

ICOMOS
ISCSBH



**WS #02 - PRESERVATION OF SHARED BUILT HERITAGE IN
DELTA RIVER CITIES & CLIMATE CHANGE MITIGATION**

*Greater Bay Area (GBA) including Macau, Canton & Hong Kong
case-studies and other delta river cities examples*



Photo by Chan Hin Io

**ONLINE SEMINAR WS #02- APRIL 19TH, 2022, at 19:00 BEIJING TIME/ 13:00PARIS
TIME, DURATION: 2.0 HOURS**

Zoom link: <https://bit.ly/3KBF8KM>

zoom number: 893 5139 0912

password: 975467

**ICOMOS ISCSBH Focus Point on Climate Change Reboot – Preservation of
Shared Built Heritage in Delta River Cities & Climate Change Mitigation**

I. ICOMOS ISCSBH Focus Point on Climate Change Reboot

According ICOMOS Action Plan: Cultural Heritage and Localizing the UN Sustainable Development Goals (SDGs) published in July 2017, ‘The recognition, mainstreaming and effective contribution of cultural heritage as a driver and enabler of sustainable development in the process of implementing the United Nations Agenda 2030 and Sustainable Development Goals.’

“The Future of Our Pasts: Engaging Cultural Heritage in Climate Action - published in 2019 by the ICOMOS Climate Change and Heritage Working Group (CCHWG) defines “Heritage as Climate Action Asset”. Both urban development and built cultural heritage are extremely vulnerable to climate change.

In ISCSBH 2021-2023 triennial scientific seminars program, we propose **“Preservation of Shared Built Heritage in Delta River Cities & Climate Change Mitigations”** as the main triennial theme of our ISCSBH Climate Change Reboot program.

II. Webinar series topic statement:

Preservation of Shared Built Heritage in Delta River Cities & Climate Change Mitigation

The great River Deltas of the World are home to more than 500 million people. As our key case study in this webinar, the Pearl River Delta Metropolitan Region (PRD), now part of the “Guangdong-Hong Kong-Macau Greater Bay Area” (GBA) in Southern China has become one of the largest contiguous urban regions in the world. The 2020 *State of the World Cities report*, published by the United Nations Human Settlements Programme, estimates the population of the delta region at more than 120 million people.

In Pearl River Delta Region, climate change is estimated to cause important impacts on the regional economy, which represents nearly 10% of China’s GNP. Relative sea level rise, flooding and immersion risks make this region particularly vulnerable. In the southern part of the Delta, urban development is at risk because the land lies between - 0.3m to 0.4m relative to mean sea level (MSL).

According to the Intergovernmental Panel on Climate Change (IPCC) report, the Delta region including built areas such as the Historical Centre of Macau (UNESCO World Heritage, 2005) are also subject to more frequent and extreme climate conditions such as increase in the intensity of tropical cyclones and storms.

Cultural heritage management, especially in Delta River City-Regions is a key factor to preserve historical and cultural identity as well as touristic attractiveness of these places that have since long time served as commercial crossroads and cultural melting pots.

“Climate change is a cross-sector, cross-domain subject which has far-reaching socio-economic and cultural impacts across the globe...Hong Kong’s Climate Action Plan 2030+ seeks to make Hong Kong a better and smarter place to live and work¹.” Hong Kong has acceded to the Paris Agreement and will follow its reporting timeline. Hong Kong has developed the 4Ts (Timeline, Transparency, Targets and Together) as its operational framework.

Macau “bears witness to one of the earliest and longest-lasting encounters between China and the West, based on the vibrancy of international trade” (UNESCO). Monuments and cultural heritage such as former Sun Yat-sen dwelling have been through important restoration efforts to mitigate erosion and saltwater intrusion problems.

Shenzhen joins the list of cities that suffer from extreme weather conditions under climate change global impacts. Sudden rainstorms and flash floods are among overwhelming problematics and major risks that the coastal city encounters. In recent years, efforts are being made to combat the effects of climate change and congestion. The city is using artificial intelligence (AI) and building information modelling (BIM) in its planning tools for its “sponge city” initiatives, “district cooling plants”, to achieve the “goal of 100% green buildings”, to cut energy cost and to reduce pollution from traffic.

In short, as a particularly vulnerable place, delta city regions such as GBA (Greater Bay Area) area intends to respond proactively to the impacts of climate change. Besides technology, socio-economic and cultural aspects are key factors that heritage building preservation specialists need to embrace to cope with the up-coming changes. Sharing experiences, crossing expertise domains with planning and city management stake holders are objectives of our ISCSBH webinar.

