

# BOOK OF ABSTRACTS

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STOCKHOLM  
X NAIROBI

IFLA  
WORLD  
CONGRESS  
2023

# WELCOME TO IFLA 2023



Dear participants,

We extend a warm and heartfelt welcome to our first-ever bilateral IFLA World Congress! Whether you are joining us in Nairobi, Stockholm, or virtually, we embrace the spirit of flexibility and inclusivity to ensure that all voices are heard in the global dialogue of landscape architecture.

The International Federation of Landscape Architects (IFLA) has a rich history dating back to the early 20th century. In 1948, visionaries from national landscape architecture associations convened in Cambridge, England, during the International Conference on Landscape Architecture. It was there that the seeds of an international organisation dedicated to promoting landscape architecture on a global scale were sown. Thus, the In-

ternational Federation of Landscape Architects (IFLA) was formally established in 1948 in Cambridge, with Sir Geoffrey Jellicoe as its pioneering president. In its formative years, IFLA focused on fostering communication and cooperation among national landscape architecture associations, promoting the profession, and facilitating the exchange of knowledge and experiences among professionals across borders. The IFLA World Congress swiftly emerged as a powerful platform for landscape architects to convene, share research, showcase projects, and deliberate on emerging trends and challenges.

IFLA has played an integral role in advocating for landscape architecture as a profession and championing sustainable development principles. Despite the profound changes that have unfolded over the past 75 years, IFLA remains steadfast as a hub for professional collaboration, knowledge sharing, and advocacy, championing the cause of landscape architecture. Our role in shaping sustainable and resilient environments remains as crucial as ever. Landscape architects worldwide continue to confront shared challenges from globalisation, urbanisation, sustainability, climate change, health, social justice, and the recent global pandemic. These pressing issues call for a united vision to protect and nurture our natural and built environments.

As the only international non-governmental organisation representing landscape architects globally, it is imperative that we collectively expand our knowledge and experiences. It is opportune to remind readers that we are not a small profession. IFLA is the body that represents 80 member associations and more than 50,000 landscape architects worldwide; however, according to the International Labour Organization, more than 1 million landscape architects exist worldwide. Raising awareness of our profession and bridging the gap with non-members is a shared mission. Our mission is to promote the landscape architecture profession within a collaborative partnership of the allied built-environment professions, demanding the highest standards of education, training, research and professional practice and providing leadership and stewardship in all matters. As a global federation, our allies are international bodies like the United Nations, UNESCO, ICOMOS, FAO, IUCN, and WHO, as well as allied built environment bodies like UIA, ISOCARP, IFHP, and WFED, among many others, where our expertise is required around the table to strategise about the future of our planet.

Landscape architects practice a discipline rooted in holistic thinking. We understand the natural environment, the built environment, and the interface between them. And we are prepared to take leadership in shaping outdoor spaces and framing public awareness about them. To do this, we need a strong IFLA that helps promote the profession and expand educational standards so we can train the future generation of landscape architects and facilitate professional development, standards and recognition worldwide. This is a time in human history when landscape architecture has so-

me thing important to say, and we must be heard.

In this context, the 2023 IFLA World Council and Congress in Nairobi (Kenya) and Stockholm (Sweden) is an important milestone to discuss the future of the profession and the organisation. Landscape architects from every corner of the globe will convene in Nairobi and Stockholm to discuss how pivotal the profession is in shaping a prosperous future characterised by resilience, transformation and long-term sustainability. By understanding different contexts locally and acting globally, we can tackle climate action, protect biodiversity, enhance ecosystems, promote health and well-being, support community participation, embrace technology and evidence-based design, improve food security, design resilient landscapes, and incorporate Indigenous knowledge and traditional practices with innovative solutions in mind. Landscape architects and organisations like IFLA must take a stand and work collectively to address these challenges, ensuring a better and more sustainable future for all.

I eagerly anticipate our gathering in Nairobi and Stockholm and the enriching discussions that will undoubtedly ensue!

Warm regards,

DR BRUNO MARQUES  
PRESIDENT, INTERNATIONAL FEDERATION OF LANDSCAPE ARCHITECTS (IFLA)



A joint, bilateral IFLA World Congress in 2023 makes the world a little smaller, so that we humans may become closer to each other. Five years ago, when Architects Sweden's Landscape Architect Chapter proposed that our association, together with the Architectural Association of Kenya, AAK, should host the first ever bilateral IFLA congress, we saw the great possibility of reaching more people by holding the event on two continents, as it makes it easier to travel to the conference from different parts of the world.

The collaboration between AAK and Architects Sweden ahead of IFLA 2023 has lasted for five years and has formed strong bonds of cooperation and trust. Following the theme "Emergent Interaction" we hope that the work continues to grow even after the congress.

While the IFLA World Congress 2023 is approaching, and we are preparing to welcome colleagues from all over the world, parts of the Nordic region are experiencing the unwanted consequences of flooding and erosion. At the same

time, fires and floods are ravaging other parts of Europe and the world. We cannot help but be reminded of one of IFLA's main purposes; to work together, through networking between practitioners, researchers, and elected representatives to create a better society for everyone! A society where social injustices, loss of biodiversity, and lack of equality are overcome with courage, creativity, and empathy!

Sweden and Kenya have different geographical, climatic, and political conditions, but the challenges are the same on both continents: Fight climate change and work with ecological sustainability. Protect and build more public places to support democracy and increase social sustainability. Both challenges are about creating sustainable urban development, as well as carefully developing the countryside, without predatory exploitation.

Organizing a worldwide congress for researching and practicing landscape architects and related professions is no easy walk. Doing it on two continents at the same time requires even more. I would like to extend a warm thank you to everyone who works with IFLA 2023 and especially to the project managers, Ruth Wanjiku at AAK and Johanna Good and Pia Jonsson at Architects Sweden. The world has too many pressing problems for us to continue to uphold the status quo. IFLA 2023 shines a light on climate change, the threat to biodiversity and the lack of equality - and how we can turn development in the right direction.

Warm welcome!

EMINA KOVACIC  
PRESIDENT, ARCHITECTS SWEDEN



It gives us great pleasure to welcome you to the International Federation of Landscape Architects (IFLA) World Congress in Nairobi, Stockholm and online on 28-29 September 2023. We are honoured to co-host this congress with our colleagues from Sweden and look forward to an exciting and interactive congress for all delegates and partners as some of the sessions will be combined.

The theme of this year's congress is "EMERGENT INTERACTION" and which aims to strengthen landscape architecture in relation to Agenda 2030 through exploring new forms of collective problem solving, borderless strategies and possible networks of ideas and cooperation while at the same time keeping the issues of climate change, social inequality and biodiversity- loss at the forefront of the congress.

We have lined up 3 sub themes:

1. Leave no one behind; Inclusion and social justice are important dimensions in sustainable and equitable development.

2. Act local, think global; the interdependencies between the local and global complex networks and how they are played out in practice.  
3. Beyond borders; approaches to environmental challenges across geographical zones, borders, professional disciplines and culture.

We have invited a set of influential keynote speakers, breakout sessions and professional tours to ensure you get a world class experience.

This World Congress will be an opportunity to promote learning and collaboration among built environment professionals to find solutions to the major global challenges.

Come and enjoy the unique and welcoming city of Nairobi, which relates very closely to the Congress theme, with rapid urbanization, dealing with climate change, and adequate housing as priority issues. You will also find a fine city with friendly people and very interesting places to visit, including the museums and a national park within the city.

FLORENCE NYOLE  
PRESIDENT, ARCHITECTURAL  
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# STOCKHOLM

\*Session times stated in CET time

# 28 SEPTEMBER

## Round table

## Architecture as a Tool for Sustainability

Trafikverket, Swedish Agency of Infrastructure

Architecture as a Tool for Sustainability, Stockholm, September 28, 2023, 15:00 PM- 17:00 PM

The Swedish Transport Administration's architectural goal is to contribute to societal development by creating well-designed environments that are functional, sustainable and beautiful. But how can architecture contribute to the United Nations' Agenda 2030? How can architectural solutions systematically effectuate sustainability goals related to climate impact, biodiversity, health, natural and cultural values, cities and communities? Following an overview of the governing sustainability goals from an architectural perspective, practical approaches are presented for how architecture allows ambitions for sustainability to reach further.

