SiDRR Silk Road Disaster Risk Reduction

International Conference on Silk-road Disaster Risk Reduction and Sustainable Development

Conference Handbook

May 11-12

Beijing CHINA

CONTENTS

Welcome Address

The International Conference on Silk-road Disaster Risk Reduction and Sustainable Development (SiDRR Conference) will be held in Beijing, P. R. China from May 11-12, 2019. On behalf of the Chinese Academy of Sciences, China Association for Science and Technology, United Nations Environment Programme, United Nations Office for Disaster Risk Reduction, Alliance of International Science Organizations and international scientific partners, the Organizing Committee and the Scientific Committee of the Conference, we warmly welcome the experts and researchers all over the world to come to Beijing and participate in this great event.

For centuries, the Silk Road has played an essential role in connecting the East and the West by serving as the conduit through which merchandise, science, technology and civilization have been shared and exchanged. However, climate change and disastrous geological activity, which include rapid tectonic uplift, and various natural hazards (e.g., earthquakes, landslides, floods, typhoons, tsunamis, etc.) threaten both the social development and livelihoods along the Silk Road. In response to this, the theme of the SiDRR Conference 2019 is “Towards Safe, Green, and Resilient Silk Road”. Centered on this theme, more than 20 sessions focusing on various topics have been organized by several international academic organizations and societies. About 700 participants, coming from over 40 countries/regions, are expected to attend this important event.

Beijing, the capital of China, harbors some of the world’s most modern architectures, infrastructures and technologies, well integrated with its time-honored histories, rich culture and unique traditions. From the Olympic “Bird’s Nest” stadium (China National Stadium) to the “Forbidden City”, from Tea Culture to silk cheongsam (Chinese traditional dress, Qi Pao), Beijing offers a wealth of treasures for you to discover.

It is our sincere hope that all participants would not only benefit from this meeting academically, but also gain first-hand experience of Chinese traditional culture.

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Chinese Academy of Sciences (CAS)

China Association for Science and Technology (CAST)

United Nations Environment Programme (UNEP)

United Nations Office for Disaster Risk Reduction (UNDRR)

Alliance of International Science Organizations (ANSO)

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

Xinjiang Institute of Ecology and Geography, Chinese Academy of Sciences

South China Sea Institute of Oceanology, Chinese Academy of Sciences

Institute of Earth Environment, Chinese Academy of Sciences

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China Association for Disaster Prevention (CADP)

Integrated Research on Disaster Risk (IRDR)

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Dunxin HU (Academician of Chinese Academy of Sciences; former Scientific Committee Member of International Geosphere Biosphere Programme; former Scientific Steering Committee Member of Joint Global Ocean Flux Study)

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Chack Fan LEE (Academician of Chinese Academy of Engineering; Academician of Canadian Academy of Engineering; Professor and former Pro-Vice-Chancellor of University of Hong Kong; Chairman of the Jao Tsung-I Academy)

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Changming LIU (Academician of Chinese Academy of Sciences; former Vice President of International Geographical Union; former scientific steering committee member of Global Water System Project)

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Jennifer MCKINLEY (President of International Association for Mathematical Geosciences (IAMG); Reader, Director of Research: Environmental Change and Resilience, Director of Centre for GIS and Geomatics, School of Natural and Built Environment, Queen’s University Belfast)

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Kyoji SASSA (Secretary General of International Consortium on Landslides; Professor Emeritus of Kyoto University; Editor-in-Chief of Landslides, Journal of the International Consortium on Landslides)

Rajib SHAW (former IRDR IPO Executive Director; Chair of UN Science Technology Advisory Group (STAG) for Disaster Risk Reduction; Co-chair of Asia Science Technology Academic Advisory Group (ASTAAG); Professor, Keio University, Japan)

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Jiulin SUN (Academician of Chinese Academy of Engineering; former Executive Committee Member of the World Data Centre, International Council of Scientific Unions; former Vice Chair of Natural Resources Information System Research Committee of China Society of Natural Resources)

Kuniyoshi TAKEUCHI (Professor Emeritus of University of Yamanashi, Japan; Chairperson of Inter-Governmental Council of UNESCO IHP for 1998-2000; President of IAHS for 2001-2005)

Paul TAPPONNIER (Academician of French Academy of Sciences; Academician of the National Academy of Sciences of the United States of America; Professor, Tectonics Group Leader, Earth of Observatory of Singapore, Nanyang Technological University)

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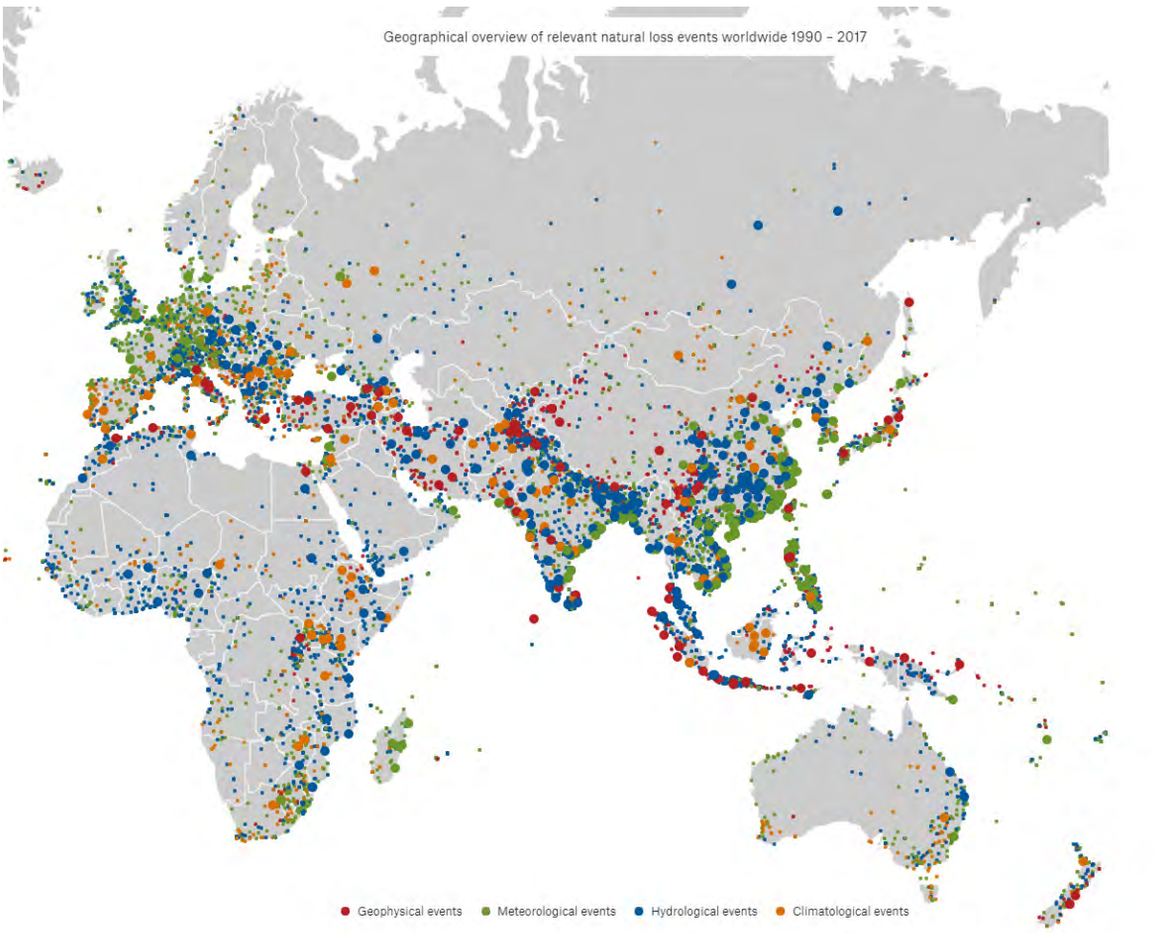
International Research Project of Silk-road Disaster Risk Reduction (SiDRR Project)

The Silk Road, which began and flourished during the Han Dynasty (202 BC-220 AD), crosses more than 70 countries and affects some 4.4 billion people (63% of the world). For centuries, the Silk Road has connected the East and the West, serving as the means through which nations and civilizations traded not only merchandise but also knowledge. However, frequent disastrous geologic activity such as rapid tectonic uplift, climate change, and various natural hazards (e.g., earthquakes, landslides, floods, typhoons, tsunamis, etc.) threaten both the social development and livelihoods along the Silk Road. Due to the lack of background information and efficient data sharing mechanism, as well as the absence of established scientific risk assessment methods and mitigation strategies, disaster risk reduction in the said area still continues to be a challenge.



Disaster events 1990-2017（Source: NatCatSERVICE of Munich RE）

The Sendai Framework for Disaster Risk Reduction and the Sustainable Development Goals 2030 has called for an urgent need to promote international cooperation in disaster risk reduction and sustainable development along the Silk Road. Resilience against natural hazards must be improved and an international platform for joint research and information sharing of the field is needed. In response, an international research program for the disaster risk reduction along the Silk Road (SiDRR) is being implemented under the leadership of Professor Peng CUI (academician of Chinese Academy of Sciences). The implementation of this program will enhance disaster prevention and will contribute to our ability to guarantee the security of livelihood of the affected countries.

Programme of SiDRR Conference

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Schedule of Plenary Lectures

Keynote Address ***May 11*** ***Room 3A***		
9:40-10:05	**Henrik SLOTTE** *Integrating environmental sustainability and disaster resilience in how we conceive infrastructure*	**Chairman:** **Zhisheng AN** **and** **Rajib SHAW**
10:05-10:30	**Mohammad Qasim JAN** *Natural hazards along KKH across Central Asian orogens, with emphasis on the transect in N Pakistan*	
10:30-10:55	**Kuniyoshi TAKEUCHI** *Climate change adaptation for flood-related disaster management in Japan*	
10:55-11:20	**Paul TAPPONNIER** *Continental Megathrust Paleo-Seismology: How to retrieve long earthquake sequences*	
11:20-11:45	**Kyoji SASSA** *Recent development and challenging task in landslide disaster risk reduction*	
11:45-12:10	**Peng CUI** *Silk Road: the disaster, risk and management*	
Silk-road Culture and Development Forum ***May 12*** ***Room 3A***		
9:10-10:00	**Chack Fan LEE** *The Belt and Road - historic outlines and future prospects*	**Chairman:** **Quansheng GE**
10:05-10:55	**Dadao LU** *The global concept of China and proposal on global governance*	
11:00-11:25	**Ying XU** *BeiDou and the Belt and Road*	**Chairman:** **Wei YANG**
11:30-11:55	**Yongchun ZHENG** *Major astronomical disasters faced by us and sustainable development of the earth*	
Keynote Address ***May 12*** ***Room 3A***		
13:30-13:50	**Yuntai CHEN** *Studies of recent significant earthquakes in "the Belt and Road"*	

13:50-14:10	**Philippe DE MAEYER** *Suitable methods for flood risk calculation*	**Chairman:** **Dunxin HU** **and** **Zhumataev M.S**
14:10-14:30	**Toshio YAMAGATA** *Oceanic and atmospheric heatwaves*	
14:30-14:50	**Deliang CHEN** *Why does the 1.5 C warming target matter to aridification?*	
14:50-15:00	**Coffee Break**	
15:00-15:20	**Alessandro PASUTO** *Landslide susceptibility mapping along the silk road economic belt*	**Chairman:** **Weijian ZHOU** **and** **Muhammad Asif KHAN**
15:20-15:40	**Rafig AZZAM** *Method to substitute threshold criterion of monitoring and early warning in geotechnical constructions*	
15:40-16:00	**Weidong LIU** *Joint construction of green silk road*	
16:00-16:20	**Charles W. W. NG** *Theories and mechanisms of sustainable and ecologically engineered slopes*	
16:20-16:30	**Xiaohong YANG** *Supporting disaster risk reduction and sustainable development through efficient communications and publications*	

Keynote Speakers

Profile:

Henrik SLOTTE was part of the original team that established the post-conflict expertise by United Nations Environment Programme (UNEP) following the 1999 Kosovo conflict. This expertise has since grown into a permanent part of the organisation and the Crisis Management Branch employs currently 140 international and local staff and experts, of whom 40 are based in Geneva. Field activities are currently implemented in Afghanistan, Haiti, Nepal, Nigeria, Sudan, and South Sudan. Following the UNEP reform and introduction of seven sub-programmes to reflect the priorities of the organisation, the expertise of the branch became the core of the 'Disasters and Conflicts' sub-programme.

Prior to joining the United Nations he worked for the Finnish Government as Chef de Cabinet for the Minister of Development Cooperation at the Ministry of Foreign Affairs. He also worked for ten years as a journalist both in his native Finland and abroad, including several years as EU-correspondent for the Finnish Broadcasting Company in Brussels, Belgium. He holds a Masters in Political Science from the University of Helsinki, and speaks English, French, Swedish and Finnish.

Keynotes title: *Integrating environmental sustainability and disaster resilience in how we conceive infrastructure*

Abstract:

The importance of sustainable and disaster/climate resilient infrastructure in achieving our global commitments: Sendai Framework, SDGs and Paris Agreement on Climate change, when discussing the Belt and Road Initiative. The Belt and Road Initiative could have a huge negative impact on both CO2 emissions and disaster risk unless conceived in a sustainable manner. CO2 emissions could be off-set but only if considerable effort is put into developing parallel green infrastructure, such as green belts along roadsides. What is sustainable and resilient infrastructure? Green / blue infrastructure – multiple benefits to livelihoods, Climate Change adaptation, and to disaster risk reduction. Sustainable infrastructure development can be promoted through risk-sensitive land use planning, including Master Plans which include hazard maps to identify areas where extra precautions are needed.

Key take away messages. Green infrastructure provides multiple benefits that grey infrastructure alone cannot, including contributing to off-setting carbon emissions and reducing disaster risks. The combination of green / grey infrastructure is complementary and offers a more sustainable and resilient approach than grey infrastructure alone. Technical solutions will not suffice – sustainable, safe and green infrastructure requires proper planning such as strategic environmental assessments and land use planning.

Profile:

Mohammad Qasim JAN is the President of Pakistan Academy of Sciences and the Vice President of Alliance of International Science Organizations (ANSO) in Belt & Road Region. Since joining Peshawar University in 1968 as faculty member, Dr. JAN focused his attention on the >25,000 km^2 area of Kohistan that was shown unmapped on the 1964 Geological Map of Pakistan. Over 45 years, he carried out extensive and intensive research on the geology, tectonics, mineralogy, petrology, and geochemistry of this inhospitable and difficult terrain. He also studied several gemstone occurrences in northern Pakistan and contributed to petrology of the Chagai-Raskoh magmatic arcs in Balochistan. Moreover, He remained engaged in the study of magmatism and metamorphism of some of the Indian plate rocks: 1) petrography and petrology of alkaline complexes of the Peshawar Plain, and 2) detailed investigation of the geology, petrography, petrology and geomorphology of the Neoproterozoic Nagar Parkar igneous complex of the southeastern Sindh. These studies resulted in over 300 publications in local and international journals and have contributed to (1) a better understanding of the geodynamic evolution of the northwest Himalaya-Kohistan-Karakoram-Hindukush region of Pakistan, (2) petrologic and tectonic evolution of the lower and middle continental crust in general and Kohistan magmatic arc in particular, with special emphasis on the Kamila amphibolites, and Chilas, Jijal and Sapat mafic-ultramafic complexes defining the middle and lower parts of the arc crust, (3) chemical mineralogy of chromite occurrences of Pakistan, (4) tectonic configuration of gemstones of northern Pakistan, (5) recent investigation related to neotectonics and earthquakes in northern Pakistan and Balochistan, (6) petrology of the Cretaceous-Tertiary Raskoh and Chagai magmatic arcs, (7) realization that the Proterozoic, A-type granitoids of Nagar Parkar are emplaced in a calc-alkaline island arc foundation and were followed by bimodal mafic-silicic magmatism, (8) publication of the seminal book on Geology and Tectonics of Pakistan (Kazmi and Jan 1997; 55 p.), (9) production of the first reconnaissance geological map of northern Pakistan (Tahirkheli and Jan 1980), (10) compilation of annotated geological bibliography of northern Pakistan (up to 2002), and (11) provision of a broad data base useful in research, planning, and mineral industry.

Keynotes title: *Natural hazards along KKH across Central Asian orogens, with emphasis on the transect in N Pakistan*

Abstract:

The 1300 km long Karakoram Highway (KKH), connecting Kashi in western China with Hasan Abdal in northern Pakistan, opened to public in 1979. One of the highest paved road, it attains an elevation of 4714 m at the Khunjerab Pass. Considered as 8th Wonder of the World, the KKH crosses some of the loftiest mountains-NW Himalaya, Kohistan range, Karakoram, Hindukush, and runs on the east of the Pamirs.

The Karakoram-Himalaya region is geologically complex; on-going northward drift of the Indian plate and collision with Asian plate accompanied a complex interplay of suture zones, active tectonics, fold-and-thrust belts, magmatism, metamorphism, fast uplift and rapid denudation. Nanga Parbat has the fastest uplift rate in the world. Karakoram is also the most glaciated area of the world outside the polar region. There are 887 glacial lakes, of which 16 can potentially lead to GLOF. Therefore, the region is characterized by the recurrence of natural hazards of moderate to high intensity associated with earthquakes, active faults, slope instability, mass movement and debris flow, glaciers-related hazards, and floods of various type, including GLOF. Geomorphological studies show that damming of the Indus and its tributaries because of landslides, avalanches, floods and glacial surges has been going on for a protracted period.

In view of the multi-dimensional developmental project, the China-Pakistan Economic Corridor, the KKH has gained additional importance. It would connect with the southwestern port of Pakistan (Gwadar) and widened to 30 meters. Therefore, the continuity of traffic along the KKH is of paramount importance for the success of Belt and Road Initiative of China. In this presentation, we give a summary of the type of natural hazards that have been affecting northern Pakistan, and suggest that collaborative partnerships between scientists, international organizations, and various stake holders (from local to federal governments, NGO's, citizens) are needed to minimize the damage that accompanies natural cataclysms.

Profile:

Kuniyoshi TAKEUCHI is Professor Emeritus of University of Yamanashi, Kofu, Japan where he taught hydrology and water resources for 30 years till 2007. He served as the founding director (2006-2014) and later an advisor (2014-2017) of International Centre for Water Hazard and Risk Management (ICHARM) under the auspices of UNESCO, Tsukuba, Japan. He got his BS (1966), MS (1968) and later Dr.Eng. (1982) in civil engineering at University of Tokyo, and Ph.D. (1972) in city and regional planning at University of North Carolina. He has been specialized in surface hydrology, water resource systems and disaster management. His current interest includes, inter alia, transdisciplinary approach for scientific decision making for building societal resilience to disasters. He served for various professional offices including the chairperson of Inter-Governmental Council of UNESCO IHP for 1998-2000, the president of IAHS for 2001-2005, the chair of IUGG Commission for Geophysical Risk and Sustainability for 2007-2015, a vice chair of Science Committee of ICSU-ISSC-UNISDR Integrated Research on Disaster Risk (IRDR) for 2009-2015. He is a recipient of several professional awards including Japan Society of Hydrology and Water Resources (JSHWR) Distinguished Achievement Award (2000) and IAHS-UNESCO-WMO International Hydrology Prize (2012).

Keynotes title: *Climate change adaptation for flood-related disaster management in Japan*

Abstract:

Japan has been experiencing severe hydro-meteorological hazards and devastating disasters one after another all over Japan especially after the turn of the century. Responding to such extreme hazards, Japanese government revised the policy saying the new stage had come in 2015 and amended the flood risk management act in 2017 ordering the revision of hazard maps all over Japan including small local basins.

The new water-related hazard maps have been drawn considering the worst-case precipitation using so-called the anticipated maximum scale precipitation (AMSP). Although Japan has been carrying out extensive climate change studied for decades, the selected methodology to identify the AMSP was not the climate change projections but the use of ground observations. The methodology assumes the maximum precipitation recorded anywhere in a region may happen to anywhere else in the same region. Fifteen such classified regions were identified covering the whole Japan and the AMSP was identified in the form of the DAD curves.

The floods and landslides hazard maps are then produced based on the AMSP and other necessary information is added to help voluntary evacuation with public support. The reliability on ground observations over GCM based climate change projections is an important judgement made in Japan and may be instructive to silk-road countries for their climate change adaptation.