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PROGRAM

When: 2022-04-19

Time: 19:00 Beijing /13:00Paris

Duration: 2.0 hours

19:00 /19:10– STARTING-WELLCOME SPEECH

ISCSBH President Ar. Maria José de Freitas

ISCSBH SG Dr. Ding Yuan

19:10/ 20:00 - FIRST PANEL: HERITAGE AND CLIMATE CHANGE

19:10/19:30 – “Macao heritage conservation experiences and preventive response to adverse climate conditions”

Dra. Deland, Leong Wai Man, President of Macao Cultural Affairs Bureau

Ar. Jeff, Ho Cheok Fong, Macao Cultural Affairs Bureau

19:30/19:50 – “Protection of MegaCity Landmarks from Climate-induced Coastal Flooding Risks through Engineering Innovation”

Prof. Joseph Lee, President of MUST University, Macau

Panel moderated by Prof. Romeo Carabelli, ISCSBH Vice President

19:50/20:30 – SECOND PANEL: PLANNING FOR CLIMATE CHANGE IN GBA

19:50/20:10 – “Lessons of Climate Change Adaptation from GBA and Yangtze Delta in waterfront development”

Arch. Wu Xiaoli, Architect Urban Planner at

Dr. Ning Liu, ISCSBH Focal Point for Climate Change

20:10/20:30 – “Green infrastructures towards resilient cities”

Prof. Cristina Calheiros, St Joseph University, Macau

Panel moderated by Dr. Ai Tee Goh ISCSBH Vice President

20:30/20:50 – OPEN DISCUSSION/Q&A

Moderated by Romeo Carabelli and Ai Tee Goh

20:50/21:00 – END REMARKS/CLOSING SESSION

ISCSBH Focal Point for Climate Change Dr. Ning Liu

ISCSBH President Ar. Maria José de Freitas

III. WS #02 detailed information
Invited speakers, bios & abstracts:

1- FIRST PANEL: HERITAGE AND CLIMATE CHANGE

1.1- Macao heritage conservation experiences and preventive response to adverse climate conditions

Dra. Deland, Leong Wai Man, President of Macao Cultural Affairs Bureau
Ar. Jeff, Ho Cheok Fong, Macao Cultural Affairs Bureau

Dra. Deland, Leong Wai Man - received her Bachelor Degree in Architecture from Taiwan Tung Hai University, then completed her Postgraduate Diploma in Architecture from Bartlett School of Architecture, University College London(UCL) in U.K., and received the Royal Institute of British Architects Part II validated qualification.

President Leong Wai Man has achieved a solid career path at the forefront of many challenging projects in the field of Cultural Heritage Conservation in Macao, gathering unique in-sight, expertise and leadership skills that are strongly focused on heritage best-practice conservation methods, the implementation of adequate adaptive re-use projects for historical buildings and the development of crucial heritage policies, including the “Cultural Heritage Protection Law of Macao” and the “Protection and Management Plan of the Historic Centre of Macao”. She has recently been appointed as the President of the Cultural Affairs Bureau of Macao S.A.R. Government and remains a central driving force in the continuous protection of Macao’s World Heritage and other local classified sites, also with substantial advancements in the development of the local Cultural Creative Industries, the promotion of Cultural and Art Activities, the modernization of the local Public Library system and other numerous on-going heritage conservation endeavours.

Jeff, Ho Cheok Fong - works in the Cultural Affairs Bureau of Macao SAR Government (IC) since 2012. He is now as the Chief of the Division for Cultural Heritage Conservation of the Department of Cultural Heritage. Working on the conservation, revitalization, and management work of classified immovable assets. Carrying out survey and inspection to safety status of the classified assets.

Title - Macao Heritage Conservation Experiences and Preventive Response to Adverse Climate Conditions

Keywords: Climate change; heritage conservation; typhoon; flooding; preventive response.

Abstract - Macao, as one of the Delta River cities, facing the challenges from severe weather, especially typhoon and flooding. It will be more challenges for low-lying and fragile heritage. In order to mitigate the above situations, the Cultural Affairs Bureau of Macao SAR Government (IC) launched different strategies for severe weather. For example, according to the forecast of typhoon and flooding, IC will build up temporary water blocking system, pumping system for low-lying heritage. After typhoon and flooding, IC will also send the inspection team to check the situation of all heritage buildings in Macao and launched restoration correspondingly. Those strategies prevent the damage of heritage from severe weather effectively, and also keep and last the values of heritage.