# Injustice and landscape care: inquiry on displacement in Mediterranean landscapes

**Dr Maria Gabriella Trovato**<sup>1</sup>

1Norwegian University of Life and Sciences, Ås, Norway

Injustice and landscape care: inquiry on displacement in Mediterranean landscapes, Stockholm, September 28, 2023, 3:00 PM- 5:00 PM

## **Biography:**

*Maria Gabriella Trovato is a licensed Architect and a PhD Landscape Architect. She has worked and taught in several countries in Europe, Canada, Africa, and the Middle East. Maria Gabriella is interested in investigating new forms of urban living in a world of change and fluxing conditions.*

Migration studies are “the description, analysis, and theorization of the movement of people from one place or country to another” (King, 2012). The forced or voluntary relocation of countless individuals from their homeland results in the ‘deterritorialization of culture’ and the end of the equation of culture, territory, and identity, which was once thought to be the most important factor in the existence of community (Fabietti, 2015). Displacement, placelessness, relocation, and migration are all about the relationship and tension between space, the body, stability, and mobility (Egoz, 2018).

The Mediterranean is entering a new era of migration and mobility, echoing the sea’s long history of movement. The area is a geopolitical arena where the borders to the north, south, east, and west are always being renegotiated. In communities where a global political imbalance has led to injustice, vulnerability, socioeconomic inequality, and conflicts, crises happen every day. The earthquakes in Turkey and Syria, the collapse of Lebanon’s government and economy, Syria’s ongoing civil war, and other social and political issues all threaten the stability of the Mediterranean, forcing communities to move, and causing widespread and severe damage to the environment that has long-term effects on ecosystems and human health. These issues are transforming society and shaping new landscapes.

Using unconventional cartographic parameterization and measuring approaches, this paper aims to reveal and depict intangible features of the displacement landscape, such as place attachment, rights, sense of place, belonging, embodiment, and justice.

Specific goals are to: investigate new lived and shared landscape manifestations and displacement experiences in the Mediterranean region based on the body-environment relationship; and evaluate issues of justice, rights, and care as externalizations of the human/place relationship in Lebanon.

The paper is based on narratives, subjective interpretations of facts, and ethnographic studies that will combine, overlap, and connect with forensic data analysis to try to figure out the relationship between people, places, sociocultural behaviors, just spaces, resource allocations, and land dynamics. It suggests an unconventional cartographic representation of the spatial and social conditions that force displaced communities to build or live in a daily re-negotiation of individuality and power.

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**Keywords** Justice, migration, Mediterranean

# Multiple-Duty Actions for Health and Wellbeing through Climate City Planning

**Prof Ann Legeby**<sup>2</sup>, Dr Charlie Gullstrom<sup>3</sup>, **Prof Carl Johan Sundberg**<sup>1</sup>, Mr Fredrik Toller<sup>3</sup>, Ms Nima Karimzadeh<sup>3</sup>, Stefan Swartling Peterson<sup>1</sup>

<sup>1</sup>Karolinska Institutet, Stockholm, Sweden, <sup>2</sup>Royal Institute of Technology, Stockholm, Sweden, <sup>3</sup>Sweco Sverige AB, Stockholm, Sweden

Double duty actions for health and well-being through climate city planning, Stockholm, September 28, 2023, 3:00 PM- 4:00 PM

## **Biography:**

*Stefan Swartling Peterson is a PublicHealth Physician with formative work in East Africa over the last 20 years. He served as the Global Chief of Health for UNICEF 2016-20. He is now Professor of Global Transformation for Health at KI, with side affiliations to Uppsala University and Makerere University, Uganda.*

Our multidisciplinary team of researchers and practitioners in public health, urban planning, architecture and landscape architecture recently collaborated on a use case for EU's Cities Mission, where Stockholm represents one of 112 cities aiming for climate-neutrality by 2030. We propose this roundtable as an open invitation to colleagues in Nairobi, reflecting our own areas of expertise, to join us in a reflective dialogue on the benefits of the double duty actions of our Stockholm case 'Cities for Climate and Health'.

Today, significant measures are already taken to accelerate climate transition aiming to reduce emissions by for example reducing private car dependency and promoting sustainable mobility. We argue it is essential that such actions equally drive social sustainability by aligning climate actions with interventions for improved health, wellbeing, as well as social inclusion. We also argue that the city in itself represents an important instrument for such triple duty actions. Promoting walkability and cyclability in cities is clearly a design-dependent issue which goes hand in hand with health promotion and disease prevention: "multiple duty actions". Active transportation reduces congestion, pollution, noise disturbances and negative climate effects, and improves physical and mental health, in addition, equality increases. Moving beyond professional boundaries allows us to conceive, evaluate and advocate for such health promoting environments and healthier behaviours.

In order to leave no one behind, cities have great potential to foster health and wellbeing through innovative urban planning approaches and design interventions that activate citizen engagement - a key factor for successful climate actions.

The roundtable includes a presentation of our multidisciplinary approach combining urban design interventions with health promotion for the Stockholm case. Based on this, a reflecting discussion follows together with the Nairobi participants on possibilities and potential of transforming Nairobi into a city for climate and health.

## **Keywords**

ClimateCities; UrbanPlanning; HealthyCities

## Considering people and policy

### Urban renewal for more sustainable suburbs

**Mr Frederic Dellinger<sup>1</sup>**

1Grenoble School Of Architecture, Grenoble, France

Considering people and policy, Stockholm Rörstrand 3, September 28, 2023, 3:00 PM- 5:00 PM

**Biography:**

*Landscape designer and environmentalist, senior lecturer at the Grenoble School of Architecture and a member of the Architecture, Environment and Constructive Cultures Laboratory. Founding manager of the Lyon-based landscape office, Eranthis. The rainwater management and biodiversity are at the heart of his professional practice, his teaching and his research work.*

From the 1950s to the 1970s, the explosion of the rural exodus and the general increase in living standards led to a massive influx of people into the cities. The response was the mass construction of the “grands ensembles”, an urban form based on building blocks and towers in large green spaces. This made it possible to build, from a semi-industrialized process, the very large number of housing units needed. Over time, the buildings and infrastructures of these suburbs have aged; the neighborhoods have become impoverished. Most often of great intercultural and social wealth, they unfortunately also concentrate many problems: unemployment, poverty or drug dealing of all kinds. From 1990 to 2005, major riots shook the French suburbs. The political response was both security and socio-economic, but also urban. Successive large-scale urban renewal plans have been implemented and are still in progress.

The purpose of this presentation is to review 10 years of urban, landscape and environmental renovation interventions in these neighborhoods, by a landscape architect office in Lyon. More precisely, the aim is to take a critical look at the relative success of the initial project intentions with regard to three themes for a more sustainable life: the preservation of water resources, the development of biodiversity and social inclusion. The photographic follow-up over time and interviews with inhabitants and management services of some of the agency’s projects in the suburbs of Lyon and Grenoble provide material for reflection to improve our methodological approach to the urban renewal of public spaces. We defend a low-resource approach to the city on a human scale; a sponge city creating the conditions for a peaceful cohabitation between populations and between these populations and the ordinary biodiversity of their neighborhood.

As landscape architects, we believe that to participate effectively in the fight against climate change and the extinction of biodiversity, is to operate everywhere in the diffuse urban territories. We operate in existing daily living environments to make

them more resilient and more comfortable, but also to create the conditions for each of its inhabitants to live in a more sustainable way.

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## Keywords

suburbs  
biodiversity  
Rainwater

# Social Sustainability as a tool towards Sustainable Urban Development

**Mrs Polyxeni Mastoraki**<sup>1</sup>, Miss Anna Ioannidou<sup>1</sup>, Miss Aikaterini Koloka<sup>1</sup>

<sup>1</sup>LandmArch., Athens, Greece

Considering people and policy, Stockholm Rörstrand 3, September 28, 2023, 3:00 PM- 5:00 PM

## **Biography:**

*Polyxeni Mastoraki is a graduate Architect (NTUA) and Landscape Architect (UEL) who has taken part in many International Conventions and Competitions, focusing on the importance of social sustainability by means of social inclusivity, site-specificity, safety, social interaction, environmental protection, enhancement of the biodiversity, accessibility, walkability and circular economy.*

The urban landscape in the 21st century calls for immediate actions in city planning in order to address a number of issues ranging from pollution and sustainability, equality and climate change, to aesthetics and diversity. The first part of our research takes into consideration the basic factor for sustainable cities: people. Equality and equity in urban design entails considering every single group that comprises the social web, be it children, women, senior citizens, people with a handicap, the LGBTQ+ community, racial and ethnic minorities and the urban poor. Through examples, it showcases measures that lead to an all-inclusive urban design, by means of participation, representation and collaboration, with the aim to have a friendly, respectful and humane built environment that leaves no one out. This research shows ways to exploit positively the human capital and help it connect and build bonds both among its members as well as the built environment, bottom-up. We have presented the need for safety for all and the need to integrate the built with the natural environment in a harmonious mode, such as by promoting green and blue infrastructures, as well as Nature Based Solutions, so that we can reverse climate change and ensure habitable cities for the future. This research goes on to examine how financial equality with global opportunities can promote a healthy city and lead to a circular economy. Reclaiming the streets, introducing sustainable urban mobility and minimizing distances is a wager that city planners have to deal with in modern cities. We have examined the use of art in various forms not only to improve the urban surroundings, but also as a method to enhance social bonding and placemaking. The practical use of objects and constructions at the eye level is usually neglected, but this research underlines its importance and usefulness. We have probed into the question of aesthetics, the implementation of the New Urban

Agenda and the New European Bauhaus Initiative. All in all, our research considers ways for the human capital and technology to walk hand in hand in the 21st century to produce viable, sustainable and respectful environments.

