



**JC-WISE**  
Water Initiative on  
Sustainability and Engagement  
賽馬會惜水・識河計劃

# International Symposium on Water Sustainability 2022

July 30-31, 2022 (Sat – Sun)



## TABLE OF CONTENTS

<b>ABOUT JC-WISE</b> .....	3
<b>ABOUT THE SYMPOSIUM</b> .....	4
<b>PROGRAMME OVERVIEW</b> .....	5
<b>SESSION 1</b> .....	7
<b>SESSION 2</b> .....	9
<b>SESSION 3</b> .....	11
<b>SESSION 4</b> .....	13

## ABOUT JC-WISE



Since the early 1980s, Hong Kong has enjoyed a reliable, year-round, uninterrupted supply of good quality water through the import of freshwater from the nearby East River (Dongjiang). Being accustomed to enjoying the convenience of obtaining cheap and clean water with a simple turn of the tap, we may not be aware that Hong Kong is inherently a water-short city. The community's misconceptions about the values of water – overlooking its multidimensionality and its true economic worth – have undermined efforts directed at promoting sustainable water use and water conservation.

Launched in 2016, the Jockey Club Water Initiative on Sustainability and Engagement (JC-WISE) is a community outreach project funded by The Hong Kong Jockey Club Charities Trust and hosted by the Faculty of Social Sciences at The University of Hong Kong. In 2019, JC-WISE was extended for an additional three years.

Through multi-disciplinary, multi-institutional and cross-sectoral collaborations, JC-WISE aims at elevating the level of public awareness of the importance of attaining long-term water sustainability and water conservation goals by:

- enhancing the community's understanding of the multiple values of water through re-connecting the public with our city's rivers; and
- enabling the public to recognise the impacts of our consumption behaviour on local and distant freshwater resources through the Water Footprint concept – the first such innovative and evidence-based campaign in Hong Kong.

主辦院校 Organised by:



捐助機構 Funded by:



香港賽馬會慈善信託基金  
The Hong Kong Jockey Club Charities Trust

Collaborating Partners:



## ABOUT THE SYMPOSIUM

# International Symposium on Water Sustainability 2022

Freshwater, as a necessity for all forms of life, is a precious yet finite resource. A global shortage of water has become a salient issue in the 21<sup>st</sup> century, and it poses a major challenge to achieving sustainable development goals. In view of the pressing need to raise the public's awareness of the importance of attaining long-term water sustainability and water conservation goals in Hong Kong, The Hong Kong Jockey Club Charities Trust has generously funded the Jockey Club Water Initiative on Sustainability and Engagement (JC-WISE) project, hosted by the Faculty of Social Sciences at The University of Hong Kong, supporting the implementation of a wide range of public education activities.

The International Symposium on Water Sustainability 2022 aims at providing a platform to facilitate an intellectual exchange among the participants on key policy and practical challenges in the pursuit of water sustainability goals. With over ten overseas and local speakers, we envision vibrant and fruitful dialogues to take place between participants from across several inter-related sectors.

### Major themes:

- Water ethics and challenges to water conservation
- Blue-Green infrastructure and urban river management
- Water, citizen science, and stakeholder engagement
- The values of urban rivers: A social science perspective

JC-WISE is committed to attaining pertinent SDGs:



SUSTAINABLE DEVELOPMENT  
SOLUTIONS NETWORK  
HONG KONG CHAPTER  
A GLOBAL INITIATIVE FOR THE UNITED NATIONS  
聯合國可持續發展解決方案網絡  
香港地區分會



For details and registration:  
[www.jcwise.hk/symposium2022](http://www.jcwise.hk/symposium2022)

## PROGRAMME OVERVIEW

DAY I

JULY 30, 2022 (SATURDAY)

