BAR
Digital Belt and Road

The 4ᵗʰ Digital Belt and Road Conference
第四届"数字丝路"国际会议

Programme

17-19 December, 2019　Shenzhen, China
2019年12月17-19日　　中国·深圳

Organizers & Sponsors

Host

Digital Belt and Road Program (DBAR)
"数字丝路"国际科学计划

Co-Host

Big Earth Data Science Engineering Project (CASEarth)
地球大数据科学工程先导专项

Organizer

Shenzhen Institutes of Advanced Technology (SIAT),
Chinese Academy of Sciences
中国科学院深圳先进技术研究院

Sponsors：

Aerospace Information Research Institute (AIR),
Chinese Academy of Sciences
中国科学院空天信息创新研究院

International Society for Digital Earth (ISDE)
国际数字地球学会

The International Centre on Space Technologies for Natural and
Cultural Heritage (HIST), under the auspices of UNESCO
联合国教科文组织国际自然与文化遗产空间技术中心

Integrated Research on Disaster Risk (IRDR)
灾害风险综合研究计划

CAS-TWAS Centre of Excellence on Space Technology for Disaster Mitigation (SDIM)
中国科学院-发展中国家科学院空间减灾卓越中心

The Committee on Data for Science and Technology (CODATA)
国际科技数据委员会

Key Laboratory of Digital Earth Science, CAS
中国科学院数字地球重点实验室

Key Laboratory of Earth Observation of Hainan Province
海南省地球观测重点实验室

Pan-Eurasian Experiment (PEEX)
泛欧亚科学实验计划

Digital Silk Road Alliance (DSRA)
数字丝路联盟

IRDR China National Committee (IRDR CHINA)
中国科协灾害风险综合研究计划工作协调委员会

global change SysTem for Analysis, Research and Training
国际全球变化分析、研究和培训计划

CONTENTS

Welcome Message

It is my pleasure to announce the 4th Digital Belt and Road Conference (DBAR 2019) to be held from 17-19 December, in Shenzhen, China. DBAR is a pioneering international venture to share expertise, knowledge, technologies and data to demonstrate the significance of Earth observation and Big Earth Data applications for large-scale sustainable development.

The conference will host several specialized sessions examining the applications of Big Earth Data for sustainable development in different fields, such as environmental change, disasters, water resources, agriculture, natural and cultural heritage, coast and marine, urban and infrastructure, High Mountain and Arctic, and the need for Big Earth Data in solving large-scale regional and global problems.

Conference will host experts and participants from wide variety of public and private entities for improved partnerships and networking towards collaborative and collective efforts for regional sustainable development, through cooperation, sharing and integration of methodologies and data, and pooling of human and technological resources, as an example towards global sustainability.

You are all cordially invited to attend the DBAR 2019, your participation will be a valuable addition to the scientific diversity of our event, necessary for the multi-faceted issue of sustainable development, and use of Big Earth Data for sustainable development goals.

GUO Huadong
Chair of DBAR Program

Scientific Committee

Conference and Scientific Committee Chair

GUO Huadong
Aerospace Information Research Institute (AIR), Chinese Academy of Sciences

Scientific Committee (in alphabetical order by last name)

Valery BONDUR
Institute for Scientific Research of Aerospace Monitoring "AEROCOSMOS" (ISR "AEROCOSMOS"), Moscow, Russia

John GENDEREN
University of Twente, Netherlands

HAN Qunli
Integrated Research on Disaster Risk (IRDR)

JIA Gensuo
Institute of Atmospheric Physics, CAS

Markku KULMALA
University of Helsinki, Finland

LIN Hui
Chinese University of Hong Kong, China

LI Yin
Bureau of International Cooperation, CAS

Massimo MENENTI
Delft University of Technology, Netherlands

Graciela METTERNICHT
University of New South Wales (UNSW), Australia

Luke MUMBA
University of Zambia, Zambia

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

Paul UHLIR
Committee on Data of the International Council for Science

WANG Cuizhen
University of South Carolina, USA

WU Bingfang
Aerospace Information Research Institute (AIR), Chinese Academy of Sciences

ZHAO QianJun
Bureau of Science & Technology for Development, CAS

Program Committee

Chairs

CHEN Fang	Aerospace Information Research Institute (AIR), Chinese Academy of Sciences
ZHANG Li	Aerospace Information Research Institute (AIR), Chinese Academy of Sciences

Members (in alphabetical order by last name)

Shukri AHMED	Food and Agriculture Organization of the United Nations (FAO)
Silap BOUPHA	ASIA and PACIFIC Affairs of the Ministry of Science and Technology of Lao P.D.R.
Howard EPSTEIN	University of Virginia, USA
Mazlan HASHIM	Universiti Teknologi Malaysia, Malaysia
JIA Li	Aerospace Information Research Institute (AIR), Chinese Academy of Sciences
Houcine KHATTELI	Institut des Régions Arides, Tunisia
Kamal LABBASSI	Chouaib Doukkali University, Morocco
Rosa LASAPONARA	Institute of Methodologies for Environmental Analysis, National Research Council, Italy
Juha LEMMETYINEN	Finnish Meteorological Institute, Finland
LI Guoqing	Aerospace Information Research Institute (AIR), Chinese Academy of Sciences
LI Xin	Institute of Tibetan Plateau, Chinese Academy of Sciences
LI Xinwu	Aerospace Information Research Institute (AIR), Chinese Academy of Sciences
LU Linlin	Aerospace Information Research Institute (AIR), Chinese Academy of Sciences
Marco MANCINI	Politecnico di Milano, Italy
Martino PESARESI	Joint Research Centre, European Commission
QIU Yubao	Aerospace Information Research Institute (AIR), Chinese Academy of Sciences
Rajib SHAW	Keio University, Japan
Monthip SRIRATANA	Climate Change Research Strategy Center, National Research Council of Thailand, Thailand
Bob SU	University of Twente, Netherlands
Shahina TARIQ	COMSATS University Islamabad, Pakistan
WANG Changlin	International Society for Digital Earth
WANG Xinyuan	Aerospace Information Research Institute (AIR), Chinese Academy of Sciences
YAN Dongmei	Big Earth Data Science Engineering Project (CASEarth)

Organizing Committee

Chairs

CHEN Jinsong	Shenzhen Institutes of Advanced Technology, CAS
LIU Jie	DBAR Secretariat

Members

LIANG Dong	DBAR Secretariat
ZHU Lanwei	DBAR Secretariat
Zeeshan SHIRAZI	DBAR Secretariat
LI Dan	DBAR Secretariat
CHEN Yaxi	DBAR Secretariat
JIANG Hao	ISDE Secretariat
WANG Meng	HIST Secretariat
FU Danmin	CASEarth Project
YANG Aqiang	CASEarth Project
LI Hongzhong	Shenzhen Institutes of Advanced Technology, CAS
WANG Jiujuan	Shenzhen Institutes of Advanced Technology, CAS
DENG Xinping	Shenzhen Institutes of Advanced Technology, CAS
GUO Shanxin	Shenzhen Institutes of Advanced Technology, CAS
ZHAO Longlong	Shenzhen Institutes of Advanced Technology, CAS
SUN Luyi	Shenzhen Institutes of Advanced Technology, CAS
YAO Hongming	Shenzhen Institutes of Advanced Technology, CAS
JIA Jianxin	Shenzhen Institutes of Advanced Technology, CAS
LI Xiaoli	Shenzhen Institutes of Advanced Technology, CAS
HAN Yu	Shenzhen Institutes of Advanced Technology, CAS
JIANG Xiaoli	Shenzhen Institutes of Advanced Technology, CAS
YUAN Kairui	Shenzhen Institutes of Advanced Technology, CAS

Keynote Speakers

GUO Huadong

Chair of DBAR Program
Aerospace Information Research Institute (AIR), Chinese Academy of Sciences

Huadong Guo is a professor at the Aerospace Information Research Institute (AIR), Chinese Academy of Sciences, an Academician of 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 the World Academy of Sciences (TWAS). He presently serves as Honorary President of the International Society for Digital Earth (ISDE), Chairman of the International Committee on Remote Sensing of Environment (ICORSE), Member of UN 10-Member Group to support the Technology Facilitation Mechanism, Director of the International Centre on Space Technologies for Natural and Cultural Heritage (HIST) under the Auspices of UNESCO, Editor-in-Chief of the *International Journal of Digital Earth* and *Big Earth Data* published by Taylor & Francis. He served as President of ICSU Committee on Data for Science and Technology (2010-2014) and President of ISDE (2015-2019). He specializes in remote sensing science and its applications, and has a series of achievements in remote sensing information mechanisms, radar for Earth observation, and Digital Earth science. He has published more than 600 papers and seventeen books, and is the principal awardee of sixteen domestic and international prizes.