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**Keywords** participation, representation, collaboration

## Research on landscape design of social housing community in China

**Mr Chenghao Xu**<sup>1</sup>, Dr Zhenyu Li<sup>1</sup>

<sup>1</sup>Tongji University, Shanghai, China

Considering people and policy, Stockholm Rörstrand 3, September 28, 2023, 3:00 PM- 5:00 PM

### Biography:

*I am Xu Chenghao, a PhD candidate at the College of Architecture and Urban Planning in Tongji University. My main research direction is social housing, new town study, sharing living space and related contents.*

In recent years, social housing has been built at a rapid pace in China. Massive construction and distribution are intended to give low-income people or migrant workers the right to live decently in the city. However, although the basic housing needs of the insured people are met, they still lack adequate access to high-quality landscapes. This paper investigates and analyzes many examples of social housing communities in several major cities in China, and finds that community closure, space homogeneity and lack of residents' participation are the three problems in the landscape design of social housing communities. By studying the current problems and comparing with landscape design methods in other urban scenes, this paper puts forward three design directions of landscape design in social housing community: sharing landscape, differentiated design and resident co-governance, for reference in future landscape design practice and research. This paper is subsidized by NSFC project which is named as <Research on Time and Space Elements and Expression System of "Sharing Architecture">, NO.51978468.

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### Keywords

Social-housing Community; Landscape

# Reassembling a Welfare landscape: on socio-material legacies and sustainable landscapes

**Dr Mattias Qvistrom**<sup>1</sup>

<sup>1</sup>Dep Of Urban And Rural Development, SLU, Uppsala, Sweden

Considering people and policy, Stockholm Rörstrand 3, September 28, 2023, 3:00 PM- 5:00 PM

## **Biography:**

*I am professor in landscape architecture. My research concerns the interface between modern landscapes and planning, using landscape theory, relational geography/ANT, ethnographic studies and history to reveal the troubled interplays. Social sustainability is one of the themes I have explored, for instance in the project The Welfare Landscape Reassembled.*

Landscape architecture is as much about the past as it is about the future. It is a matter of sensitive reinterpretations of existing landscapes and of contributing to a new development; in some projects such a distinction is not even meaningful. Yet, some landscape legacies receive more attention than others as a base for future planning and design. The modernist heritage of the 1960s and 1970s is a case in point. The planning during this epoch has been heavily criticized, not the least due to its standardised solutions, monofunctional zoning, and large scale approaches, but also due to its problematic dependency on the private car. Still, in Sweden as in many other Western countries, this was also the time of an emerging welfare society, and the landscape would play an important role for its realization. As scholars in the Nordic countries have shown over the past years, a Welfare landscape would materialize as part and parcel of the welfare society. In times of increasing social injustice, there is a need to revisit the socio-material legacies of this landscape and explore its capacity to be reinterpreted for the society of tomorrow. In this paper, I draw on five years of historical studies, focusing especially on the leisure and green planning of the 1970s in Sweden, and on its legacies. After a brief comment on the contemporary threats of the legacy, I end with a discussion on different ways in which a welfare landscape can be reassembled. By doing so, the paper illustrates how an ambitious approach on social sustainability can find inspiration and hope through historical studies.

## **Keywords**

Green planning history

# How to Evaluate Anthropogenic Impacts on Protected Areas and Adjacencies?

**Mr Wenwu Du**, Miss Miao Sui

<sup>1</sup>Department Of Landscape Architecture, College Of Horticulture And Landscape Architecture, Southwest University, Beibei, China

Considering people and policy, Stockholm Rörstrand 3, September 28, 2023, 3:00 PM- 5:00 PM

## **Biography:**

*Du Wenwu is an associate professor, head of of the Department of Landscape Architecture, College of Horticulture and Landscape Architecture, Southwest University, China. He got his doctor degree from Chiba University, Japan. He studies landscape planning & design and spatial governance, particularly protected areas with their adjacencies.*

Human activities, widely spread in the adjacent areas of protected areas (PAAs), are the culprits behind fragmentation, isolation and biodiversity loss in protected areas (PAs) worldwide. However, it's difficult to assess precisely both direct and indirect (spillover) impacts of human activities in such areas of high landscape heterogeneity. Hence, the large population in PAAs is liable to raise a dilemma between community development and nature conservation, causing social conflicts and economic difficulties. Therefore, we illustrate an approach simulating the direct and spillover impacts of human activities in Jinfo Mountain (Chongqing, China) based on the gradient model, as a case of global PAAs governance.

Firstly, the boundary of core areas was identified and the optimal spatial scale of adjacent areas was determined by change points of spatial autocorrelation coefficients. Secondly, we constructed the humanistic landscape gradient (HLG) based on the minimum cumulative resistance model, simulating the direct and spillover impacts from 5 types of anthropogenic land in 2000, 2010 and 2020. Then we integrated normalized difference vegetation index, wet, land surface temperature and slope gradients into the natural landscape gradient (NLG), verifying the distribution and intensity of human activity impacts. Finally, HLG and NLG were comprehensively evaluated to the comprehensive landscape gradient (CLG) to reveal the results of the Human-Land Interaction. These results indicate that human activity impacts increased in PAAs from 2000 to 2020 as a whole, but relieved the isolation and fragmentation obviously. The most serious impact factor was the residential land, and a huge threat to the core areas came from highly urbanized adjacent areas.



Landscape gradients effectively diagnosed human activities impact at a fine scale and demonstrated the risk of human activities in adjacent areas with a limitation of high precision basic data. These results could be prepared for the further study of the interaction mechanisms of HLG and NLG, to reveal spillover and direct effects in a quantitatively and spatially explicit format. On account of these results, we can optimize boundaries more scientifically, govern synergistically in lower cost, fewer conflicts, leading to a sustainable development of international PAAs.

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## Keywords

Conservation; Human; Risks

## Advancing integrated urban development approaches for recovery and reconstruction contexts.

**Helena Ohlsson**<sup>1</sup>, Mr Ryan Knox<sup>1</sup>

<sup>1</sup>SALAR International, Stockholm, Sweden

Considering people and policy, Stockholm Rörstrand 3, September 28, 2023, 3:00 PM- 5:00 PM

### **Biography:**

*Mr. Knox is Managing Director of SALAR International. He has previously served as MENA Representative for SALAR International (2012 – 16), and more recently as Country Director for UN-Habitat in Syria (2020 – 2022) and Lebanon focal point for the EU Trust Fund for the Syrian Crisis (2016 – 20).*

During the last decade, the World Bank, EU and UN have considered how to best address urban recovery, with a focus on building resilience and building back better after manmade or natural disasters. Lessons from the piloting of the Urban Recovery Framework ([www.unhabitat.org/urban-recovery-framework](http://www.unhabitat.org/urban-recovery-framework)) were presented at the World Urban Forum in Katowice in June 2022.

SALAR International and partners have considered how to advance this discussion, initially through the piloting of hybrid methodologies, combining municipal resilience assessments and urban profiling, and subsequently through an exploration of how the SymbioCity ([www.symbiocity.org](http://www.symbiocity.org)) approach can be adjusted to urban crisis contexts, such as the Ukraine conflict and the Turkey/Syria earthquakes of 2023.

The focus of emerging approaches centres on arriving at an evidence- and area-based, participatory assessment and planning approach, that creates strong arguments for a multisectoral response, that will support urban / service functionality, housing restoration, mobility and access, economic recovery, social cohesion and return preparedness.

The policy reflections also consider how to bridge the humanitarian-development-peace nexus, by ensuring the direct engagement of local communities and local authorities in post-crisis response mechanisms, and thereby contributing to the rebuilding of the social contract, and framing peacebuilding around arguments in support of decentralisation.

