Western Institutional Review Board, USA. Dr. Ekmekci has served as an advisor to the Undersecretary of the Ministry of Health and later as the Head of the European Union Department of the Ministry of Health. She has held positions as an Assistant Professor and currently serves as the Head of the History of Medicine and Ethics Department and Deputy Dean at TOBB University Medical Faculty, the Head of the International Chair in Bioethics/WMA Cooperation Center (formerly UNESCO Unit for Bioethics), member of Open Science Committee of TOBB ETU, and Chair of the Institutional Review Board (IRB) of TOBB University Medical Faculty.

Event 7 (14:30-14:40)

Creating a harmonized ecosystem to streamline disaster-risk reduction in the context of the UN Strategic Development Goals (SDGs): CODATA's working group on FAIR data for disaster risk research (FAIR-DRR)

LI Guoqing

Professor

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

Professor Guiqing LI is from the Aerospace Information Research Institute (AIR) of the Chinese Academy of Sciences (CAS). He won the 2021 GEO Excellent Individual Award, making him the first Chinese scientist who wins the honor. LI has been engaged in GEO data sharing activities, promoting relevant policy formulation, and facilitating data sharing of China's satellite resources to international communities for public welfare. He has played the main force of building and operation of ChinaGEO Data Sharing Network. His leadership in the China GEOSS Disaster Data Response Mechanism (CDDR) has greatly contributed to the developing countries through 30 emergency data response activities in the past five years. He serves as a member of ChinaGEO Scientific Committee, Co-chair of AOGEO Data Sharing Task Group and Co-leader of the sub-group on Evaluation of GEOSS Infrastructure. Professor Li has extensive knowledge and experience with remote sensing, spatial data infrastructure and disaster data management.

Bapon (Shm) Fakhruddin

Water Sector Lead

Green Climate Fund (GCF), Earth-GEO Board Member, New Zealand

Dr. Fakhruddin is an eminent hydro-meteorologist and climate risk assessor with 21 years' global experience in hydro-meteorology and climate resilience projects. His key areas of expertise are integrated water resource management, hazards forecasting, climate and multi-hazard risk assessments and coastal community resilience. Dr Fakhruddin recently joined the Green Climate Fund (GCF) to provide leadership and oversight of the portfolio of investments in water resources for addressing climate change. Dr Fakhruddin has played a pivotal role in the design and implementation of weather, water and climate change adaptation projects for saving lives and livelihoods, while reducing property damage for more than 40 countries across Asia, the Caribbean, Africa and the Pacific.

Event 8 (14:40-14:55)

Audience/Panel Discussion

Why counts as good governance for Big Data in crisis situations?

What ethical, social, and legal issues appear to hamper Big Data in crises and in addressing the SDGs?

How can we achieve more inter-disciplinary and cross-sectorial alignment on Big Data for crises and achieving the SDGs?

Simon Hodson

Francis P. Crawley

Event 8 (14:55-15:00)

Summary of the session

Ana Persic,Programme Specialist for Science Technology and Innovation Policies and Open Science, UNESCO

Simon Hodson, Executive Director CODATA

Session Title

Accelerating The Urban SDGs Monitoring and Implementation Through Digital Technologies and Big Data Applications: Experiences from SDG 11

Session Organizer

United Nations Human Settlements Programme (UN-Habitat)

Short Description

Our ability to effectively implement the sustainable development goals (SDGs) significantly depend on how well we measure where we have come from and where we are, as well as how we use the emerging findings to inform the required actions/interventions towards the targets set out in the 2030 agenda. With 231 unique indicators within the SDG framework, measuring the status of each can be a daunting task for any government, especially if emerging technologies are not adopted. To address this, the SDG indicators monitoring framework recommends the integration of non-conventional approaches into data collection processes, some of which include Earth Observation and Geospatial Information, big data analytics, community led data initiatives among others.

This session will discuss how the emerging technologies are contributing to accelerated monitoring and data driven decision-making against the SDG 11. It will specifically showcase and discuss some of the most recent digital technologies and approaches, ongoing crowd sourcing and open data initiatives, available big data resources as well as participatory processes and how each is contributing to SDG 11 monitoring and better understanding of urban systems for informed decision making.