Profile:
Distinguished Research Professor, Institute of Crustal Dynamics,
China Earthquake Administration
Foreign associate Member of the National Academy of Science (USA), 2005
Member of the French Academy of Sciences, 2005 (Corresponding member since 1994)
Paul TAPPONNIER is one of the foremost scientists of his generation in neotectonics. His discovery of active faults in and around Tibet that are accommodating the collision of India into Asia revolutionized the scientific understanding of Asia's tectonics. His research provided a consistent model of large-scale crustal deformation processes between the Himalayas and Baykal, all the way to the East China Sea. The model was subsequently extended to include most of Southeast Asia, based on innovative analog experiments. In combination with his studies in Mediterranean Sea, his work confirms that propagation of new faults over hundreds of kilometers is an essential element of continental tectonics.Prof. Tapponnier pioneered the use of satellite imagery to study large-scale tectonics, which set the standard for modern methods of tectonic research. He has published more than 200 journal papers

Keynotes title: *Continental Megathrust Paleo-Seismology: How to retrieve long earthquake sequences*
Abstract:
For the past 40 years or so, trenching has been the paramount technique in Paleo-Seismology. It has been particularly successful along strike-slip faults across which, in fairly shallow excavations, sequences of more than 10 large events can be documented due to minimal vertical slip components. It has also been useful across normal faults, where the deepening footwalls commonly provide good depositional traps full of easily datable successions of post-seismic sediments.
But it has been far less instructive across Thrust Faults, due to limited footwall subsidence and near-surface hanging-wall folding/collapse (e.g., El-Asnam, Algeria, 1980; Spitack, Armenia, 1988: Chi-Chi, Taiwan, 1999; Muzaffarabad, Pakistan, 2005, etc). Typically, the number of paleo-events identified in trenches across thrusts rarely exceeds 2. Across megathrusts, where individual great earthquakes can produce 15-20 and 5-7 m of slip and vertical throw, respectively, trenching becomes an almost fruitless approach, even with the use of civil-engineering drilling techniques.
This has hindered elucidating the history of great earthquakes along most large thrusts, particularly the Main Himalayan Frontal Thrust (MFT). Specifically, trenches across the MFT have rarely exposed more than one large event. The latest 4 historical Himalayan mega-quakes were long deemed to have been blind. And due to inherent uncertainties, 14C dates in trenches hundreds of kilometers apart have been audaciously linked to single events, and hence inferred to attest to single-event co-seismic ruptures more than 600-900 km long!
Recently, however, a new approach based on detailed, high-resolution mapping/dating of co-seismic surface deformation due to great earthquakes (M 8+) along large strike-faults has been successful as an alternative paleo-seismological tool. In China, for instance, it has enabled reliable recovery of up to 6/7 ancient events on the Fuyun, Len-Long-Ling, Haiyuan, and Tianjingshan faults.
Using that same quantitative surface geomorphic approach, we are testing the potential of fluvial terrace uplift in the hanging-wall of the Himalayan Main Frontal Thrust (MFT) to record repetitive co-seismic throw during great earthquakes.
The detailed analysis of a high-resolution (~ 4 points/m2), 100 km-long Airborne Lidar swath dataset following the Mega-thrust makes it possible to assess the topographic effects of surface faulting with unparalleled and regionally homogeneous precision (< 0.5 m).
At 7 different sites along the Siwalik front in western Nepal, 5 to 7 distinct terrace surfaces appear to have been successively uplifted, each by 5 to 8 meters, to maximum heights of 45/55 m above present-day riverbeds. This implies the occurrence of 5-7 great earthquakes with average co-seismic throws of ~ 6.5±1.5m depending on local thrust dip (20-40). Radiocarbon and cosmogenic 10Be dating of the terraces suggest that great MFT earthquakes with near-characteristic slip returned every ~ 700-800 years, on average, during the last ~ 4200 years.
In Assam, around and across the East Himalayan Syntaxis, that same "above-ground" approach helps resolve long-lasting quandaries on the source and repeat time of events comparable to the great, M ≈ 8.7, 1950 earthquake. It helps define the complex spatial extent of the hitherto unknown 1950 surface rupture along the nearly orthogonal Abor and Mishmi range-fronts. It also helps document the existence of a comparably great event more than 1500 years earlier. An exploratory use of the technique in Uttarakhand also yields promising results concerning the average millennial return time (≈ 1300 yrs) of giant events similar to the 1505, M≈ 8.8+, Mega-Quake.
Clearly, such studies comfort the idea that large-scale, high-resolution Lidar topographic surveys and accurate dating of uplifted hanging-wall terraces may provide the most promising, alternative way to elucidate the Holocene, long-term history of thrust mega-quakes, and hence supersede trenching as the technique of choice in "continental megathrust paleo-seismology".

Profile:

Kyoji SASSA is one of the most well-known researchers in the field of Landslides, and the founding president of the International Consortium on Landslides (ICL) established in 2002, and contributed to the development of the ICL as President, Executive Director, and Secretary General. He founded the first full color scientific international journal "Landslides: Journal of International Consortium on Landslides" in 2004 and has contributed as Editor-in-Chief until the present. This journal has taken the main role to establish "Landslide Science" as a common base of all landslide researcher in the world. Its Impact Factor (IF) is 3.811 (as of 2017), which is a successful scientific achievement.

He obtained his Bachelor, Master and Doctor degrees at Kyoto University, and worked as Research Assistant, Associate Professor, full Professor and the Director of the Research Centre on Landslides of the Disaster Prevention Research Institute, Kyoto University. As a Professor and a Professor Emeritus, he contributed to education in Kyoto University and ICL and also as a part of the international activities of UNESCO-Kyoto University-ICL UNITWIN (University Twinning and Networking) Cooperation Programme "Landslide Risk Mitigation for Society and the Environment".

Dr. Sassa has devoted his career for the development of Landslide Dynamics which is a new scientific field for landslide hazard assessment. The most important factor to assess the landslide motion is the pore water pressure during the initiation and the motion of landslides triggered by rainfalls, earthquakes or both. He firstly developed the undrained ring-shear apparatus including dynamic loading system and pore pressure monitoring system. This apparatus enabled to elucidate the landslide dynamics with measured parameters. Based on this physical testing tools, he developed the integrated model of the landslide initiation and motion by inputting landslide dynamic parameters of involved soils. Both developments made the landslide hazard assessment technologies feasible for application. The scientific research and technology is as a core part of "Landslide Dynamics: ISDR-ICL Landslide Interactive Teaching Tools" published in 2018.

Dr. Kyoji Sassa lead a new interdisciplinary study between geoscience and cultural science by his work under IGCP-425 "Landslide Hazard Assessment and Cultural Heritage" 1998-2004. He succeeded to identify the risk of large-scale landslide and its disaster by detailed slope deformation monitoring using a series of long-span extensometers across the slope at the cultural heritage of Tang Dynasty (A.D. 618-907) in Xian, China and at the Inca's World Heritage Machu Picchu. His research opened the way of Geoscientists contribute for the protection of cultural heritage.

His recent contribution to the society is the establishment of ISDR-ICL Sendai Partnerships for Understanding and Reducing Landslide Disaster Risk 2015-2025, a voluntary commitment to the Sendai Framework for Disaster Risk Reduction (SFDRR 2015-2030) and also the Sustainable Development Goals. It was signed by five UN organizations, global NGOs, some governments, IUGS as well as IUGG.

Keynotes title: *Recent development and challenging task in landslide disaster risk reduction*

Abstract:

Recent development and challenging task in landslide disaster risk reduction for silk-road disaster risk reduction and sustainable development is presented in this lecture. Firstly, the Japan-China Joint landslide hazard assessment study in Lishan Resort Palace of Tang Dynasty in Xian, China as a part of IDNDR (International Decade for Natural Disaster Risk Reduction) was reported. Xian is the start point of the Silk Road and also 1997 Xian Symposium was the starting point of the International Consortium on Landslides (ICL) and challenging task in landslide disaster risk reduction by developing a new Landslide Ring-Shear Simulator and new integrated landslide simulation models for rapid landslides (LS-RAPID) and Landslide induced tsunami (LS-TSUNAMI).

Profile:

Institute of Mountain Hazards and Environment, Chinese Academy of Sciences (CAS)

Academician (Member) of the Chinese Academy of Sciences

Peng CUI, an academician of Chinese Academy of Science, is an eminent expert in physical geography and disaster risk reduction. He is a Science Committee Member of IRDR of ISC/UNDRR and the Chinese Society of Soil and Water Conservation. He currently leads an international research program of Silk Road Disaster Risk Reduction (SiDRR) which is supported by CAS for the regional and global actions on disaster risk reduction and sustainable development. His research interests involve geo-hazards, erosion and sediment yield, fluvial geomorphology. He has obtained acknowledged achievements in debris-flow mechanism and earthquake-induced Hydrogeological hazard and developed a series of risk reduction technologies. He has been long devoted to disaster risk reduction both in China and abroad. The mitigation techniques have been successfully applied to the mega debris-flow event in Venezuela, the large dammed lake in Pakistan, the earthquake in Nepal and the geo-hazards along the Karakoram Highway in Pakistan. He has published more than 300 journal papers, obtained 20 patents of disaster mitigation technology, and won 'the Distinguished Researcher Award' of WASWAC.

Keynotes title: *Silk Road: Disaster, Risk and Management*

Abstract:

The concept of the Silk Road has evolved as the modern Silk Road which covers over 120 countries and 4.4 billion population. However, due to the complex geological and morphological settings and with the increasing number of extreme weathers under global warming, disasters have shown a clear trend of escalating in magnitude and frequency. They have caused great negative impact on social and economic development, especially in the less developed countries along the Silk Road. Share the vision of the three UN landmark agreements (Sendai Framework on DRR 2015-2030, SDG 2030 and Paris Agreement 2015), it is essential to understand the disaster, to identify disaster risk and to plan risk management strategy. SiDRR was designed and launched in 2016 as an international science and technology research program dealing with natural hazards and sustainable development for countries along the Silk Road. This presentation will illustrate a comprehensive disaster risk management scheme from SiDRR which include the study of disaster mechanism and risk analysis method, develop disaster monitoring and early warning system, follow by disaster mitigation and relief technology and post-disaster reconstruction. In addition, the new scientific challenges of disaster risk reduction at the Silk Road region under climate change and their coping strategies are elaborated. At last, all the research findings from SiDRR are consolidated in the Atlas of Silk Road Disaster Risk and Glance at Silk Road Disaster Risk which aim to help enhance the disaster resilience of Silk Road countries and support the sustainable development of Silk Road.

Profile:

Academician of Chinese Academy of Sciences, Geophysicist

Dean, School of Earth and Space Sciences

Vice Chairman, Consultative Committee of CAS

Professor and Honorary Director, Institute of Geophysics, China Earthquake Administration

Yuntai Chen was the Vice-Chairman of the Federation of Digital broadband Seismograph Network (FDSN) in 1989-1991. He was a member of the Editorial Board of the Pure and Applied Geophysics (PAGEOPH) from 1986-1999 and is currently the member of the Editorial Board of the Journal of Seismology (JOSE). From 1995 to 2002, he served as the member of the Board of the UNESCO-IGCP Project "Seismic Ground Motion in Large Urban Areas". Presently, he is a Bureau Member of the International Union of Geodesy and Geophysics (IUGG) and a Bureau Member of the Asia Oceania Geosciences Society (AOGS) and President of the Solid-Earth Section, AOGS.

During his scientific career Prof. Yun-tai Chen has published over 170 research papers. He has also co-published textbook in geophysics which has been the standard textbook in geophysics for more than 20 years in China. He served as the Editor-in-Chief of the Acta Seismologica Sinica (both Chinese and English editions) from 1986 to date, the Associate Editor-in-Chief of the Acta Geophysica Sinica, the member of the Editorial Board of Chinese Sciences and Science Bulletin, among others.

As a result of his scientific achievements, Prof. Yun-tai Chen has received several awards. In 1978, he received the Award of National Sciences Congress of China. In 1987 he received the Third Class Award of National Natural Sciences of China. In 1998 he received the Third Class Award of Progress of Science and Technology of China. He also received several Awards of Progress of Science and Technology of the State Seismological Bureau, three Second Classes in 1983, 1983, 1988 and one First Class in 1998. In 1986, he was appointed as National Distinguished Scientist by the National Science and Technology Commission of China. In 1987, he received a medal from Grand

Keynotes title: *Studies of Recent Significant Earthquakes in "the Belt and Road"*

Abstract:

In this article we present the studies of some of the recent significant earthquakes in the "Belt ant Road". These earthquakes included the April 2010 M_W6.9 Yushu, Qinghai, earthquake; January 2011 M_W7.1 Southwestern Pakistan earthquake; October 2011 M_W 7.3 Eastern Turkey earthquake; April 2013 M_W 7.7 Khash, Iran, earthquake; April 2015 M_W7.9 and May 2015 M_W7.2 Nepal, earthquakes, among the others. Based on the methods we have developed in the past two decades in analysis of the teleseismic and geodetic data for retrieval of earthquake rupture process, we have performed fast and routine determination of the earthquake rupture process for these earthquakes, and the results obtained are timely reported to the authorities and released to the public on the web site. It is shown that the knowledge obtained from these studies has much improved our understanding of the complexities of the earthquake source process and causative mechanism of the seismic disaster, and is of important reference value in seismic disaster mitigation such as earthquake emergency response.

Profile:

Philippe DE MAEYER is senior full professor in cartography and GIS and head of Geography Department in Ghent University, Belgium. Internationally well recognised expert on quality control and management of map and geoinformation products. He is also full memberof the Royal Academy of Overseas Sciences of Belgium. He chaired of the National Committee of Mapping and the National Committee Geography from 2011 – 2018 and chaired the Commission Earth Sciences of the Fonds voor Wetenschappelijk Onderzoek FWO (The Research Foundation - Flanders). He is also Chair of the Scientific Council of the National Geographic Institute since 2007. Experienced on teaching and research on cartography and GIS.

Themes of his research include GI and cartographic production and management, geo-spatial data acquisition and modelling, temporal dimension of geospatial data, map semiology, 3D and 4D GIS, online digital atlas, cartography for and of World Heritage, historical cartography and history of Cartography, application and mapping and geoinformation technology on risk calculation and modelling.

Keynotes title: *Suitable methods for flood risk calculation*

Abstract:

Flood risk is the combination of the probability that a flood occurs (and, if applicable, the way in which one can protect itself against floods) and the magnitude of the consequences if flood occurs.

Depending on the circumstances, people may be interested in the economic risk calculation, in the potential victim calculation, in the social impact, but also in the cultural or ecological impact of a flood.

The best possible valuation of the risks is an important tool for determining priority protection works to be realized for reducing the probability of flooding, but it is also an important tool to assess the different impacts on flood in function of different climate change assumptions.

Depending on the density and type of the land use, different approaches are possible, but the choice of the used methodology is also strongly influenced by the availability of socio-economic data, and - in case of ecological or cultural risk calculation - also of the appropriate value indicators. If the proposed indicators are not always (publicly) available, the use of indirect parameters can be a useful addition. The context, country and regulations with regard to the public nature of data will therefore play a role in the choice of the method used.

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Profile:

FRPGC Program Director for IPRC

Program Director of Climate Variations Research, Frontier Research Program for Global Change, JAMSTEC

Professor, Department of Earth and Planetary Science, Graduate School of Science, The University of Tokyo

Toshio YAMAGATA, after graduating from the Geophysics Department of the University of Tokyo in 1971, received his Doctor of Science in 1977 from the same university. His research has focused on large-scale dynamical processes of the oceans and the atmosphere using both simple and sophisticated models. He has received numerous awards and recognitions including the Burr Steinbach Visiting Scholar of Woods Hole Oceanographic Institution, the Society Award of the Meteorological Society of Japan and the Society Award of the Oceanographic Society of Japan. He has served since 1995 as Professor at Department of Earth and Planetary Science of the University of Tokyo. He is affiliated with the Frontier Research System for Global Change as charter program director of both Climate Variations Research Program and International Pacific Research Center.

Keynotes title: *Oceanic and atmospheric heatwaves*

Abstract:

In summer of 2018, the Japanese islands were attacked by the amazing atmospheric heatwaves. This seems to be related to the Indian Ocean Dipole through the monsoon-desert mechanism and the silk road pattern across the Eurasian Continent. Similar atmospheric heatwaves attacked the Japanese islands in 1994 and the search of its origin led us to discovery of the Indian Ocean Dipole. In summer of 2004, despite the claim of El Niño by operational meteorological agencies, heatwaves attacked the Japanese islands again. This led us to discovery of the El Niño Modoki. The summer condition in 2018 looks similar to those in 1994 and 2004. Yoshida (1959) pointed out the similarity between coastal dynamics and equatorial dynamics. Based on the suggestion, we have recently found coastal climate modes generating regional heatwaves such as California Niño, Ningaloo Niño and Dakar Niño. We discuss those basin-wide as well as regional oceanic and atmospheric heatwaves and their impacts.

Profile:

Deliang CHEN is a world renowned climate researcher and elected member of six leading Academies in the world including the Royal Swedish Academy of Sciences and Chinese Academy of Sciences, He has served on numerous international and national committees and boards, as well as advised various governmental, intergovernmental, and international non-governmental bodies including funding agencies. Recent examples include: chair of the Nomination Committee of the Stockholm Water Prize; member of the Science Committee of the VOLVO Environment Prize; Chair of the Earth Science Division of the Royal Swedish Academy of Sciences; and member of the Board of Stockholm Resilience Centre as well as Bolin Centre External Science Advisory Group. He also acts as a Coordinating Lead Author in Working Group I of the IPCC's sixth assessment report, and serves as an editor for several international scientific journals.

Keynotes title: *Why does the 1.5 C warming target matter to aridification?*

Abstract:

The Paris Agreement had almost 200 nations committed to keep the rise in global temperatures to "well below" 2 degrees Celsius above pre-industrial levels and to strive for a more ambitious goal of 1.5 degrees. This 0.5 degree difference seems to be small, but what it means for people and natural ecosystems can be significant.

This talk looks at the issue for human with a disaster and risk lens. Changes in environment in which people live represent a critical factor for human well-being and migration. Climate change has been and will be an important part of environmental changes. We know that both gradual climate change such as global warming and slow- or sudden onset natural disasters like drought influence population migration patterns but in different ways. This talk focuses on risks associated with aridification/desertification and reduced fresh water resources under climate change. The implications of these changes in terms of the land area and human populations affected, depending on the global climate warming targets, will be compared. The comparison shows that limiting global warming to under 1.5C would dramatically reduce the fraction of the Earth's surface (and thus human population) that experience aridification/desertification in the coming decades.

Profile:

Alessandro PASUTO: Research Director at the Research Institute for Geo-Hydrological Protection of the National Research Council of Italy (CNR) and head of the Padova Unit. His research activity is mainly devoted to applied geology and geomorphology as well as landslide hazard and risk assessment and management. He is consultant for the Nation Dept. of Civil Protection in case of emergencies. Since 1990 he is involved in EU funded research projects and conduct research activities in many countries worldwide (e.g., Japan, China, Argentina, Svalbard Islands, Malta), in 2015 he was co-founder of the Sino Italian Laboratory of Geological and Hydrological Hazards based in Chengdu and Sponsored by CAS and CNR. He is member of the European Landslide Expert Group and of the Executive Committee of CERG (European Centre on Geomorphological Risks). In 2019 he was appointed President of the CNR Padova Research Area. He was author of more than 200 papers mainly published in international scientific journals.

Keynotes title: *Landslide susceptibility mapping along the silk road economic belt*

Abstract:

The Silk Road Disaster Risk Reduction (SiDRR), launched by the Chinese Academy of Sciences, is one of the prioritized projects within the Belt and Road Initiative (BRI) launched by the Chinese Government in 2013. The main aim of such project is to investigate landslide susceptibility in the countries involved into the BRI, understand the landslides evolution and carry out prevention and mitigation measures (Lei et al., 2018). Moreover, a support in spatial planning of the BRI infrastructures will be provided.

Being the area to be investigated extremely large, it is mandatory to proceed by successive phases, gradually increasing the details and the scale of the analysis. The first phase of the project is therefore to evaluate the susceptibility to landsliding of the countries crossed by the Silk Road Economic Belt by means of a multi-scale susceptibility assessment based on a bivariate statistical technique.

In doing so the 'Tiers' multi-scale approach was adopted (Günther et al. 2013). Starting from the whole study area, and thus from the smallest scale of the assessment (Tier 1), the first phase of the analysis exploits low-resolution data, providing an overview of the main object to investigated and delineating the priorities among the most susceptible regions which will be analyzed in details during the second phase (Tier 2).

In this framework the Tier 1 analysis results will be presented. The study area includes almost the entire Eurasia continent bounding the tracks expected within the Silk Road Economic Belt. Fig. 1 shows the results of the South-Silk Road Economic Belt. The analysis was based on the well-known Weights of Evidence (WoE) modeling technique (Agterberg et al., 1989). The WoE matches perfectly with the focus of this research providing an objective, quantitative, clear and reproducible method. This research is as operative as the BRI and innovative in threating such large area.