Title: DBAR: Big Earth Data for SDGs in the Belt and Road Region

Markku KULMALA

Director, Atmospheric Sciences Division, University of Helsinki

Academician, prof. Markku Kulmala leads The Centre of Excellence in Atmospheric Science – From Molecular and Biological processes to the Global Climate (ATM). He is active in international initiatives to improve comprehensive continuous measurement networks all around the world, and to solve air quality – climate change interactions. This activity includes Pan Eurasian Experiment (PEEX) and air quality projects in megacities, such as "HAZE Beijing". Kulmala's research consists of SMEAR (Stations for Measuring the Earth surface – Atmosphere Relationships) field stations. SMEAR investigate aerosol and trace gas concentrations, fluxes, biosphere-atmosphere interactions, aerosol formation and growth, dynamics of atmospheric clusters and ions, and the biogenic background for processes leading to aerosol formation. There are SMEAR-type stations in China, Sweden, Cyprus, South Africa and Estonia. The newest initiative is to establish a GlobalSMEAR network. Kulmala has published over 1000 original research papers; 17 of which are in Nature, 16 in Science and 7 in Physical Review Letters. According to the ISI Web of Knowledge, Kulmala has been 1st in the Citation Rankings in Geosciences (1.5.2011 – 30.4.2018). The total number of citations is over 50500 (from over 15500 different papers). H-factor is 111. Prof. Kulmala is the Foreign Member of Chinese Academy of Sciences, and Russian Academy of Sciences. He is member of 5 other Academies. He acts as a president of European Center of International Eurasian Academy of Sciences. He chairs national committee of Future Earth. He has won many international awards (>10) and has also been awarded honored doctoral degrees /professorships. He has supervised 17 professors, 10 (ISI) highly cited scientist and over 70 doctors.

Title: Contributions to Global Grand Challenges: from Atmospheric Clustering to Gigacities

Shukri AHMED

Senior Economist
Food and Agriculture Organization (FAO) of the United Nations

Shukri Ahmed is currently the Deputy Strategic Programme Leader for one of FAO's five Strategic Programmes "Increase the Resilience of Agricultural Livelihoods (Crop, Livestock, Fisheries-aquaculture, and forest dependent) to Threats and Crisis". For more than fifteen years, Mr. Ahmed has served as an expert and subsequently as team leader of FAO's Global Information and Early Warning System (FAO/GIEWS). His previous work experiences include research assistant at the Centre for the Study of African Economies (CSAE) in the University of Oxford; Economic and Agriculture Statistician at the Central Statistical Authority in Addis Ababa, Ethiopia. His main areas of work and interest include the economics of agriculture and household decisions in resource allocation; risk management and reduction in agriculture; food security information, monitoring and analysis together with related institutional issues in developing countries; early warning and response, including in natural hazards, food chain and protracted crisis. He has a D. Phil. and a M.Sc. in Agricultural Economics from the University of Oxford and a BA in Economics from the University of Addis Ababa, Ethiopia.

Title: SDG2 and FAO: Emphasis on Africa

Sirirurg SONGSIVILAI

Secretary-General
National Research Council of Thailand (NRCT)

Professor Sirirurg Songsivilai, M.D., Ph.D. is Secretary-General of the National Research Council of Thailand (NRCT), the main national funding agency for research and innovation on natural sciences, technology, social sciences, arts and humanities.

Prof. Songsivilai was trained in clinical medicine with M.D. degree (First Class Honours with Gold Medal) from Mahidol University, and in molecular biology with Ph.D. degree from University of Cambridge, U.K. He was postdoctoral fellow at University of Colorado Health Science Center, U.S.A. In management, he received postgraduate certificates in law and public administration from National Defence College King Prajadipok Institute, and in science, technology and innovation policy from Harvard University.

Prof. Songsivilai is an Anandhamahidol Foundation Scholar awarded by H.M. the King of Thailand. After training and working in Europe and U.S.A., he returned to Mahidol University and became full Professor at Faculty of Medicine Siriraj Hospital, Mahidol University in 2000. His main research interests are molecular biology and genomics of infectious diseases, especially viral hepatitis and melioidosis; focusing on understanding clinical characteristics from the genomics variations. His laboratory works on cutting-edge technologies including manipulation of structure of antibody molecules, discovery of new biomolecular targets, and on nanobiosensor technology. He received several major international awards and honours, including Rockefeller Biotechnology Career Fellowship, Thailand Young Scientist Award, ASEAN Young Scientist and Technologist Award, and the National Outstanding Technologist Award.

Prior to becoming Secretary-General of the NRCT, Ministry of Higher Education, Science, Research and Innovation, Prof. Songsivilai served as Executive Director of National Nanotechnology Center (NANOTEC). He is also the Founding President of Thailand Nanotechnology Association, and President of Asia Nano Forum (ANF) in 2015-2016. Prof. Songsivilai plays active roles and represents Thailand in various international networks, such as ASEAN S&T communities and interactions with the United Nations bodies, OECD and the European Union. He also serves as international advisor in several international programs and institutes.

Title: Digital Belt and Road: A View from Thailand and Southeast Asia

JIAO Nianzhi

Professor
College of Ocean and Earth Sciences, Xiamen University

JIAO Nianzhi is a Cheung Kong Chair Professor and Director of Institute of Marine Ecospheres, Xiamen University; He is also Fellow of Chinese Academy of Sciences (CAS), Associate Director of the Division of Earth Sciences at CAS, Fellow of the World Academy of Sciences for developing countries (TWAS), and Fellow of the American Academy of Microbiology (AAM) USA. He presently serves as adjunct professors of the University of Maryland, USA, and Dalhousie University, Canada. He is the chair of the joint North Pacific Marine Science Organization (PICES) / International Council for the Exploration of the Sea (ICES) working group on Climate Change and Biologically-driven ocean carbon sequestration. He is majored in Aquatic Ecology and Marine Environmental Sciences and has published more than 300 research papers in professional journals. He proposed the concept of Microbial Carbon Pump (MCP, published in *Nature Reviews Microbiology*), the MCP was commented by *Science* as "the invisible hand behind a vast carbon reservoir", and recognized as "research hot spot" by peers in the literature. The Scientific Committee for Oceanic Research (SCOR) set a working group on the MCP (SCOR-WG134), and Science published a special booklet on the MCP. The MCP has extended the concept of blue carbon from visible plants to the invisible dissolved organic carbon, which actually accounts for > 90% of the marine organic carbon, and is of crucial importance for climate change and the determination of a coastal water to be a "sink" or "source" of atmospheric CO_2.

Title: Microbial Carbon Sequestration and Climate Change

Jon PADGHAM

Director of Partnerships
START International

Over the past 11 years at START, Dr. Padgham has led or co-led several science capacity development projects in Africa and Asia that engaged early career researchers. His work helped strengthen analytical skills for applying climate model projections to adaptation decision making and helped advance understanding of climate change adaptation in drylands and of urban food systems. His capacity building skills include scientific writing, science communication across disciplines, persuasive communications of science to policy and other stakeholder communities, research and assessment methods, building links to global science assessments, and building mentorship bridges between junior and senior academics. Dr. Padgham has developed and facilitated over 20 training workshops and courses and science-policy dialogues. He is skilled at group facilitation, critical listening and mentoring, and working with mixed teams of researchers and users of research. Dr. Padgham was a lead author on the Africa regional chapter of the IPCC 5th Assessment Report and on the International Assessment of Agricultural Knowledge, Science and Technology for Development. He holds a PhD in Soil Science from Cornell University.

Title: Strengthening Scientific Capacity to Address 21st Century Challenges Across Belt and Road Region-Perspective from START

Daniele EHRLICH

Senior Scientist
Joint Research Center (JRC)
European Commission

Daniele Ehrlich is a senior scientist with the Joint Research Centre (JRC), of the European Commission and based in Ispra, Italy. He has over 25 years of experience in Remote Sensing and Geographic Information Systems applied to global forestry analysis, and disaster risk management. His recent work addresses measuring and mapping global human settlement with focus on global built-up analysis, global population estimations, and for generating exposure data sets used in global disaster risk assessments. Daniele's research interest focuses also on analyzing spatial urbanization patterns for use in local and global sustainability research within the Global Human Settlement Project of the JRC".

Title: Mainstreaming Big Earth Data into Decision Making: The Global Definition of Cities and Rural Areas in Support of International Frameworks

Kamal LABBASSI

Professor
Chouaib Doukkali University

Kamal Labbassi is Professor, head of the research unit "Geosciences & Remote Sensing" and a Director of the BDAR_ICoR (EO-AWARE) at the Chouaib Doukkali University (Morocco). He is the President of the African Association of Remote sensing of the Environment (continental scope), council member of the International Society for Digital Earth Digital and Ambassador in Morocco, of IEEE-GRSS for the MENA region. Doctorate Es-Sciences (1998), PhD Thesis (1991). Visiting Professor at the University of Nantes, France (2004-2005). He has served as expert / consultant in feasibility studies and technical reports for the World Bank, African Union Commission and the African Academy of Sciences. Peer Reviewer of the international programs AMESD (African Monitoring of the Environment for Sustainable Development) and GMES and Africa (Global Monitoring for Environment and Security in Africa), implemented under the coordination of the commission of the African Union with the support of the European Commission. He is also a scientific reviewer for Journals including Remote sensing, RPTS, and Revue Télédétection AUF. Initiated and directed numerous research projects that focused on remote sensing applications in geosciences and involving an extensive network of international partners. Supervised several dissertations of Engineers, Masters and PhD theses. He has supervised several memoirs of master's and Doctoral Thesis. He has authored and co-authored numerous publications and scientific papers.