Objectives

This session will showcase the contribution of geospatial, crowd sourcing, volunteered data and other emerging technologies in accelerated monitoring and implementation of the urban sustainable development goals.

Expected Results

Through this session, we expect to achieve the following outcomes

1. Showcase ongoing initiatives around the application of emerging technologies in the measurement urban sustainability

2. Triger discussions among participants around how to further leverage the emerging technologies for urban performance measurement and data-driven decision making, including the identification

3. Identify potential partnerships and collaborations to further enhance urban monitoring efforts at local, national, regional and global levels.

Agenda

Time 13:30-15:00, September 7th, 2023 Room: 305B

Moderator:

Robert Ndugwa

Head

Data and Analytics Section, UN-Habitat

Dr. Ndugwa is the head of the Data and Analytics Section at UN-Habitat where he oversees the global monitoring and reporting on the SDGs and the New Urban Agenda. He also doubles as the technical lead for urban statistics within UN-Habitat where he has led several initiatives such as the Global Urban Monitoring Framework development, National sample of cities programme, earth observation toolkit for sustainable cities and human settlements, and urban observatories. Robert has authored various reports and papers in peer reviewed journals.

Participants:

Event 1

Earth observations and urban monitoring: local to global applications from the earth observation toolkit for sustainable cities and human settlements.

BAN Yifang

KTH Royal Institute of Technology

Dr. BAN Yifang is the Professor and Director of the Division of Geoinformatics at the Department of Urban Planning and Environment at KTH Royal Institute of Technology, and an Associate Director - Dissemination and Impact at Digital Futures in Stockholm, Sweden. Before joining KTH in 2004, Dr. BAN was a tenured Associate Professor at York University in Toronto, Canada. She received her PhD degree from the University of Waterloo in Canada.

Professor BAN's research has been focused on Earth observation big data analytics, machine learning/deep learning, and their applications in environmental change monitoring (e.g. urbanization, wildfires, flooding) to support sustainable and resilient development. She has published extensively on these topics. Professor Ban is the PI/Co-PI for a number of impactful projects, including EO-AI4GlobalChange (funded by Digital Futures), HARMONIA (funded by EU H2020), SAR4Wildfire (funded by FORMAS & ESA), and Climate Change Induced Disaster Management in Africa (funded by EU Erasmus+). She is also a co-chair of the ICA Commission on Sensor-Driven Mapping, a co-lead of the GEO initiative 'Global Urban Observation and

Information' (2012-2022), an associate editor and guest editor of major remote sensing journals, and a committee member of major international remote sensing conferences.

Event 2

Crowd sourcing and big data accelerating SDG 11 monitoring – experiences from OSM

Nasilele Amatende Mwiimbwa

Global Partnerships Manager

Humanitarian OpenStreetMap Team

Nasilele is the Global Partnerships Manager at HotOSM. Her background is in Geographical Information Systems (GIS) and remote sensing, with experience in research, planning, monitoring and evaluation in both public and private sectors. She is a specialist in spatial analysis of local population dynamics using Census and Survey data. Her professional experience over the years has exposed her to mainstreaming of cross cutting issues, such as education, health, migration, urbanization and sanitation, into research for effective organizational performance and it has driven her passion of serving for sustainable development.

Nasilele's interests are in health, food security, GIS, remote sensing and artificial intelligence. She also loves to teach people about GIS in the most simplified ways to tackle some of the global challenges.

Event 3

Future perspectives on application of big data for urban monitoring.

CBAS representative - TBD

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General Information

Scientific and technological innovations are important tools to support the implementation of sustainable development goals. Big data, as an important content of digital technology, plays a crucial role in supporting the realization of Sustainable Development Goals. In order to promote the sharing of methods, technologies and cases of big data and digital technology in support of sustainable development, The 3rd International Forum on Big Data for Sustainable Development Goals (FBAS2023) will be held in Beijing, China. The Forum will not only provide a global high-level academic communication platform on the use of technology facilitation mechanism to achieve the SDGs, but also help to serve the relevant United Nations agencies and Member States to implement the 2030 Agenda for Sustainable Development.