The bivariate statistical approach reproduces the spatial combination of factors responsible for past landslide events with which it forecasts future scenarios. The analysis was based on a landslide inventory and few causal factors: slope angle, elevation, lithology and land cover. The resultant Landslide Susceptibility Index (LSI) was categorized into 5 different susceptibility levels: very low, low, moderate, high, very high (Guzzetti et al., 2006).

The heterogeneity of the available regional datasets and the absence of transboundary coordination measures between the 65 countries involved (Cui et al., 2017), represented the most relevant constraint for the project with obvious difficulties in the landslide inventories collection.

However, the Tier 1 landslide susceptibility mapping was processed and the LSI classified according to the evaluation of the ROC (Receiver Operating Characteristic) curve. The results so far obtained is quite encouraging since the predictive capacity of the continental-scale map was estimated by a AUC value ranging between 0.7-0.8.

On the most susceptible regions highlighted by the Tier 1 assessment, which intersect the Silk Road infrastructure, the Tier 2 landslide susceptibility assessment will be conducted during the next phase of research in order to highlight the "hot spots" in which the investigation should be deepened with the aim of proposing sustainable mitigation measure for landslide risk reduction.

Profile:

Rafig AZZAM With more than 35 years of academic experience to his credit, Dr. Azzam has been recognized as a professor emeritus with RWTH Aachen University since 2017 and the academic director of the Sino-German Center for Geohazards at North China University for Water Resources and Electric Power since 2018. Prior to this appointment, he was the president of the German National Association of Engineering Geology from 2009 to 2017, the vice president of the International Association of Engineering Geology (IAEG) from 2015 to 2018, the head of the Department of Engineering Geology and Hydrogeology at RWTH Aachen University from 2002 to 2017, and as professor for RWTH Aachen University from 2002 to 2017. Previously, he served the Department of Engineering Geology and Environmental Geotechnics at TU Bergakademie Freiberg as a professor and department head from 1993 to 2002.

AWARDS

In 2015 Award of the government of Zhejiang Province, China “Thousand Talent Foreign Experts”

In April 2008 awarded with honorary doctorate of the University of Shanghai for Science and Technology (USST).

Recognized for Excellence by Who’s Who International Organization since 1999

In 2009 the department has been awarded the prize of the German government and industry “Germany Land of Ideas”

In 1984 awarded with “Borchers Medaille” of the RWRH University of Aachen

Keynotes title: *Method to substitute threshold criterion of monitoring and early warning in geotechnical constructions*

Abstract:

Geohazards, like landslides in soil and rock, which are induced by rainfall, flooding, earthquakes and human activity, are dramatically increasing worldwide. Apart from socio-economic factors, like increasing population and concentrations of settlements on endangered areas, extreme weather conditions are the main reasons for this ascent.

Hence, an effective monitoring and early warning system and an appropriate safety evaluation method are needed in the management of geohazards.

Apart from the detection of direct deformations caused for example by landslide movements, the systems shall also allow the monitoring of indirect deformations on buildings and constructions, like bridge, dams, retaining walls etc.

However up today criteria for alarms in geo-management focus on threshold evaluation of a certain parameter.

But what does it mean if we measure a certain deformation, does it mean that the slope will fail, and when it would fail?

How do we know that the measured deformation is dangerous?

If we give always false alarms, would the people trust us after a while?

Do we have other options to deal with this problem?

Profile:

Weidong LIU is a Professor in Economic Geography, Assistant Director, and Chair of the Center for the Belt and Road Initiative, Institute of Geographical Sciences and Natural Resources Research, Chinese Academy of Sciences. He is a key consultant to China National Development and Reform Commission on the Belt and Road Initiative (BRI) as well as on the Western Region Development Strategy of China. He holds many academic positions, such as board member of the Geographical Society of China (GSC) and chair of the Branch on the BRI of GSC, China Ambassador of Regional Studies Association (RSA) and chair of RSA China Division, general editor on Economic Geography and Regional Development of Wiley-AAG International Encyclopedia of Geography, managing editor of Area Development and Policy (a RSA journal), and advisory/editorial board member of Progress in Human Geography, Contemporary Social Science, Eurasian Geography and Economics, and Asian Geographer. He is a winner of China National Science Fund for Distinguished Young Scholars (2011), and National Outstanding Young Expert (2014). His interest of study includes regional development and regional policy, FDI, Multinational Corporation, GPN, automobile industry, new ICTs, and carbon emission and low carbon economy. In the last five years, he has focused on studies of the BRI, providing supports to NDRC for making BRI planning.

Keynotes title: *Joint construction of green silk road*

Abstract:

Prof. Weidong Liu will give a plenary talk on the BRI, namely "*Joint Construction of Green Silk Roads: Social, economic and environmental context*". The BRI is a new platform for international cooperation, which was put forward by the Chinese government but has been recognized by, and secured the involvement of, more and more countries in the world. To a large extent, it represents new thinking and a new model of global economic governance for the post financial crisis era, as well as a new direction for the reform of economic globalization and development. At present, the BRI has attracted 131 countries and 30 international organizations to join. However, the tremendous size and quick realization of BRI have caused a lot of concerns about its environmental impacts. Against this background as well as others, the Chinese government has called for a high quality development of the BRI, which includes building a Green Silk Road. In his talk, Prof. Liu will firstly give a brief introduction to the BRI and its progress, and then try to delineate a general picture of the area along the Silk Roads. Secondly, he will discuss major environmental and ecological issues faced by the construction of the BRI. Lastly, he will argue that the construction of a Green Silk Road is not only the inevitable requirement for achieving 2030 SGDs and an expectation of the international community, but also a matter of the overseas implementation and practice of China's own concept of green development, and call for joint efforts to explore scientific solutions to building a Green Silk Road.

Profile:

Charles W. W. NG is currently the CLP Holdings Professor of Sustainability, Chair Professor in the Department of Civil and Environmental Engineering and Associate Vice-President for Research and Development at the Hong Kong University of Science and Technology (HKUST). He is the President of International Society for Soil Mechanics and Geotechnical Engineering (2017-2021).

Professor Ng earned his PhD degree from the University of Bristol, UK in 1993. After carrying out a period of post-doctoral research at the University of Cambridge between 1993 and 1995, he returned to Hong Kong and joined HKUST as Assistant Professor in 1995 and rose through the ranks to become Chair Professor in 2011.

Professor Ng was elected an Overseas Fellow from Churchill College, Cambridge University, in 2005 and was also elected as a Changjiang Scholar (Chair Professor in Geotechnical Engineering) by the Ministry of Education in China in 2010. He is Fellow of the Institution of Civil Engineers, the American Society of Civil Engineers, the Hong Kong Institution of Engineers and the Hong Kong Academy of Engineering Sciences. Currently, he is an Associate Editor of the Canadian Geotechnical Journal.

Professor Ng has published some 320 SCI journal articles and 250 conference papers and delivered more than 50 keynotes and state-of-the-art reports in 6 continents. He is the main author of two reference books: (i) Soil-structure Engineering of Deep Foundations, Excavations and Tunnels by Thomas Telford, (ii) Advanced Unsaturated Soil Mechanics and Engineering, and (iii) Plant-Soil slope Interaction by Taylor & Francis. He has received many awards including the 2017 Telford Premium Prize from the Institution of Civil Engineers, UK, the Henry Adams Award from the Institution of Structural Engineers, UK, the first Tan Swan Beng Award from the Southeast Asian Geotechnical Society, and the R. M. Quigley Award from the Canadian Geotechnical Society three times for his three best papers published in 2007, 2012 & 2016.

Keynotes title: *Theories and mechanisms of sustainable and ecologically engineered slopes*

Abstract:

Plants are sophisticated and intelligent natural construction materials. They were in ancient China to reinforce earthen retaining walls for military purposes over two thousand years ago. Not only can plant roots provide mechanical reinforcement, they can also induce soil suction via evapotranspiration (hydrological effects) to increase soil shear strength and to reduce water permeability for minimizing rainfall infiltration in the ground. Almost all previous applications have mainly focused on the mechanical contributions of roots, while the hydrological effects and contributions of plants to slope stability are often ignored. The hydrological effects refer to an increase of soil shear strength and a reduction of water permeability induced by the transpiration of plants. A multi-disciplinary research team led by the author has carried out to investigate the mechanisms of atmosphere-plant-soil interactions, based on the advanced theories of unsaturated soil and plant characteristics. In this keynote, advanced unsaturated soil mechanics relevant to ecological engineering and slope stability will be introduced. Moreover, an all-round, inter-disciplinary research program will be presented. The inter-disciplinary research program consists of indoor and field experiments, novel centrifuge testing and theoretical analysis to examine the plant hydrological and mechanical effects on slope stability. Key findings from this program will be revealed and explained. Design implications will be highlighted and discussed.

Profile:

Xiaohong YANG is Springer Nature's Scientific Director for Greater China and an Executive Editor for the Nature Research journals since October, 2018. Prior to joining Springer Nature, she worked for 10 years at Cell Press in various capacities such as concurrent roles of Editorial Development Advisor for Cell Press (Greater China focus), Deputy Editor for *Cancer Cell*, Acting Deputy Editor for *Cell*, and Publisher for *Molecular Plant*. During her editorial and publishing career, she has organized and spoken at a number of high-profile international events and been featured in major news media. She has also worked tirelessly and made significant contributions in supporting original, innovative, and high-quality research from China, fostering mutual understanding and collaboration between the research communities of China and the rest of the world, and promoting international visibility of research and researchers from China. She started her undergraduate training at Sun Yat-Sen University before moving to the United States and received her Summa cum laude Bachelor of Science degree from Emmanuel College and PhD degree in Molecular Genetics from the graduate program jointly established by Cold Springer Harbor Laboratory and Stony Brook University. She has published a number of articles or commentaries in journals such as *Cell*, *Molecular Cell*, as well as book chapters.

Keynotes title: *Supporting disaster risk reduction and sustainable development through efficient communications and publications*

Abstract:

In this presentation, I'll provide a brief overview on Springer Nature's Sustainable Development Goals (SDG) programme. Initially launched in 2016 as the "Grand Challenge Programme", Springer Nature's SDG programme is the first publishing and communications program across all of our imprints, products, and platforms, aiming to advance the development of solutions to grand challenges facing today's world and society, champion the real-world impact of academic research, ensure that we continue to be an essential go-to resource for relevant information and ideas, and align our publishing and related activities with an overall Responsible Business strategy. I'll also review how we support discussions and effort toward disaster risk reduction and management along the silk road region.

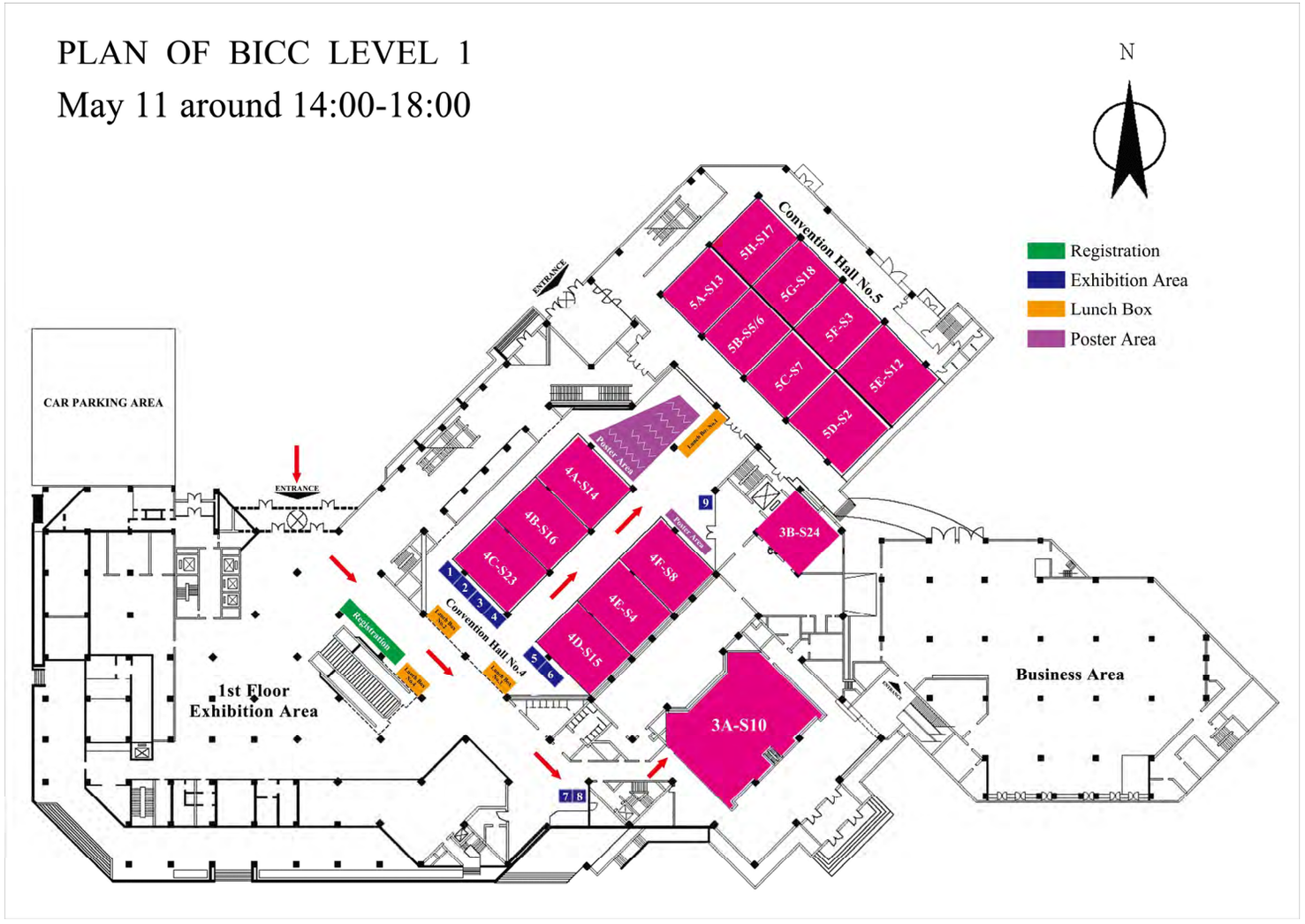
Schedule of the Parallel Sessions

ROOM	11th May 14:00-18:30	12th May 08:30-12:00
ROOM 3A	S10 Mountain Hazards	Silk-road Culture and Development Forum
ROOM 3B	S24 Academician Session: Science and Technology Development for a Sustainable World	S9 Sediment Transportation and Geo-hazard Mitigation
ROOM 4A	S14 Marine Observations and Hazards	S14 Marine Observations and Hazards
ROOM 4B	S16 Paleoenvironmental Change and Disaster along the Silk Road	S16 Paleoenvironmental Change and Disaster along the Silk Road
ROOM 4C	S23 Railway Engineering on “the Belt and Road”	S23 Railway Engineering on “the Belt and Road”
ROOM 4D	S15 Climate Change and Disaster Prevention Technology in Eurasia Arid Zone	S15 Climate Change and Disaster Prevention Technology in Eurasia Arid Zone
ROOM 4E	S4 Geology and Geological Engineering	S4 Engineering Geology and Geological Engineering
ROOM 4F	S8 Ad Engineering vances in Landslide Risk Reduction	S10 Mountain Hazards
ROOM 5A	S13 Sustainable Development along Silk Road	S11 Integrated Disaster Risk Governance - Assessment and Management
ROOM 5B	S5 Mobilization of International Science and Technology Collaboration on Disaster Risk Reduction6. Improving Policy and Science & Technology Interface in Disaster Risk Reduction S6 Improving Policy and Science Technology Interface in Disaster Risk Reduction	S22 Disaster Risk Reduction Knowledge Service
ROOM 5C	S7 Risk and Management of Water Disaster under Changing Environment	S20 Disaster Monitoring and Risk Assessment
ROOM 5D	S2 Monitoring and Early Warning, Cross Border Disaster, Mountain Hazards	S1 The Formation Process, Mechanism, and Treating Countermeasures of Landslides
ROOM 5E	S12 Models for Higher Education Collaboration on Natural Disaster Risk Reduction, Response, and Reconstruction	S12 Models for Higher Education Collaboration on Natural Disaster Risk Reduction, Response, and Reconstruction
ROOM 5F	S3 Health-Emergency Disaster Risk Management	S19 Societal Impacts of Geohazards
ROOM 5G	S18 Young Scientist Forum	S21 Engineering and Environmental Geological Disasters in Permafrost Area
ROOM 5H	S17 The Geological and Geophysical Process, Mechanism, and Precaution Measures of Natural Earthquakes	S17 The Geological and Geophysical Process, Mechanism, and Precaution Measures of Natural Earthquakes

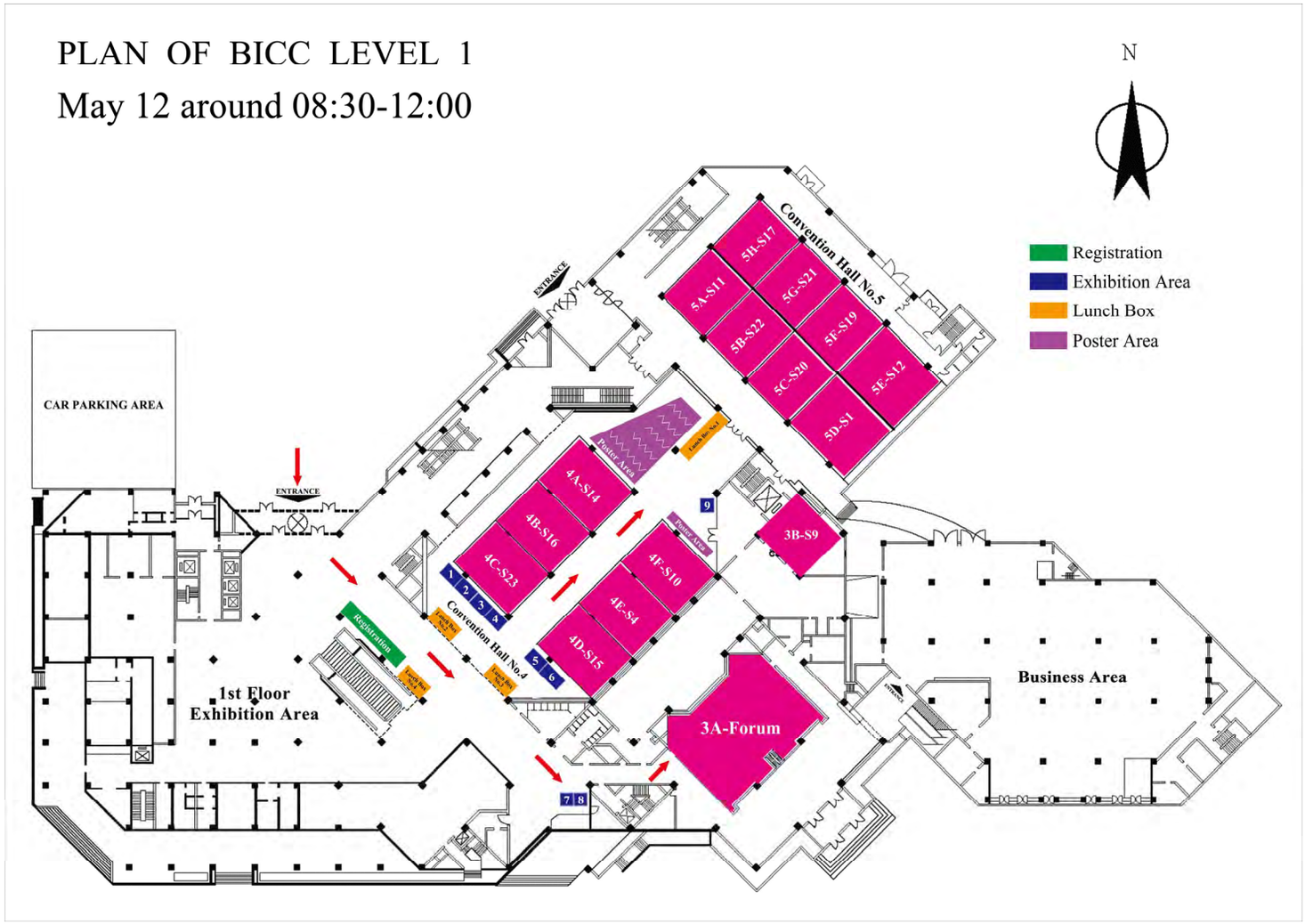
Congress Venue

Beijing International Convention Center (39.9879°N, 116.3958°E) is one of the most popular areas for tourists and conferences in Beijing. Right next to Bird Nest, Beijing Olympic Park, and China Science and Technology Museum.