Title: Promoting Effective Utilization of Earth Observation Systems for Africa's Development

Joe MILLER

GBIF Executive Secretary
Director of the GBIF Secretariat
Global Biodiversity Information Facility (GBIF)

GBIF—the Global Biodiversity Information Facility—is an international network and research infrastructure funded by the world governments and aimed at providing anyone, anywhere, open access to data about all types of life on Earth. Miller started as Executive Secretary of the Secretariat this past March. The Secretariat coordinates a global network of participating countries and organizations, provides data-holding institutions around the world with common standards and open-source tools that enable them to share and use information about where and when biodiversity has been recorded. GBIF also provides tools and strategies to report on international commitments such as the SDGs. Southeast Asia, along with most tropical areas, has high levels of biodiversity but has less data available for decision making. GBIF is committed to working with partners to correct this imbalance. Before coming to GBIF, Miller was at the US National Science Foundation where he promoted international research and managed biodiversity science programs. From 2008-2013, Miller was a senior research scientist at the Australian National Herbarium in Canberra. Miller has a Ph.D. from the University of Wisconsin and continues to research and has published on topics including plant systematics, biogeography and biodiversity informatics, focusing mainly on the Australian flora.

Title: Integrated Biodiversity Data to Improve Conservation Decisions

Peter J. van OEVELEN

Director International GEWEX Project Office
The Global Energy and Water Exchanges (GEWEX) project

Peter J. van Oevelen is the director of Global Energy and Water Cycle Experiment (GEWEX), a program of the World Climate Research Program (WCRP) dedicated to understanding Earth's water cycle and energy fluxes at and below the surface and in the atmosphere. Peter has been in this capacity since 2008 and oversees all of the day to day operations. In addition to administrative management, Peter is responsible for expanding GEWEX's interests and worldwide network in global energy and water cycle issues. His experience in research and development within the environmental sciences and engineering industries, as well as expertise in intercultural communication and marketing, perfectly complements decades of acquired knowledge in hydrology, geo-hydrology, stochastic hydrology, soil physics, and remote sensing. Peter holds a Ph.D. in environmental engineering from the University of Wageningen and is a member of the AGU, EGU, AOGS and IEEE. In his spare time, Peter enjoys travel, paragliding, backpacking, photography, theatre and family activities.

Title: The WCRP-GEWEX Science Activities Underpinning the Sustainable Development Goals in the Belt and Road Region

Programme at a Glance

The 4th Digital Belt and Road Conference (DBAR 2019)
Programme at a Glance

	16 Dec. (Monday)	17 Dec. (Tuesday)	18 Dec. (Wednesday)	19 Dec. (Thursday)
AM	Check-in or Onsite Registration	Opening Ceremony / Keynote Session I	Keynote Session II / Keynote Session III	Keynote Session IV / Closing Ceremony
PM		Parallel Session I / Parallel Session II	Parallel Session III / Parallel Session IV	
EVE		Welcome Banquet		

The 4th Digital Belt and Road Conference (DBAR 2019)
第四届"数字丝路"国际会议

Programme

17 Dec 2019 (Tuesday)

Opening Ceremony   Venue: Ballroom 5F

09:00-10:00 Opening Remarks & Events

10:00-10:30 Tea Break

Keynote Speech   Venue: Ballroom 5F

Chair: Massimo MENENTI & HE Changchui

10:30-11:00 **DBAR: Big Earth Data for SDGs in the Belt and Road Region**
Guo Huadong - Chair of DBAR Program

11:00-11:30 **SDG2 and FAO: Emphasis on Africa**
Shukri Ahmed - Food and Agriculture Organization of the United Nations

11:30-12:00 **Digital Belt and Road: A View from Thailand and Southeast Asia**
Sirirurg Songsivilai - National Research Council of Thailand (NRCT)

12:00-13:00 Buffet Lunch   Venue: Jinfeng Hall 2F

13:00-13:30 Lunch Break   Venue: Room 3-5 2F

13:30-15:00 Parallel Session I

15:00-15:30 Tea Break

15:30-17:00 Parallel Session II

18:30-21:00 Welcome Banquet   Venue: Ballroom 5F

Parallel Session   Venue: 2F

13:30-15:00 17 Dec 2019 (Tuesday)   Parallel Session I

Session: *Data Sharing Advancing the Implementation of SDG 17 Session-I*   Venue: Room 3 2F

Co-Chairs: *Silap BOUPHA and LI Guoqing*

Introduction to SDG 17 and what data sharing and regional cooperation can do for it
CHEN Zugang - Aerospace Information Research Institute, Chinese Academy of Sciences

Strategy on Vietnam national remote sensing development to 2030, vision to 2040 and the needs of remote sensing data for the implementation of SDG
Nguyen Quoc Khanh - General Director of Vietnam Natioanal Remote sensing Department, Vietnam

Virtual ground station data service technology
LIU Jianbo - Aerospace Information Research Institute, Chinese Academy of Sciences

Geospatial technologies synergy needed for supporting the specific SDGs
Silap BOUPHA - ASEAN and International Affairs, Ministry of Science and Technology, Nahaydio Street, Chanthabury District,Vientiane Capital, Lao PDR

One Belt and One Road Initiative: A story about How to get rich!
Mingquan WU - Aerospace Information Research Institute, Chinese Academy of Sciences

Meeting the challenge of warehousing and harmonizing of Earth Observation data for decision making in Pakistan
Jawed Ali Khan, Zainul Abedin, Uzma Nooreen, Yasmin Jawed - UN Habitat; Metropolitan Academy of Art and Design

Session: *DBAR/JRC/KTH/AIT Session-I: Big Earth Data for Sustainable Urban Development*

Venue: Room 4 2F

Co-Chairs: *Daniele EHRLICH and Vilas NITIVATTANANON*

Indicators of sustainable urbanization in Digital Belt and Road cities
Daniele EHRLICH - Joint Research Centre, European Commission, Italy

Geo-demographic environment and crimes Nexus in Karachi
Salma HAMZA-Bahria University, Pakistan

Spatiotemporal dynamics of urban expansion in the Bangkok Metropolitan Region, Thailand
XIAO Da - Aerospace Information Research Institute, Chinese Academy of Sciences

Land use detection by local climate zone and its application for urban sustainable development
CAI Meng -The Chinese University of Hong Kong

Integrated assessment of SDGs for Bangkok metropolitan regional: scoping study
Vilas NITIVATTANANON- Asian Institute of Technology, Thailand

Session: *DBAR/IMAA/ACCIMT/HIST Session-I: Big Earth Data Contribution to UN's SDGs for Monitoring, Conservation and Promotion of Natural and Cultural Heritage* Venue: Room 5 2F

Co-Chairs: *Rosa LASAPONARA and CHEN Fulong*

Remote sensing for natural and cultural heritage: data, science and operational applications
Rosa LASAPONARA - Institute of Methodologies for Environmental Analysis, CNR, Italy; International Centre on Space Technologies for Natural and Cultural Heritage under the Auspices of UNESCO

Cultural heritage digitization and its application in smart museum
HUANG Xianfeng - State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing, Wuhan University

UAV for Archaeological Research: Methods, Tools and New Possibilities
Nicodemo ABATE - Institute of Methodologies for Environmental Analysis, CNR, Italy

Radar remote sensing for cultural applications: key technologies and pilot applications
CHEN Fulong -Aerospace Information Research Institute, the Chinese Academy of Sciences; International Centre on Space Technologies for Natural and Cultural Heritage under the Auspices of UNESCO

Mineral mapping the provenance of the loess used by the Ming Earthen Great Wall
SHI Pilong- Aerospace Information Research Institute, the Chinese Academy of Sciences; International Centre on Space Technologies for Natural and Cultural Heritage under the Auspices of UNESCO

Comprehensive study on the ancient military defense system of roman empire boundary in south Tunisia using remote sensing technology
Nabil BACHAGHA, WANG Xinyuan -Institute of Arid Regions, Medenine, Tunisia; Aerospace Information Research Institute, the Chinese Academy of Sciences

Session: *START-DBAR Science Capacity Development* Venue: Tongle Hall 2F

Description: The use of Big Earth data to advance the UN Sustainable Development Goals requires greater attention to science capacity development. In parts of Asia and Africa there is a pressing need to strengthen capacities for accessing and utilizing Big Earth data to inform decision making on a range of SDG-related issues that connect with DBAR themes of agriculture, environment, coastal zones, natural and cultural heritage, urban, and disasters. The global change SysTem for

Analysis, Research and Training (START) has over 30 years of experience in science capacity building in the regions.

This session will focus on Priorities and Opportunities for Science Capacity Development in Support of DBAR and explore 1) critical needs and priorities to advance capacities for using and applying Big Earth data to support SDG decision making, and 2) opportunities and actions for addressing needs and priorities. The examination of capacity development will be framed within the context of advancing the SDGs in Asia and Africa.

The session will feature a keynote presentation by Professor Huadong Guo followed by a brief panel discussion by Dr. Gensuo Jia, Dr. Jon Padgham, Dr. Monthrip Sriratana, Dr. Navashni Govender, and Dr. Md. Anwarul Abedin. The presentation and panel discussion will frame the remainder of the session, which will feature small-group discussions to elicit participants' knowledge on the two capacity development themes.