Introduction to Organizers of FBAS 2023

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

In 2020, XI Jinping, President of the People's Republic of China at the General Debate of the 75th Session of The UN General Assembly announced that China will set up an International Research Center of Big Data for Sustainable Development Goals (CBAS) to facilitate the implementation of the 2030 Agenda. At the founding conference of CBAS on September 6th, 2021, Chinese President XI Jinping sent a congratulatory letter, expressing the hope that all sides can make full use of the platform provided by CBAS to explore ways of sustainable development supported by big data, strengthen international cooperation, and make joint efforts to contribute to the implementation of the UN 2030 Agenda and the building of a community with a shared future for humanity. UN Secretary-General, António Guterres delivered a video speech, fully affirmed the role of CBAS, and hoped that CBAS would support the UN Global Platform and achieve the sustainable development goals.

CBAS (http://www.cbas.ac.cn/en/) aims to harness big data to serve the United Nations 2030 Agenda for Sustainable Development, featuring multidisciplinary research related to Earth system science, social and economic sciences, as well as sustainability science. It is devoted to the monitoring and evaluation of SDG indicators in the areas where big data plays a key role, including environmental commons, urban and peri-urban development, food security, and energy decarbonization.

Development Concept

To address the most challenging problems in the implementation of the SDGs, such as technological barriers and lack of data, CBAS provides a range of essential services including data sharing, technology solutions, decision-making support, a think tank, and capacity building for developing countries. CBAS works towards a vision where data is open and accessible across borders and disciplines, technology is available to support the entire policymaking process, and knowledge and ideas are communicated and grown, especially among developing countries.

Aerospace Information Research Institute (AIR), CAS

The Aerospace Information Research Institute (AIR) under the Chinese Academy of Sciences (CAS) was established in 2017 to promote the development of the aerospace information and to inspire technology innovations that can solve issues related to sustainable development. Currently AIR hosted 3,200 employees and runs two schools under the University of the Chinese Academy of Sciences, namely, the School of Electronic, Electrical and Communication Engineering and the School of Optoelectronics, with some 1,500 postgraduate students in total. AIR has 21 national-/ CAS- level key laboratories as well as research centers, and conducts research from following aspects: payload and device technology; global Satellite Data Receiving Ground Station Network; remote sensing science and Digital Earth; BeiDou navigation and positioning technology; aerospace information and technology applications. The international S&T cooperation platform hosted by AIR includes: the International Society for Digital Earth (ISDE), the International Centre on Space Technologies for Natural and Cultural Heritage (HIST) under the auspices of UNESCO, the International Programme Office for Integrated Research on Disaster Risk (IRDR IPO) and the CASTWAS Centre of Excellence on Space Technology for Disaster Mitigation (SDIM).

Introduction to Industry Partner of FBAS 2023

Laboratory of Target Microwave Properties (LAMP) was established in 2017 in Deqing, Zhejiang Province, China. LAMP aims to research and develop the theory of target microwave properties, applications of satellite remote sensing and spatial information. It contains a large basic scientific experimental platform for microwave remote sensing. The platform is an anechoic chamber that provides pure and interference-free test environment for microwave characteristics with movable tracks and ful-polarization antennas working from 0.8 GHz to 18 GHz.

Research Fields

Demonstration of microwave electromagnetic scattering theory and new concepts of radar;

Parameter retrieval methodology of various targets on earth surface;

Applications of microwave remote sensing technology.

The Experimental Platform for Target Microwave Properties Measuring and Image Simulation

Pure, interference-free, controllable microwave test environment;

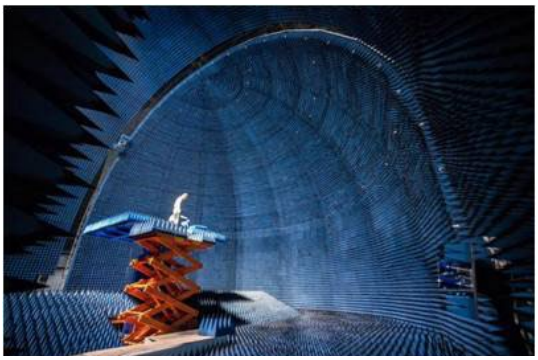
Movable track with millimeter precision, conducting 0-360° azimuth angle and 0-90° incidence angle;

Measuring continuous microwave spectrum from 0.8GHz to 18GHz with full polarization;

Single/dual/multi-static 2D/3D ISAR imaging;

Target's maximum size: 4m×3m×3m;

Internal size: 24m (L)×24m (W) ×17m (H).