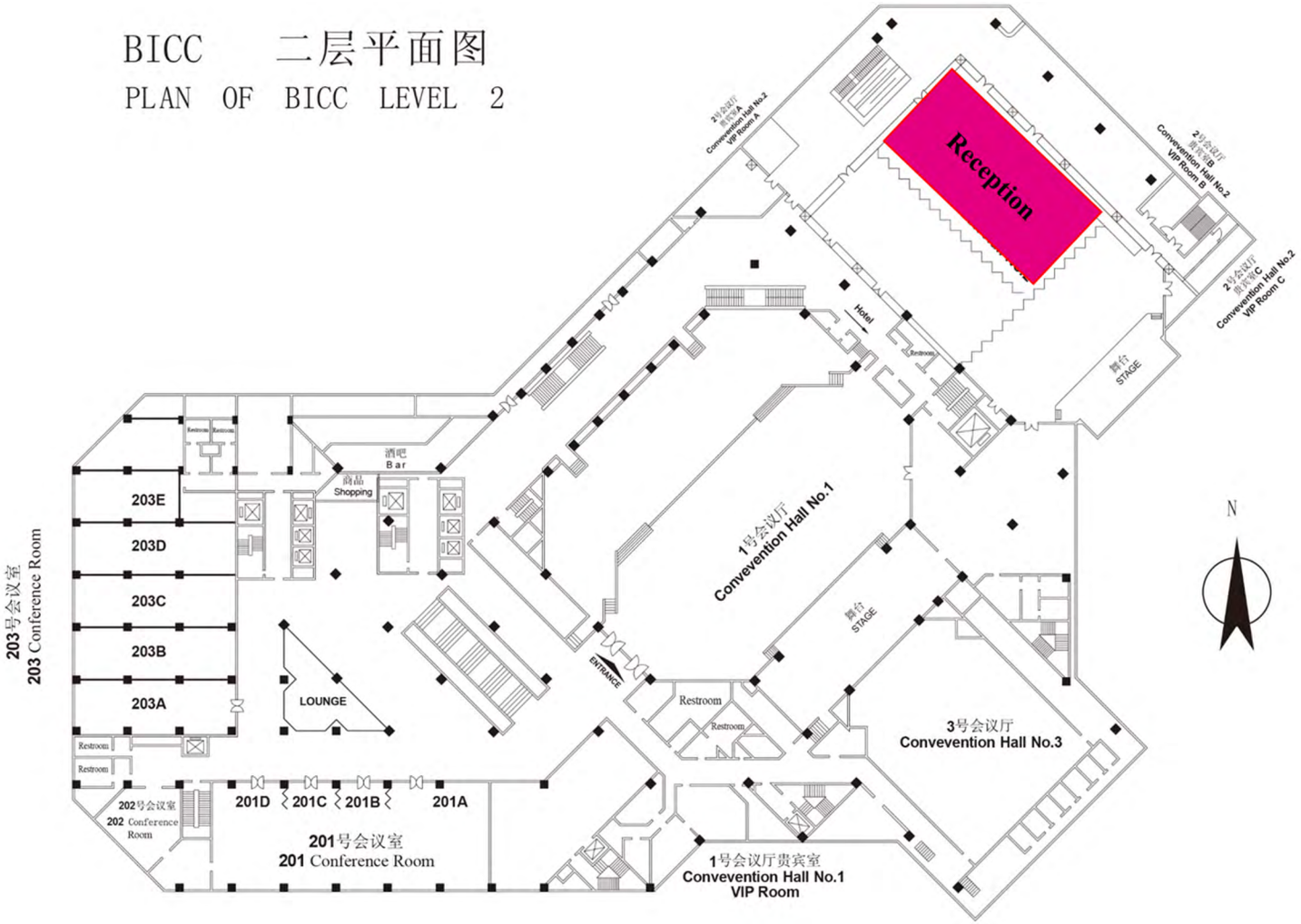
Room arrangement for the parallel sessions May 11 around 14:00-18:00



Room arrangement for the parallel sessions May 12 around 08:30-12:00



Location of the reception May 11 around 19:00-21:00



Best oral presentation award for young scientist

Aim

To encourage young scientists to present excellent studies at SiDRR conference, which fall within the themes of the involved sessions, which can be found on the SiDRR website (http://www.sidrr.com/).

Eligibility

The applicant must finish registration at the conference and his age should be no more than 36. In order to qualify for this award, the young scientists are expected to present their research (as an oral presentation) during the conference at their corresponding session. A panel of judges convened at the conference will decide upon the most promising presentation.

Award

Following the judging, the winner will be awarded at the closing ceremony of the conference. The winners will receive a certificate and get the priority to submit their work for publication in the tentative journal.

Application process

In each session, the applicants should inform the session convener to participate in the "Best oral presentation award for young scientist" competition.

Judging criteria

The presentations will be judged on criteria relating to the academic content and professional presentation and the awards are decided at the end of the conference by the organization committee. Each session has one or two candidates, and they are decided according to following areas:

- Structure (clear, logical, includes introduction, objectives, methods, results, conclusions)
- Objectives and methods (do methods match objectives?)
- Results (are results accurately presented?)
- Discussion (reply of presenter to questions of public)
- Conclusion and results (do conclusions match results and title?)
- Format (usage of images, font size, quantity of text per slide, etc.).

Note: For each candidate, please provide the right personal information including email or mobile phone and should be available during the ceremony.

Form for each session

Best oral presentation award for young scientist

SiDRR offers around 12 for the best youth oral presentation awards at the international conference. These are judged in terms of scientific content and quality of presentation. Each session has one or two candidates for young scientists under 36. The aim of this award is to support academic or scientific activities in the field of natural disasters and sustainable development along “the Belt and Road”, which advance the work or personal development of the winner. Winners are encouraged to submit their work for publication in the tentative journal. The awards are decided at the end of the conference and winners will be awarded at the closing ceremony of this conference.

Award candidate nomination form

Session ID	Best youth oral presentation award candidate (Name, affiliation, Tel., and Email)
	Candidate 1: Assessment description:
	Candidate 2: Assessment description:
Session chair signature	

Note: candidates should be young scientists with the age under 36.

Session 1: The Formation Process, Mechanism, and Treating Countermeasures of Landslides

May 12th | Room: 5D

Organizers: The Hong Kong University of Science and Technology
International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE)

Convener : Charles W. W. NG

Time	Speaker	Report Title	Chairman
8:30-8:45	Charles W. W. NG	Opening Speech by Session Chair	Charles W. W. NG
8:45-8:50	Photo session		
8:50-9:20	Luciano PICARELLI (Invited)	Triggering mechanisms of flow-like landslides – the role of the geological history	
9:20-9:50	Núria PINYOL (Invited)	Massive and non-invasive measurements of degree of saturation and large displacements of slope failure tests	
9:50-10:00	**Discussion session (Special Lecture)**		
10:00-10:20	**Break**		
10:20-10:30	Liming ZHANG	Rapid analysis of breaching process of two landslide dams on the Jinsha River in 2018	Luciano PICARELLI
10:30-10:40	Sérgio D.N. LOURENÇO	Particle morphology evolution on landslides	
10:40-10:50	Wenjie XU	Landslide tsunami mechanism and evolution based on SPH-DEM coupling method	
10:50-11:00	Harris LAM	Advances in design of rigid debris-resisting barriers in Hong Kong	
11:00-11:10	Xinyue LI	Computational modelling of debris flow impact on double flexible barriers based on a coupled CFD-DEM approach	
11:10-11:20	Senetakis KONSTANTIOS (Kostas)	Micromechanical tests on grain contacts at variable velocities	
11:20-11:30	Xiangzhou XU	Role of plant on gravity erosion on the loess gully Sidewall: a laboratory study	
11:30-11:40	Kaiheng HU	Numerical simulation of the June 24th 2017 Xinmo Landslide with a depth-averaged model coupling basal entrainment	
11:40-11:50	Bing YANG	Dynamic response and failure characteristics of slope with weak interlayer under the action of near-fault ground motion	
11:50-12:10	**Discussion session (Oral Presentation)**		
12:10-13:30	**Lunch**		

Session 2: Monitoring and Early Warning, Cross Border Disaster, Mountain Hazards

May 11th | Room: 5D

Organizers: The International Centre for Integrated Mountain Development (ICIMOD)
Institute of Mountain Hazards and Environment, CAS

Conveners: David MOLDEN; Yong NIiE; Arun Bhakta SHRESTHA

Time	Speaker	Report Title	Chairman
14:00-14:15	Arun Bhakta SHRESTHA	Glacial lake outburst flood risk reduction for sustainable development in the Silk Road	David MOLDEN
14:15-14:30	Yong NIE	Glacial lake outburst floods and glacial lake changes in the Himalayas	
14:30-14:45	Miki INAOKA	JICA's activities on research on GLOF risk assessments in Bhutan	
14:45-15:00	Xin WANG	Monitoring and simulation of hydrothermal conditions indicating the deteriorating stability of a perennially frozen moraine dam in the Himalayas	
15:00-15:15	Yong ZHANG	Spatial distribution of debris cover on glaciers and associated impacts in the Hunza River Basin	
15:15-15:30	Til Prasad Pangali SHARMA	Review of flood disaster studies in Nepal: A remote sensing perspective	
15:30-15:45	**Discussion**		
15:45-16:00	**Break**		
16:00-16:15	Koji SUZUKI	QZSS for a redundant early warning information platform	Yong NIE Arun Bhakta SHRESTHA
16:15-16:30	Ningsheng CHEN	Erosion varieties of Poiqu documented by the Zhangmu landslide in Tibet, China	
16:30-16:45	Birendra BAJRACHARYA	Space Applications for Disaster Risk Reduction in the HKH region	
16:45-17:00	Ran ZHU	Impacts of drought on the livelihood of rural residents and the cascading adaptation in Koshi Basin of Nepal	
17:00-17:15	Zhen XIONG	Experimental study on interception characteristics of debris flow flexible net barrier: based on orthogonal design	
17:15-17:30	Shaojie ZHANG	A physics-based model to derive rainfall intensity-duration threshold for debris flow	
17:30-17:45	Mandira Singh SHRESTHA	Advancing transboundary cooperation for reduced flood risk in the Hindu Kush Himalaya	
17:45-18:00	**Panel discussion and conclusion**		David MOLDEN
19:00-21:00	**Dinner**		

Session 3: Health-Emergency Disaster Risk Management

May 11th | Room: 5F

Organizers: The Chinese University of Hong Kong
Collaborating Centre for Oxford University and CUHK for Disaster and Medical Humanitarian Response (CCOUC)

Convener : Emily Ying Yang CHAN

Time	Speaker	Report Title	Chairman
14:15-14:25	Emily Ying Yang CHAN	Introduction	Emily Ying Yang CHAN
14:25-14:40	Ryoma KAYANO (Invited)	WHO Thematic Platform for Health Emergency and Disaster Risk Management (H-EDRM) Research Network - Global Collaborative Action to Improve Scientific Evidence	
14:40-14:55	Virginia MURRAY (Invited)	Reducing health risks and consequences of emergencies for community and country resilience	
14:55-15:10	Carol Ka-po WONG (Invited)	Enhancing H-EDRM research and education for urban community resilience	
15:10-15:25	Michael PARKER (Invited)	Research ethics in global health emergencies	
15:25-15:40	Qian YE (Invited)	Systemic risks in human-animal-environment nexus: challenge and approach	
15:40-16:00	**Break**		
16:00-16:30	ALL	Panel Discussion	Emily Ying Yang CHAN
19:00-21:00	**Dinner**		

Session 4: Engineering Geology and Geological Engineering

Organizer: International Association for Engineering Geology and the Environment (IAEG)
Conveners: Shengwen QI; Haris SAROGOU

May 11th | Room: 4E

Time	Speaker	Report Title	Chairman
14:00-14:05	Rafig AZZAM	Opening Address of IAEG President	Shengwen QI, Haris SAROGOU
14:05-14:35	Faquan WU	SMRM GeoEngineer System —— Make Rock GeoEngineering Survey More Convenient, More Intelligent!	
14:35-15:05	Bo-An JANG	Fracture development in rock by plasma blasting	
15:05-15:35	Huiming TANG	Construction of field experimental site for geohazards in the Three Gorges areas	
15:35-15:55	Hengxing LAN	Progress report on the IAEG C37 Commission - Landslide nomenclature	
15:55-16:15	Weimin YE	Study on conservation of earthen heritage sites along the ancient silk road	
16:15-16:25	**Break**		
16:25-16:40	Shaojun LI	Rockburst assessment and warning on silk-roads tunnel under high stress condition	Shengwen QI, Haris SAROGOU
16:40-16:55	Yanwen SU	Study on wind characteristics of a deep canyon at the Zangmu Bridge Site	
16:55-17:10	Chenyi MA	Simulation of the sediment propagation during the breaching of the landslide dam—taking Tangjiashan landslide dam as an example	
17:10-17:25	Haibo LI	Mapping and failure mechanism analysis of a massive landslide based on UAV imagery; case study of 2018 Baige landslide, southwest China	
17:25-17:40	Chun LIU	Large-scale discrete element numerical simulation of geological hazards based on MatDEM	
17:40-17:55	Dengfei Zhang	Measurement and modelling triaxial stress-dependent water permeability of collapse loess	
17:55-18:10	Wei HU	Superheated steam, hot CO2 and dynamic recrystallization from frictional heat jointly lubricated a giant landslide: Field and experimental evidence	
18:10-18:25	Huimin KANG	Three-dimensional CSAMT detection of deep metallogenic structure in Shuijintun mining area	
18:25-18:40	Xin WEI	Deep learning methods for time-series problem of pore-water pressure prediction: Recurrent neural networks (RNNs)	
19:00-21:00	**Dinner**		

May 12th | Room: 4E			
Time	**Speaker**	**Report Title**	**Chairman**
8:30-9:00	Qiang XU	Typical cases of geological hazards in Tibet Plateau caused by the global warming	Shengwen QI, Haris SAROGOU
9:00-9:30	Jia-Jyun DONG	Laboratory measurement of mechanical and hydraulic aperture of joints and challenges for the prediction of fluid flow through jointed rocks	
9:30-9:50	Haris SAROGOU	Assessment and mitigation of geohazards using new technologies	
9:50-10:10	Shengwen QI	A new method to predict the occurrence of rock burst	
10:10-10:20	**Break**		
10:20-10:35	Fujun NIU	Thaw-induced slope failures and stability analyses in permafrost regions of the Qinghai-Tibet Plateau, China	Shengwen QI, Haris SAROGOU
10:35-10:50	Jessada KARNJANA	Real-time Monitoring System Based on Wireless Sensor Networks for Landslide-prone Areas	
10:50-11:05	Jiawen ZHOU	A fuzzy method for risk assessment of the landslide-dammed lake	
11:05-11:20	Wen-Chieh CHENG	Mechanical properties of Loess-Post harvest waste mixture: insights from residential house in Loess Plateau	
11:20-11:35	Yingjie XIA	A new method for structural reconstruction of columnar jointed rock mass based on three-dimensional printing	
11:35-11:50	Qing CHENG	Drying induced soil shrinkage and desiccation cracking monitor with distributed optical fiber sensing technique	
11:50-12:05	Dongri SONG	Analysis of debris flow-flexible barrier interaction from the energy perspective	
12:05-12:20	Jia WANG	Mechanism explanation of the size effect of a fractured rock mass: Bernoulli probability model and binomial probability	
12:20-12:35	Shihao XIAO	Probabilistic evaluation of soil liquefaction potential based on logistic regression model	
12:35-12:50	Shunchao QI	An infinite slope model for investigating the response of shallow layer of expansive soils slope to water infiltration	
12:50-13:05	Fei WANG	Movement mechanism of liquefied loess mud flow in Shibeiyuan induced by the 1920 Ms 8.5 Haiyuan Earthquake, China	
12:10-13:30	**Lunch**		

Session 5: Mobilization of International Science and Technology Collaboration on Disaster Risk Reduction (DRR) May 11th | Room: 5B			
Organizers: Integrated Research on Disaster Risk (IRDR) **Convener :** Qunli HAN			
Time	**Speaker**	**Report Title**	**Chairman**
16:00-16:10	Rajib SHAW	Global science technology road map for disaster risk reduction	Qunli HAN
16:10-16:20	Nurul Syazwani YAHAYA	Advancing international S&T collaboration on disaster risk reduction in Malaysia	
16:20-16:30	Jiahua ZHANG	To detect natural disasters by using multi-satellite data in One Belt & One Road region	
16:30-16:40	Ardito Marzoeki KODIJAT	Building regional youth collaboration in SETI for DRR	
16:40-16:50	Milan KONECNY	Disaster risk reduction and sustainable development: How to share and apply international knowledge for better solutions	
16:50-17:00	Tianhua HONG	Recovery of Jiuzhaigou UNESCO sitePost-Earthquake Integrateded Space-Air-Ground monitoring of Jiuzhaigou Valley	
17:00-17:30	**Discussion and Conclusion**		

Session 6: Improving Policy and Science & Technology Interface in Disaster Risk Reduction May 11th | Room: 5B			
Organizers: Integrated Research on Disaster Risk (IRDR) UNESCO Beijing Office **Conveners:** Philippe PYPAERT; Qunli HAN			
Time	**Speaker**	**Report Title**	**Chairman**
14:00-14:10	Philippe PYPAERT	Implementing the DRR science – Policy interface at various levels: River Basins, Megacities and UNESCO sites	Philippe PYPAERT, Qunli HAN
14:10-14:20	Sutat WEESAKUL	Science and technology in Action: Thailand Case study	
14:20-14:30	Susie GOODALL	Cultural perceptions of hazard and risk in a dynamic environment	
14:30-14:40	Xiang YU	The Silk-roads disease prevention and cure oriented international coordination on patent licensing mechanism	
14:40-14:50	Amod Mani DIXIT	tbc	
14:50-15:00	Yiping FANG	Understanding of the linkage between natural disasters and livelihood of rural residents: Resilience and dynamic profile	
15:00-15:30	**Discussion and Conclusion**		
15:30-16:00	**Break**		

Session 7: Risk and Management of Water Disaster under Changing Environment

May 11th | Room: 5C

Organizers: International Water Resources Association (IWRA)
Wuhan University
Convener : Jun XIA

Time	Speaker	Report Title	Chairman
14:30-14:35	**Opening Section & Welcome Speech**		Jun XIA
14:35-14:52	Wolfgang KRON (Invited)	Efficiency of flood protection measures	Haishen LV
14:52-15:09	Xiaotao CHENG (Invited)	Characteristics of flood risk evolution and adjustment direction of flood management strategy in China	
15:09-15: 26	Tong JIANG (Invited)	Flood risks at global to local prospective	
15:26-15: 43	Qiang ZHANG (Invited)	Soil moisture changes at different spatial scales: changing pattern, changing tendency and driving factors	
15:43-16: 00	Pingcang ZHANG (Invited)	Three dimensional monitoring and pre-warning technology of mount ain torrents disaster	
16:00-16:10	**Break**		
16:10-16: 27	Qiting ZUO (Invited)	Urban disaster integrated assessment and disaster reduction analysis of China	Yongyong ZHANG
16:27- 16: 44	Haishen LV (Invited)	Influence of the South-North Water Diversion Project on hydrological elements of mesoscale watershed	
16:44- 17: 01	Kairong LIN (Invited)	A clustering preprocessing framework for the subannual calibration of a hydrological model considering climate-land surface variations	
17:01- 17:18	Baoqing ZHANG (Invited)	A water-energy balance approach for multi-category drought assessment across globally diverse hydrological basins	
17:18- 17: 30	Guanghui JIANG	Drought and flood caused by sinkhole-controlled drainages systems: the hidden severe threat in tropical karst area	Dunxian SHE
17:30- 17: 42	Ashfaq AHMAD SHAH	Determinants of flood risk perceptions and impacts at household level in Pakistan	
17:42- 17: 54	Wentai ZHANG	Reestablishment of soil water reservoir for flood disaster risk reduction in Ili Valley China	
17:54- 18: 06	Xin LIAO	Permeability change of shallow crust induced by hydrologic processes	
18:06- 18: 18	Yongyong ZHANG	Regional patterns of extreme precipitation and urban signatures in metropolitan areas	
18:18- 18: 30	Zhenhua YANG	Risk assessment and zoning of tropical cyclone disasters for the Guangdong-Hongkong-Macao Greater Bay Area based on the framework of "hazard - exposure - vulnerability - mitigation"	
18:30- 18: 42	Javed HASSAN	Predictions of future hydrological conditions and contribution of snow and ice melt in total discharge of Shigar River Basin in Central Karakoram, Pakistan	
18:42- 18: 54	Fayzmamad DAVLATBEKOV	Hazards from Sarez Lake, an issue still unsolved in Central Asia, Tajikistan	
19:00-21:00	**Dinner**		