The session will advance global policy reflections that have to date been addressed through successive WUFs, and the Global Alliance for Urban Crises ([www.urban-response.org](http://www.urban-response.org)), presenting lessons from the SymbioCity approach, as well as recently

deployed urban recovery and reconstruction pilots in Ukraine, Turkey, Syria, as well as other contexts.

SALAR International will present these lessons together with local teams and partners.

**Keywords**

Urban recovery, SymbioCity

## **Design and theory - New Perspectives**

# Nature-Culture, Equity & Inclusion: Lessons from Badshahpur Forest Corridor, India

Ms. Nidhi Madan, Ms Nupur Prothi

1Beyond built, Delhi, India

Design and theory- New Perspectives, Stockholm Karlberg, September 28, 2023, 3:00 PM-5:00 PM

## **Biography:**

*Nidhi Madan and Nupur Prothi are Landscape Architects. They have been active in the Indian Scoeity of Landscape Architects for the last decade. Nidhi is an accessibility expert and Nupur a heritage expert both involved with community centric space design.*

This project reimagines urban wastelands into usable public places in the Global South through application of Nature based solutions, circular use of construction waste, accessibility, inclusivity. Within deeply divided Indian cities, equitable, inclusive, engaging and participatory open spaces require advocacy, activism and good practice examples to show the way forward especially for unserved or inadequately serviced marginalised settlements.

The 5.6km (44acre) Badshahpur Forest Corridor, an eco-restoration project, within Gurgaon ( Delhi National Capital Region) is a collaborative project between government, well-meaning citizen groups, corporates and landscape architects that showcases the potential of a comprehensive landscape approach to address the needs of multi-generational users representing different classes, castes, genders, literacy, economic and social groups and persons with disabilities.

This project, now a thriving native forest corridor was once a polluted waterway running through an urban wasteland, between two busy arterial roads. Today, through the planted landscape, this stretch links community recreation, play and rest spaces including storytelling corners, amphitheater, series of open courts, An area plagued with urban flooding incidents during the monsoon rainy period this is now equipped to address the challenges through water-sensitive nature-based design that captures rainwater and recharges ground water to address the flooding and drought related disasters faced by many Indian cities today.

To address the mobility challenges, a hardscape walking and cycling network is interwoven with compacted earth jogging trails weaving in and out of the landscape. Women from the neighbouring marginalised communities can be seen, for the first time cycling through this corridor through a diverse neighbourhood of gated communities, low-income housing, residences, migrant camps and four urbanised villages to reach their place of work. Children from the urban villages that did not have

access to recreational infrastructure within the high-income gated communities, and are marooned in a densely built urban environment, have access to a public space for recreation, and urban nature

Access to a safe, conflict-free, barrier-free open space has created a sense of ownership and belonging for its many users, and opportunities for the imagination of other such spaces across the city, for both its decision makers and its citizens.

## **Keywords**

NbS, community, wasteland

# Rohan Island in Prague: Floodplain Park and River Landscape Development

**Ms Martina Bauerová**<sup>1</sup>

1Prague Institute of Planning and Development, Prague, Czech Republic

Design and theory- New Perspectives, Stockholm Karlberg, September 28, 2023, 3:00 PM-5:00 PM

## **Biography:**

*Martina is an urban designer at Prague Institute of Planning and Development's Office of Public Space, where she works on public space projects and river development. She holds degrees in architecture and urbanism from Czechia, interned in France, and worked on land development projects in Canada.*

On the right bank of the Vltava River in Prague, between the neighborhoods of Karlín and Libeň, lies a 56-hectare brownfield. This underappreciated bit of urban wilderness, though prone to flooding, offers spectacular river views, spontaneity, and a chance to get lost in the city center.

After the devastating floods of 2002 in Prague that especially affected this area, the creation of Maniny Park was conceived as one of the city's new flood protection measures. However, over time, the requirements for river floodplain parks increased and we were asked to evolve the project into a sustainable river park that challenges climate change, increases biodiversity, and enhances the identity of the place.

To account for the many different visions for the area's future, rather than landscape competition, we elected to use a special form of tendering --a competitive dialogue-- to ensure the final design corresponds to the area's needs. The competitive dialogue enables the gradual evolution of the brief by involving landscape architects, architects, water engineers, local stakeholders, the public, and city representatives in continuous discussions during the design process.

In July 2022 the committee selected four teams basing on their portfolio and professional approach, which are now working on the proposal of the park. They were assigned to work on different aspects of the design (landscape proposal, concept plan, development of the entire river), with an emphasis on future management and governance. We also included innovative evaluation criteria in the tendering process. The final winner will not only be chosen based on the quality of their design (50%) and price (25%), but also their ability to propose a legible process for design completion and implementation (25%). In June 2023, the committee will choose the winner and the finalization of project documentation will begin.

Thanks to the open communication, participation, and community engagement

throughout the project, the public have developed trust in the city administration and understanding of the decisions being made. This process has ensured that the locals have a sense of shared responsibility for the development of the area, independent of future changes to the city administration.

## **References**

Anje Stokman (Landscape Architect) - Member of the Committee  
Fabio Masi (Environmental Scientist) - Member of the Committee  
Radan Haluzík (Social Anthropologist) - Member of the Committee

## **Keywords**

Participative tender, river

# Making Arguments for Change and the Role of Metaphor

**Dr Allan Shearer**<sup>1</sup>

<sup>1</sup>The University Of Texas At Austin, Austin, United States

Design and theory- New Perspectives, Stockholm Karlberg, September 28, 2023, 3:00 PM-5:00 PM

## ***Biography:***

*Dr. Allan W. Shearer, FASLA, FCELA, is the Associate Dean for Research and Technology for the School of Architecture at The University of Texas at Austin. His research centers on methods to structure ambiguities and uncertainties in planning and design problems.*

Design teams often face problems that have too much or too little data, competing models of cause and effect, and contested opinions about best outcomes. In this light, designers do not provide solutions, per se, but arguments for purposeful change. So how are successful arguments developed and shared? This paper considers the use of metaphors as part of a larger process to advance design arguments. In everyday conversations, metaphors are used commonly to provide rhetorical emphasis. It is also often asserted that metaphors are not arguments. But metaphors are not simply linguistic ornamentation. It has also been contended that metaphors are the basis for conceptual thinking and it has been shown that metaphors can aid learning. Further, it has been demonstrated through experimentation and historical studies that using different metaphors to describe the same problem can lead to different goals for improvement and, subsequently, to different courses of action. As such, using metaphors can greatly contribute to policy, planning, design, and management outcomes. This paper considers the use of metaphor for design development through a framework that establishes and advances arguments for intentional change. The framework assumes a constructivist perspective, that is one in which a designer or design team gains new insight by building upon prior experiences and understanding. A metaphor is used to provide the link between questions of ethics (what ought to be done relative to identified site characteristics and possible site uses) and questions of epistemology (biophysical and social cause and effect relationships that can be represented in system dynamics models). This connection calls for interrelated examinations of subjective and objective aspects of design thinking within an internally consistent argument. Relevant theories of metaphor from linguistics, cognitive science, planning, and design are provided. Emphasis is placed on methodological and heuristic uses of metaphor, rather than discursive uses. Examples of design proposals offer a basis to observe patterns of use and the challenges with some metaphors for design development. Implications of metaphor within ethical and epistemological concerns are discussed.

## **Keywords**

Argumentation, Metaphor, Constructivism

# Exploration of Aesthetic Cognitive Laws Based on Multimodal Deep Learning

**Sijia Jiang**<sup>1</sup>, Ran Chen<sup>1</sup>, Sirui Zhang<sup>1</sup>, Jing Zhao<sup>1</sup>

<sup>1</sup>Beijing Forestry University, Haidian district, China

Design and theory- New Perspectives, Stockholm Karlberg, September 28, 2023, 3:00 PM-5:00 PM

## **Biography:**

*Sijia Jiang is pursuing a B.E. degree in Landscape Architecture at Beijing Forestry University, focusing on the application of intelligent technologies in landscape architecture and digital landscapes.*

*Sijia Jiang was awarded the China National Scholarship for 2021 and 2022, and she also holds two national patents and some competition results.*

The laws of aesthetic perception of visitors are key elements in guiding and evaluating the construction of landscape gardens. Traditional gardens are important sites for exploring the perception of human scenes. Understanding visitors' cognitive responses to different cultures and summarizing the aesthetic laws across regions and cultures will help designers to think globally and rethink local design from a higher dimension.