15: 30-17:00 17 Dec 2019 (Tuesday)   Parallel Session II

Session: *Data Sharing Advancing the Implementation of SDG 17 Session-II* Venue: Room 3 2F

Co-Chairs: *Silap BOUPHA and LI Guoqing*

Fengyun meteorological satellite program supporting the B&R Initiative
XIAN Di - National Satellite Meteorological Center, China Meteorological Administration

Disaster risk reduction knowledge service: a paradigm shift from disaster data towards knowledge services
WANG Juanle - Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, China

Panel Discussion—How to evaluate the contribution of data sharing to SDG 17
Panelist as above speakers

Session: *DBAR/JRC/KTH/AIT Session- II: Big Earth Data for Sustainable Urban Development*
Venue: Room 4 2F

Co-Chairs: *Andrea NASCETTI and LU Linlin*

EO Big Data for monitoring urban SDG indicators
Andrea NASCETTI - KTH Royal Institute of Technology, Sweden

Analyzing characteristics of public transport users' travel behavior and their travel demand based on time-series smart-card big data of Shenzhen
LIU Qian - Shenzhen University, China

Land use and shoreline changes in Karachi, Pakistan from 1990 to 2019
Muhammad Fahad BAQA - Aerospace Information Research Institute,Chinese Academy of Sciences

An assessment of global electric power consumption using the Defense Meteorological Satellite Program-Operational Linescan System nighttime light imagery
LU Linlin- Aerospace Information Research Institute,Chinese Academy of Sciences

Session: *DBAR/IMAA/ACCIMT/HIST Session-II: Big Earth Data Contribution to UN's SDGs for Monitoring, Conservation and Promotion of Natural and Cultural Heritage*   **Venue: Room 5 2F**

Co-Chairs: *Sanath PANAWENNAGE and WANG Xinyuan*

The role of Big Earth Data and other space-derived tools in realization of the SDGs, with special focus on monitoring, conservation and promotion of natural and cultural heritage
Sanath PANAWENNAGE -Arthur C Clarke Institute for Modern Technologies, Sri Lanka

Demonstration study on measurement of indicators of the SDGs for natural and cultural heritages in China
YANG Ruixia - Aerospace Information Research Institute, the Chinese Academy of Sciences; International Centre on Space Technologies for Natural and Cultural Heritage under the Auspices of UNESCO

Monitoring vegetation dynamics in East Rennell Island World Heritage Site using multi-sensor and multi-temporal remote sensing data
WANG Mengmeng -China University of Geosciences (Wuhan)

Quantitative assessment and modelling of the natural hazard risk on the world natural heritage sites along the Belt and Road
LIU Chuansheng - Aerospace Information Research Institute, the Chinese Academy of Sciences; International Centre on Space Technologies for Natural and Cultural Heritage under the Auspices of UNESCO

The potential volcanic global geoparks in Saudi Arabia revealed by the multi-source remote sensing Data
FU Han and FU Bihong - Aerospace Information Research Institute, the Chinese Academy of Sciences; University of Chinese Academy of Sciences

Remotely-sensed identification of altitudinal natural zone in Bogda component of the Xinjiang Tianshan world natural heritage site
WAN Hong and WANG Xinyuan - Aerospace Information Research Institute, the Chinese Academy of Sciences; University of Chinese Academy of Sciences

Session: *START-DBAR Science Capacity Development*   **Venue: Tongle Hall 2F**

Programme

18 Dec 2019 (Wednesday)

Keynote Speech
Venue: Room 1&2 2F

Chair: LIN Hui & Monthip SRIRATANA

09:00-09:30 **Marine carbon sink and sustainable development**
JIAO Nianzhi--Xiamen University

09:30-10:00 **Contributions to Global Grand Challenges: from Atmospheric Clustering to Gigacities**
Markku Kulmala - The Centre of Excellence in Atmospheric Science, University of Helsinki

10:00-10:30 **Strengthening Scientific Capacity to Address 21st Century Challenges Across Belt and Road Region-Perspective from START**
Jon Padgham - START International

10:30-11:00 *Tea Break*

Chair: WU Bingfang & Juha LEMMETYINEN

11:00-11:30 **Mainstreaming Big Earth Data into Decision Making: The Global Definition of Cities and Rural areas in support of international frameworks**
Daniele Ehrlich – Joint Research Center (JRC) European Commission

11:30-12:00 **Promoting Effective Utilization of Earth Observation Systems for Africa's Development**
Kamal Labbassi – Chouaib Doukkali University

12:00-13:00 *Lunch*   **Venue: Ballroom 5F**

13:00-13:30 *Lunch Break*   **Venue: Romm 3-5 2F**

13:30-15:00 Parallel Session III

15:00-15:30 *Tea Break*

15:30-17:00 Parallel Session IV

18:00-21:00 Dinner   **Venue: Ballroom 5F**

Parallel Session
Venue: 2F

13:30-15:00 18 Dec 2019 (Wednesday) Parallel Session III

Session: *Big Earth Data for Disaster Risk Reduction and Climate Change Session-I*   **Venue: Room 2 2F**

Co-Chairs: *Rajib SHAW and CHEN Fang*

Society 5.0 and inclusive disaster risk reduction in Japan
Rajib SHAW - Keio University, Japan

Making cities disaster resilient: climate action as a point of departure
Joy Jacqueline PEREIRA, Nurfashareena MUHAMAD, Julian HUNT- IRDR ICoE SEADPRI-UKM; Universiti Kebangsaan Malaysia; University of Cambridge and University College London

Development of Big Earth Data platform for DBAR: progress and lessons
QIN Yuchu - Aerospace Information Research Institute,Chinese Academy of Sciences

Spatial appraisal of flood risk assessment and evaluation using integrated hydro-probabilistic approach in Panjkora River Basin, Pakistan
Atta Ur RAHMAN - University of Peshawar, Pakistan

Forest fire mitigation based on land cover type and it's occurrence case study In Riau Province, Indonesia
Nahib IRMADI - Geospatial Information Agency, Indonesia

Session: *DBAR For SDG 14 Session-I: Big Earth Data Applications in Sustainable Development and Management of Coast and Sea*   **Venue: Room 3 2F**

Co-Chairs: *Myriam De Las Nieves Fernandez HERRERO and ZHANG Li*

Environment and sustainable development in Spain
Myriam De Las Nieves Fernandez HERRERO - Valencian International University, Spain

Remote sensing of mangrove forests using field survey, drones and satellites
ZHANG Hongsheng, WAN Luoma, LIN Yinyi, LIU Mingfeng - Department of Geography, The University of Hong Kong; Institute of Space and Earth Information Science, The Chinese University of Hong Kong; Institute of Environment, Energy and Sustainability, The Chinese University of Hong Kong

Employability issues for the climate migrants in Bangladesh: a study of Khulna city
Tanjil SOWGAT - Khulna University, Bangladesh

Night-time light and its relationship with urban development: a study of rapidly urbanising regions in Bangladesh
CHEN Bowei - Aerospace Information Research Institute, Chinese Academy of Sciences

Spatial monitoring and assessment of port cities expansion along the Maritime Silk Road
YAN Min, ZHANG Li, GU Yu - Aerospace Information Research Institute, Chinese Academy of Sciences

Session: *Big Earth Data Applications in Sustainable Water Resource Management Session-I*
          Venue: Room 4 2F

Co-Chairs: *Kamal LABBASSI and LIU Yuanbo*

Response of the irrigation water management to climate variability by remote sensing: monitoring of evapotranspiration in the irrigated area of Doukkala
Kamal LABBASSI - Chouaib Doukkali University, Morocco

Sentinel-2 time series imagery in support to groundwater abstraction monitoring
Mustapha MIMOUNI, Faiz SAMI, Mourad BRIKI, Nabil BENKHATRA - Observatoire du Sahara et du Sahel, Tunisia; University of La Manouba, Tunisia

Assessment of water productivity changes over Iran using remote sensing data
Saeid HAMZEH, Falahati EHSAN, Sedighi AMIR - University of Tehran, Iran

Assessment of crop water use efficiency based on remote sensing and ground observations: Case study of the Doukkala Irrigation District in Morocco
CHEN Qiting, Adnane HABIB, JIA Li, HU Guangcheng, Kamal LABBASSI, Massimo MENENTI - Aerospace Information Research Institute,Chinese Academy of Sciences; Chouaib Doukkali University, Morocco

Validating remote sensing based evapotranspiration based on basin scale water balance method
ZHENG Chaolei, JIA Li - Aerospace Information Research Institute, Chinese Academy of Sciences

Estimation of farmland evapotranspiration based on SEBAL model in Kai-Kong River Basin, Xinjiang
CHA Mingxing, WANG Xiaoqin, LI Yali, QIU Pengxun - Fuzhou University, China

Session: *Session: DBAR Agriculture Session-I*

Co-Chairs: *Dr. Shukri Ahmed and Dr. Hongwei Zeng*

Enhancing food security through the use of biophysical, climate modelling and sensing technologies
Dr. Andries Potgieter, University of Queensland

Vegetable mapping in Indonesia from time series of Sentinel-1A SAR data
Li Mengmeng, Academy of Digital China (Fujian), Fuzhou University

Cropland Mapping in Africa: challenges and opportunities
Mohsen Nabil Abdelsalam Ramadan. Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

Analyzing the Performance of Classification Methods for Cropland Mapping over Different Agro-ecological Conditions, the case of the Zambezi River Basin
Jose Bofana, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

Crop identification with Sen2 Agri in Mexico: lessons learned using a large in-situ data set
Dr. Urs Schulthess, CYMMIT

FY satellite data and product development for the global agricultural monitoring
Dr. Fan Jinglong, National Satellite Meteorological Center China Meteorological Administration, China

National crop type maps in Argentina based on high resolution remote sensing
Dr. Diego de Abelleyra, Instituto Nacional de Tecnología Agropecuaria (INTA) Argentina

Session: *DBAR/ENVI Session-I: Big Earth Data for Environmental Change Monitoring – Focus on SDGs 15*
          Venue: Tongle Hall 2F