TIME	PROGRAMME
9am – 11am HKT	<b>Opening Remarks</b>  <b>Professor William Hayward</b> Dean of Social Sciences, The University of Hong Kong  <b>Miss Donna Tang</b> Executive Manager, Charities (Grant Making – Sports and Environment) The Hong Kong Jockey Club Charities Trust
	<b>Session 1</b> <b>Water ethics and challenges to water conservation</b>  <b>Speakers</b> <b>Professor James Nickum</b> Editor-in-chief Water International  <b>Ms Cynthia Barnett</b> Water journalist and author Environmental Journalist in Residence University of Florida College of Journalism and Communications  <b>Dr David Groenfeldt</b> Founder and Director, Water-Culture Institute Adjunct Professor, University of New Mexico  <b>Moderator</b> <b>Dr Frederick Lee</b> Project Investigator, JC-WISE
12pm - 2pm HKT	<b>Session 2</b> <b>Blue-Green infrastructure and urban river management</b>  <b>Speakers</b> <b>Professor Arjan van Timmeren</b> Department of Urbanism, Delft University of Technology  <b>Professor G. Mathias Kondolf</b> Department of Landscape Architecture & Environmental Planning University of California, Berkeley  <b>Moderator</b> <b>Professor Wendy Chen</b> Department of Geography The University of Hong Kong

DAY 2

JULY 31, 2022 (SUNDAY)

TIME	PROGRAMME
9am – 11am HKT	<p><b>Session 3</b> <b>Water, citizen science, and stakeholder engagement</b></p> <p><b>Speakers</b></p> <p><b>Dr Suzi Webster</b> Engagement and Communications Specialist National Oceanic and Atmospheric Administration (NOAA) Technology Partnerships Office U.S. Department of Commerce</p> <p><b>Ms Anya Nova Metcalfe</b> Ecologist United States Geological Survey</p> <p><b>Dr Ken So</b> Education and Research Manager Outdoor Wildlife Learning Hong Kong</p> <p><b>Moderator</b></p> <p><b>Dr Billy Hau</b> Principal Lecturer, School of Biological Sciences The University of Hong Kong</p>
2pm - 4pm HKT	<p><b>Session 4</b> <b>The values of urban rivers: A social science perspective</b></p> <p><b>Speakers</b></p> <p><b>Dr Luk Ki Cheng</b> Director, Green Power</p> <p><b>Dr Junyi Hua</b> Associate Professor School of International Affairs and Public Administration Ocean University of China</p> <p><b>Dr Lewis Cheung</b> Associate Professor, Department of Social Sciences The Education University of Hong Kong</p> <p><b>Moderator</b></p> <p><b>Dr Lincoln Fok</b> Associate Professor, Department of Science and Environmental Studies The Education University of Hong Kong</p>
	<p><b>Closing Remarks</b></p> <p><b>Dr Frederick Lee</b> Project Investigator, JC-WISE</p>

## SESSION I

### *Water ethics and challenges to water conservation*

Saturday, July 30, 2022 | 9:00am - 11:00am HKT

#### Speakers

##### **Professor James Nickum**

Editor-in-chief  
Water International



##### **Do Hongkongers Have a Water Conservation Ethic? Why Not?**

The necessity of the Jockey Club Water Initiatives on Sustainability and Engagement is evidenced by the apparent lack of a strong water conservation ethic on the part of Hong Kong residents. I will explore some of the “objective” factors that may explain why per capita domestic water use rates remain high in Hong Kong while they have tended to decline in other global cities. Foremost among these factors is the lack of personal experience with water scarcity for most residents, due to the success of existing supply projects and an effective water delivery system. In fact, in most years, Hong Kong has a right to draw more water from Dongjiang than it needs. Water tariff has not increased in decades and has declined out of sight for most consumers; the Water Supplies Department operates with a soft budget constraint; and the Government has little incentive to insist on financial accountability, since even increasing subsidies for water constitute a diminishing share of government revenue.