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Basic convention information

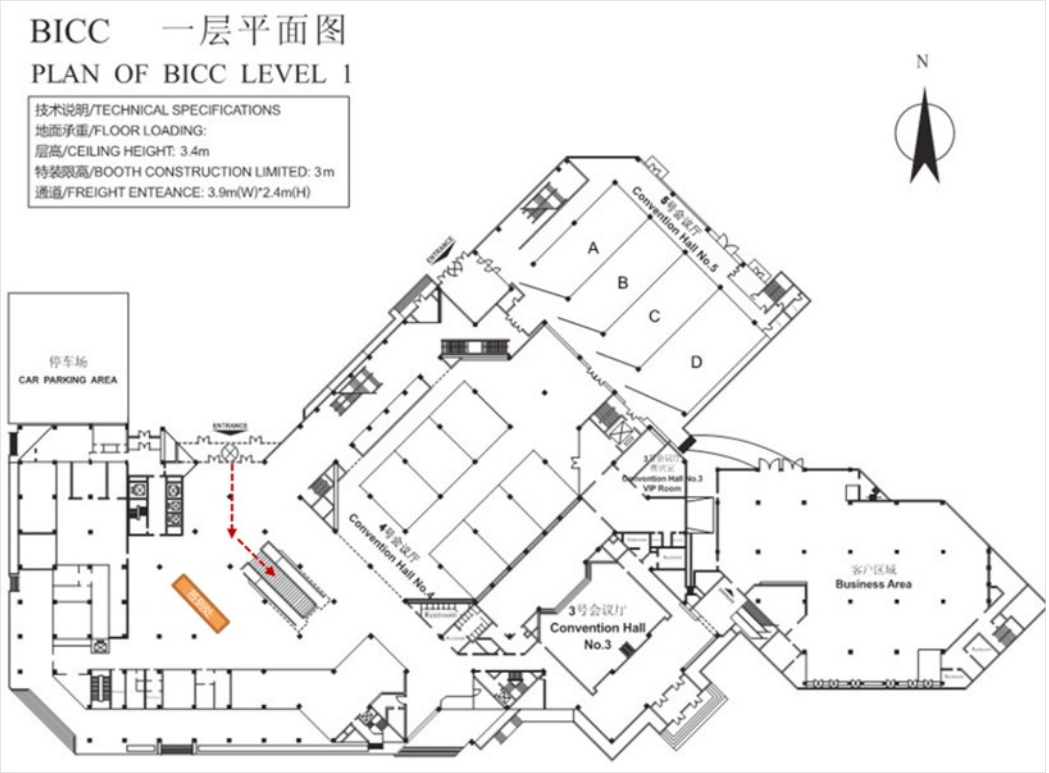
Convention Venue: Beijing International Convention Center