Nowadays, the research on aesthetic cognitive patterns is faced with these bottlenecks: at the theoretical level, uncovering the implicit patterns behind cognition is the primary problem, and the relationship between cognitive outcomes and influencing factors is extremely complex and need to be discussed in depth. At the data level, large-scale measurement is difficult to be realized. At the technical level, traditional methods are difficult to classify, extract, and summarize the multi-source information on images at large scale.

We take overseas Chinese gardens as a research object to explore people's perceptions of typical cultural images. We construct a multi-source heterogeneous perception database based on Kant's implicit cognition theory and with the help of relevance analysis of graphical and textual information in public opinion big data. Relying on multimodal technology, we deeply mine the massive image information. Then, we visualize the data category by category, draw the probability map of emotion distribution, keyword co-occurrence knowledge map, and "scene-emotion" correlation scatter plot to show the cognitive change pattern of different categories of scenes. We found that overseas visitors have a high degree of acceptance of

Chinese garden culture, but do not have a deep understanding of the spiritual connotation of Chinese gardens, such as the idea of seclusion. In addition, spaces with functionality are more likely to elicit emotional responses from visitors.

Finally, we make suggestions for the future construction of Chinese gardens overseas. With Chinese garden culture as the basis for dissemination and visitors' preferences as the basis, we need to target the spirit of Chinese garden culture to penetrate into the gardening experience. Based on this study, we also find that the analysis of big data combined with multimodal techniques effectively expands the depth and breadth of aesthetic perception studies.

## **Keywords**

Aesthetic Perception, Culture

# More than stairs: Landscape, agency, and community engagement in HK

**Melissa Cate Christ**<sup>1</sup>

<sup>1</sup>UNSW, Sydney, Australia

Design and theory- New Perspectives, Stockholm Karlberg, September 28, 2023, 3:00 PM-5:00 PM

## **Biography:**

*Melissa Cate Christ is a casual lecturer at UNSW and UTS, a registered landscape architect (Ontario), and the founding director of transverse studio. Melissa has a Master of Landscape Architecture from the University of Toronto and a Bachelor of Liberal Arts from St. John's College.*

In recent years there has been an increasing interest in and call for activist landscape architecture pedagogies and practices to inclusively and collaboratively respond to urgent contemporary issues such as climate change, population increase, migration and urban (re)development, and socio-cultural, environmental, and indigenous justice (Fleming 2019; Hou 2020; Belanger et al. 2020; Hayter 2019; Zeunert, 2017). This was summarized in the 2019 IFLA World Congress introductory lecture by ILFA president James Hayter, who highlighted five key global issues for landscape architects to address: 1. Climate Change; 2. Food Security and Agriculture; 3. Community Participation in Design; 4. Health and Well Being; and 5. Indigenous Cultures (IFLA 2019). The lecture ended with a slide stating: 'The narrative of landscape architecture is a call to arms for rethinking the way we build our human environments' (Hayter 2019). Although there are numerous academic and professional narratives of studio, community and co-design projects, and case studies that aim to address these issues (Anderson et al 2015), there is a need for more research which analyzes and interprets landscape architectural pedagogies and practices in local communities from a transdisciplinary, longitudinal, relational, reflexive, and situated perspective. To contribute to this discussion, this presentation shares research that explores the agency of landscape architecture pedagogies and practices in situations of disruption, change, and infrastructure redevelopment, specifically within dense urban environments with cultural heritage value. Using an ANT-influenced analysis and account of the controversy surrounding a proposed transformation of a set of stairs into an escalator along Pound Lane in Hong Kong as a case study, the presentation discusses the relationship between community engagement and the teaching and practice of landscape architecture in the 21st century.

## **Keywords**

agency, Hong Kong

# 1:1:100 - An intuitive method for site specific landscape architecture

**Miss Camilla Doms**<sup>1</sup>, **Emilia Molin**<sup>1</sup>

<sup>1</sup>Land Arkitektur, Stockholm, Sverige

Design and theory- New Perspectives, Stockholm Karlberg, September 28, 2023, 3:00 PM-5:00 PM

## **Biography:**

*LAND Arkitektur is a landscape architect studio based in Stockholm. To us the understanding of site is the hallmark of landscape architecture. Every site contains values, sometimes obvious, sometimes hidden. To pinpoint these values gives us the guidelines in creating sustainable projects and an architecture that is relevant.*

In our practice, we have observed a gap between site, its representation, and the landscape architecture that we create. We believe this distance is partly due to the dominance of digital tools in contemporary design practice where site is observed through a digital interface. The ever-increasing amounts of site data available to us in studio allows us to be closer to, yet further away from site than ever. This presents with a great many opportunities for the field of landscape, but we believe there is also a need for a tactile presence of the designer on site.

At LAND arkitektur we explore different ways of bridging the distance between the physical site and our design work in studio through working with our proposals directly in the landscape. The exploratory work has resulted in the 1:1:100 method – a method which combines physical models as a tool for landscape representation, with full-scale sketching on site.

Through a series of projects over the last five years we have learnt about the potential and the limitations of the method. We find that the presence on site results in an enhanced awareness of the material and immaterial resources available on site and how it can be integrated or redeployed within a new design. When conceived on site, the design proposal is constantly confronted with the existing reality on site. The physical presence of the body itself and model work on site result in findings and realisations, different from discoveries made in the studio. We invite you to take part of our work with the 1:1:100 method through the lens of an ongoing design project – The Museum Park by the Museum of Ethnography in Stockholm.

## **Keywords**

Scale, model, site

## **Design project**

## Participatory explorations

### Singapore - Co-creating the City in Nature with communities

**Mayura Patil<sup>1</sup>, Ms Jason Wright<sup>1</sup>**

<sup>1</sup>National Parks Board, Singapore, Singapore

Participatory explorations, Stockholm Rörstrand 1, September 28, 2023, 3:00 PM- 5:00 PM

#### **Biography:**

*Jason is a Director of Design division at National Parks Board and has 17 years of experience heading significant projects. He has been invited to speak at several international forums including IFLA World Congress 2017, Australian Therapeutic Landscape Conference 2019 (Perth, Australia) and the Stephen R. Kellert Biophilic Design Awards 2019.*

Despite the constraints of limited size and intense urbanisation, Singapore has consistently proven to be a city-state filled with lush greenery and rich biodiversity. Singapore is widely known as one of the greenest high-density cities in the world according to various indexes including the Massachusetts Institute of Technology's Senseable City Lab's Green View Index 1.

Singapore's development vision has put greenery at the forefront of urban planning since the 1960s with the 'Garden City' campaign where social inclusion was one of the key drivers. Today Singapore is working to achieve a 'City in Nature'. The vision stands on the belief that everyone has a role to play, and recognition that ground-up stewardship is essential to achieving the vision of creating a sustainable nation. National Parks Board- the lead greening government agency of Singapore, actively engages various segments of the community, including academia, the public and landscape professionals, through a broad range of platforms and initiatives. This includes programmes such as:

- Friends of the Parks which involves communities in the design, development, and management of parks.
- Community in Bloom which has brought together 45,000 volunteers with a passion for gardening to work hand-in-hand to create beautiful gardens within their neighbourhoods.
- Youth Stewards for Nature which challenges youth to take up a project to solve real world problems in research, outreach, biodiversity conservation, or horticulture and landscape design.
- The One Million Trees movement which is a community drive to plant a million more trees across Singapore by 2030.

Another successful example of a recent research project – 'Building community resilience at Cambridge Road' sought to pilot a participatory planning process to cre-



ate a climate resilient neighbourhood. The uniqueness of the project is in its collaborative methods of engaging researchers, technical experts, government agencies and communities earlier in the planning process and downstream implementation. The project demonstrated a prototype of participatory planning and resilience-building process that could be scaled up transcending the limits of one profession - reminding policy planners of a mutual stewardship stance and interdependence between the users and designers.

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## Keywords

Singapore, Community-resilience

# Prototyping a Park: Design of Jubileumsparken, Gothenburg

**Mr Martin Allik**, Mr David Gough<sup>2</sup>

<sup>1</sup>Tallinn University of Technology, Tallinn, Estonia, <sup>2</sup>MARELD landskapsarkitekter AB, Östersund / Göteborg, Sweden

Participatory explorations, Stockholm Rörstrand 1, September 28, 2023, 3:00 PM- 5:00 PM

## Biography:

*Martin's professional experience ranges from designing and building temporary installations to participatory workshops, urban design and green-blue infrastructure planning. Combining a hands-on approach with scientific research ensures that the created landscapes are resilient. Aesthetics, perception, ecology, economy and maintenance are studied through the prism of predictable and unpredictable change.*

The design of Jubileumsparken in Gothenburg, Sweden runs on two parallel tracks — a permanent park is completed and opened in mid 2023, and before that a series of temporary parks and installations had been set up during several public workshops since 2014.

