

25 June 2021 (Friday)

4.00pm-5.30pm (SGT) (GMT +8)

Session 4.3 – Hybrid Blue/Green/Grey Infrastructure

Session Chair(s): Mark Fletcher, ARUP (UK)

Multi-Functional Hybrid Infrastructure Delivering Multiple Benefits For Cities

J. Wang. Water Sensitive Cities Institute (Australia)

Presenter is an invited speaker. No executive summary is available

CWOS

O. Pison, A. Mahadevan. SUEZ Singapore (Singapore)

As part of an R&D partnership between PUB and SUEZ, a real-time stormwater management system based on Aquadvanced Urban Drainage has been designed, developed and deployed since November 2016. The Catchment and Waterways Operational System (CWOS) has shown significant benefits in anticipating Marina Barrage operations for flood control and monitoring water quality. With the successful implementation of the system, a new phase of the project has commenced which aims to further the efforts already undertaken to improve existing systemic workflows. The project will particularly focus on developing and integrating multiple data sources with advanced analytics to improve operational efficiency specifically in terms of inter-reservoir/catchment transfer operations with the objective of water conservation.

Realising Dying Wisdom: Contribution Of Green Infrastructure In Making The City Flood Resilient

S. Rohilla, B. Luthra. Centre For Science and Environment (India)

In India, urbanisation is increasing as cities offer opportunities for economic growth. This accompanied with concretization generates more runoff discharge making most of the cities suffer from urban flooding during monsoon. This consequences to loss of life and property. Indian towns have a rich tradition of managing the stormwater based on the local context. But the modern stormwater management, that relies heavily on the cost intensive grey infrastructural solutions, has a tendency to take stormwater away from the city. In this regard the case of Bodhgaya city, a small town in India, which enjoys immense religious and cultural significance is considered as the study area. Bodhgaya, historically had green infrastructure (GI) to manage water, but unplanned growth has made all systems defunct and has also contributed to water logging. This study aims to analyze the approach of sustainable stormwater management through GI solutions to overcome the emerging water management crisis.

Developing New Blue-Green Futures: Multifunctional Infrastructure To Address Water Challenges

N. Dolman, E. O'Donnell, N. Netusil, F. Chan. Royal HaskoningDHV (Netherlands)

There is a recognised need for a fundamental change in how cities tackle urban water challenges and develop visions for 'Blue-Green' urban futures; where multifunctional Blue-Green infrastructure (BGI, including green roofs, swales, rain gardens and ponds) creates environmental and societal co-benefits and is delivered by cross-organisational collaborations. The aim of this interdisciplinary proposal is to explore how Blue-Green futures may be developed as new forms of environmentally sustainable urban governance. We will investigate how socio-political barriers to implementation of BGI may be overcome and how mechanisms for co-creating Blue-Green visions (e.g. social learning frameworks) may increase the adaptive capacity of decision-makers and lead to concerted action. We will devise an international 'best-practice' model based on an evaluation of Blue-Green visions in four case study cities (Newcastle, UK; Rotterdam, the Netherlands; Ningbo, China; and Portland, Oregon, USA). Cross-country learning will inform new Blue-Green visions for the UK and other global cities.