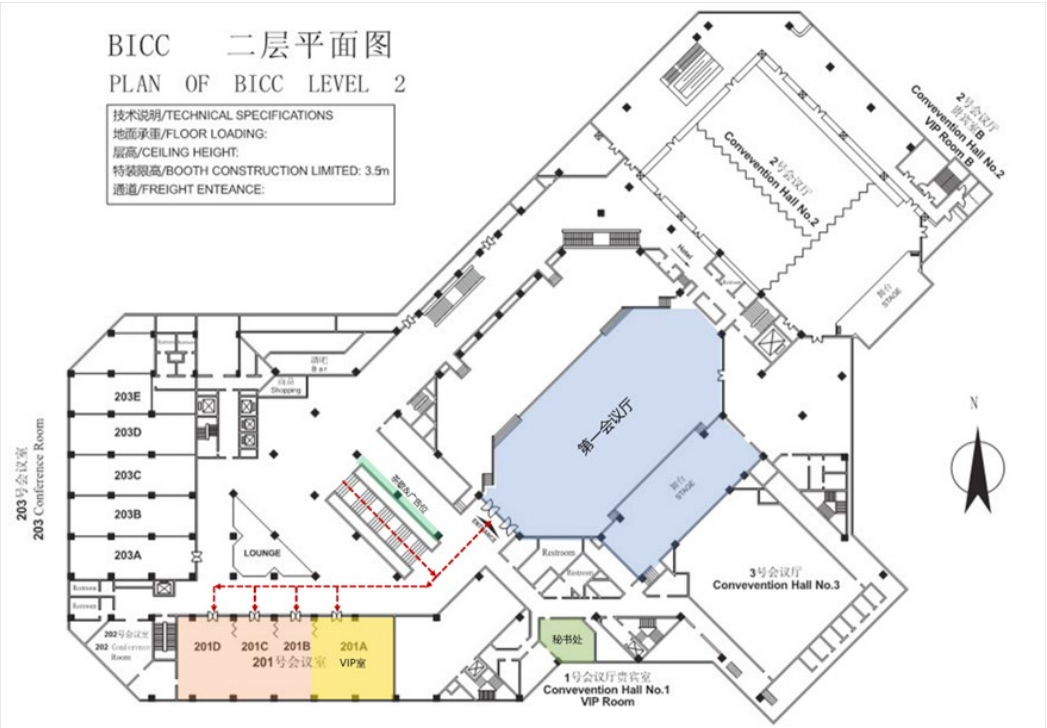
Address: No. 8 Beichen East Road, Chaoyang District, Beijing

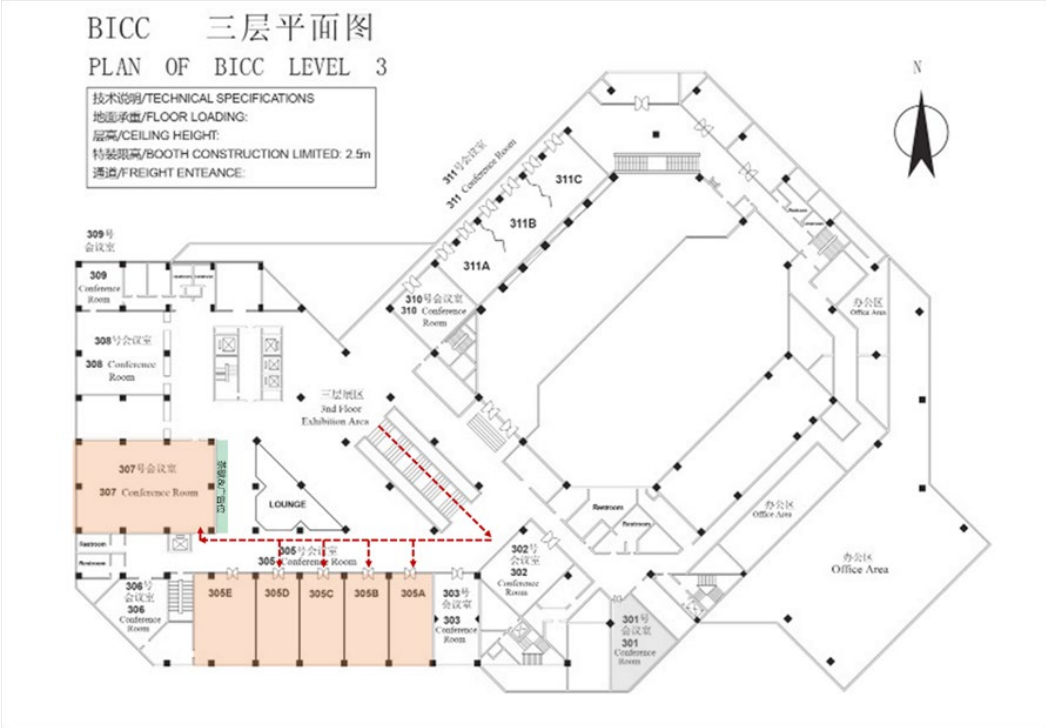
Beijing International Convention Center opened in 1990. Since its establishment, it has provided services for nearly 1,000 different international and domestic conventions and exhibitions every year.