Co-Chairs: *Monthip SRIRATANA and LI Xinwu*

Big Earth Data Driven Understanding of Climate and Environmental Changes in Southeast Asia
Monthip SRIRATANA-The National Research Council of Thailand (NRCT), Thailand

Assessing and monitoring precipitation extremes in East Africa
Zacharia Florence MTEWELE - Institute of Atmospheric Physics of CAS, China

Monitoring ecological environment of belt and road region, challenges and countermeasures
CHEN Jinsong- Shenzhen Institutes of AdvancedTechnology, Chinese Academy of Sciences

Effect of climate change on carbon cycle of global forest ecosystems
ZHAO Junfang - Chinese Academy of Meteorological Sciences, China

The warming impact of earlier growing season
XU Xiyan - Institute of Atmospheric Physics, Chinese Academy of Sciences, China

Stability evaluation of ice sheet/glacier in Three Poles
LIANG Lei - Aerospace Information Research Institute,Chinese Academy of Sciences

Response of Carbon Fluxes to Precipitation Variability in the Semiarid Belt and Road Region
ZHAO Huichen - Institute of Atmospheric Physics of CAS, China

Session: *DBAR High Mountain and Cold Regions Session-I: Snow and Ice Observations*
          Venue: Jindian Hall 2F

Co-Chairs: *Juha Lemmetyinen and LI Lanhai*

A land data assimilation study based on LIS with FY3C land surface temperature and microwave brightness temperature
SHI Chunxiang - National Meteorological Information Center, CMA

Automatic learning of sea ice properties by remote sensing data analysis: challenges and opportunities
Andrea MARINONI - the Arctic University of Norway

Snow and ice thickness derived from the thermistor string based ice mass balance buoys
CHENG Bin - Finnish Meteorological Institute, Finland

Exploring methods for snow parameter retrieval in the Arctic and high mountain areas
Juha LEMMETYINEN - Finnish Meteorological Institute, Finland

Glacier mass balance variations on the Nyainqêntanglha mountain of Tibetan plateau from 2000 to 2013
Drolma LHAKPA - Tibet Institute of Plateau Atmospheric and Environmental Sciences, Tibet Meteorological Bureau

Climate change and human activities exacerbate water stress in the Aral Sea Basin, Central Asia
DUAN Weili--Xinjiang Institute of Ecology and Geography, Chinese Academy of Sciences

15: 30-17:00　18 Dec 2019 (Wednesday)　Parallel Session IV

Session:　*Big Earth Data for Disaster Risk Reduction and Climate Change Session-II*　　Venue: Room 2 2F

Co-Chairs:　*CHEN Fang and Rajib SHAW*

Use of remote sensing for disaster risk reduction in Nepal – efforts of NSET
Amod Mani DIXIT - National Society For Earthquake Technology, Nepal

Mornitoring tropical forest fragments
WANG Lei, Matthew HANSEN - Aerospace Information Research Institute, Chinese Academy of Sciences; University of Maryland, College Park

Climate change and salinity induced nutritional imbalance of rice and its risk to coastal community of Bangladesh
Md Anwarul ABEDIN - Bangladesh Agricultural University, Bangladesh

Literature-based analysis on Earth observations for flood research
ZHANG Hongyue - Minjiang University, China

Investigation of the Effect of Class Imbalance on Land Cover Classification in Different Landscapes of China–Central Asia–West Asia Economic Corridor
Naboureh Amin, Ainong Li, Jinhu Bian, Guangbin Lei - Institute of Mountain Hazards and Environment, Chinese Academy of Sciences, Chengdu, China

Session:　*DBAR For SDG 14 Session-II: Big Earth Data Applications in Sustainable Development and Management of Coast and Sea*　　Venue: Room 3 2F

Co-Chairs:　*Sutrisno DEWAYANY and WANG Cuizhen*

Sustainable coastal environment planning: from concept to implementation
Sutrisno DEWAYANY - Badan Informasi Geospasial

sUAS-based 3D tree surveying on earth dams to assess dam safety and flood preparedness
WANG Cuizhen (Susan), Grayson R. MORGAN, HUANG Xiao, Michael E. HODGSON - University of South Carolina

Parallel optimization of the tropical-cyclone coupled numerical model in the NMEFC
WANG Yanqiang, YIN Zhaohui, HAO Sai, WANG Chenqi, ZHANG Tianyu - National Marine Environmental Forecasting Center; Key Laboratory of Research on Marine Hazards Forecasting

Dynamics of coastal aquaculture ponds in DBAR from 1990 to 2015 and the influence on offshore Chla
LUO Juhua; SUN Zhe; YANG Jingzhicheng; ZHANG Li - Nanjing Institute of Geography and Limnology, Chinese Academy of Sciences; University of Chinese Academy of Sciences; Aerospace Information Research Institute, Chinese Academy of Sciences

Application of remote sensing and Big Earth Data to monitor and assess nature based solutions
Mohammad Emran HASAN - Aerospace Information Research Institute, Chinese Academy of Sciences

Delineating the spatio-temporal feature of urban dynamics along the Land Silk Road Belt being associated with land consumption rate from 2000 to 2015
BAI Linyan, FENG Jianzhong, GAO Wangwang - Aerospace Information Research Institute, Chinese Academy of Sciences; Agricultural Information Institute, Chinese Academy of Agricultural Sciences

Session:　*Big Earth Data Applications in Sustainable Water Resource Management Session-II*
　　Venue: Room 4 2F

Co-Chairs:　*Mustapha MIMOUNI and JIA Li*

Application of the city blueprint approach in Ulaanbaatar City, Mongolia
Ochir ALTANSUKH, Munkhsuld ENKH-UUR, C.J. van LEEUWEN, Stef KOOP - National University of Mongolia, Mongolia; KWR Watercycle Research Institute, Netherlands

Implications of land use and climate change on water resources in the Lake Victoria Basin
Yazidhi BAMUTAZE - Makerere University, Uganda

Combination of multi-source altimeter measurements for tracking water level changes of the East African Great Lakes
WU Guiping, LIU Yuanbo - Nanjing Institute of Geography & Limnology, Chinese Academy of Sciences, China

EO data in support to SDG's monitoring
Mustapha MIMOUNI, Faiz SAMI, Mourad BRIKI, Nabil BENKHATRA - Observatoire du Sahara et du Sahel, Tunisia; University of La Manouba, Tunisia

The application of NRCS-CN on river discharge downscaling: Africa case study
Karamage FIDELE, LIU Yuanbo, Justine Meta FRANCIS, FAN Xingwang, WU Guiping, LIU Yongwei, WANG Ruonan - Nanjing Institute of Geography & Limnology, Chinese Academy of Sciences, China; University of Chinese Academy of Sciences, China; Chengdu Institute of Biology, Chinese Academy of Sciences, China

Time series of inland water body dataset in China based on GEE big remote sensing data
LI Yang, NIU Zhenguo, XU Zeyu - Aerospace Information Research Institute, Chinese Academy of Sciences; University of Chinese Academy of Sciences, China

Quantitatively evaluating the impact of droughts on terrestrial water storage change based on GRACE data
LU Jing, JIA Li - Aerospace Information Research Institute, Chinese Academy of Sciences

Evaluation of the effects of land use/land cover (LULC) and climate changes on the runoff and evapotranspiration in Chad Lake Basin and Inner Niger Delta
Ali BENNOUR, Massimo MENENTI, JIA Li - Aerospace Information Research Institute, Chinese Academy of Sciences

Monthly statistical downscaling approach on TRMM 3B43 precipitation product using machine learning and Google Earth Engine in The Mekong Region
Abdelrazek F. ELNASHAR, ZENG Hongwei, WU Bingfang - Aerospace Information Research Institute, Chinese Academy of Sciences, China; University of Chinese Academy of Sciences, China; Cairo University, Egypt

Session: *DBAR Agriculture Session-II*   **Venue: Room 5 2F**

Co-Chairs: *Dr. Changchui He and Dr. Miao Zhang*

Overview Introduction of Crop Productivity Gap Analysis in DBAR-AGRI
Dr. Bingfang Wu, Institute of Remote Sensing and Digital Earth

The role and use of Geospatial Information for Crop monitoring: an opportunity for interagency collaboration
Dr. Shukri Ahmed, FAO

Earth data application in agriculture and food security
Pedro Daniel Dzucula, Ministry of Agriculture and Rural Development, Mozambique

Crop productivity gap analysis in Russia
Dr. Igor Savin, V.V. Dokuchaev Soil Science Institute, ATI RUDN University, Russia

Challenges and opportunities of food security in Ethiopia
Tesfay Gebretsadkan , Tigray Agricultural research Institute, Ethiopia

Estimation of potential wheat yield gap in Ethiopia
Awetahegn Niguse Beyene, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

Determination of Appropriate Remote Sensing Indices for Spring Wheat Yield Estimation in Mongolia
Battsetseg Tuvdendorj, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences

Crop Yield Gap Analysis for Zambia, Summary: Initiative of Productivity gap analysis of DBAR-AGRI
Dr. Elijah Phiri, University of Zambia

Session: *DBAR/ENVI Session-II: Big Earth Data for Environmental Change Monitoring – Focus on SDGs 15*
Venue: Tongle Hall 2F

Co-Chairs: *Monthip SRIRATANA and JIA Gensuo*

GOFC-GOLD Regional Networks: The role of SAFNet in Africa
Navashni Govender - South African National Parks