Session 8: Advances in Landslide Risk Reduction

May 11th | Room: 4F

Organizers: International Consortium on Landslides (ICL)

Conveners: Peter BOBROWSKY; Kyoji SASSA; Alexander STROM; Lijun SU

Time	Speaker	Report Title	Chairman
14:30-14:45	Oleg ZERKAL	Landslide activity on the slopes of Tarki-Tau mountain (Eastern Caucasus, Russia) and its impact on transport infrastructure	Alexander STROM
14:45-15:00	Ping LU	Establishment of stereo multi-sensor network for giant landslide monitoring and its deployment in Xishan landslide	
15:00-15:15	Sergey CHERNOMORETS	Assessment of glacial lake outburst flood hazard in Badakhshan (Afghanistan and Tajikistan)	
15:15-15:30	Sarfraz ALI	Predictive modeling of Shishper Glacier surge and glacial lake outburst flooding (GLOF) with a view to evaluate its risks on CPEC and formulate remedial strategy	
15:30- 15:45	Haijun QIU	Time series of non-seismically triggered landslides	
15:45- 16:00	Lizheng DENG	Experimental study on quantification of creep landslide process by acoustic emission	
16:00-16:15	Khang DANG	Introduction to the new Ring-Shear apparatus and Landslide-Tsunami computer simulation models (LS-RAPID & LS-Tsunami)	
16:15- 16:30	**Break**		
16:30- 16:45	Meng AO	Characterizing the evolution history of the K83 landslide in Nepal with multi-source SAR data	Kyoji SASSA, Lijun SU
16:45- 17:00	Weile LI	Deformation history of typical large-scale rocky landslides in China and the enlightenment	
17:00-17:15	Daoyuan TAN	Impact force calculation on a flexible debris flow-resisting barrier considering partial debris flow passing through	
17:15- 17:30	Xiaoli CHEN	Effects of types and geometries of causative faults on the distribution of earthquake-triggered landslides: a case study of the 2008 Mw 7.9 Wenchuan, China earthquake	
17:30- 17:45	Shu ZHOU	The failure and dynamic characteristics of two sequential landslides at Baige village along the Jinsha River, China	
17:45-18:00	Siyou XIAO	Punching effects of flow layer on impact force of dry debris flow impacting on the retaining wall and flexible barrier	
18:00-18:15	Haibing YU	Applicability of slope failure criteria by strength reduction method	
18:15-18:30	Yidan HUANG	Self-organized criticality of landslides triggered by earthquake	
18:30-18:45	Gamini JAYATHISSA	Efforts and challenges in Landslides Disaster Risk Reduction in Sri Lanka	
19:00-21:00	**Dinner**		

Session 9: Sediment Transportation and Geo-hazard Mitigation

May 12th | Room: 3B

Organizers: World Association of Sediment Erosion Research (WASER)
Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences (CAS)

Conveners: Zhaoyin WANG; Cheng LIU

Time	Speaker	Report Title	Chairman
08:30-09:00	Marwan HASSAN (Invited)	Linking landscape history to sediment connectivity and channel characteristics in mountain streams	Zhaoyin WANG Guo-An YU
09:00-09:30	Zhixian CAO (Invited)	Shallow water hydro-sediment-morphodynamic models and applications	
09:30-10:00	Francesco COMITI (Invited)	Sediment management in mountain basins: lessons learned in the European Alps	
10:00-10:20	**Break**		
10:20-10:40	Xudong FU (Invited)	Simulation of outburst flood for disaster mitigation of landslide barrier dams	Guo-An YU Zhaoyin WANG
10:40-11:00	Deyu ZHONG (Invited)	Study on sky rivers: Concept, theory, and implications	
11:00-11:15	Chao LIU (Invited)	Sediment related flash flood risk management research	
11:15-11:30	Md. Nurul ISLAM	Sedimentation, Vegetation and Land Use Dynamics on the Brahmaputra-Jamuna Floodplain, Bangladesh	
11:30-11:45	Jun DU	Comparative study on hazard analysis of mountain torrent for Nam Ou River Basin, Laos	
11:45-12:00	Yuhai BAO	Variation of nearshore wave at the riparian zone of the Three-Gorge Reservoir, China	
12:00-12:15	Lukuan MA	In situ observations of wave-supported fluid mud processes on the Yellow River subaqueous delta	
12:15-12:30	Guo-An YU	Fluvial processes of the incised rivers in the lower Yarlung Tsangpo River	
12:30-13:30	**Lunch**		

Session 10: Mountain Hazards			
Organizers: Institute of Mountain Hazards and Environment, Chinese Academy of Sciences Chinese Society of Soil and Water Conservation **Conveners:** Xiaoqing CHEN; Alessandro PASUTO; Asif KHAN			
May 11th | Room: 3A			
Time	**Speaker**	**Report Title**	**Chairman**
14:30-14:55	Javed IQBAL (invited)	Landslide susceptible analysis of Karakoram highway- a comparison between analytical hierarchy process and scoops 3d model	Asif KHAN
14:55-15:20	Xiaoqing CHEN (invited)	Manual disposal technology on landslide dam and the dynamic characteristics of dam failure process	
15:20-15:35	Guido GUASTI	Retaining debris with multi-level flexible barriers in Peru	
15:35-15:50	Zongji YANG	Characteristics and prospective risks of mountain hazards in both Himalayan syntaxes	
15:50-16:05	Ming CHANG	Risk assessment of landslides over the China Pakistan Economic Corridor	
16:05-16:20	Qingli ZENG	Glacier avalanche triggered high-speed debris-flow under climate change in southeast Tibet and its implications to key transport alignment selection	
16:20-16:40	**Break**		
16:40- 17:05	Muhammad Asif KHAN (invited)	Investigating geohazards along the China-Pakistan Economic Corridor, northern Pakistan	Alessandro PASUTO
17:05- 17:20	Muhammad SHAFIQUE	Landslide monitoring, susceptibility and characterization, northern Pakistan	
17:20-17:35	Mingtao DING	The response of debris flow to mountain vertical differentiation in the Upper Reaches of Min River	
17:35-17:50	Changbao GUO	Characteristics and formation mechanism of giant long-runout landslide: a case study of the Gamisi Ancient Landslide in the upper Minjiang River, China	
17:50-18:05	Hongyan DENG	Groundwater table prediction by analytical solution of the Boussinesq equation during reservoir water variation	
18:05-18:20	Dunlian QIU	Journal of Mountain Science: an important platform for mountain researchers	
19:00-21:00	**Dinner**		
May 12th | Room: 4F			
Time	**Speaker**	**Report Title**	**Chairman**
08:30-08:55	Dave CHAN (invited)	The flow characteristics of granular matter	Milan KONECNY
08:55-09:20	Alexander STROM (invited)	Catastrophic outburst floods – source of the cross-border disasters	

09:20- 09:35	Pankaj KUMAR	Glacier lake outburst floods: a case of Paree Chu lake outburst, Himachal Himalaya, India	
09:35-09:50	Binod DAWADI	Impacts of flooding and its response: a case study in 2017 from Terai region of Nepal	
09:50-10:05	Yunusali PULPADAN	Fluvial knickzones as a proxy to paleo-dams and large landslides	
10:05-10:25	**Break**		
10:25-10:50	Milan KONECNY (invited)	Disaster risk reduction and sustainable development: how to share and apply international knowledge for better solutions	Dave CHAN
10:50-11:15	Ningsheng CHEN (invited)	Debris flow disaster identification based on hollows	
11:15-11:30	Chenxiao TANG	A catchment-based quantitative back analysis of post-Wenchuan-earthquake debris flow risk over 10 years	
11:30- 11:45	Yan YAN	Study on "simple stick equipment" for monitoring and early warning methods of slope geological hazards: a case study of Jiguanshi pipeline landslide in Chongqing	
11:45-12:00	Jiangang CHEN	Debris-flow mitigation measures and an application case in a small-scale watershed in China	
12:00-14:00	**Lunch**		

Session 11: Integrated Disaster Risk Governance - Assessment and Management

May 12th | Room: 5A

Organizers: Beijing Normal University

Convener : Peijun SHI

Time	Speaker	Report Title	Chairman
8:30-8:45	Tso-Chien PAN	Natural catastrophe risk management of Asia – Exposure dynamics	Peijun SHI
8:45-9:00	Elco KOKS	Modelling the economic impacts of disasters inflicted by infrastructure disruptions	
9:00-9: 15	Ramesh GURAGAIN	Different approaches on earthquake risk assessment for effective earthquake risk reduction planning and implementation: An experience from Nepal	
09:15-09:30	Lisong LI	Common responsibility, joint contribution, and shared benefits: Insurance service to integrated risk governance in the Belt and Road initiative	
09:30-09:45	Shaohong WU	The Belt and Road: Geographical pattern and regional risks	
09:45-10:00	**Discussion**		
10:00-10:15	**Break**		
10:15- 10:30	Peijun SHI	Geographical synergetics and integrated disaster risk governance	Kai LIU
10:30- 10:45	Toon HAER	Integrating decision-making processes in flood risk analysis	
10:45- 11:00	Hima SHRESTHA	Linking science and technology for earthquake risk awareness and reduction: experience from Nepal	
11:00- 11: 15	Lilit GEVORGYAN	Development of human-environment systems vulnerability interaction-outcome framework	
11:15-11:45	**Discussion**		
11:45- 12: 00	**Poster display and explanation**		
12:00-13:30	**Lunch**		

Session 12: Models for Higher Education Collaboration on Natural Disaster Risk Reduction, Response, and Reconstruction

Organizers: Institute for Disaster Management and Reconstruction (IDMR), Sichuan University-The Hong Kong Polytechnic University

Convener : Gretchen KALONJI

May 11th | Room: 5E

Time	Speaker	Report Title	Chairman
13:30-13:40	**Introduction to the goals of the session by Co-Chairs** • Gretchen KALONJI, Dean, Institute for Disaster Management and Reconstruction, Sichuan University • Maurice YAP, K.P. Woo Family Professor in Optometry, the Hong Kong Polytechnic University		
13:40-14:55	**Special Speaker Presentations (15 minutes each including 2 minutes for questions)**		Gretchen KALONJI Maurice YAP
13:40-13:55	Mandira Singh SHRESTHA	Himalaya University consortium as a model for Multi-university collaborations for disaster risk reduction	
13:55-14:10	Rajib SHAW	Lessons learned on the pragmatics of Multi-university partnerships on DRR	
14:10-14:25	Maurice YAP, Chan Chun Yan ALEX	Promoting DRR concepts through service learning	
14:25-14:40	Tetsuo SHOJI	Proactive cascade disaster risk reduction based on international efforts for compilation of database, knowledgebase and commendable practice	
14:40-14:55	Juanle WANG	Disaster data management course design: Facing disaster data sharing in OBOR region	
14:55-15:15	**Self-introductions of session participants (maximum 1 minute each)**		
15:15-15:30	**Brief remarks for selected invited guests**		
15:30- 16:00	**Speakers Presentations (10 minutes each including 2 minutes for questions)**		
15:30-15:40	Md. Anwarul ABEDIN	University networking as a tool to reduce disaster risk in Bangladesh	
15:40-15:50	Indrajit PAL	Multidisciplinary curriculum needs and higher education network for disaster resilience: A game changer for Asia	
15:50-16:00	Vivien HOW	System thinking approach to disaster risk management: A call for transdisciplinary Competency-based rraining development	
16:00-16:15	**Break**		
16:15-17:30	**Group Discussion Session 1**		
19:00-21:00	**Dinner**		

May 12th | Room: 5E

Time	Speaker	Report Title	Chairman
08:30-08:40	**Recap of Day 1, Introduction to the goals of Day 2 by Co-Chairs** • Glenn FERNANDEZ, Associate Professor, Institute for Disaster Management and Reconstruction, Sichuan University • Mandira Singh SHRESTHA, International Centre for Integrated Mountain Development		

08:40-10:45	**Speaker Presentations (10 minutes each including 2 minutes for questions)**		Glenn FERNANDEZ Mandira Singh SHRESTHA
08:40-08:50	Baofeng DI	Household recovery strategies of indigenous knowledge in Longmen Mountain Area, Sichuan, China, following the 2008 Wenchuan Earthquake	
08:50-09:00	Maria Cecilia Macabuac FEROLIN	Youth participation in tsunami disaster risk reduction espousing citizen science: A case in Pagadian City, Southern Philippines	
09:00-09:10	Basanta Raj ADHIKARI	An innovative approach for dissemination of scientific research to the community for sustainable risk reduction in the Himalayas	
09:10-09:20	Bingwei TIAN	Design of a comprehensive disaster resilient safety education course by integrating multidisciplinary, cross-department, and MOOC's — A case study of Sichuan University	
09:20-09:30	Ashfaq Ahmad SHAH	Transforming disaster risk reduction/management from aid driven to innovation driven in Pakistan	
09:30-09:40	Yingying SUN	Safety education in China: A qualitative analysis on Chinese National Curriculum	
09:40-09:50	Liang YANG	Social resilience of mountain communities to flood hazards: A Case of Northern Areas of Pakistan	
09:50-10:15	**Break**		
10:15-10:25	Chunping TAN	Projection of drought risks under CMIP5 RCP ccenarios in the region of Belt and Road	Glenn FERNANDEZ Mandira Singh SHRESTHA
10:25-10:35	Rong CHEN	Mountain disaster risk reduction during emergency evacuation process in countryside resort area affected by the 2008 Wenchuan Earthquake	
10:35-10:45	Joseph Kimuli BALIKUDDEMBE	Evolving tertiary education on disaster risk reduction among the Belt and Road Partners in East Africa: Implications for regional and international collaboration	
10:45-11:50	**Group Discussion Session 2, facilitated by Co-Chairs**		
10:50-11:55	**Announcements of Upcoming Events**		
11:55-12:00	**Closing Remarks by Co-Chairs**		
12:00-13:30	**Lunch**		

Session 13: The Sustainable Development along the Silk Roads

May 11th | Room: 5A

Organizers: Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences（IGSNRR,CAS）
Conveners: Weidong LIU; Linxiu ZHANG

Time	Speaker	Report Title	Chairman
14:00-14:20	Linxiu ZHANG	Using Nexus Approaches to Achieving SDGs	Weidong LIU
14:20-14:40	Elena A. GRIGORIEVA	Bioclimate and urban design for sustainable development	
14:40-15:00	Dinesh PAUDE	The Himalayan BRI: A historic opportunity for the environment, prosperity and sustainability in Nepal Himalayas	
15:00-15:20	Muhammad Khubaib ABUZAR	China Pakistan economic corridor: Pakistan development & disaster risk management perspective: A case study of Mapping of Landslide Susceptibility near the Selected Part of the Eastern Route	
15:20-15:40	Shaikh Shamim HASAN	Assessment of Future land use for sustainable land management in the Chittagong Hill Tracts of Bangladesh under the background of baseline and environment protection scenarios	
15:40-16:00	Him RAKSMEY	Cambodia and the Silk Road – Notable Progress and Ways Forward	
16:00-16:10	**Break**		
16:10- 16:30	Qingyu ZHANG	The Establishment of the Cooperative Mechanism of Eco-Environment in the Silk-roads Economic Cooperation	Linxiu ZHANG
16:10- 16:50	Abdul Majeed NADEEM	Do the Socio-Economic Development indicators affect Environmental Sustainability in Energy-Growth- Environment nexus in Pakistan?	
16:50- 17:10	Alessandro LETO	The Sustainable and Responsible Development and the Challenge of a New Culture of Water	
17:10- 17:30	Heng QIAN	Optimization and decision of major strategic fulcrum along the "21st century Maritime Silk Road"	
17:30- 17:50	Hui LIU	Regional disparity of sustainable development in the countries along the Silk Roads	
19:00-21:00	**Dinner**		

Session 14: Marine Observations and Hazards

Organizers: South China Sea Institute of Oceanology, CAS

Conveners: Dongxiao WANG; Toshio YAMAGATA

May 11th | Room: 4A

Time	Speaker	Report Title	Chairman
14:30-14:50	Venkata Subba Raju PEMMANI	Simulation of Precipitation over India in nested Non-hydrostatic Regional Climate Model	Dongxiao WANG
14:50-15:10	M. V. Subrahmanyam	Ocean-Atmosphere dynamics over Somali coast: importance and interannual variations	
15:10-15:30	Gang HUANG	Orographically Anchored El Niño Effect on Summer Rainfall in Central China	
15:30-15:50	Jian LING	Possible Role of the Diurnal Cycle in Land Convection in the Barrier Effect on the MJO by the Maritime Continent	
15:50-16:10	A K M Saiful ISLAM	Changes of Tropical Cyclone of the Bay of Bengal and Storm Surge inundation in Bangladesh under Global Warming	
16:10-16:20	**Group photos**		
16:20-16:30	**Break**		
16:30-16:50	Chunlei LIU	Indian Ocean heat content and hurricane development	Toshio YAMAGATA
16:50-17:05	E.J.M.Pavithra Hansamali JAYASUNDARA	Efforts and challenges in Landslide Disaster Risk Reduction in Sri Lanka	
17:05-17:20	Menake Ranjith WIJESINGHE	Coastal hazards in Sri Lanka related to atmospheric disturbances	
17:20-17:35	Qun ZHOU	Impacts of the Madden-Julian Oscillation on South China Sea Monsoon	
17:35-17:50	Jilong CHEN	Assessing the impacts of future climate change on western North Pacific landfalling tropical cyclones and induced storm surges in the Pearl River Delta region using the pseudo-global warming technique	
17:50-18:05	Chengyang YAO	Integrated Marine Environment Prediction Model, Search and Rescue and Emergency Management System Development and Application	
19:00-21:00	**Dinner**		

May 12th | Room: 4A

Time	Speaker	Report Title	Chairman
9:30-9:35	Zhangqun LI, Ziniu XIAO	The role of the Western Pacific moisture source in the rainfall over the Lancang River basin during wet season	Dongxiao WANG
9:35-9:40	Witness Clay MASSAWE, Ziniu XIAO	Analysis of rainfall variability over Southern Tanzania in the january-march (JFM) season	
9:40-9:45	Yilei WANG, Qiaoyan WU	Comparison of oceanic multisatellite precipitation data from TRMM and GPM datasets with rain gauge data from ocean buoys	

9:45-9:50	Hao MIAO, Xiaocong WANG	An evaluation of cloud vertical structure in three reanalyses against CloudSat/CALIPSO	
9:50-9:55	Rong FENG, Wansuo DUAN, Mu MU	Estimating observing locations for advancing beyond the winter predictability barrier of Indian Ocean dipole event predictions	
9:55-10:00	Lei YANG, Dongxiao WANG	The role of intraseasonal Oscillation in the tropical cyclone activity: A case study for Roanu (2016) in Bay of Bengal	
10:00-10:05	Yu LIU, Kang XU, Weiqiang WANG, Qiang XIE	Seasonal contrast of the shallow meridional overturning circulation in the Indian Ocean	
10:05-10:10	W.A.E. Lakshani, Guangli ZHANG, Xin WANG	The interdecadal and interannual variations of Sri Lankan precipitation during southwest monsoon and their connections with the tropical Indian Ocean SST	
10:10-10:15	Tingrong QIN, Guoping GAO, Chenyang YAO	Research on navigation risks along Maritime Silk Road	
10:15-10:20	Shifei TU, Feng XU, Jianjun XU	Regime shift in the destructiveness of tropical cyclones over the western North Pacific	
10:20-10:30	**Break**		
10:30-12:00	Poster display		
12:00-13:30	**Lunch**		

Session 15: Climate Change and Disaster Prevention Technology in Eurasia Arid Zone

Organizers: Xinjiang Institute of Ecology and Geography, Chinese Academy of Sciences
Research Center for Ecology and Environment of Central Asia, CAS
Arid Land Section of the Geographical Society of China