In 2002, the Convention Center was merged into Beijing North Star Industrial Group Co., Ltd., creating a stronger reputation with more effective management. The center is located in the bustling Asian Games Village in Beijing, combining a convention center, a commercial and shopping center and an entertainment venue. Located on the Fourth Ring Road in Beijing, it is only 20 kilometers away from the Beijing Capital International Airport and 9 kilometers away from the city center. The center is also very close to the central area of the Olympic Games, including the Bird's Nest (officially known as the National Stadium).

Beijing International Convention Center provides five-star service and has 48 different convention rooms. The exhibition hall of the center covers an area of 5,000 square meters. Beijing Continental Grand Hotel is a four-star hotel with 538 rooms and 5 restaurants serving different types of food, which is an ideal place to hold international and domestic conferences, display cultural events and hold business meetings.


BICC 一层平面图
PLAN OF BICC LEVEL 1
技术说明/TECHNICAL SPECIFICATIONS
地面承重/FLOOR LOADING:
层高/CEILING HEIGHT: 3.4m
特装限高/BOOTH CONSTRUCTION LIMITED: 3m
通道/FREIGHT ENTEANCE: 3.9m(W)*2.4m(H)
N
停车场
CAR PARKING AREA
ENTRANCE
5号会议厅
Convention Hall No.5
A
B
C
D
3号会议厅贵宾室
Convention Hall No.3
VIP Room
4号会议厅
Convention Hall No.4
3号会议厅
Convention Hall
No.3
客厅区域
Business Area


BICC 二层平面图
PLAN OF BICC LEVEL 2
技术说明/TECHNICAL SPECIFICATIONS
地面承重/FLOOR LOADING:
层高/CEILING HEIGHT:
特装限高/BOOTH CONSTRUCTION LIMITED: 3.5m
通道/FREIGHT ENTEANCE:
2号会议厅贵宾室
Convention Hall No.2
VIP Room B
2号会议厅
Convention Hall No.2
N
203E
203D
203C
203B
203A
203号会议室
203 Conference Room
LOUNGE
第一会议厅
3号会议厅
Convention Hall No.3
201D
201C
201B
201A
201号会议室
VIP室
秘书处
1号会议厅贵宾室
Convention Hall No.1
VIP Room


BICC 三层平面图
PLAN OF BICC LEVEL 3
技术说明/TECHNICAL SPECIFICATIONS
地面承重/FLOOR LOADING:
层高/CEILING HEIGHT:
特装限高/BOOTH CONSTRUCTION LIMITED: 2.5m
通道/FREIGHT ENTEANCE:
N
311C
311B
311A
309 Conference Room
308 Conference Room
310 Conference Room
307 Conference Room
LOUNGE
305 Conference Room
306 Conference Room
305E
305D
305C
305B
305A
303 Conference Room
302 Conference Room
301 Conference Room
Office Area
Restroom

Convention Secretariat

On September 6th, the Convention Secretariat was located in the VIP room of the first conference hall on the second floor of Beijing International Convention Center.
On September 7th-8th, the Convention Secretariat was located in Conference Room 305A on the third floor of Beijing International Convention Center.

Conference Sign-in:

The on-site sign-in is located in the lobby on the first floor of Beijing International Convention Center. The opening hours are as follows:

Date of On-site Sign-in	Time for On-site Sign-in
September 6	08:00-17:00
September 7	08:30-17:00
September 8	08:30-17:00

Conference Pass

Registered representatives before September 5:
For the representative who has registered and paid fees, please sign in through the registered channel at the sign-in to get the representative card and conference materials.
For the representative who has registered but not paid fees, please pay the fees through the registered channel at the sign-in and sign in to get the representative card and conference materials then.
Please be sure to wear the representative card when entering the conference room.

Registered representatives on September 5 and the meeting site:
If you register on the day of the event, please scan and register through the unregistered channel at the sign-in, show the registration completion page and pay the conference registration fee. After the on-site staffs check that the information is correct, please sign in the sign-in form and get the representative card and conference materials.
Please be sure to wear the representative card when entering the conference room.

Conference Language

Opening Ceremony: Bilingual (Chinese and English)
Offline Branch: English

WiFi network

The name of Beijing International Convention Center (BICC) free WiFi is “BICC WLAN”. And you can log in with your mobile phone number to get free WiFi.