##### **Ms Cynthia Barnett**

Water journalist and author  
Environmental Journalist in Residence  
University of Florida College of Journalism and Communications



##### **Water Ethics in Practice and Deed**

Spread across communities, ethical water choices add up to big savings. In fact, a widespread ethic for water was the single-most important part of the answer for how parched metros such as Perth, Australia; Singapore; and San Antonio, Texas, turned around their water fortunes amid crises. But what does a water ethic look like in practical terms? How does it start? How does it spread across communities? Water author and journalist Cynthia Barnett will share inspirational case studies from these urban areas and others with a focus on the unexpected players who can help lead water ethics, from universities to storytellers to sports teams, and how to make water ethics a way of life.

**Dr David Groenfeldt**

Founder and Director, Water-Culture Institute  
Adjunct Professor, University of New Mexico



**Ethics for a Sustainable Water Future**

Water ethics refers to the value principles and rules, whether explicit or tacit, that guide water policies and management practices. Since water is vital to many facets of economic and social life, decisions about water ripple through value chains, affecting all levels of human activity as well as natural ecosystems. Broadly speaking we can delineate five categories of water values: (1) environmental, (2) economic, (3) social, (4) cultural, and (5) governance values. In any particular use of water, such as irrigation or urban water supply, values from all five categories interact to varying degrees. There are also several meta-values that may be accorded more or less importance: (a) recognizing water as a commons vs. individual private property, (b) prioritizing inter-generational equity, and (c) recognizing (or not) the rights of nature to thrive. The ethics of balancing these values is both art and science; ultimately it is more important to ask ethical questions that can be debated than to assert ethical rules that can be circumvented.

**Moderator**

**Dr Frederick Lee**

Project Investigator  
JC-WISE





## SESSION 2

### *Blue-Green infrastructure and urban river management*

Saturday, July 30, 2022 | 12:00pm - 2:00pm HKT

#### Speakers

##### **Professor Arjan van Timmeren**

Department of Urbanism, Delft University of Technology



##### **Under Pressure: Water and the City – hybrid green-blue environments**

It is self-evident we live in the wealthiest and most technologically advanced era of human history. With a population of 7 billion and counting, 1.1 billion people still do not have access to clean, safe drinking water. Global water consumption is predicted to double every twenty years in this century, more than two times the rate of population growth. By 2030, global water demand will outstrip supply by 40 percent. Two decades ago, Mostafa Tolba, the former head of the United Nations Environmental Programme, used to believe that climate change and “peak-oil” would be the defining issues of our time. Now, with the latest techniques for extracting oil from unconventional sources such as “hydro-fracking”, the hydrocarbon age is far from over.

Today, Tolba and former Secretary-General of the United Nations Koffi Anan believe water will be a critical socio-political issue in the coming decades. The social and economic benefits ushered in by the modernist era of urban water management are plain to see, but in our effort to maximize the throughput of H<sub>2</sub>O via centralized grey infrastructures we forgot the value of designing cities and urban infrastructures with, instead of against, the grain of the planet’s natural life support systems. Lately, there is a growing realization, within the urban planning community, of the value of so-called “green-blue infrastructures”. Blue, or aquatic, ecosystems are inherently complex as they are characterized by constant variations (e.g., daily, seasonal) and interactions between different natural and man-made processes and conditions. The growing awareness of the possibilities of exploiting the synergistic interplay between water and “green” systems has led to the development of new “blue” and “green” ways of managing water even in dense urban areas. Or, more frequently, a mix of (often existing) grey infrastructure with newly built or “hybrid” Green-Blue environments.

In this presentation, Prof. van Timmeren will reflect on this context, but foremost will show and explain a couple of green-blue (and hybrid) projects at multiple scales in North-West Europe. He will include the well-known Dutch approach to managing urban deltas, and how their green-blue (hybrid) strategies are at the core of adaptive pathways towards uncertain futures.

**Professor G. Mathias Kondolf**

Department of Landscape Architecture & Environmental Planning  
University of California, Berkeley



**Living with Urban Rivers: Restoring Social Connectivity and Natural Process**

Rivers and cities have long been intertwined. Most major cities are located on rivers or estuaries, taking strategic advantage of them for navigation, water supply, water power, and waste disposal. The identity of most cities is closely linked to their waters. We apply concepts of connectivity from the environmental sciences, in longitudinal, lateral, and vertical dimensions, to the communication and movement of people, goods, ideas, and culture along and across rivers, i.e., the social connectivity of urban rivers.