Convener : Xi CHEN

May 11th | Room: 4D

Time	Speaker	Report Title	Chairman
14:30-14:45	**Opening Section & Welcome Speech**		Xi CHEN
14:45-15:00	Murat DZHUMATAEV	Influence of climate change on water resources of Kyrgyzstan	Yuanming ZHANG and Abdusattor SAIDOV
15:00-15:15	Xi CHEN	Ecosystem Restoration and Disaster Risk Reduce in Aral Sea Region	
15:15-15:30	Kairat AITUGANOV	On Kazakhstan agricultural Big Data developing and future	
15:30-15:45	Jilili ABUDUWAILI	Salt dust storm and its environmental influence in Central Asia	
15:45-16:00	Philippe DE MAEYER	Different types of risk calculation in the case of floods	
16:00-16:20	**Break**		
16:20-16:35	Abdusattor SAIDOV	Assessment climate change impact of biodiversity of Tajikistan	Wenjiang LIU and Philippe DE MAEYER
16:35-16:50	Lanhai LI	Risk assessment of glacier and snow disasters in China-Pakistan Ec onomic Corridor	
16:50-17:05	Khalid MALIK	Meteorological disasters and risk warning in Pakistan	
17:05-17:20	Xinqing LEE	Use of biochar to manage soil salts, nutrients and water in arid land: effects and mechanism	
17:20-17:35	Nara LUVSAN	Belt Road International Coalition opportunities for collaboration	
17:35-17:50	Junli LI	Reconstructing glacial lake outburst floods of the Kyagar Lake in the Karakoram Mountains by time series remote sensing and hydrological records	
17:50-18:05	Jackson ROEHRIG	Community-based flood early warning systems in Mozambique	
19:00-21:00	**Dinner**		

May 12th | Room: 4D

Time	Speaker	Report Title	Chairman
08:30-08:45	Tong JIANG	Drought and its impact on socio-economy	Komiljon TOJIBAEV and Lanhai LI
08:45-09:00	Ali Tauqeer SHEIKH	Cooperation on international river- Indus River	
09:00-09:15	Ruide YU	Ecological responses to climatic change and land-cover change in Central Asia	
09:15-09:30	Martin WELP	Urban green infrastructure for human well-being: Synergies and trade-offs	
09:30-09:45	Xiaomin ZENG	Spatial patterns of precipitation-induced moisture availability and their effects on the divergence of tree growth in the western and eastern	

09:45-10:00	Marat ABDRAKHMANOV	Disaster monitoring and forecasting system in Kyrgyzstan	
10:00-10:20	**Break**		
10:20-10:35	Dilfuza EGAMBERDIEVA	Aral Sea: current status, challenges and future prospects	Ruide YU and Nara LUVSAN
10:35-10:50	Xiaojun HUANG	Potential of hyperspectral continuous wavelet features for the estimation of leaf loss rate in Erannis jacobsoni Djak-infested larch	
10:50-11:05	Tohir BOZOROV	Agrilus mali Matsumara, an invasive insect causing extensive mortality of endangered wild apple in Tianshan: Does gut microbiota play a key role in insect adaptation?	
11:05-11:20	Bin HUANG	Vulnerability assessment of urban high temperature heat wave disaster based on 3S technology: A case study of Chengdu	
11:20-11:35	Jean Baptiste NSENGIYUMVA	Landslide susceptibility prediction using spatial multi-criteria evaluation approach in Central East Africa	
11:35-11:50	Lingnan ZHANG	Highest resistance and lowest recovery to drought by Picea crassifolia in the eastern and high-altitude region in the Qilian Mountains, northwest	
11:50-12:00	**Outcoming & Closing Remarks**		Xi CHEN
12:00-13:30	**Lunch**		

Session 16: Paleoenvironmental Change and Disaster along the Silk Roads

Organizers: Institute of Earth Environment, CAS

Conveners: Zhisheng AN; Sebastian BREITENBACH; Liangcheng TAN

May 11th | Room: 4B

Time	Speaker	Report Title	Chairman
14:30-14:55	Xiaoping YANG (Invited)	Palaeoenvironmental changes in the Taklamakan Desert, Tarim Basin of northwestern China since late Pleistocene	Sebastian BREITENBACH
14:55-15:20	Robert N. SPENGLER III (Invited)	The Ancient Silk Road Origins of the Food We Eat	
15:20-15:40	Junna ZHANG	Human-land adaptation during the process of nomadization from the Bronze to Early Iron Age in the Western Tianshan Mountains, Xinjiang	
15:40-16:00	Liangcheng TAN	Holocene hydroclimate changes in arid central Asia and their impacts	
16:00-16:20	**Break**		
16:20-16:40	Gang HU	Flood and abandon of the oldest city Wari-Bateshwar, Bangladesh	Sebastian BREITENBACH
16:40-17:00	Hong CHANG	Lakes in the upper Indus River and its implications on climate changes and tectonics	
17:00-17:20	Jianchao ZHOU	Extreme climatic events deduced from lake sedimentary records in arid central Asia	
17:20-17:40	Jingran ZHANG	A luminescence dated loess-palaeosol sequence in Uzbekistan, central Asia and its palaeoenvironmental implications	
17:40-18:00	Juan LIU	Metal(loid)s contamination in vegetables from a rural area in Southwest China and environmental implications	
19:00-21:00	**Dinner**		

May 12th | Room: 4B

Time	Speaker	Report Title	Chairman
08:30-08:55	Kadyrbek SAKIEV (Invited)	Landslide formation of factors in Kyrgyzstan	Liangcheng TAN
08:55-09:20	Xiuming LIU (Invited)	Loess lands, Silk Road and Ancient Human Civilization	
09:20-09:40	Yong ZHANG	Centennial-scale process activity in a complex landslide body in the Qilian Mountains, northeast Tibet Plateau, China	
09:40-10:00	Xuefeng CHENG	Catastrophic dam-break flood of upper reaches of Min River 5, 000 a BP	
10:00-10:20	**Break**		
10:20-10:40	Sebastian BREITENBACH	The impact of seasonality, permafrost and desertification on society along the Silk road	Liangcheng TAN
10:40-11:00	Binggui CAI	A synthetic study on δ18O in laminate stalagmite and δ18O in cellulose extracted from Teak tree: a case study from NW Thailand	

11:00-11:20	Qiang LI	Tree-ring δ18O in north limit of Indian Monsoon	
11:20-11:40	Rustam OROZBAEV	The state of public parks and gardens in Bishkek: their usage for educational activities and role for sustainable development of city	
11:40-12:00	Liang NING	Influences of volcanic eruptions on decadal megadroughts over the eastern China	
12:00-13:30	**Lunch**		

Session 17: The Geological and Geophysical Process, Mechanism, and Precaution Measures of Natural Earthquakes

Organizers: Institute of Crustal Dynamics, China Earthquake Administration (ICD-CEA)
Institute of Geophysics, China Earthquake Administration (IGP-CEA)
Conveners: Yuntai CHEN; Xiwei XU

May 11th | Room: 5H

Time	Speaker	Report Title	Chairman
14:30-14:50	Paul Tapponnier (Invited)	Continental Megathrust Paleo-Seismology: How to retrieve long earthquake sequences	Xiwei XU
14:50-15:10	Haijiang ZHANG (Invited)	High resolution seismic imaging reveals structure control on earthquake behavior	
15:10-15:25	Ling BAI	Source parameters of earthquakes occurring at the eastern Himalayan syntaxis	
15:25-15: 40	Jing LIU	Enhanced soil liquefaction above blind faults during the 2008 Mw 7.9 Wenchuan earthquake	
15:40-15:55	Rongyi QIAN	The study of active fault high resolusion 2D/3D reflection seismic survey for new city planning in Yanqing, Beijing	
15:55-16:10	**Break**		
16:10- 16: 25	Dun WANG(Invited)	Automated Determination of Magnitudes of Large earthquakes in Japan Using Seismic Stations in China	Haijiang ZHANG
16:25- 16: 40	Weiwei WU	Study on Seismic Monitoring of Main Watersheds in Sichuan Province	
16:40- 16: 55	Zehua QIU	On the strain precursors of the M8.0 Wenchuan earthquake in 2008	
16:55-17:10	Jing CUI	Spatiotemporal variations of methane during the Wenchuan Ms8.0 earthquake from satellite observations	
17:10-17:25	Xiaoping MAO	The Source and Mechanism of cryptoexplosive fluid in Natural Earthquakes and earthquake mechanism	
19:00-21:00	**Dinner**		

May 12th | Room: 5H

Time	Speaker	Report Title	Chairman
08:30-08:50	Maomao WANG (Invited)	Community fault and velocity models for the Sichuan basin and adjacent area	Junjie REN
08:50-09:10	Jia CHENG	Earthquake rupture scaling relations for mainland China	
09:10- 09:25	Shuai HUANG	A novel approach for rockfall runout range via an improved K-nearest neighbor algorithm	
09:25-09:40	Chong XU	The first generation of earthquake-triggered landslide probability map of China (2019)	
09:40-09:55	Renqi LU	Segmented deformation of the Longmen Shan during the Cenozoic: Implications for the active tectonics and seismic hazards	
10:00-10:20	**Break**		

10:20-10:35	Junjie REN	Late Quaternary activities and seismic hazard of the eastern Yumu Shan fault in the Hexi Corridor	Jia CHENG
10:35-10:50	Gang RAO	Effects of fault slip distribution on the geometry and kinematics of the southern Junggar fold-and-thrust belt, northern Tian Shan	
10:50- 11: 05	Zhe SU	Quantitative constraint for the seismogenic mechanism of the Tabriz and Mashhad regions in Iran via InSAR and GPS	
11:05-11:20	Zhongtai HE	The Latest Active Structural Features and potential seismic risk of the Northern Margin of the Ordos Block	
12:00-13:30	**Lunch**		

Session 18: Young Scientist Forum

May 11th | Room: 5G

Organizers: Youth Innovation Promotion Association, CAS

Conveners: Wei YANG; Hong YAN; Wei ZHAO

Time	Speaker	Report Title	Chairman
14:00-14:20	Xue YAN (Invited)	Scientific Cooperation & talent training in Charming Africa—Sino-Africa Joint Research Center，Chinese Academy of Sciences	Wei YANG, Hui ZHU
14:20-14:35	Yujie LIU	The response of agriculture on Tibetan Plateau to climate change	
14:35-14:50	Mingquan WU	Remote sensing monitoring of major projects in the Belt and Road region	
14:50-15:05	Zhenhua YU	The effects of elevated CO2 on soybean yield, quality and soil microbial community	
15:05-15:20	Zongxing LI	Climate background, fact and hydrological effect of multiphase water transformation in cold regions of the Western China: A review	
15:20-15:35	Wentao ZHANG	Applications of fiber optic sensors in geophysics and seismology	
15:35-15:50	Chong CHEN	How to commit the geoscience community on its social science-popularity duty in the era of mobile-internet	
15:50-16:05	**Break**		
16:05-16:25	Yi SHI (Invited)	Youth Innovation Promotion Association CAS along the Silk Road	Hong YAN, Yujie LIU
16:25-16:40	Weicai WANG	Pan-Third Pole Environment Study for a Green Silk Road	
16:40-16:55	Fang LIAN	BRI Capacity Building for Young Professionals in Science, Engineering, Technology and Innovation for DRR through IRDR Young Scientists Programme	
16:55-17:10	Junli LI	Reconstructing Glacial Lake Outburst Floods of the Kyagar Lake in the Karakoram Mountains by Time series Remote Sensing and Hydrological Records	
17:10-17:25	Zhiwei LI	Seismic observations and cooperative studies in earthquake and geosciences in Southeast Asian countries	
17:25-17:40	Puyu WANG	New Progress of Glacier Change Research in Chinese Tian Shan	
17:40-17:55	Fangwei YU	Introduction of China-Pakistan Earth Science Center (CPESC)	
17:55-18:00	**Break**		
18:00-18:30	Discussion (All participants)	Announcement of the Youth Network for “Belt and Road”	Yi SHI, Zongxing LI, Wei ZHAO
19:00-21:00	**Dinner**		

Session 19: Societal Impacts of Geohazards

May 12th | Room: 5F

Organizers: Japan Space Systems
Yamaguchi University
Institute of Geology, China Earthquake Administration

Conveners: Honglin HE; Yasukuni OKUBO; Kiichiro KAWAMURA

Time	Speaker	Report Title	Chairman
08:30-08:50	Kiichiro KAWAMURA(Invited)	Submarine slides and marine geohazards: the previous study results and current problems	Yasukuni OKUBO
08:50-09:10	Antonio CORREIA (Invited)	GEOHAZARDS IN AZORES AND MARITIME ANTARCTICA	
09:10-09:30	Guiwu SU	PAGER-O: using a pan-participatory approach to develop an earthquake scenario to co-identify risk, co-explore pathways to resilience, and motivate co-action in Weinan City, China	
09:30-09:50	Le Quoc HUNG(Invited)	GENERATING A LARGE-SCALE LANDSLIDE RISK ZONATION MAP FROM A MEDIUM-SCALE DATABASE	Yasukuni OKUBO
10:00-10:20	**Break**		
10:20-10:35	Marcella Schmidt di FRIEDBERG	Hazard and Resilience: The Case of The Maldives	Kiichiro KAWAMURA
10:35-10:50	Myint NAING(Invited)	Geohazards of Myanmar	
10:50-11:05	Susmita DHAKAL	Societal Impacts and Risk Perception of Landslides in Sino-Nepal Road Corridor	
11:05-11:20	Rong CHEN	Damage to Reconstructed Settlements Caused by Mountain Disasters in the Wenchuan Earthquake-hit Area	Honglin HE
11:20-11:35	Yasukuni OKUBO (Invited)	Tectonic Interpretation of Active Fault Extending in Myanmar, Laos and China by Relief Map of Aster GDEM and Harmonized Geological Map	Honglin HE
11:35-12:00	**Discussion**		Yasukuni OKUBO
12:00-13:30	**Lunch**		

Session 20: Disaster Monitoring and Risk Assessment

May 12th | Room: 5C

Organizers: International Association for Mathematical Geosciences (IAMG)
State Key Laboratory of Resources & Environmental Information System
Conveners: Jennifer MCKINLEY; Yong GE

Time	Speaker	Report Title	Chairman
08:30-08:50	Jennifer MCKINLEY (Invited)	Monitoring of ground instability using spatial data analysis from satellite interferometric synthetic aperture radar (InSAR) and UAV acquisation	Yong GE
08:50-09:10	Jianjun WU (Invited)	Natural Disaster Emergency Management and Risk Governance, from Monitoring to Risk Assessment	
09:10-09:25	Dingjian JIN	Risk assessment of extreme precipitation in Yangon Port based on scenario simulations	
09:25-09:40	Donghui SHANGGUAN	Spatial Distribution and Change of Glacial Lakes along China-Pakistan Economic Corridor	
09:40-09:55	Fei YANG	Assessment of heat wave risk in Dhaka metropolitan area of Bangladesh	
09:55-10:15	Junnan XIONG	Spatial and Temporal Variation of Extreme Precipitation across the Tibetan Plateau (1986－2015)	
10:15-10:30	**Break**		
10:30-10:45	Nan XU	Extraction of Hazard-affected building in coastal area based on deep learning and very-high-resolution image	Jennifer MCKINLEY
10:45-11:00	Xiaodong LI	Detecting the construction date of man-made-objects for risk assessment based on continuous remote sensing data	
11:00-11:15	Xilin WU	Remote Sensing Based Risk Identification and Assessment of Heat Wave in Karachi, Pakistan	
11:15-11:30	Xinyan LI	Monitoring flood dynamics using Sentinel-1 and SMAP － A case study in Dhaka, Bangladesh	
11:30-11:45	Yuehong CHEN	Downscaling census data for disaster risk assessment with geographically weighted area-to-point regression kriging	
11:45-12:00	Zhoupeng REN	Spatio-temporal pattern analysis of heat waves over the Belt and Road regions	
12:00-12:15	Yuefeng LU	Spatiotemporal characteristics of freeze-thawing erosion in the source regions of Yangtze River on the basis of GIS	
12:15-12:30	Yuan ZHANG	Delineation of Multi-Hazard Regions and Region-wise Identification of Major Hazard Combinations	
12:30-13:30	**Lunch**		

Session 21: Engineering and Environmental Geological Disasters in Permafrost Area

May 12th | Room: 5G

Organizers: Institute of Cold Regions Science and Engineering Northeast Forestry University, China
State Key Laboratory of Frozen Soil Engineering (SKLFSE), China

Conveners: Wei SHAN; Huijun JIN; Ying GUO

Time	Speaker	Report Title	Chairman
08:30-08:50	Aleksandr N.FEDOROV (Invited)	Permafrost and Related Hazards along the Proposed Northern Silk Road	Huijun JIN Lin DING
08:50-09:10	Fujun NIU	The permafrost extent simulation over the Circum-Arctic since 2000	
09:10-09:30	Ze ZHANG	Freeze-thaw effect and stability of silt fraction - an experimental confirmation about soil particle enrichment phenomenon	
09:30-09:50	Srikrishnan Siva SUBRAMANIAN	Modelling snowmelt induced soil slope failures at catchment scale - implications for early warning systems	
9:50-10:20	**Break**		
10:20-10:35	Ying GUO	Environmental and Engineering Geology Problems in Permafrost Degraded Areas of Lesser Khinggan under Climate Change	Fujun NIU Wei SHAN
10:35-10:50	Huijun JIN	Oil- and gas-pipeline foundation soils in degrading permafrost regions under a warming climate	
10:50-11:05	Guoyu LI	Pipeline-permafrost interaction monitoring system along the China-Russia Crude Oil Pipeline and primary results	
11:05-11:20	Lin DING	Distribution Characteristics of Permafrost in MoDa Line Based on Equivalent Surface Temperature Model	
11:20-11:35	Guanli JIANG	Thermal Influences of Road Engineering on Permafrost underneath Different Surface Conditions in the Qinghai-Tibet plateau	
11:35-11:50	**Discussion**		
11:50-12:05	**Discussion**		
12:05-13:30	**Lunch**		

Session 22: Disaster Risk Reduction Knowledge Service

May 12th | Room: 5B

Organizers: Institute of Geographic Sciences and Natural Resources Research, CAS
International Knowledge Centre for Engineering Sciences and Technology under the Auspices of UNESCO (IKCEST)

Conveners: Juanle WANG; Elena GRIGORIEVA

Time	Speaker	Report Title	Chairman
08:30-08:45	Soichiro YASUKAWA (Invited)	UNESCO's multi-stakeholder engagement for DRR	Juanle WANG
08:45-09:00	Elena A. GRIGORIEVA (Invited)	Three Polar Tourism: climate risk aspects of cross-continental travels	
09:00-09:10	Chang LIU (Invited)	International Knowledge Centre for Engineering Sciences and Technology under the Auspices of UNESCO (IKCEST) Founding Philosophies and Current Practices	
09:10-09:20	Juanle WANG	A Paradigm Shift from Disaster Data towards Knowledge Services	
09:20-09:30	Salmanuddin	Building Community Resilience through Community based Disaster Risk Reduction Interventions in Pakistan	
09:30-09:40	Egidarev EVGENII	The "Silk Road of China" and conservation of environmental values of the transboundary Amur River basin	
09:40-09:50	David Sustach GARCIA	Coordination and Articulation operative actions for Disaster and Emergency Care in Bolivia	
09:50-10:00	Lemya NAWAY	Data sharing in Africa: Challenges into opportunities	
10:00-10:20	**Break**		
10:20-10:30	Alexander AYURZHANAEV	Dynamics of vegetation cover in the basin of Lake Baikal	Elena A. GRIGORIEVA
10:30-10:40	Anastasiia MIADZELETC	Risk assessment of forest fires and landscape changes for the shore of Lake Baikal	
10:40-10:50	Bair TSYDYPOV	Comprehensive methods for studying the dynamics of erosion landforms	
10:50-11:00	Solongo TSOGTBAATAR	Land use and ecological issues along Mongolia Economic Corridor	
11:00-11:10	Md Aminul ISLAM	Assessment of Seismic Exposure, Building and Socio-economic Exposure Assessment and Contingency Planning for Ward 14 of Mymensingh Municipality	
11:10-11:20	Mariya VASILYEVA	Evaluation of representative magnitude for earthquake catalogues in southern regions of Russian Far East in 2003-2015	
11:20-11:30	Cong YIN	Research on Heat Wave Events Along the Route	
11:30-11:40	Suwanna MUKEM	Assessment of health sector disaster management in community level: a pilot study in Nakhon Si Thammarat	
11:40-11:50	Basanta PAUDEL	Climate change, its indicators and determinants in Nepal	

		Himalayas: Implication for developing adaptation strategy	
11:50-12:00	Nergui JARGAL	The study of ability to generate municipal solid waste composition and fertilizers	
12:00-12:10	Xuehua HAN	Analyzing Flood Emergency Response and Public Sentiment using Social Media: A Case Study of 2018 Shouguang City Flood	
12:10-13:30	**Lunch**		

Session 23: Railway Engineering on "the Belt and Road"

Organizers: China Railway Eryuan Engineering Group Co. Ltd.
Southwest Jiaotong University