Decadal changes of wetlands in response to climate variability and land use along the Belt & Road region
Sana ILYAS - Institute of Atmospheric Physics of CAS, China

FY meteorological satellite series serve Belt & Road communities
XU Ronghan - National Satellite Meteorological Center, China Meteorological Administration, China

Crevasse Detection Using Sentinel-1 EW SAR Data
DUAN Yiru- Institute of Remote Sensing and Digital Earth of CAS, China

Analysis of Temporal and Spatial Changes and Driving Forces of Vegetation in the Loess Plateau
DONG Yi - China Agricultural University, China

Monitoring and assessing urbanization progress in the Belt and Road region
JIANG Huiping - Aerospace Information Research Institute, Chinese Academy of Sciences

Session: *DBAR High Mountain and Cold Regions Session-II: Changes and Impacts*
Venue: Jindian Hall 2F

Co-Chairs: *Massimo MENENTI and Andrea MARINONI*

High quality, environmental information and analysis relevant to the new silk road economic belt regions and for the arctic sea route
Hanna LAPPALAINEN - University of Helsinki, Finland

Seasonal evolution of supraglacial lakes and rivers on the southwest Greenland Ice Sheet
YANG Kang - Nanjing University, China

Development and application of NMEFC Arctic Ice-Ocean Prediction System (ArcIOPS)
LIANG Xi - National Marine Environmental Forecasting Center, China

Spatial-temporal dynamics of supraglacial debris cover on glaciers in Hunza Valley based on GEE platform and machine learning algorithms
XIE Fuming - Yunnan University, China

Snow characteristics of different ecoregions and its influencing factors in Tianshan Mountains, China
LI Lanhai - Xinjiang Institute of Ecology and Geography, Chinese Academy of Sciences, China

Added Value Big Earth Data Development on the High Mountain and Cold Regions
QIU Yubao - Aerospace Information Research Institute,Chinese Academy of Sciences

Disscussion and Wrap-up

QIU Yubao, Juha LEMMETYINEN, Massimo MENENTI, Andrea MARINONI, LI Xin and all

Programme

19 Dec 2019 (Thursday)

Keynote Speech   Venue: Room 1&2 2F

Chair: JIA Gensuo & HAN Qunli

09:00-09:30	**Integrated Biodiversity Data to Improve Conservation Decisions** *Joe Miller - Global Biodiversity Information Facility (GBIF)*
09:30-10:00	**The WCRP-GEWEX Science Activities underpinning the Sustainable Development Goals in the Belt and Road Region** *Peter J. Van Oevelen - The Global Energy and Water Exchanges (GEWEX) Project*
10:00-10:30	**Tea Break**
10:30-11:30	**Closing Ceremony**

Poster Session

Date: 17 – 18 Dec
Time: 13:30 – 17:30
Location: Passageway of conference area, Floor 2

No.	Name	Title
1	Nahib Irmadi, Priyadi Kardono & Dwi Maryanto (Geospatial Information Agency, Indonesia)	Mapping Of Forest And Land Fire Potential, South Sumatera Province
2	Zheng BeiJun & Yunzhi Chen (Geospatial Information Technology, Fuzhou University, China)	Study on drought in Xinjiang from 2004 to 2019 based on FY-3C satellite data
3	Liu Yifeng (The Academy of Digital China Fu Jian)	Sensitivity Analysis of Vegetation Coverage to Soil Erosion in Red Soil Region of South China
4	Liang Wenshan, Xingxing Wang & Pengfei Xie (Aerospace Information Research Institute, Chinese Academy of Science)	Using Remote Sensing Data to Monitor River Ice in the Irtysh River Basin
5	Tariq Shahina (COMSATS University Islamabad, Paksitan)	Susceptibility Assessment of Karez system in Pakistan
6	SUN Zhe, Juhua Luo & Jingzhicheng Yang (Nanjing Institute of Geography and Limnology, Chinese Academy of Sciences) Li Zhang (Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences)	Research on extraction and spatiotemporal evolution of coastal aquaculture ponds in Vietnam based on Landsat images
7	Liao Jingjuan, Yujuan Guo & Bin Zhubin (Key Laboratory of Digital Earth Science, Aerospace Information Research Institute, Chinese Academy of Sciences)	Understanding Dynamics of Mangrove Forest along Maritime Silk Road for implementation of the UN Sustainable Development Goals
8	Nooreen Uzma & Zain ul Abedin (Metropolitan Academy of Art and Design (MAAD), Islamabad)	Community Engagement Linked With Earth Observation Systems For Participatory Planning, Urban Design And Decision Making
9	Han Shuai & Chunxiang Shi (National Meteorological Information Center, CMA)	Development and Progress of High Resolution CMA Land Surface Data Assimilation System

10	Dong Zhang & Wang Yueming (Key Laboratory of Space Active Opto-Electronics Technology, Shanghai Institute of Technical Physics, Chinese Academy of Sciences)	Airborne Multi-Modality Imaging Spectrometer
11	ENWEONYE ARINZE LUKE, OKECHUKWU FRANK & SIMISOLA ABIGAIL ADEYEMO (NNAMDI AZIKIWE UNIVERSITY Nigeria)	Geographic Information Systems Application in Sustainable Business Intelligence Analysis
12	Yang Junting & Xiaosong Li (Aerospace Information Research Institute, Chinese Academy of Sciences)	Mapping soil organic matter content in desertified land, Northern China using Sentinel-2 data with Google Earth Engine
13	Lanwei Zhu (Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences)	Remote Sensing of Coral Reefs for Monitoring and Management in the Western Coastal Regions of Hainan Island, China
14	Nahib Irmadi, Priyadi Kardono, Turmudi Turmudi & Yatin Suwarno (Geospatial Information Agency, Indonesia)	Modeling Impact of REDD Policy: Measuring environmental and socio-economic impact of deforestation at Kalimantan and Sumatera Island
15	Dong Yi, Yuan Li & Hongshuo Wang (College of Land Science and Technology, China Agricultural University)	Analysis of Temporal and Spatial Changes and Driving Forces of Vegetation in the Loess Plateau

Information for speakers

Speakers are requested to arrive at their session room to upload their presentation at least 20 minutes before the respective session begins, or at an earlier break. Speakers are asked to bring their presentation on USB stick and contact the technician in the session room as soon as possible to perform the upload of the presentation file.

Presentations should be in MS PowerPoint format. The dimension of PPT is 16:9 for keynote report and 4:3 for parallel session report. Each session room is equipped with a computer/video projector, a microphone, a lectern and a laser pointer device. The software installed on the computer includes: Windows 7 MS Office 2013 Professional (PowerPoint, Word), Internet Explorer, Windows Media Player. The media player is only available with standard codecs. Use of standard True Type fonts is suggested for PowerPoint presentations. If your presentation contains a video or animation, please ensure that both files (ppt and video) are in the same folder.

As a baseline, presentations from personal laptops are not allowed to ensure a smooth session and to minimize the transition between presentations. Speakers are also asked to identify themselves as speakers to the session co-chairs, who should already be in the session room during the break before the respective session. The session chairs will introduce the speakers only with the title of the presentation, name and affiliation. Please check with the session chairs to make sure they have the correct information.

Speakers are asked to stay within the time given to your presentation. The session chairs are instructed to remind speakers on this timing and aim to finish the oral presentation part about 3 minutes earlier, in order to allow few questions. If speakers run over time, the session chairs may stop the presentation immediately and not allow further questions.

Information for Poster Presentations

Each poster should be printed in portrait orientation at 90 x 120 cm (W x H)

Materials necessary for pinning the poster to the board is available on the poster boards or at the registration desk.

Posters will be displayed in the poster area, Passageway of conference area, Floor 2.

Authors are requested to mount their posters on the day of their poster session at the following times:

Mount: 12:00 – 13:30

Authors are invited to stand by close to their poster during all breaks.

General Information

Conference Venue

St.Helen Hotels Shenzhen (http://en.shengfeitehotel.cn) is the venue of the 4th Digital Belt and Road Conference. It is one of the newest hotels in Shenzhen, which was renovated in 2016. Boasting a convenient location, the St.Helen Hotels Shenzhen is just 11km from Shenzhen North Railway Station and 25km from Bao'an International Airport. In addition, Qiaocheng East Metro Station is just a short walk away. Famous attractions such as Happy Valley and Window of the World are just a short taxi ride away.

INTRODUCTION

This St.Helen Hotels Shenzhen is a popular accommodation for guests traveling for business. St.Helen Hotels Shenzhen is located in OCT tourist areas, near to hi-tech areas and Chegongmiao industrial areas, about 40-min-drive to Bao'an international airport, 15-min-drive to Shenzhen North railway station. It is facilitated with 12 meeting rooms between 20 – 248 m^2, 8 – 200 people capability.

MAP

● By Train: Luohu Railway Station 15.6km

● By Airplane: Bao'an Airport 29.7km

● By high-speed-train: Futian Station 6km

● By Metro: Shenzhen Qiaocheng East Station (@Line#1) 430m

● Port: Futian Port and Huanggang Port 8km

Meals

17 December 2019			
Meals	**Time**	**Venue**	**Location**
Buffet Lunch	12:00-13:00	Jinfeng Hall	2F
Welcome Dinner	18:30-21:00	Ballroom	5F
18 December 2019			
Lunch	12:00-13:00	Ballroom	5F
Dinner	18:00-21:00	Ballroom	5F

Registration

The Registration Desk for the Conference is located in the Entrance of Jintonge Restaurant (20 meters west of the St. Helen Hotels).