The gradual evolution of the site from a former harbour to a city district allows ecosystems to adapt and invites the public to leave their imprint on the park through not only directly building and planting, but even more importantly, by indirectly voicing their interests and desires thus impacting the final design of the permanent park. With a focus on the existing fragile ruderal and coastal ecosystems, as well as the socio-cultural heritage of the site, a 1:1 scale landscape laboratory — the Shoreline Park — was built together with the public. It allowed for testing new materials, work methods, planting and maintenance techniques that would then be used in the permanent Play & Learn Park.

Creating a resilient urban wildscape in the heart of Gothenburg was the point of departure for the project — resilient in how the park is perceived by the public, maintained by municipal staff and how it adapts to local weather and global climate change. The design process highlights the need for a closer collaboration between landscape architects and maintenance staff to achieve the sustainability goals and the aesthetic value of the park over a longer period, as well as the importance of landscape architects' continuous involvement in park maintenance. The project adopted geotechnic infrastructure to create a gently sloping wetland and proposed a mixed planting plan of indigenous species, natural succession and exotics to address climate change, and to create preconditions for high biodiversity even in the long term. Diverse birdlife has been a cornerstone of the project.

Through such prototyping and testing, the wider public, maintenance staff, and experts got engaged in this project, which initiated a dialogue about the persistence in landscape between urban ecosystems, wildscapes, and aesthetics.

### Keywords

Evolutionary Design Process

## Public Participation and Community Engagement in Kuwait's Park Management

**Mrs Sarah Al Anjeri**<sup>1</sup>, Dr Reem Alissa

<sup>1</sup>Kuwait University, Kuwait

Participatory explorations, Stockholm Rörstrand 1, September 28, 2023, 3:00 PM- 5:00 PM

### **Biography:**

*Sarah Al-Anjeri is an experienced architect specializing in both commercial and residential design. She currently holds the position of Creative Director at a boutique architecture and design firm in Kuwait. Sarah completed both her Bachelor's and Master's degrees in Architecture from Kuwait University.*

In Kuwait, the challenges of park management have become increasingly difficult due to an ineffective public sector, budgetary limitations, scarcity of water, and lack of expertise and training. This research utilizes indicators as a benchmark for measuring and explaining park conditions and implications on sustainable park management. The study aims to explore the perception and satisfaction of neighborhood park visitors with park conditions using the case studies of Wahran and The Space Parks, in the neighborhoods of Al-Shamiya and Al-Yarmouk respectively. The former is managed top-down by the Public Authority of Agriculture and Fish Resources, and the latter is managed bottom-up by local residents. To address the gap in the literature on park conditions in Kuwait, indicators were selected from surveys and interviews of park managers, local academics, and park users, and used as evaluation categories for rating park management. The main objective of this study is to gain insight from park users on which management model is more successful in their perspective, and in turn aid in providing recommendations to improve park management in Kuwait. The results identified successes and shortcomings in park management in Kuwait and they suggest that the users pay close attention to the physical attributes of parks and consider them important management aspects. This research argues that the key factor in improving park management practices is a close study of the user's needs and expectations from park management. Recommendations for park management in Kuwait include, but are not limited to, having trained expertise, utilizing available resources, promoting community engagement, and the provision of an adequate budget which will contribute to improved park management. This study contributes to the growing literature on public participation and community engagement in park management, and provides valuable insights for landscape architects and park managers in Kuwait and beyond. The re-

sults highlight the importance of engaging local communities in park management, and the need for a user-centered approach to park design and management.

### Keywords

Park Management, Kuwait

## Children's Found Playspaces in High-rise Gated Communities in Nanjing, China.

**Miss Rui Wang**<sup>1</sup>, Dr. Qing Qin

<sup>1</sup>University of Sheffield, Sheffield, United Kingdom

Participatory explorations, Stockholm Rörstrand 1, September 28, 2023, 3:00 PM- 5:00 PM

### **Biography:**

*Rui Wang is a PhD candidate in the Department of Landscape at the University of Sheffield, researching children's outdoor play spaces in China. Her research explores the experiences and perceptions of children's found and constructed outdoor play spaces in various high-rise gated communities in Nanjing, China.*

Rapid urbanization in China has resulted in an increasing number of high-rise buildings in response to rural-urban migration. Most first-tier and second-tier Chinese cities are primarily composed of high-rise residential communities as the most common form of urban development (Karsten, 2015). By the end of 2019, there were more than 260,000 high-rise residential buildings in China, and living in a high-rise was typical for families. The change from traditional low-rise to high-rise communities implies a shift in both the private space and lifestyle of Chinese families, especially children (Ekblad, 1990). The housing area is one of the most accessible spaces for children to play, and children tend to spend most of their time playing in their communities; therefore, children's outdoor play environments and experiences have also changed. In many Chinese cities, high-rise buildings take the form of gated communities, and constructed spaces of playgrounds are provided, but we know that children will also play in found spaces such as roads and pavements, car parks, paved areas, public grass, gardens, wild areas, planted areas, access areas, as well as walls, fences, and the flat roofs of garages (Hole, 1966). This study will explore aspects of children's play in found spaces in high/medium/low-income gated communities in Nanjing. The presentation will take Nanjing as an example to address some of the issues of children's play and found spaces in different types of gated communities. It does this by interviewing hundreds of children in 3 gated communities to explore their usual found spaces, how they discover and identify found spaces and then summarize the characteristics of found spaces in Chinese gated communities. These characteristics may inspire designers not only to focus on the constructed space but also to pay attention to the found space when planning. These findings will seek to influence the guidance of the Standard for Urban Residential Area Planning and Design in a child-friendly way in China.

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### Keywords

Children; Playspace; Outdoor

## 'Anyone could be the gap filler': rural residential participation in China

**Dr ZHAO HU**<sup>1</sup>, Ms Rui Bai<sup>2</sup>

<sup>1</sup>Shenzhen University, Shenzhen, China, <sup>2</sup>South China University of Technology, Guangzhou, China

Participatory explorations, Stockholm Rörstrand 1, September 28, 2023, 3:00 PM- 5:00 PM

### Biography:

*Dr. Zehao HU is an associate professor in the School of Architecture and Urban Planning, Shenzhen University. His research focuses on rural landscape character assessment, Landscape design for children.*

This study deals with country public engagement and the participation of villagers in rural relocation housing planning in China. It focuses on the rural relocation housing planning projects that are happening in many places of China. These projects aim to improve the poor living conditions and environment of rural China and attempt to relocate housing to a better place. We argue that all relocation housing planning projects should consider the democratic participation of residents. Villagers may create a comfortable, popular and active space if they have the freedom and permission to change their housing spaces. This process also needs help from housing planners and decision makers; that is, they must leave more spaces and 'gaps' in their housing planning for the possibility that villagers may prefer to recreate their public housing spaces. This study chooses the rural relocation housing planning for Dongling Town, Debao County, Baise, China. With the strategies for changing housing public space, tiny space and gaps between buildings, residents who implement these procedures themselves can be called 'gap fillers'. Activities in Dongling's rural relocation housing planning project may include three parts: (1) relocation housing replanning, (2) half-house or half-yard building and (3) gap filling. These plans can increase the possibility for villagers to change their living spaces by themselves, contributing to a more flexible space that designers and planners frequently disregard. This study also attempts to find solutions to the problems faced by many rural relocation housing planning projects in China: (1) lack of participation, (2) belief that relocation housing causes the housing environment to change dramatically and (3) losing the feeling of 'home'. The 'gap filler' method can be used for villager participation and democracy. Rural relocation housing planners and designers require villagers' participation to gain a deep understanding of their living spaces. A potential solution may be providing spaces or gaps during planning and asking villagers to fill these space and gaps themselves. Through the analysis of rural relocation housing planning goals, this study illustrates that the proposed method can be an effective strategy for relocation housing planning in China.