Conveners: Ying ZHU; Ping WANG

May 11th | Room: 4C

Time	Speaker	Report Title	Chairman
14:30-14:50	**Opening Speech by Session Chair**		Liangwen JIANG
14:50-15:10	Ying ZHU (Invited)	Disaster reduction techniques for route selection of railway in complex and dangerous mountain	Chuan TANG
15:10-15:30	Ping WANG (Invited)	Research on Catastrophe Behavior in Ballasted Track under Complex Environment	
15:30-15:50	Lutz PLUEMER (Invited)	Mobile mapping on demand with unmanned aerial vehicles	
15:50-16:00	**Break**		
16:00-16:20	Xiewen HU (Invited)	Comprehensive Prevention and Control of giant debris flow in meizoseismal area	Xianfeng LIU
16:20-16:40	Chuan TANG (Invited)	Hazard assessment of glacial debris flows along Lhasa-Nyingchi railway	
16:40-17:00	Anna GIACOMINI (Invited)	Assessment and Mitigation of Rockfall Risk	
17:00-17:20	Qulin TAN	Risk Assessment of Geological Hazards in Mountainous Railway Corridor Based on GIS and Information Model	
17:20-17:40	Zhibin JIN	Derailment risk of railway vehicles on bridges in seismic zone	
19:00-21:00	**Dinner**		

May 12th | Room: 4C

Time	Speaker	Report Title	Chairman
8:30-8:50	Yufang ZHNANG (Invited)	Prevention and treatment of geologic hazard of road engineering	Jianjing ZHANG
8:50-9:10	Liangwen JIANG (Invited)	Exploration technique for high speed railway in complex karst area	
9:10-9:30	Xiaoyan ZHAO	Characteristics of soil arch of super long and large section cantilever piles in high-altitude and high-altitude mountain railway	
9:30-9:50	Yan XUAN (Invited)	Innovation and development of technologies for earthquake early warning of high speed railways in China	
9:50-10:10	Maojing WANG (Invited)	Main engineering geological problems along and countermeasures for Moscow-Kazan high-speed railway	
10:10-10:30	Guanlu JIANG (Invited)	Seismic response of bridge foundation/embankment on high and steep deposit slope reinforced by anti-slide piles in Sichuan-Tibet railway	

10:30-10:50	Gang LUO	A collision fragmentation model for predicting the distal reach of brittle fragmentable rock initiated from a cliff	
10:50-11:00	**Break**		
11:00-11:20	Xiaodan SUN	Seismic hazard analysis for highway network based on stochastic finite fault modeling of ground motions	Guanlu JIANG
11:20-11:40	Jianjing ZHANG (Invited)	The analysis of the hydrothermal evolution of active layer of permafrost and formation mechanism of shallow slide collapse	
11:40-12:00	Yongxing WEI (Invited)	Risks and corresponding Countermeasures of Slope Embankment	
12:00-13:30	**Lunch**		

Session 24: Academician Session: Science and Technology Development for a Sustainable World May 11th | Room: 3B			
Organizers: ANSO, School of Economics and Management of UCAS Center for Environmental Economics of UCAS, International College of UCA **Conveners:** Desheng WU; Philip C.L. Chen; Liqun AI			
Time	**Speaker**	**Report Title**	**Chairman**
2:00-2:05	Desheng Wu	Welcome speech	Desheng Wu; C. L. Philip Chen
2:05-2:30	C. L. Philip Chen	Data Modelling and Analysis using the New Discriminative Broad Learning System	
2:30-2:55	Shiji Song	The motion control of underwater robotics based on reinforcement learning	
2:55-3:20	Xiaojun YANG	A new perspective in anomalous viscoelasticity from the derivative with respect to another function view point	
3:20-3:45	Vladimir Korotkov	Benchmarking Project Portfolios Using Optimality Thresholds	
3:45-4:05	Akber Aman SHAH	Do Commercial Banks Benefited from the Belt and Road Initiative? A Three-Stage DEA-Tobit-NN Analysis	
19:00-21:00	**Dinner**		

POSTER

Session 1: The Formation Process, Mechanism, and Treating Countermeasures of Landslides		
Poster No.	**Exhibitor**	**Title**
S1-01	Jian LAN, Xiaoli CHEN	Long-term evolution of landslides triggered by the 2008 Ms8.0 Wenchuan earthquake in Yingxiu area
S1-02	Daoyuan TAN	Impact force calculation on a flexible barrier in the overflow stage
S1-03	Sheng HU	Spatial pattern of landslide in Loess Plateau and its influence on geomorphologic evolution
S1-04	Weiqiang FENG	Ground settlement problem analysis of a reclamation project in Nansha of China
S1-05	Yao TANG	A coupled discrete element model for the simulation of soil erosion
S1-06	Zhihua ZHANG	Shear vibrational fluidization of sand in the dynamic direct shear test based on DEM
Session 2: Monitoring and Early Warning, Cross Border Disaster, Mountain Hazards		
Poster No.	**Exhibitor**	**Title**
S2-01	Hongling TIAN, Yong NIE	After-quake geological disasters: Eyeing the development and trends from the field monitoring data viewpoint in southwest China
S2-02	Shengnan WU, Peng CUI, Yu LEI	Enhancing resilience towards transboundary disasters
Session 4: Engineering Geology and Geological Engineering		
Poster No.	**Exhibitor**	**Title**
S4-01	Chaojun OUYANG	A depth-integrated numerical modeling platform of dynamics of earth-surfaced flows—Massflow
S4-02	Yimin LIU	Analysis of the occurrence mechanism and instability mode of a special type of translational landslide using long-period monitoring data: the case study of Wobaoshi landslide (Bazhong City, China)
S4-03	Xiaolei LIU	Seafloor sediment geo-acoustics and its application in marine engineering geology
S4-04	Shuangshuang QIAO	Risk assessments of floods caused by volcanic eruptions of the Changbai volcano and countermeasures
S4-05	Ephrem Getahun GURE	Grain size distribution characteristics and residual shear depiction of the long runout coseismic landslide, a case from China
S4-06	Lihui LI	Coral sand dredging foundation treatment in Maldives Velana International Airport project

Session 7: Risk and Management of Water Disaster under Changing Environment		
Poster No.	**Exhibitor**	**Title**
S7-01	Lifen ZHANG, Xinglin LEI, Yunsheng YAO, Wulin LIAO, Jinggang LI, Yannan ZHAO	Influences of water impoundment on the earthquakes in the Three Gorges reservoir area
S7-02	Junchao PENG, Guangfa LIN, Xiao HUANG	Artificial water body planning for urban flood prevention based on hydrological simulation
Session 8: Advances in Landslide Risk Reduction		
Poster No.	**Exhibitor**	**Title**
S8-01	Basanta Raj ADHIKARI	Inventories and analysis of landslides along the Sino-Nepal Road corridor: A case study from the Pokhara-Zhongba road
S8-02	Javed IQBAL	Landslide hazards along Karakorum Highway and the China-Pakistan Economic Corridor in North-Pakistan
S8-03	Xuguo SHI	Loess slope stability monitoring with multi-temporal InSAR datasets of the upstream Yellow River
S8-04	Yuanjun JIANG	Experimental investigation on impact force of dry granular flow impacting on the flexible barrier
Session 10: Mountain Hazards		
Poster No.	**Exhibitor**	**Title**
S10-01	Giacomo TITTI	A tree-based decision support system for landslide soil parameters investigation
S10-02	Yanji LI	Sediment connectivity assessment in typical debris-flow catchments—Case study of Jiangjia gully
S10-03	Akmal UBAIDULLOEV	Geological hazards in Tajikistan
S10-04	Kahlil Fredrick CUI	CFD-DEM investigation on the particle size segregation of binary submarine debris flows
S10-05	Mehtab ALAM	Numerical modeling of roots mechanical reinforcement in rainfall triggered landslides
S10-06	Jiao WANG	Spatial distribution of glacier landform in Parlung Tsangpo basin, Southeast Tibetan, China
S10-07	Jian CHEN	Holocene soft-sediment deformation structures in the landslide-dam lacustrine deposits along the upper Jinsha River, SE Tibetan Plateau
S10-08	Xin QU	Simulation of the failure process of anaclinal layered rock slopes based on a numerical manifold method with strength criteria

S10-09	Biyun GUO	Study on the relationship between vegetation and regional climate change in Wenchuan Earthquake-stricken area
S10-10	Inamullah KHAN	Predictive numerical modelling of debris flow: A case study of HUNZA catchment
S10-11	Xinglong GONG	The characteristics of debris flow disaster at Zechawa Gully, Jiuzhaigou scenic area, China in 2016

Session 11: Integrated Disaster Risk Governance - Assessment and Management

Poster No.	Exhibitor	Title
S11-01	Jieming CHOU, Yuan XU, Wenjie DONG, Tian XIAN, Zheng WANG	Research on the variation characteristics of climatic elements from April to September in China's Main Grain-Producing areas
S11-02	Zhengtao ZHANG, Peng CUI, Ning LI	Research on the assessment of the transboundary impact of natural disaster losses along Silk Road
S11-03	Congshan TIAN, Yiping FANG	Multi-scale study of social and economic resilience under geological hazards: A case study in mountainous areas of southwest China
S11-04	Ming LI, Yafeng LU, Qinwen LI, Yukuan WANG	Spatial and temporal changes of debris flow risk under future climate change (2030-2059): A case study in the disaster prone area of Sichuan Province, China
S11-05	Gopi K BASYAL, Nick ROSSER, Judith COVEY, Katie OVEN, Amod M DIXIT	Local perceptions and response to changing landslide risk following the 2015 Gorkha Earthquake: Implications for effective risk reduction
S11-06	Xilue YUE	Risk identification method of seismic landslides and its application prospect for insurance model
S11-07	Yun XU, Xuyang LU	Comparison of disaster risk management models of rural relocation communities under the stress of geological disasters
S11-08	Yuan LIU, Ning LI	Indirect economic loss and dynamic change assessment of typhoon Ewiniar in Guangdong, China

Session 13: The sustainable Development along the Silk Roads

Poster No.	Exhibitor	Title
S13-01	Muhamamd SAIFULLAH, Shiyin LIU, Mubasher HUSSAIN, etc	Hydrological drought risk assessment under warming climate conditions along China Pakistan Economic corridor

S13-02	Shasha YUE, Xiao WEI, Siqi JIA	Dynamic monitoring and assessment of ecological impacts of the silk road transportation infrastructure network
S13-03	Amin NABOUREH, Ainong LI, Meisam MOHARRAMI, etc	Analysis of the relationships among urban green space, land surface temperature and air pollution using geographically weighted regression
S13-04	Wangwang GAO, Linyan BAI	Coupling relationship between the urbanization and fine particulate matter pollution in Silk-roads hybrid city—New Delhi

Session 14: Marine Observations and Hazards

Poster No.	Exhibitor	Title
S14-01	Zhangqun LI, Ziniu XIAO	The role of the Western Pacific moisture source in the rainfall over the Lancang River basin during wet season
S14-02	Witness Clay MASSAWE, Ziniu XIAO	Analysis of rainfall variability over Southern Tanzania in the january-march (JFM) season
S14-03	Yilei WANG, Qiaoyan WU	Comparison of oceanic multisatellite precipitation data from TRMM and GPM datasets with rain gauge data from ocean buoys
S14-04	Hao MIAO, Xiaocong WANG	An evaluation of cloud vertical structure in three reanalyses against CloudSat/CALIPSO
S14-05	Rong Feng, Wansuo Duan, Mu MU	Estimating observing locations for advancing beyond the winter predictability barrier of Indian Ocean dipole event predictions
S14-06	Lei YANG, Dongxiao WANG	The role of intraseasonal oscillation in the tropical cyclone activity: A case study for Roanu (2016) in Bay of Bengal
S14-07	Yu LIU, Kang XU, Weiqiang WANG, Qiang XIE	Seasonal contrast of the shallow meridional overturning circulation in the Indian Ocean
S14-08	W.A.E. LAKSHANI, Guangli ZHANG, Xin WANG	The interdecadal and interannual variations of Sri Lankan precipitation during southwest monsoon and their connections with the tropical Indian Ocean SST
S14-09	Tingrong QIN, Guoping GAO, Chenyang YAO	Research on navigation risks along Maritime Silk Road
S14-10	Shifei TU, Feng XU, Jianjun XU	Regime shift in the destructiveness of tropical cyclones over the western North Pacific

Session 15: Climate Change and Disaster Prevention Technology in Eurasia Arid Zone

Poster No.	Exhibitor	Title
S15-01	Xiu GENG	Changes in climate extremes in Central Asia under 1.5 C and 2 C global warming and the impacts on agricultural productions
S15-02	Ying HOU	Multi-scale drought characteristic and spatial consistency based on spatial-temporal analysis in typical basin of arid area, Northwest China

Session 16: Paleoenvironmental Change and Disaster along the Silk Roads

Poster No.	Exhibitor	Title
S16-01	Yougui SONG	Loess sediments in Central Asia and its paleoclimatic significance
S16-02	Shugang KANG	Increasing effective moisture since the Holocene in arid Ili Basin, Central Asia, evidence from loess
S16-03	Xinzhou LI	Joint influence of dust source and high-latitude ice sheet on Asian dust cycling during the last glacial maximum
S16-04	Qi WANG	Simulated analysis of the impacts of land use/cover change on decadal summer precipitation pattern over Eastern China
S16-05	Kefan CHEN	Responses of drought persistency and intensity to volcanic eruptions at divergent drought phases basing on Community Earth System Model
S16-06	Yanmin QIN	Assessment of simulations of megadroughts over Eastern China during the last millennium
S16-07	Na LIU	Two centuries-long streamflow reconstruction inferred from tree rings for the middle reaches of the Weihe River in Central China
S16-08	Jianghu LAN	Climate changes in High Central Asia based on lake sediments during the late Holocene
S16-09	Qiufang CAI	Tree-ring evidence of temperature variations in subtropical China over the past 200 years

Session 17: The Geological and Geophysical Process, Mechanism, and Precaution Measures of Natural Earthquakes

Poster No.	Exhibitor	Title
S17-01	Zufeng CHANG	Zoning of ground motion parameters in Mekong River drainage area and its engineer application
S17-02	Yinxing ZHOU, Weiyuan WU, Suling ZHANG	Progress in the construction of the Bangladesh seismic networks

Session 18: Young Scientist Forum

May 11th | **Room:** 5G

Poster No.	Exhibitor	Title
S18-01	Hong YAN	Climate change and ecological response of the South China Sea Marine Silk-Road during the past 5000 years

S18-02	Xinwen XU	Magnetic mineral dissolution in a lacustrine sedimentary core from Heqing Basin, and its paleoenvironmental implications
Session 19: Societal Impacts of Geohazards		
Poster No.	**Exhibitor**	**Title**
S19-01	Yi ZHENG	Factors affecting public emergency response ability：Evidences from Jiuzhaigou earthquake
Session 20: Disaster Monitoring and Risk Assessment		
Poster No.	**Exhibitor**	**Title**
S20-01	Bingquan LI	Using ground-based interferometric radar to evaluate the stability of an open-pit slope
S20-02	Dong FAN	Spatial-Temporal characteristics of drought based on long time-series data in the Belt and Road area
S20-03	Hua WU	Drought frequency analysis using copulas along the Belt and Road
S20-04	Huajun MENG	Debris flow warning threshold study based on physical model experiment in Wenchuan earthquake stricken area
S20-05	Wen DONG	Research on fine spatial prediction of social disaster-bearing body based on high resolution remote sensing image
S20-06	Xian LU	Outgoing Long wave Radiation changes of China FY-2E satellite before and after earthquakes
S20-07	Yonghui YAO	Assessment and response plan for extreme precipitation in Djibouti
S20-08	Bokai CUI	Monitoring of land subsidence in Xinluo District, Longyan City, Fujian Province based on D-InSAR technology
S20-09	Yimin LI	The susceptibility assessment of debris flow in Nujiang State based on the watershed
S20-10	Qulin TAN	Surface deformation detection and potential hazard identification along mountainous railway corridor using satellite D-InSAR
S20-11	Yinping NIE	Real-time dynamic hazard assessment of regional debris flows based on a coupled physical model
S20-12	Yukuan WANG	Impacts of future climate change (2030-2059) on debris flow hazard: A case study in the disaster prone area of Sichuan Province, China
S20-13	Qingyun SHI	Research on deformation monitoring of landslide induced by dumping place in mining area using D-InSAR
S20-14	Ling ZENG	An empirical model for bare soil moisture retrieval in Hetao Plain, Inner Mongolia: A Possible explanation for soil collapse in this area
S20-15	Xuehao FU	Suitability evaluation of port site in Jinghong port-Qingsheng port section of Lancang-Mekong River
S20-16	Shiyao GU	Community based disaster resilience evaluation system using RGIS
S20-17	Lamek NAHAYO	GIS-Based distribution of landslide vulnerability in Rwanda

Session 21: Engineering and Environmental Geological Disasters in Permafrost Area		
Poster No.	**Exhibitor**	**Title**
S21-01	Xinyu LI	Prognosis and assessment of engineering geological conditions in frozen-ground zones along the China-Russia Crude Oil Pipeline (CRCOP)
S21-02	Sifan ZHANG	Thaw settlement and thermal erosion of foundation soils along downhill pipeline on ice-rich permafrost slopes and their mitigation

General information

Internet Access

Free, wireless internet access will be available for conference participants in the conference area without password. Please connect it directly.

Name Badge

Your name badge serves as your identification and admission to the different scientific sessions as well as to the coffee breaks and lunches. Please wear it at all times at the conference venue.

Coffee Break

Coffee will be served during the breaks. The morning breaks will be between 09:30-10:00 on the 11th and 10:00-10:30 on the 12th. The afternoon breaks will be between 16:00-16:30 on the 11th and 14:45-15:15 on the 12th. Please see the program for the time and place.

Working Lunch

Lunch tickets will be given to you after registration. There will be a ticket for each day and you will need to hand this over to the catering staff. The lunches will be served at the lunch box area, on the first floor near the convention rooms, BICC. Lunch hours will be between 12:40-14:00 on the 11th, and 12:00-13:30 on the 12th. Beef & chicken will be served in area No. 1~3, fish & chicken, and vegetarian meals will be served in area No. 4.

Social Events

Welcome Reception – May 11th 19:00-21:00

The Welcome Reception is free for all SiDRR registered participants. Drinks and light snacks will be served. Please join us at the convention hall No.2, on the second floor of the BICC

Opening and Closing Ceremony Group

Gongdan ZHOU Tel: +86 13980660182 **Zongji YANG** Tel: +86 13982144833

Registration

Xiaojun GUO Tel: +86 13980665946 **Zhihai ZHANG** Tel: +86 18200364687

Venue Information

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Ceremnony Invited Representatives Group

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Chonglei ZHANG Tel:+86 13678076626

General coordination group

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Local Information

Emergency Phone Numbers

Call 110 for police related emergencies.

Call 120 for medical emergencies.

Call 119 for fire emergencies.

International Calls

Dial 00+country code +area code + phone number

Currency

The official name for the currency of China is Renminbi (RMB). It is denominated into Yuan (元) or Kuai (块). Foreign currency can be exchanged for RMB at airports, banks and hotels. Major credit cards are honored at most hotels. Banks usually open at 9:00 in the morning and close at 17:00 in the afternoon all working days.

Volunteer

There are volunteers in each venue to assist you. They can be easily identified by the T-shirts they wear (shown above). If you have any difficulties or questions, you can ask the volunteers directly. They will be happy to help you.

Electricity

Electricity is supplied at 220V, 50Hz AC throughout China. Major hotels usually provide a 115V outlet for electric razors.

Smoking

Smoking is not allowed in any public place in China.

Personal Safety

Although Beijing is safe, you still have to keep your passport and valuables in a safe place, such as the safety deposit box in your hotel room. Be aware of pickpockets in crowds. In case of loss of passport, contact the local police and the embassy of your country.

Weather

Summer temperatures in Beijing can range from 25℃ at daytime to about 12℃ at night. Casual summer wear such as shorts, and light shirts and dresses are recommended. Sunlight can be very strong in the afternoon, so if you plan to go outdoors you may need to bring along some sun screen lotion. You may also need to bring your umbrella in case of some sudden and unexpected rain.

Beijing Average Monthly Climate Conditions

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
High(℃)	1.1	3.9	11.1	19.4	26.1	30.0	30.6	29.4	25.6	18.9	10	2.8
Low(℃)	-9.4	-7.2	-1.1	7.2	12.8	17.8	21.1	20.0	13.9	7.2	-0.6	-7.2
Precip. (mm)	0.1	0.2	0.4	1	1.1	2.8	6.9	7.2	1.9	0.7	0.2	0.1
High(℉)	34	39	52	67	79	86	87	85	78	66	50	37
Low(℉)	15	19	30	45	55	64	70	68	57	45	31	19

Transportation

Airport to BICC

Beijing Subway: (Airport Express Line) You can take the Airport Express Line which runs from Terminal 3/Terminal 2 to the Sanyuanqiao (三元桥) station, then take subway line 10 to the huxinxijienankou (惠新西街南口) station and transfer to subway line 5 get down at the huixinxijiebeikou (惠新西街北口).