1.2- Protection of MegaCity Landmarks from Climate-induced Coastal Flooding Risks through Engineering Innovation

Professor Hun-wei Lee

Prof. Joseph Hun-wei Lee - the President and Chair Professor of the Macau University of Science and Technology, is a Fellow of the Royal Academy of Engineering in the UK and the Hong Kong Academy of Engineering Sciences. He is currently the President of the International Association for Hydro-environment Engineering and Research (IAHR).

Title - Protection of MegaCity Landmarks from Climate-induced Coastal Flooding Risks through Engineering Innovation

Keywords: Coastal risks; climate change; urban flooding; sponge city; heritage protection.

Abstract - Happy Valley is where Hong Kong all started. The Happy Valley race course is also a symbol of Hong Kong life – with over 150 years of heritage of horse racing as a gaming entertainment for the public. This talk will explain the climate change induced impacts on urban flooding, and how the coastal risks are mitigated through sponge-city like engineering innovations over the past two decades.

2- SECOND PANEL: PLANNING FOR CLIMATE CHANGE IN GBA

2.1- Lessons of Climate Change Adaptation from GBA and Yangtze Delta in waterfront development

Dr. Ning Liu & Arch. Wu Xiaoli, architects & planners

Dr. Ning Liu - is the holder of a PhD in Urban Sciences at Swiss Federal Institute of Technology in Lausanne, she is a specialist of climate change and urban resilience and has worked as project leader for major urban transformation projects such as master planning of Shanghai Zhenru and Wuhan Southlake subcenters in China, Rabat-Salé (UNESCO heritage site) redevelopment project and Casablanca ANFA Airport Rehabilitation Project in Morocco. Dr. Ning LIU is partner at Building For Climates architects in Paris. In 2022, their “innovating eco-construction for people” project in South Africa is finalist of UIA (International Union of Architects) 2030 award for UN 2030 Agenda for Sustainable Development.

Arch. Xiaoli Wu - has worked many years as Architect in Chief of Shenzhen Research Institute of Urban Planning & Design and serves currently as Chief Urban Planner for the most important seafront development area in Shenzhen, Greater Bay Area, China. As professor-level senior planner, she is also vice chairman of the 6th Shenzhen Women's Federation, member of the Planning Implementation Academic Committee of China Urban Planning Society.

Title - Lessons of Climate Change Adaptation in Great River Delta Cities, examples from GBA (Greater Bay Area) and Yangtze River Delta

Key words - Climate change; river deltas; resilience; urban waterfront; industrial heritage.

Abstract - Great River Deltas are home to more than 500 million people in the world. Under current challenges of climate change and social economic dynamics in these crucial areas, preserve the shared built Heritage in delta river cities and adopt measures of climate change mitigations and adaptations are of primary importance.

How can the assets of river deltas and industrial heritage serve the purpose of resilience and transform our cities to a better urban future? By introducing resilient urban experimentations in Shanghai (Yangtze River Delta) and Shenzhen (GBA: Greater Bay Area), this talk is prepared by the duo of experimented urban planners in Chinese major metropolitan cities to address the current global challenges.

2.2- Green infrastructures towards resilient cities

Prof. Cristina Calheiros

Prof. Cristina Calheiros - is Adjunct Professor at University of Saint Joseph, SAR Macao and Research Scientist at Interdisciplinary Centre of Marine and Environmental Research, Portugal (CIIMAR). She is Vice-President of the Portuguese National Association of Green Roofs. Her work focuses on the development of nature-based solutions towards sustainability of territories and as tools for climate change adaptation and mitigation.

Title - Green infrastructures towards resilient cities

Key words - Nature-based solutions; climate change; climate adaptation; societal challenges; built heritage.

Abstract - As it densifies the level of urbanization, the demand of space for building is higher as the need to protect the monuments and cultural heritage. Green infrastructures act as a structuring element of the urban landscape, supporting climate change mitigation and adaptation, intending to improve connectivity between territories, increasing permeability and promoting multifunctional areas, delivering at the same time several ecosystems services. They thus simultaneously provide environmental, social and economic benefits and help build cities resilience.

WS #02 prepared by:

Ar. Maria José de FREITAS
President ICOMOS – ISCSBH
CEO AETECNET Ltd.
Asian Academy Heritage Management
DPIP3-UC.PT
mjf@aetecnet.com

Dr. Ning LIU
Associated architect, Building for
Climate, Paris, France
Member of ICOMOS France, Dipl. Arch
& PhD EPFL, Switzerland
n.liu@building-for-climate.fr