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## Keywords

Gap-Filler, Public Participation

## #WHEREARETHEGIRLS

Ulrika Signal, [Jenny Andersson](#)<sup>1</sup>, [Mr Jesus Azpeitia Seron](#)<sup>1</sup>  
<sup>1</sup>Tengbom, , Sweden

Participatory explorations, Stockholm Rörstrand 1, September 28, 2023, 3:00 PM- 5:00 PM

### **Biography:**

*Ulrika Signal is a trained urban designer. She has over 20 years of professional experience, including as a project manager for large and complex urban development projects in the city of Malmö. Ulrika has a steady focus on social sustainability. At Tengbom, she is responsible for the FairShare system.*

Tengbom worked together with a group of fifteen-year-old girls from the city of Helsingborg, with different ethnical and socio-economic backgrounds, in a placemaking project aiming to create more inclusive, welcoming and secure public spaces. The Tengbom team in collaboration with academic researchers in Sweden and UK acted as coaches: leading, inspiring and promoting an activist way of thinking. Together with the girls, we prototyped a pink staircase located in a square in the city centre of Helsingborg, where the girls usually don't dare to stay.

While the pink color is meant to repel the tough guys, the installation summarizes the girls' reflections on the city and society and asks questions about inclusion and equality. The project has presented many interesting complexities and challenges along the way. As the girls experienced a growth in their sense of confidence and empowerment by being able to change the environment around them, we were frequently challenged to reassess assumptions about the design of urban spaces. The dynamic between the girls and the Tengbom team was a key success factor and together we discovered and learned from the challenges we all face as both users and designers of modern cities.

Building on the knowledge and experiences from #wherearethegirls we later joined forces with the Raoul Wallenberg Institute, RISE and the city of Helsingborg. We developed "Fair Share", a certification system and a process for a more inclusive and equal urban design and built environment. The city should be for everybody, but often is not.

When choosing to work together with 15-year-old girls, we chose to work with a group that is often less represented in public spaces and urban environment. The reflections, ideas and common discussions empowered the girls and created the base for the placemaking project at one of the city's squares, which the girls find especially in secure and unwelcoming.

The pink stair created a safe heaven and a welcoming and fun feature which attracted young and old, and contributed to a more varied representation of people and groups at the square.

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## Keywords

EQUITY INCLUSION CO-CREATION

## Design project

## Vätterstranden, Jönköping

**Caroline Almqvist**<sup>1</sup>, **Bengt Isling**<sup>1</sup>

<sup>1</sup>Nyréns Arkitektkontor, Stockholm, Sweden

Participatory explorations, Stockholm Rörstrand 1, September 28, 2023, 3:00 PM- 5:00 PM

### **Biography:**

*Bengt Isling is an accomplished architect at Nyréns with 30+ years of experience. He has won awards for projects ranging from urban planning to museum designs. Bengt was also appointed as the castle architect for Hagaparken and Ulriksdals slottspark. He has also contributed to professional debates through articles and publications.*

Vätterstranden is situated along the southern coastline of lake Vättern. The beach in its current form is not reaching its full potential since it's cut off by the city's railway which entails a big barrier, has a lack of possible functions and attractivity. The project spans over a distance of approx. 4 kilometers and the aim of the project is to produce a long term vision and create a functional and more attractive beach space for the city's residents and its visitors. The design includes extended beaches, a new development for a pier, a new beach promenade, recreational bridges, saunas and a pier for cold bathing. The proposed design is based on comprehensive landscape analyses and extensive citizen dialogues, which were made in collaboration with the company Living cities - specialists in social sustainability and evaluating processes. The citizen dialogues were divided in different parts: - six surveys focused on different parts of the beach - dialogue sessions on site with passers-by- dialogues with certain focus groups The total amount of participants was 3789.

The project site is divided into sections with different characters and features to meet the wishes from the citizens. The construction is to be carried out in stages so that the beach will be accessible throughout the entire construction period. Some of the sections awaiting transformation will receive temporary landscape features. This is to keep Vätterstranden still alive and welcoming as the beach is an important place for recreation in Jönköping.

Client: Jönköpings kommun

The Vätterstranden project by Nyréns is relevant in relation to IFLA's theme of "Leave no one behind" firstly because the design proposal it's based on extensive and detailed citizen dialogues. Secondly since the construction is to be carried out in stages, thus enabling the beach to remain welcoming and accessible even during

the construction time, with temporary attractive installations.  
In this way no one is left behind neither in the long nor the short run.

**Keywords**

Lakefront, Revitalizing, Citizen-dialogues

**Design project**

## Solutions inspired by nature

# Burle Marx's contribution to local landscapes, Costa Rica case

**Mrs Laura Chaverri-Flores**<sup>1,2</sup>

<sup>1</sup>Universidad de Costa Rica, San Pedro, Costa Rica, <sup>2</sup>Instituto Tecnológico de Costa Rica, San José, Costa Rica

Philosophical and interdisciplinary approaches of landscape architecture, Online, September 28, 2023, 3:00 PM- 5:00 PM

## **Biography:**

*Laura Chaverri-Flores has a degree in Architecture and a Master's degree in Landscaping Architecture and Design from University of Costa Rica. She is a professor and researcher at the Technological Institute of Costa Rica and the University of Costa Rica where she is coordinator of the Master's Degree in Landscaping.*

One hundred and ten years after the birth of Roberto Burle Marx (RBM), commemorated in 2019, he is still considered one of the most influential landscape designers of the twentieth century (Treib, 2017; Doherty, 2018). Although most of his work was developed in Brazil, some works transcended those borders, carrying out more than 3,000 projects, especially in tropical contexts.

This lecture aims to analyze RBM's contribution to the conception of landscape design at a local level, specifically in Costa Rica. Some methods used were collection, systematization, and data analysis in historical archives. Alongside these methods, the fieldwork included geometric surveys, spatial analysis, botanical inventories, and photographic records.

Through composition, RBM explored the relationships between the topography of the site and the natural elements, being a pioneer in the insertion of native flora. This understanding of the local context through vegetation and culture is undoubtedly an example of new best practices that impacted the design conceptions of the time, breaking a paradigm of gardens under European design standards and valuing the autochthonous tropical landscape. The scarce documentation shows that RBM visited Costa Rica on several occasions, being a benchmark in conservation issues, reevaluation of natural heritage, and impressing local actors that later influenced Costa Rican landscaping.

Therefore, it is evident that RBM generated site-specific solutions that highlight the unique conditions of each natural landscape, bringing the beauty and particularity of each area. Another result consists of four landscape analyses with the possible influence of RBM: Colina de las Bromelias, Parque España, Sede Rodrigo Facio, and Hacienda Navarro.

In conclusion, his capacity for solving local inspired new generations in different contexts to propose spaces that are more connected to their environment. As a

topic of discussion, it is proposed how the influence of RBM has had an impact on Costa Rican landscaping as a local response to conserve ecosystems and promote biodiversity to face urban growth and climate change with resilience.

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## **Keywords**

landscape, biodiversity, design



# Strategies for upscaling climate adaptation and mitigation with nature-based solutions

**Mrs Elisabeth Sjødahl**<sup>1</sup>, Dr. Karin Helms<sup>1</sup>, PhD fellow Violaine Forsberg Mussault<sup>1</sup>, Dr. Amy Oen<sup>2</sup>, Abel Crawford<sup>1</sup>

<sup>1</sup>The Oslo School of Architecture and Design, Oslo, Norway, <sup>2</sup>The Norwegian Geotechnical Institute, Oslo, Norway

Solutions inspired by nature, Stockholm Rörstrand 2, September 28, 2023, 3:00 PM- 5:00 PM

## **Biography:**

*Elisabeth Sjødahl is a landscape architect and architect, currently an associate professor at the Institute of Urbanism and Landscape at the Oslo School of Architecture and Design. She is the founding partner of the office Worksonland Architecture and Landscape.*

The research project NATURACT aims to find local interventions that address global climate change's effect through large-scale climate adaptation and mitigation measures.

In this research, landscape-based transition plans are proposed for three case study areas with representative hazards within the Norwegian landscape. Questions of concern are flooding, drought, rockfalls, landslides, thin soil layers and erosion.

In order to obtain change, a strategic choice of large-scale landscapes elaborated periodically by humans, such as farmland, grazing and forestry, are in focus to find how a different practice can provide more resilient landscapes.

The Research Council of Norway funds the research and includes five Norwegian research organizations: the Norwegian Geotechnical Institute (NGI) leader of the research; the Oslo School of Architecture and Design (AHO); Norwegian Research Center (NORCE); the Norwegian University of Science and Technology (NTNU) and Norwegian Institute for Cultural Heritage (NIKU).

The interdisciplinary research method invites stakeholders and communities to take part in the process. Using a Systems Oriented Design (SOD) approach facilitates the integration of the different disciplinary inputs into a greater whole. The SOD method helps; map the questions of concern, display different disciplinary tools and knowledge, define local leverage points of intervention and crystallize which issues are efficient and reachable for change.