Airport Taxi: The legitimate taxis form a long queue outside the Arrival Hall, but taxis move quickly so you won't have to wait long. At the head of the line a dispatcher will give you your taxi's number, which is useful in case of complaints. The charge will be at least 100 CNY, but pay according to the meter, which includes an expressway toll of 15 CNY. After 23:00, you will have pay more. ***You can show the information below to the taxi driver:***

请带我去北京国际会议中心

Please take me to Beijing International Convention Center,

地址：北京市朝阳区北辰东路 8 号北京国际会议中心

Address: **Beijing International Convention Center, No. 8 Beichen East Road, Chaoyang District, Beijing**

Airport to Hotels

Provided below are information on the different hotels near the Beijing International Convention Center. The said area is well-known for hosting conferences as well as for tourism being next to the Bird's Nest, Beijing Olympic Park, and China Science and Technology Museum. As such, we would advise you to book your hotel at your earliest convenience.

Beijing North Star Continental Grand Hotel (same as the conference site)

地址：北京市朝阳区北辰东路 8 号北京国际会议中心

Address: No. 8 Beichen East Road, Chaoyang District, Beijing

Contact: +86 010-84985588

Conference Site: http://www.bicc.com.cn/

Link to its hotel: http://www.bcghotel.com/

Reference: Around 650 RMB per night without breakfast

Foreign Experts Building Beijing (about 3.8km away)

地址：北京市朝阳区北四环中路华严北里 8 号

Address: Huayan Beili Residential Zone, Middle North 4th Ring Road, Chaoyang District, Beijing

Contact: +86 010-82858888

http://www.feb-hotel.com/

Reference: Around 688 RMB per night without breakfast, Breakfast buffet would be 68 RMB per person

Holiday Inn Express (Beijing MinZuYuan) about 3.8km away

地址：北京市朝阳区民族园路 2 号 3 幢

Address: Block 3, No.2, Minzuyuan Road, Chaoyang District, Beijing

Contact: +86 010-59269190

http://www.holidayinnexpress.com

Reference: About 699 RMB per night with breakfast

Anhui Da Sha (about 1.2km away)

地址：北京市朝阳区惠新西街 1 号

Address: No.5 West Huixin Street Chaoyang District,Beijing,China

Contact: +86 010-64965588

http://www.bjahds.com/

Reference: Around 560 RMB per night without breakfast, Chinese breakfast 30 RMB per person

Yayuncun Hotel (about 500m away)

地址：北京市朝阳区北辰东路 8 号东侧

Address: No.8 Beichendong road, Chaoyang district

Contact: +86 010-64991199

http://www.huiyuangongyu.com.cn

Reference: Around 490 RMB per night without breakfast, Breakfast buffet 38 RMB per person

National Jade Hotel (about 689m away)

地址：北京市朝阳区亚运村慧忠里 19 号

Address: No. 19 Hui Zhong Li, Asian Games Village, Chaoyang District, Beijing

Contact: +86 010-64969988

http://www.guoyuhoteli.com/

Reference: Single room around 490 RMB per night without breakfast, standard room around 530 RMB per night without breakfast, Breakfast buffet 68 RMB per person

Grand Skylight Catic Hotel (about 445m away)

北京市朝阳区北辰东路 18 号

Address:No. 18 Beichen East Road, Chaoyang District, Beijing

Contact: +86 010-84971188

http://www.zkeji.com.cn/hliy4xqz/1011826/

Reference: Around 990 RMB without breakfast, Breakfast Buffet would be 98 RMB per person

Subway

Since the 2008 Olympics, Beijing's Subway has been extensively developed and has grown from having only 2 lines to 14 lines. Please see the Subway Map for details.

City Public Buses

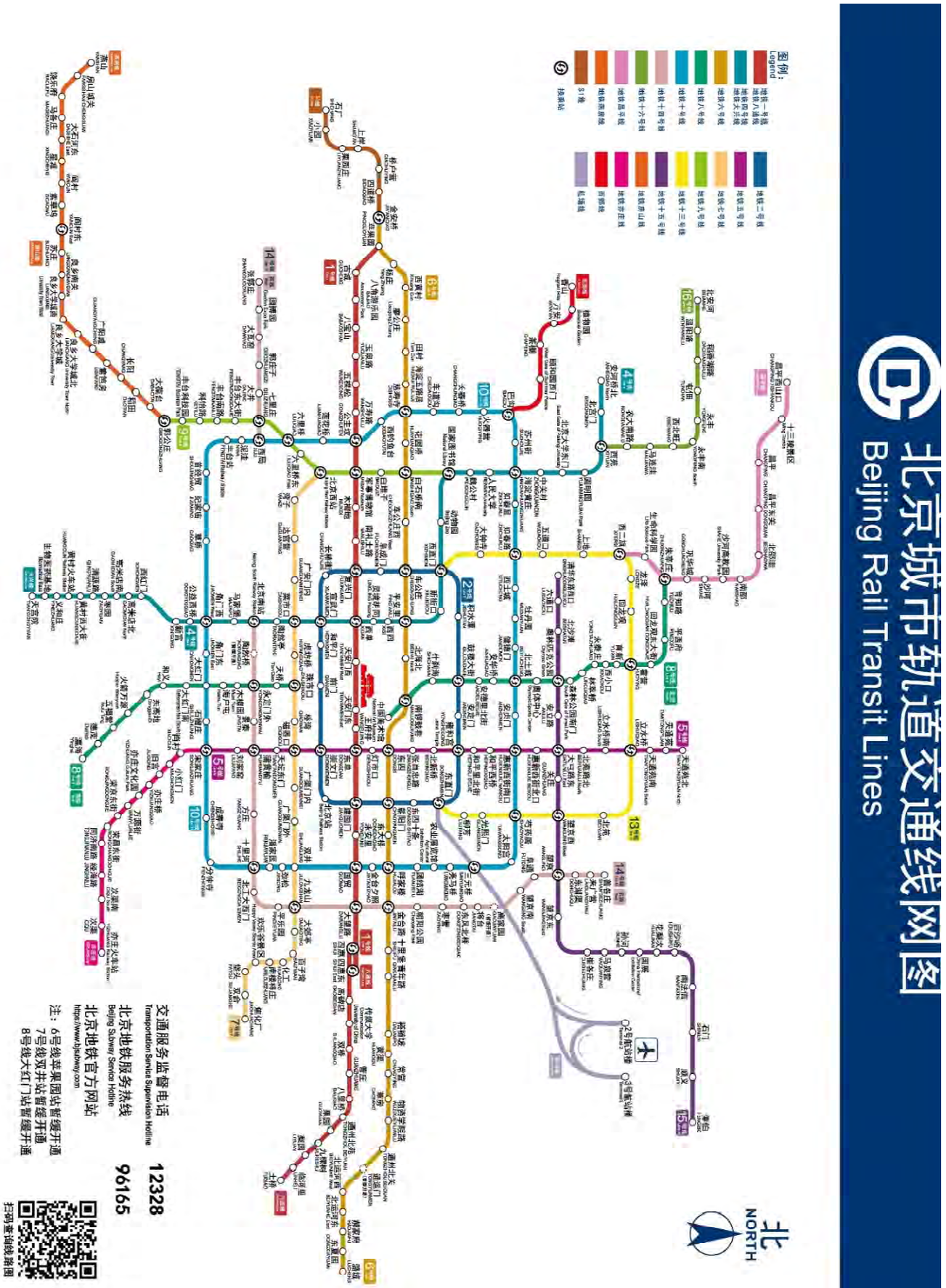
Public buses run from 5:30 till 23:00, daily. Taking buses in Beijing is cheap, but less comfortable than a taxi or the subway. The flat rate for a tram or ordinary public bus is 2 yuan, but will increase with distance. Buses are equipped with air-conditioning. Having your destination written down in Chinese characters will help. When squeezing into a crowded bus take care of your wallet and other personal belongings.

Taxis

Though Beijing does suffer from traffic congestion, its taxi drivers will find the fastest route to your destination. Show them the name of your destination in Chinese characters if your spoken Chinese is not good. A pedi-cab is also a good choice for sightseeing, especially for visiting the narrow Hutongs. You will find pedi-cabs on the street. You should agree on a price with the driver before starting the journey. Legally registered pedi-cabs can be identified by a certificate attached to the cab and the driver has a card hanging around his neck.

Bicycle

China used to be called the sea of bicycles. Most people in Beijing today, still consider the bike to be a convenient means of transportation. Renting a bike may be a better way for you to see the city at your own pace. Bikes can be rented from many hotels for 20–30 yuan/day. A deposit will be required. You can also rent bikes at some bicycle repair and vulcanizing shops. The rental fees in such shops are cheaper though their bikes may not be as well kept as those in hotels. When needed, you can park your bike on designated bike parking areas, which are easily distinguishable. The charge is about 1 yuan


北京城市轨道交通线网图
Beijing Rail Transit Lines
图例：
Legend
地铁一号线
地铁八通线
地铁二号线
地铁五号线
地铁大兴线
地铁北京线
地铁八号线
地铁六号线
地铁十号线
地铁十四号线
地铁十三号线
地铁十五号线
地铁十六号线
地铁房山线
地铁昌平线
地铁亦庄线
S1线
机场线
换乘站
北
NORTH
交通服务监督电话
Transportation Service Supervision Hotline
12328
北京地铁服务热线
Beijing Subway Service Hotline
96165
北京地铁官方网站
https://www.bjsubway.com
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扫码查询线路图

中铁二院工程集团有限责任公司
CHINA RAILWAY ERYUAN ENGINEERING GROUP CO. LTD

中国中铁

■历史悠久
Long History

中铁二院工程集团有限责任公司，简称中铁二院，成立于1952年，隶属于世界双500强企业——中国中铁股份有限公司。

■实力雄厚
Fully Reinforced

中铁二院是国内最大型工程综合勘察设计企业之一，已两次获得国家科技进步最高奖。自1992年以来，始终位于全国勘察设计综合百强排名前列。

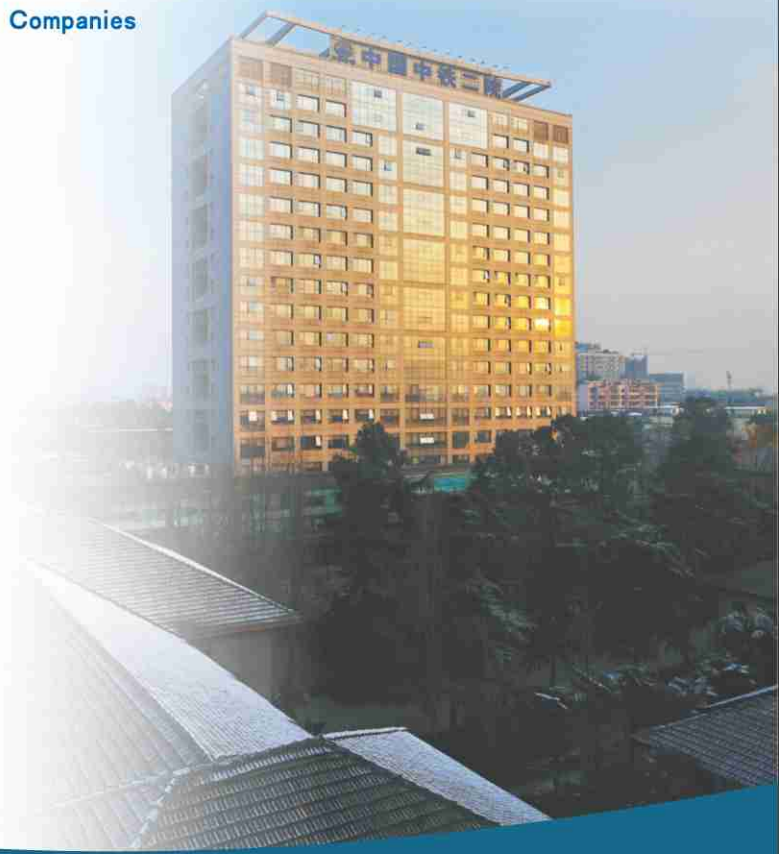
■能力超群
Ability To Excel

中铁二院坚持科技兴企，敢为人先，先后缔造了中国交通史上的多项第一：新中国第一条铁路--成渝铁路、第一条电气化铁路--宝成铁路、第一条具有自主知识产权的无砟轨道高速铁路--遂渝铁路、第一条跨海轮渡--琼州海峡轮渡、中国第一条跨座式单轨--重庆轻轨较新线、第一单海外高铁--俄罗斯莫喀高铁等，并连续两年获得具有工程咨询行业“诺贝尔奖”之称的国际FIDIC杰出工程项目奖。

■多元化发展 国际型工程公司
Diversified Development of International Engineering Companies

中铁二院经过60余年的艰苦创业，不断发展壮大，已由一个单一的勘察设计企业，成长为一家业务涵盖规划、咨询、勘察设计、监理、工程总承包、产品产业化等基本建设全过程服务的综合型、国际化企业集团，其中勘察设计主业横跨铁路、城市轨道交通、公路、市政、港口码头、民航机场等多个领域。公司现有员工6000余人，各类专业43个，可承接中国工程设计全部（21个）行业的有关业务。

中铁二院以服务全球交通和市政建设为使命，以交通建设为核心，以技术创新为先导，正努力打造成跨行业、涵盖工程建设生命全周期、具有完整产业链的国际型工程公司。



GDS 专业、领先、可靠的室内岩土实验设备

GDS动单剪试验系统

多方向动态循环单剪实验系统 MDDCSS

频率：1Hz
竖向荷载：5kN,
剪切向：2kN
可进行任意水平方向剪切；
特别设计更适合施加反压。

二维&三维动态循环单剪实验系统 EMDCSS/VDDCSS

频率：0.5Hz, 1Hz, 5Hz
竖向荷载：5kN,10kN
剪切向：2kN, 5kN
特氟龙涂层低摩擦剪切环约束，模拟纯剪实验。
VDDCSS可进行任意水平方向剪切。

GDS冻土 / 可燃冰动静态三轴测试系统

高压低温动静态三轴测试系统 DT-RTS

轴向加载范围：50～500kN,
静态或者动态可选
围压范围：16MPa或者32MPa,
甚至更高至100MPa
温控范围：-40℃至65℃,
分辨率0.01℃

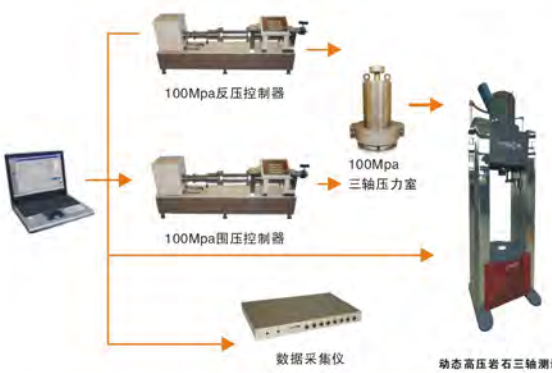
GDS高压主动三轴试验系统（AT-RTS）

轴向载荷：2 MN
围压范围：64MPa
试样直径：试样可达直径150mm
高度300mm
可安装声发射系统

岩石三轴测试系统

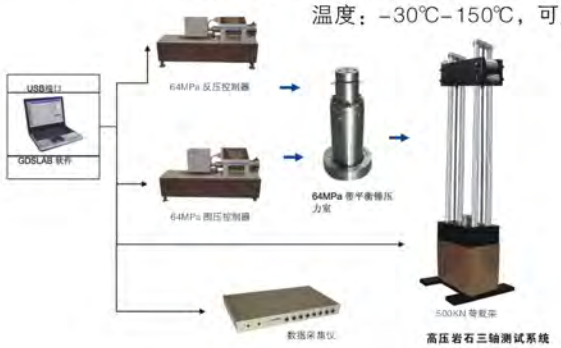
GDS高刚度液压动静态高压岩石三轴测试系统

压力量程：64 / 100 / 128 / 150MPa可定制
轴向荷载：静态1000/2000kN可定制,动态100-1500 kN可定制
温度：-30℃-150℃ 可定制



GDS VIS虚拟无限刚度岩石三轴流变测试系统

适用实验：单轴压缩试验 / 三轴试验；化学、温度耦合试验
岩石流变试验（蠕变或松弛试验）；岩石渗透试验 / 瞬时渗流试验
压力量程：32/64/100MPa可选，可定制
轴向荷载：250/400/500/1000 kN，可定制
温度：-30℃-150℃，可定制



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GEOBRUGG®
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Safety is our nature

GEOBRUGG CHENGDU CO., LTD. was founded on Aug.8th, 1995 as the solely owned company of the Brugg Group and the only company specialized in slope protection with the Safety Netting System in China. Our business covers the Flexible Safety Netting System, heavy duty rope and structural rope. Furthermore, GCCL is fully patented with the main technology, products and components concerning the Safety Netting System.

The Flexible Safety Netting System with the purpose of slope protection has been the major line of business of our company since its foundation, so we've dedicated ourselves to the development and production of the product, the popularization of the technology, the design and consultation of projects, the sales and after-service of the products, the construction of projects and the maintenance of the whole system. For many years, we've been well reputed with our advanced technology, high-quality products and satisfying service in the field and applied SNS extensively to hundreds of slopes by hydroelectric power plants, railways, mines and construction under municipal administration, etc.

Following our corporate spirit of "for better performance on rough territory", we will stride forward hand in hand with our customers and try to make greater achievements in the future.

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城市体检平台
Urban Health Remote Sensing Diagnose Platform

东方至远
Vastitude Technology

平台方案 Platform Solution

随着社会经济的高速发展，中国城市的灾害风险不断加大。近年来，全国范围内城市自然灾害和突发事件频发，使得城市灾害治理受到各级政府的广泛关注。我国城市灾害监测与治理能力的建设和发展取得了一定成效，但城市级的灾害防范是一个系统工程，仍然面临着诸多挑战。

东方至远作为中国领先的城市地灾遥感监测解决方案供应商，基于对城市地灾监测领域的深刻理解，凭借在对地观测领域的深厚积累，携合作伙伴推出基于遥感技术的城市健康体检工程化综合解决方案，助力各级政府应对城市地灾的应急防治和统筹决策。

With the rapid development of economy, the risk of disasters in Chinese cities has also increased. In recent years, urban natural disasters and emergencies have occurred frequently, making urban disaster management widely concerned by local governments. The construction and development of urban disaster monitoring and governance capabilities have achieved certain results, but urban-level disaster prevention is highly systematic and we are still facing many challenges.

As a leading supplier of remote sensing monitoring solutions for urban disaster prevention in China, Beijing Vastitude Technology Co.,Ltd, based on its acknowledge of urban disaster monitoring and its deep accumulation in the field of Earth observation, keeps carrying out urban health monitoring solutions with partners to help local governments prepare for urban geohazard prevention and make overall decisions.

平台概览 Platform Overview

利用InSAR等相关技术，通过重构历史影像，识别城市不稳定地区的地面运动位移情况，从而实现对城市及其建筑物、构筑物等人工设施的规划、建设、运营全过程进行普查、详查以及监测、分析，从面上及时发现存在形变和破坏风险的设施与区域，进而实现城市安全风险的预警防范和应急处治。此外，根据地表形变的独特征兆，还可以为城市地下空间工程的施工、运营提供风险监测支持。

Thanks to InSAR technology, ground motion displacement in unstable urban areas can be identified. And by reconstructing the historical impact, monitoring and analyzing the facilities and areas with the risk of deformation and destruction in the city, risk prevention can be carried out in advance. In addition, according to the unique characteristics of surface deformation, it can also provide risk monitoring support for the construction and operation of urban underground space projects.

城市健康遥感监测主要目标对象
Main target of urban health remote sensing monitoring

平台亮点 Platform Advantage

- 全天时，全天候基础数据采集能力
- 基于自主卫星地面接收站的快速响应
- 7年以上的历史数据支持
- 基于领先的PS-InSAR技术（永久散射体雷达差分干涉测量）
- 精度高，年度形变识别精度可达到±2mm
- 空间平均点密度可达到2万个/平方公里
- 第一时间响应地灾突发事件
- 基于云的服务，降低实施和应用难度

- All day, all-weather data acquisition capability
- Rapid response based on autonomous satellite ground receiving station
- Abundant archive data support over 7 years accumulation
- Leading PS-InSAR Technology (permanent scatterer radar differential interferometry)
- The accuracy of annual deformation identification can reach +2mm.
- The average spatial point density can reach 20 thousand Km2.
- Immediate response to the emergency.
- Based on cloud service to reduce implementation and application difficulty

北京东方至远科技股份有限公司
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