Webcasting

Live content: The opening ceremony of the conference on September 6th, 2023
Live viewing website: Get the live address from FBAS 2023 official website, and the official website is https://fbas2023.scimeeting.cn/en/web/index/

Reporting PPT

In order to ensure the smooth progress of the conference, the reporter is requested to copy the reporting PPT to the PPT playback player at the venue at the latest one hour before the conference starts.

Transportation and Accommodation

Hotel Reservation

The following hotels are contract hotels for the conference. During the conference, due to the number of hotel rooms is limited, please reserve in advance. All reservations are subject to the confirmation of successful payment. Please illustrate that you will attend the conference upon payment for reservation.

1. Beijing Continental Grand Hotel
2. VIP Building of Huiyuan Apartment Hotel
3. Asian Games Village Hotel
4. National Convention Center Grand Hotel

Transportation and Surroundings

(1) From the Beijing Capital International Airport to Beijing International Convention Center.

a) Taxi. There is a taxi service at Beijing Capital International Airport and you can take a taxi to the conference venue. Taxi boarding location: outside Gate 1 on the first floor of Terminal 1.
Outside Gates 5-9 on the first floor of Terminal 2.
Terminal 3: Please follow the guiding signs inside the building.
The fare is about RMB120 (equal to USD20, including the highway toll fees), which varies with the traffic conditions.

b) Airport Shuttle
Take the Airport Shuttle Line 5 (terminus: Zhongguancun Station) and get off at Anhui Bridge Station of the Asian Games Village, then walk about 400 meters west to Beijing International Convention Center.
The faire is RMB24 (equal to USD4)

c) Airport Express
Take the airport express and get off at Dongzhimen Station, and then take Bus No. 2 and get off at Anhui Bridge North Station.
Take the airport express and get off at Sanyuan Bridge Station, then transfer to Metro Line 10 to Beitucheng Station, and then transfer to Metro Line 8 and get off at the Olympic Sports Center Station.

(2) From the railway station to Beijing International Convention Center

A) From Beijing Railway Station to Beijing International Convention Center
Take Metro Line 2 and get off at Gulou Street Station, and then transfer to Line 8 and get off at the Olympic Sports Center Station.
Take Metro Line 2 and get off at Yonghegong Station, and then transfer to Line 5 and get off at the Huixin West Street North Exit Station.
Take bus No. 2 and get off at Anhui Bridge North Station.

b) Departing from Beijing West Railway Station

Take Metro Line 9 and get off at Baishi Bridge South Station, then transfer to Line 6 and get off at Nanluogu Alley, Subway Station, and then transfer to Line 8 and get off at Olympic Sports Center Station.

Take bus No.387 and get off at Anhui Bridge North Station.

c) Departing from Beijing South Railway Station

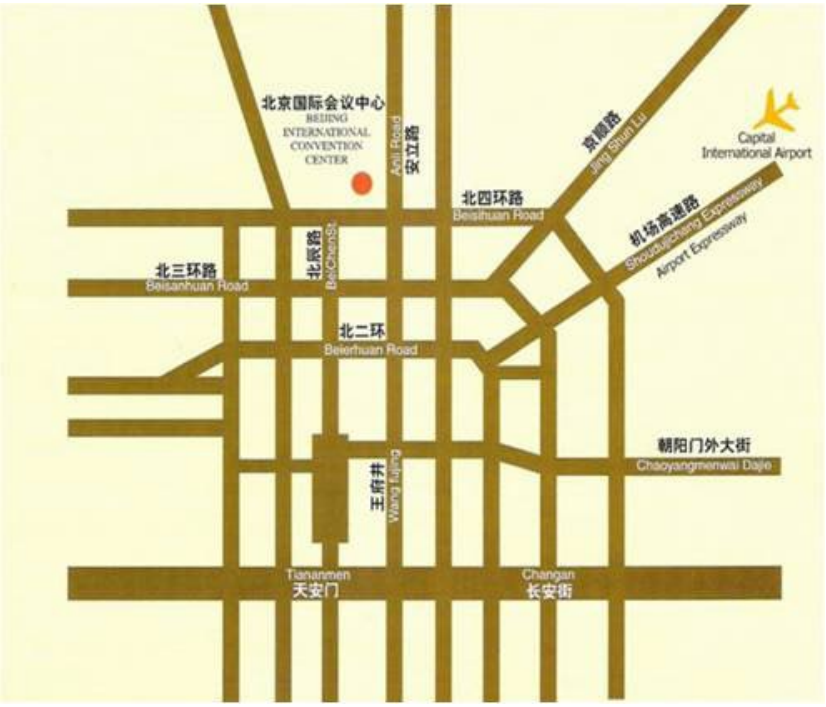
Take Metro Line 14 and get off at Puhuangyu Station, then transfer to Line 5 and get off at the Huixin West Street North Exit Station, and then transfer to Bus No.983/658/386/490 and get off at the Asian Games Village Station.