Urban riverfront projects have become ubiquitous in the developed, and increasingly in the developing, world. Some of these projects have been celebrated as revitalizing urban centers, others criticized for displacing the poor. They rarely achieve real ecological restoration, but in some cases it would be possible to do so. The potential is illustrated by the restoration of two alpine rivers, which now provide both important ecological function and social value: the Isar River in Munich and the Aire River in Geneva. In the Global South, restoring ecological process and social connectivity is more problematic, as illustrated by the Nile in Cairo and the Sabarmati River in Ahmedabad.

**Moderator**

**Professor Wendy Chen**

Department of Geography  
The University of Hong Kong



## SESSION 3

### *Water, citizen science, and stakeholder engagement*

Sunday, July 31, 2022 | 9:00am - 11:00am HKT

#### Speakers

##### **Dr Suzi Webster**

Engagement and Communications Specialist  
National Oceanic and Atmospheric Administration  
Technology Partnerships Office  
U.S. Department of Commerce



##### **Identifying and Harmonizing the Priorities of Environmental Stakeholders within a Water Quality Monitoring Community**

Research collaborations between volunteer monitoring groups and environmental scientists and managers are instrumental for understanding and managing complex socioecological systems. However, it is important to understand that environmental stakeholders perceive their environment and their own role in different ways, and these perceptions affect how people prioritize problems and respective solutions. This presentation will provide an overview of a recently-published study that explored the extent to which cultural knowledge about environmental monitoring was shared across members of a water quality monitoring community. The stakeholder research allowed us to pinpoint key similarities and differences in the ways that various stakeholder groups prioritized various environmental monitoring goals. This talk will highlight key results of our analysis and share several transferrable recommendations that arose from our research, which can inform the design and coordination of other collaborative environmental monitoring programs.

##### **Ms Anya Nova Metcalfe**

Ecologist  
United States Geological Survey



##### **Citizen Scientists Shed Light on Aquatic Foodwebs in Grand Canyon, USA**

Worldwide, scientists are increasingly collaborating with the general public. Citizen science methods are readily applicable to freshwater research, monitoring, and education. In addition to providing cost-effective data on spatial and temporal scales that are otherwise unattainable, citizen science provides unique opportunities for engagement with local communities and stakeholders in resource management and decision-making. However, these methods are not infallible. Citizen science projects require deliberate planning in order to collect high quality data and sustain meaningful community partnerships. In this presentation, we describe how we collaborated with whitewater river runners through a citizen science project to develop biological monitoring tools for understanding the aquatic foodweb in Grand Canyon, Arizona, USA.

## **Dr Ken So**

Education and Research Manager  
Outdoor Wildlife Learning Hong Kong



### **Citizen Science for Environmental Education in Hong Kong Freshwater Systems: Challenges, Strategies, and Opportunities**

While citizen science has great potentials in facilitating large-scale data collection and environmental education, organizing citizen science programmes is not straight-forward. In the past few years, there were heated debates about the approaches, potential applicability, feasibility, and impacts of citizen science programmes. In 2019, with the support of the government's Environment and Conservation Fund, we started a citizen science programme with a focus on environmental education in freshwater ecosystems – called the Lantau Freshwater Ecology Classroom. To ensure the success of the programme, we conducted a literature review and collected opinions from several local freshwater ecologists to identify the major challenges and formulate specific strategies, with consideration on five major aspects: (1) education effectiveness; (2) public engagement; (3) feasibility; (4) environmental impacts; and (5) data contribution. It was unfortunate that parts of the programme were cancelled due to the pandemic. However, we have successfully applied the strategies in several other citizen science and related public environmental education programmes. In this talk, we will summarize the challenges identified for organizing citizen science programmes in Hong Kong freshwaters, highlighting the importance of our strategies, and discuss future opportunities.