7:30—20:00, 16 Decmber 2019   7:30—20:00, 17 Decmber 2019

Wifi

WIFI account: DBAR2019-01，DBAR2019-02，DBAR2019-03 and etc.

NO Password

By Chinese mobile phone number

Step 1: Choose the WIFI named ST.HELEN.

Step 2: Choose the authentication method with "SMS"

Step 3: Fill out Chinese mobile phone number.

Step 4: Click the button "obtain the verification code"

Step 5: Input the verification code to complete the connection

By Wechat

Step 1: Choose the WIFI named ST.HELEN.

Step 2: Choose the authentication method with "Wechat"

Step3: Follow the WeChat Subscription of the hotel

Step4: Complete the connection

If you don't have the Chinese mobile phone number, please ask the hotel reception for help.

Official Language

The official language of DBAR 2019 is English.

Name Badge

Conference registrants must wear name badges to gain access to all conference activities. Should you misplace your name badge, please gets a replacement at the registration Desk.

Transportation

The conference team provides shuttle service between airport and hotels, the shuttle bus schedule is as follows:

Timetable for airport pick up bus

Trips	Bus station	Shenzhen Bao'an International Airport	Running Time	Shenzhen Seaview Hotel	Running Time	City Inn OCT Loft Hotel	Running Time	Huali Hotel (Creative Park Store)	Running Time	St. Helen Hotel & Huali Hotel (Oct Store)
December 15 -16, 2019										
1	Arrival-departure time (Docking time)	13:10 -13:40 (30 minutes)	40 minutes	14:20-14:25 (5 minutes)	10 minutes	14:35-14:40 (5 minutes)	10 minutes	14:50-14:55 (5 minutes)	10 minutes	15:05
2	Arrival-departure time (Docking time)	18:50 -19:20 (30 minutes)	40 minutes	20:00-20:05 (5 minutes)	10 minutes	20:15-20:20 (5 minutes)	10 minutes	20:30-20:35 (5 minutes)	10 minutes	20:45
3	Arrival-departure time (Docking time)	21:40 -22:10 (30 minutes)	40 minutes	22:50-22:55 (5 minutes)	10 minutes	23:05-23:10 (5 minutes)	10 minutes	23:20-23:25 (5 minutes)	10 minutes	23:35

Timetable for airport drop off bus

Trips	Bus station	St. Helen Hotel & Huali Hotel (Oct Store)	Running Time	Huali Hotel (Creative Park Store)	Running Time	City Inn OCT Loft Hotel	Running Time	Shenzhen Seaview Hotel	Running Time	Shenzhen Bao'an International Airport
December 19, 2019										
1	Arrival-departure time (Docking time)	12:00-12:30 (30 minutes)	10 minutes	12:40-12:50 (10 minutes)	10 minutes	13:00-13:10 (10 minutes)	10 minutes	13:20-13:30 (10 minutes)	40 minutes	14:10
2	Arrival-departure time (Docking time)	19:00-19:30 (30 minutes)	10 minutes	19:40-19:50 (10 minutes)	10 minutes	20:00-20:10 (10 minutes)	10 minutes	20:20-20:30 (10 minutes)	40 minutes	21:10
December 20, 2019										
1	Arrival-departure time (Docking time)	7:00 -7:30 (30 minutes)	10 minutes	7:40-7:50 (10 minutes)	10 minutes	8:00-8:10 (10 minutes)	10 minutes	8:20-8:30 (10 minutes)	40 minutes	9:10
2	Arrival-departure time (Docking time)	11:30-12:00 (30 minutes)	10 minutes	12:10-12:20 (10 minutes)	10 minutes	12:30-12:40 (10 minutes)	10 minutes	12:50-13:00 (10 minutes)	40 minutes	13:40

Conference Venue

St. Hellen Shenzhen Bauhinia Hotel (深圳博林圣海伦酒店)

http://en.shengfeitehotel.cn

Qiaocheng East Road 2002, Futian District, Shenzhen, Guangdong, China

From Shenzhen Bao'an International Airport

Approximately 35 minutes by taxi, cost approx. 90CNY
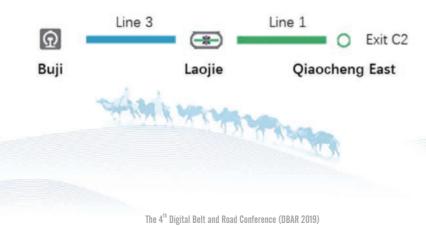
Approximately 50 minutes by metro cost approx. 7CNY

From Shenzhen North Station

Approximately 23 minutes by taxi, cost approx. 40CNY

Approximately 43 minutes by metro cost approx. 5CNY

From Shenzhen East Station

Approximately 45 minutes by taxi, cost approx. 60CNY

Approximately 72 minutes by metro cost approx. 6CNY

Public Transport

Participants who need to take public transportation in Shenzhen can pay the tickets by WeChat QR code "Shenzhen Tong+" and "Shenzhen Metro e Travel"

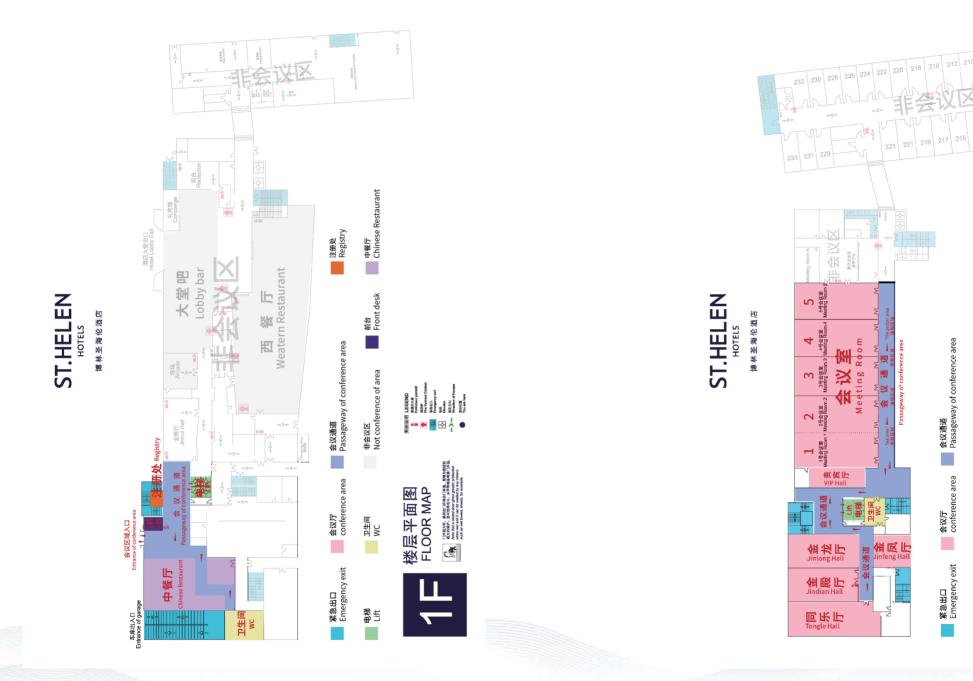Bus (Shenzhen Tong+)   Metro (Shenzhen Metro e Travel)

Metro Map of Shenzhen

http://www.szmc.net/page/eng/index.html

ST.HELEN
HOTELS
博林 圣海伦酒店

楼层平面图 FLOOR MAP

1F

注册处 Registry
会议区域入口 Entrance of conference area
前台 Front Desk
中餐厅 Chinese Restaurant
卫生间 WC
车库出入口 Entrance of garage
金辉厅 Jinhui Hall
大堂吧 Lobby bar
西餐厅 Western Restaurant
酒店大堂出口 Hotel Lobby Exit
礼宾部 Concierge
前台 Reception
商场 Arcade
非会议区

LEGEND 图例说明

紧急出口 Emergency exit
电梯 Lift
会议厅 conference area
会议通道 Passageway of conference area
非会议区 Not conference of area
卫生间 WC

注册处 Registry
中餐厅 Chinese Restaurant
前台 Front desk

图例说明 LEGEND
消防栓 Fire Hydrant Cabinet
紧急出口 Emergency exit
电梯 Elevator
疏散方向 Direction of Escape
您的位置 You are here

ST.HELEN
HOTELS
博林 圣海伦酒店

楼层平面图 FLOOR MAP

2F

会议室 Meeting Room
1 1号会议室 Meeting Room 1
2 2号会议室 Meeting Room 2
3 3号会议室 Meeting Room 3
4 4号会议室 Meeting Room 4
5 5号会议室 Meeting Room 5
会议通道 Passageway of conference area
贵宾厅 VIP Hall
茶歇区 Tea area
海报张贴区 The poster area
金龙厅 Jinlong Hall
金凤厅 Jinfeng Hall
金殿厅 Jindian Hall
同乐厅 Tongle Hall
卫生间 WC
电梯 Lift
会议厅 conference area
会议通道 Passageway of conference area
Meeting Room 6 会议室6
罗马会议室 Rome Meeting Room
非会议区

紧急出口 Emergency exit
电梯 Lift
会议厅 conference area
会议通道 Passageway of conference area
非会议区 Not conference of area
卫生间 WC

图例说明 LEGEND
消防栓 Fire Hydrant Cabinet
紧急出口 Emergency exit
电梯 Elevator
疏散方向 Direction of Escape
您的位置 You are here

ST.HELEN
HOTELS
博林圣海伦酒店

非会议区

非会议区

非会议区

508 506 504 502
510 512 516 518 520 522 524 526 528 530 532
533 531 529 527 525 523 521 519 517 515 513 511 509 507 505 503 501

538
540
542
546
548
550
552
556
558

535
537
539
541
543
545
547
549
551
553
555
557

会议通道
Passageway of conference area

非会议区
Not conference of area

会议厅
conference area

卫生间
WC

紧急出口
Emergency exit

电梯
Lift

大宴会厅
Ballroom

卫生间 WC

楼层平面图
FLOOR MAP

5F

LEGEND

Accommodation

Huali Hotel- Oct store（华里酒店–华侨城店）

Huali Hotel-Creative Park Store is a 3-starhotel, located at No.2 Jinxiu North Road of Nanshan District. Available room types ranges from economic to business suite. The hotel is only 400 meters away from the conference venue, about 5 minutes walking. Participants need to mention the conference (The 4th Digital Belt and Road Conference) and organizer (Shenzhen Institutes of Advanced Technology, CAS) when booking this hotel.