Take Metro Line 4 Daxing Line and get off at Xuanwumen Station, then transfer to Line 2 and get off at Gulou Street Station, and then transfer to Line 8 and get off at Olympic Sports Center Station.

Take Metro Line 4 Daxing Line and get off at Ping'anli Station, then transfer to Line 6 and get off at Nanluogu Alley Station, and then transfer to Line 8 and get off at Olympic Sports Center Station.

Remarks:

1. Due to the need for taking public transportation in RMB, you can exchange the money at the bank or foreign currency exchange counter at the airport in advance.
2. If you take the airport shuttle, airport express or subway to Beijing International Convention Center, there will be many uphill and downhill slopes or stairs on the way. We have received comments on the inconvenience of taking the airport express and subway in previous events, therefore, we suggest that you take a taxi to Beijing International Convention Center.



Conference Meals

Buffet or Western lunch will be provided during the conference.
1. On September 6th, please enjoy the buffet with the meal vouchers. Restaurant: café on the first floor and Lijiang Hall on the second floor of Beijing Continental Grand Hotel.
2. On September 7th and 8th, please enjoy the Western lunch with the meal vouchers. The place for the meal is the public area on the third floor, and the dining is in the venue.
3. The dining time: 12:00-13:00.

Safety of Goods in the Venue

The Forum Secretariat will not be responsible for the damage or loss of your personal safety and personal belongings. Please take your personal valuables with you at any time during the conference.

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

The International Research Center of Big Data for Sustainable Development Goals (SDG Center for short) is the first international scientific research institution in the world to serve the Agenda 2030 for Big Data Services. Relying on the construction of the Chinese Academy of Sciences, the SDG Center aims at the cross-cutting frontier fields of earth system science, socio-economic science and sustainable development science, carries out systematic research on SDG monitoring, evaluation and prediction in the fields of environmental commons, urban and rural development, food security and energy decarbonization driven by big data, develops the theoretical system and technical methods of Agenda 2030 for Big Data Services, and researches and builds a big data platform and decision support system that serves the sustainable development goals, providing basic theories, technical methods, decision support, and think tank service support for solving major sustainable development problems in China and the world.

Center Positioning

In order to provide comprehensive data sharing, technology support, decision-making support, and think tank services for relevant United Nations agencies, member states, and China, guided by the United Nations Technology Promotion Mechanism for Sustainable Development, the SDG Center aims to address issues such as data and technology deficiencies during the implementation of the 2030 Agenda, and to develop data services and technology support capabilities.

Construction Target

It will be built into an open and shared large-scale public science and technology platform and an established international research institution in the field of big data science for sustainable development. It is a scientific research center for sustainable development, a center for data information services and technological innovation, a center for talent cultivation, and education and training capacity building, and a global high-end think tank for sustainable development, serving relevant United Nations agencies and Member States in implementing the 2030 Agenda.

The SDG Center will make full use of the earth big data infrastructure, discipline-driven platform and decision support system serving the government, which is built by the Chinese Academy of Sciences, gather resources from all parties, and build an institutionalized international research institution that comprehensively serves the sustainable development of the United Nations.

The 3rd International Forum on Big Data for Sustainable Development Goals (FBAS 2023)

Theme: Big Data Accelerating Implementation of 2030 Agenda for Sustainable Development

Secretariat of the 3rd International Forum on Big Data for Sustainable Development Goals (FBAS 2023)
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