## Moderator

## **Dr Billy Hau**

Principal Lecturer  
School of Biological Sciences  
The University of Hong Kong



## SESSION 4

### *The values of urban rivers: A social science perspective*

Sunday, July 31, 2022 | 2:00pm - 4:00pm HKT

#### Speakers

#### **Dr Luk Ki Cheng**

Director, Green Power



#### **Back-to-Basics – Simple Principle but Complex Manipulation for Hong Kong Rivers**

The issue of river conservation in Hong Kong was initiated by a massive river training project that encroached on a Ramsar Site in Deep Bay in the late 1990s. A large scale programme of “green measures” was implemented, including rip-rap banks, mangroves replantation and retaining the natural beds. In the early 2000s, the discussion deepened when the authority proposed to revitalise a large but polluted concrete nullah. Another list of technical and social concerns then emerged, including water quality, ecological connectivity to the sea, vulnerability of in-channel installations and plantations. All these concerns drew the attention of various stakeholders. Afterwards, the authority encouraged ecological features to be incorporated in the river training projects to mitigate the negative impacts. At the same time, some urban channels were revitalised by addressing past concerns and enhancing other values such as aesthetics, water-friendliness, ecology and leisure pursuit. In the future, biodiversity, climate change resilience, and integration with urban landscape and the community should form the broad directions and pose key challenges for the modification and maintenance of natural and manmade channels in the territory.

#### **Dr Junyi Hua**

Associate Professor

School of International Affairs and Public Administration

Ocean University of China



#### **Understanding the Value of Urban Rivers from the Public's Perspective**

Urban rivers benefit both nature and humans. Besides ecological understanding of the urban ecosystems, social science considerations have been increasingly taken into account in conservation and rehabilitation. Social science perspectives help capture not only the social dimensions of the values of urban rivers but also city dwellers' perceptual and behavioral contacts that reflect social welfare. There is a growing body of literature focusing on public attitudes, perceptions, preferences, and behaviors pertaining to urban ecosystems, including urban rivers. The speaker will introduce investigations of urban residents' perceptions of various ecosystem services provided by urban rivers and preferences for river restoration in Guangzhou, China, to demonstrate a social science way for understanding the values of urban rivers.

### **Dr Lewis Cheung**

Associate Professor, Department of Social Sciences  
The Education University of Hong Kong



### **Resident Perception and Willingness to Pay for the Restoration and Revitalization of Urban Rivers**

River revitalization, also called river restoration, has been implemented globally to restore urban river ecosystems that would benefit both the environment and local residents in various ways. The Hong Kong government has been attempting to revitalize local urban rivers; however, the perception and value of river restoration have not been assessed. With the application of a contingent valuation method, a questionnaire survey was designed to capture the attitude, place attachment, and willingness to pay (WTP) of Hong Kong residents in the context of urban rivers and river revitalization, and a proposed scenario for revitalization is given. The relationships among WTP, attitude and place attachment were explored through regression analysis. A total of 400 questionnaire samples were collected from Hong Kong residents, and over 75% of respondents were willing to pay for the proposed scenario. The results from regression analysis indicated that attitude, place dependence, place identity, and place social bonding positively influenced WTP and WTP bid amounts. In contrast, the place effect was unexpectedly found to be negatively correlated with WTP. Implications were drawn from these results, and recommendations were made concerning the features to be restored and conserved in future river revitalization work and the need to provide quality urban nature-based spaces for citizens.

### **Moderator**

### **Dr Lincoln Fok**

Associate Professor  
Department of Science and Environmental Studies  
The Education University of Hong Kong





**JC-WISE**  
*Water Initiative on  
Sustainability and Engagement*  
賽馬會惜水・識河計劃



[www.jcwise.hk](http://www.jcwise.hk)

Address:  
Faculty of Social Sciences, 11/F, The Jockey Club Tower,  
Centennial Campus, The University of Hong Kong, Pokfulam Road, Hong Kong

Tel: 3917 1251

Email: [jcwise@hku.hk](mailto:jcwise@hku.hk)