For room reservations, please call   86(0) 755-86668999
Hotel Reservation Box   347465209@qq.com

Huali Hotel-Creative Park Store（华里酒店–创意园店）

Huali Hotel-Creative Park Store is a 4-star hotel, located at No.99 Qiaocheng East Road of Nanshan District. Available room types ranges from economic to business suite. The hotel is only 650 meters away from the conference venue, about 10 minutes walking. Participants need to mention the conference (The 4th Digital Belt and Road Conference) and organizer (Shenzhen Institutes of Advanced Technology, CAS) when booking this hotel.

For room reservations, please call   86 13640934638
Hotel Reservation Box   284073839@qq.com

City Inn OCT Loft Hotel（城市客栈创意园店）

City Inn OCT Loft Hotel is a 3-star hotel, located at Building E-2, East Shantou street, Nanshan Science Park. The hotel is only 1100 meters away from the conference venue, about 17 minutes walking. Participants need to mention the conference (The 4th Digital Belt and Road Conference) and organizer (Shenzhen Institutes of Advanced Technology, CAS) when booking this hotel.

For room reservations, please call   86 13640934638
Hotel Reservation Box   284073839@qq.com

Yafeng Hotel

Ya Feng Hotel - Shenzhen is a 3-star venue in a Chinese style. The accommodation is 1350 meters away from Happy Valley of Shenzhen. The hotel is within 8 km from the city center of Shenzhen. A large variety of dishes is served in Four Seasons Coconut Chicken Run Park and Inter-Continental Hotel B1 Buffet, which are 5 minutes walk away. Ya Feng Hotel - Shenzhen can be reached in a 30-minute drive from Shenzhen airport.
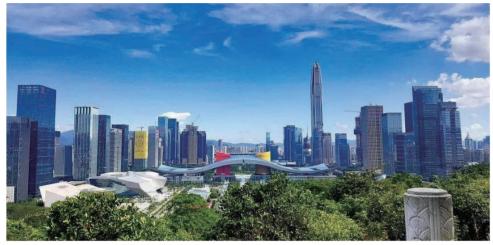
Hotel Reservation for Foreigners please click here

https://yafeng-hotel.hotel-shenzhen.com/en/

Hotel Reservation for Chinese please click here

https://yafeng-hotel.hotel-shenzhen.com/zh/

About Shenzhen

Shenzhen is the first special economic zone established after China's reform and opening up and is the window for China's reform and opening up.

Geographic Location

Shenzhen is located on the southern coast of China, adjacent to Hong Kong. It is located in the southern part of Guangdong Province, with 6 administrative districts, 4 new districts, 57 sub-district offices and 790 residents committees. Shenzhen covers an area of 1996.85 square kilometers. The main administrative areas include Futian, Luohu, Nanshan, Yantian, Bao'an and Longgang.

Climate and Temperature

Shenzhen has a subtropical maritime climate with an altitude of 70 to 120 meters and an annual average temperature of 22.4 °C. Winter is the coldest season in Shenzhen, with temperatures reaching the lowest in the year and rare precipitation. The average maximum and minimum temperatures in Shenzhen are 38.7 °C and 4 °C, respectively, with an average rainfall of 1900 cm / year and $PM_{2.5}$ continually being recorded to be less than 10 μg / m^3.
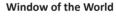
Tourism

China folk Culture Villages
Reference fare: 180 CNY per adult
Duration: 10:00am-9:00pm
Location: No.9003, Shennan Road, Nanshan District, Shenzhen

A theme park including two areas (Splendid China Miniature Park & China Folk Culture Village). The park's theme reflects the history, culture, art, ancient architecture, customs and habits of various various Chinese ethnicities in the country. It is one of the world's largest scenery parks in the amount of scenarios reproduced.

Window of the World
Reference fare: 220 CNY per adult
Duration: 9:00am-10:30pm
Location: No. 9037 Shennan Road, Nanshan District, Shenzhen

It has about 130 reproductions of some of the most famous tourist attractions in the world squeezed into 48 hectares (118 acres). The 108 meter (354 ft) tall Eiffel Tower dominates the skyline and the sight of the Pyramids and the Taj Mahal, all in proximity to each other are part of the appeal of this theme park.

Shenzhen Overseas Chinese Town East (OCT East)

Reference fare: 220 CNY per adult

Duration: 9:30am-5:30pm

Location: OCT East, Dameisha, Yantian District, Shenzhen

It is the first domestic large comprehensive national ecological tourism demonstration district integrating various themes, such as relaxation, vacation, sightseeing tour, outdoor sports and science popularization education. It mainly includes six parts, i.e. Knight Valley Eco Park, Tea Stream Valley Holiday Park, Wind Valley Sports Park, Theme Hotel Cluster and Tianlu Mansion, embodying the harmonious coexistence between human beings and the nature.

Lianhua Hill Park

Reference fare: free

Duration: Whole day

Location: No. 6030, Honglu Road, Futian District, Shenzhen

It mainly includes three parts, i.e. Kite Squar, Peach Flower Grove, Rainforest rivulet Valley. The natural and beautiful environment provides a good place for people to relax and enjoy art. Besides, you can get a glimpse of China's Great Man, Comrade DENG Xiaoping.

About DBAR

Digital Belt and Road Program (DBAR) is an international science program for the sustainable development of the Belt and Road Region (B&R) using Big Earth Data. DBAR pursue outstanding research and development questions relevant to attaining Sustainable Development Goals (SDGs) in B&R countries through a system of Foci that are categorized into two parts, one centralized on Big Earth Data, while other eight Foci encompass the social, environmental and technological aspects of different SDGs and are relevant to and addresses the sustainable development in B&R region. DBAR calls for international Science Technology and Innovation (STI) cooperation in support of SGDs at local, regional and national levels. Sustainable Development has been prioritized globally by worldwide adoption of the Sustainable Development Goals agenda during the 2015 UN session. By

Mission

●DBAR will build a plurality of partnerships engaging the public and the private sectors to design, develop and implement demonstration projects that illustrate the value of EOST and Big Earth Data applications for attaining sustainable development goals (SDGs)

●DBAR will promote technology transfer and capacity building to raise the overall levels of EOST and Big Earth Data expertise among countries within the B&R region by the year 2025

Objectives

●To address knowledge gaps in Earth system processes that constrain the attainment of the SDGs in the Belt and Road countries.

●To promote advanced science and decision support services to extract effective information from massive and diverse data from ever-growing volumes of Big Earth Data.

●To enhance capacity building and technology transfer towards a System of Partnerships and research networks.

The vision of DBAR is to advocate the integration of EOST and Big Earth Data applications in the design and planning of all development, environmental protection and resource management activities at local, national, regional and international scales undertaken within the B&R initiative by the year 2025.

Vision

Vision, Mission and Objectives of DBAR
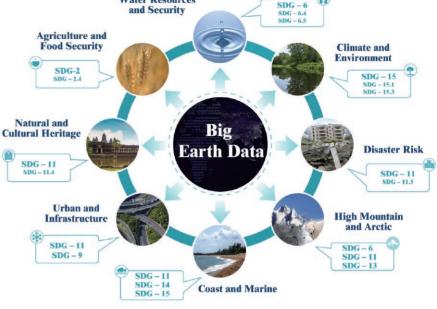
adopting SDGs, all countries committed to work, to the best of their ability, towards achieving 17 goals identified to ensure collective sustainable development across the globe. For each individual goal there are a set of targets that have to be achieved for a goal to be fully realized. These targets provide guidelines for policy making and streamline the process towards achieving SDGs. The extensive geographical scope of the B&R region requires smart uses and applications of "Big Earth Data" for environmental protection, disaster risk reduction, water resource management, urban planning, food security, coastal zone management, and conservation and sustainable use of natural and cultural heritage sites over the next few decades. The SDGs agenda also developed a framework to measure compliance of each individual target through a set of indicators identified in 2017 that can be used to measure the progress towards achieving each individual target. The DBAR Science Program will serve as a platform for the Belt and Road countries to develop projects and activities in various focus areas, identified in, and important for progress toward achieving the UN SDGs.

DBAR Workflow

DBAR Foci

Notes

Notes

Notes

Notes

Notes

Notes

Notes

Notes

Notes

Notes

Notes

Notes