Proposed nature-based solutions (NBS) are inspired by past practices, low-tech, low-cost, multifunctional solutions, which are modified to meet present conditions to anticipate the cultural landscapes of tomorrow.

The investigation indicates that it is not just a question of land use but more “how the land is used”; that defines whether it binds CO2 over time or not, if it provides greater biodiversity, holds on to the water or not and if the soil is built up or flushed away.

The research spans over five years and conceptualizes NBS that can have relevance for other places.

## **Keywords**

NBS, large-scale landscapes

# Green Space Layout's Impact on Bioaerosol in High-Density Urban Areas

**Mr Wenchen Jian**<sup>1</sup>, dr Boya Wang<sup>2</sup>, Pro Zhicheng Liu<sup>3</sup>

<sup>1</sup> School of Landscape Architecture, Beijing Forestry University, Beijing, China, <sup>2</sup>School of Landscape Architecture, Beijing Forestry University, Beijing, China, <sup>3</sup> School of Landscape Architecture, Beijing Forestry University, Beijing, China

Solutions inspired by nature, Stockholm Rörstrand 2, September 28, 2023, 3:00 PM- 5:00 PM

## **Biography:**

*Wencheng Jian, B.S. in Landscape Architecture from Beijing Forestry University (2022), currently a graduate student in Landscape Architecture with a focus on planning and design.*

**Abstract:** Amidst the current global climate change crisis, cities have emerged as crucial players that contribute significantly to the problem. As a result, there has been an increasing focus on enhancing the ecological environment of urban areas. The presence of green spaces in cities has proven to be effective in improving air quality in high-density built-up areas, especially in the adsorption and filtration of bioaerosol particles. However, the scientific research on the impact of green space layout on bioaerosol concentrations in urban areas remains limited.

This study aimed to fill this knowledge gap by selecting a representative site in the high-density urban area of Beijing and setting up three distinct green space layout patterns, including centralized, uniform, and random. The ENVI-met model was employed to conduct a quantitative analysis of the impact of these green space layout patterns on aerosol concentrations. The results of the study indicated that in high-density built-up areas, a centralized green space layout could effectively reduce bioaerosol concentrations in the environment by up to 1.8% under the same green space ratio. Furthermore, it was observed that the green space ratio was directly proportional to the bioaerosol concentration when the ratio was less than 52%. Therefore, optimizing the green space layout in high-density urban areas that suffer from limited land resources can serve as an effective means of improving urban air quality, adapting to climate change, and offering solutions for landscape architecture in urban renewal.

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**Keywords** layout bioaerosol ENVI-met

# Designing farms and foodscapes for and with complexity

**Dr Lenora Ditzler**<sup>1</sup>, Prof. Rogier Schulte<sup>1</sup>

<sup>1</sup>Farming Systems Ecology Group, Wageningen University, , The Netherlands

Solutions inspired by nature, Stockholm Rörstrand 2, September 28, 2023, 3:00 PM- 5:00 PM

## **Biography:**

*Lenora is an agricultural systems scientist based in the Netherlands. Her research focuses on agrobiodiversity and complexity in future farming systems, using empirical, conceptual, modelling, and design approaches to explore and assess current entry points and radical design frontiers in nature-based farming systems.*

There is a growing societal demand for the radical redesign of farming systems globally, responding to mounting environmental concerns and increasing pressures on farmers to be multifunctional. We have reached the edge of the current efficiency-defined solution space, and further increases in efficiency result in trade-offs. There is a general acknowledgement that we need a new way of thinking and doing. How to go about this radical redesign, and on a broad scale? We can learn from farms that are already operating ‘in the future’—outstanding examples of farmers going beyond sustainability norms and innovating ahead of their field—so-called ‘Lighthouse Farms’. Because they already exist and thrive in the real world, these farms offer a more situated and grounded outlook on what is possible compared to scenario-based design methods common in transition studies. The Global Network of Lighthouse Farms brings together twelve exemplary farms and foodscapes which have redefined at least one element of sustainability. In our research with these farms, we have examined what makes them so successful: what design elements enable them to already operate as if it were 50 years in the future? Complexity is a common thread throughout the Lighthouse examples. Designing farms and foodscapes for and with complexity appears to be responsible for delivering synergies between the demands placed on farmers, for example between production and biodiversity, or between food and energy. How these synergies manifest differs from farm to farm, depending on local resources, objectives, and constraints. Complexity shows up at different scales in the Lighthouse farms: as field-scale spatial crop diversity, circular interlinking of farm enterprises, or interconnected landscape design and community governance. Conceptually, how should we understand this complexity? And how much complexity is needed to get the desired outcomes? What scale is appropriate for where? In this presentation, we will show findings from the Lighthouse Farm examples, unpacking the structure and function of complexity in the design of each farm. We will then discuss how we can use these examples to distill design principles to facilitate scaling up and out these local innovations for future farms and foodscapes.

**Keywords** agriculture, sustainability, complexity

# Carbon-Forward Design: The Ellinikon Metropolitan Park

**Michael Grove**<sup>1</sup>

<sup>1</sup>SASAKI, Boston, United States

Solutions inspired by nature, Stockholm Rörstrand 2, September 28, 2023, 3:00 PM- 5:00 PM

## **Biography:**

*Michael is the Chair of Landscape Architecture at Sasaki, where he believes the role of the designer to make cities more livable, equitable, resilient, and just. He is a Fellow of the American Society of Landscape Architects and serves as the President-Elect of the Landscape Architecture Foundation.*

The decommissioning of the former Athens International Airport presented a once-in-a-generation opportunity to transform obsolete infrastructure into a resilient, climate-positive public landscape. Design decisions for the park were grounded in the overarching goal of achieving carbon neutrality within 35 years. The Ellinikon Park provides accessible, inclusive spaces for solace, play, civic celebration, and democratic expression within an oasis of biodiversity. The landscape architecture team centered a holistic carbon perspective for Greece’s first green infrastructure project, rigorously researching local ecosystems, carbon sequestration ability, carbon carrying capacity, and life cycle assessments for materials and manufacturing. Uniting both carbon sequestration and urban heat island mitigation goals was a large-scale afforestation effort. To establish an urban forest, over 55,000 trees representing 66 species are being sourced entirely within Greece and are selected for their ecosystem services and adaptability to the site’s alkaline soils. An accelerated succession approach also increases biodiversity and establishes a regenerative landscape strategy. The plant list, which includes trees, shrubs, geophytes, and herbaceous material, was carefully considered based on native status, adaptability to local and regional climatic conditions from historical and ecological evidence, and cultural connections, stories, and affinities to horticulture and agriculture. The Ellinikon Park is heroic in scale and ambition, which translates into a responsibility to reinforce the Greek relationship with landscape and reignite this ethos in a 21st century context—centering ecological restoration, climate responsiveness, carbon positive design, and equitable access for all Athenians.

Related to the theme Act Local, Think Global, the Ellinikon Park profoundly advances local expectations and standards related to landscape performance and climate benefits from parks, and sets a model for other cities to build upon in the era of climate change. Not only does Ellinikon provide important amenities for Athens by increasing the total amount of open space per citizen by 44%, it balances embodied carbon with carbon sequestration through restoration ecology and afforestation

strategies. This is a progressive leap of investment in urban regeneration that challenges the notion that new construction is inherently at odds with climate goals.

**Keywords**

Carbon, Biodiversity, Redevelopment

**Design project**

## Poster Presentations

## Econef Children's Center

**Miss Anna Valman**<sup>1</sup>, **MRS Carolina Wikström**<sup>2</sup>, Mrs Pilvi Vanamo<sup>3</sup>, Mrs Frida Öster<sup>1</sup>, Mrs Johanna Ardland Bojvall<sup>5</sup>, Miss Julia Vilkenas<sup>6</sup>

<sup>1</sup>Tengbom, Kalmar, Sweden, <sup>2</sup>Asante Architecture and Design, , Sweden, <sup>3</sup>Lönnqvist & Vanamo Architects, , Sweden, <sup>4</sup>Öster-Ark Arkitektur & Design, , Sweden, <sup>5</sup>Ramböll, , Sweden, <sup>6</sup>White Architects Uppsala, Uppsala, Sweden

Poster Presentation Stockholm Block 1, Stockholm, September 28, 2023, 12:30 PM- 1:15 PM

### **Biography:**

*Architecture: Pilvi Vanamo (Lönnqvist & Vanamo Architects), Carolina Wikström (Asante Architecture and Design), Frida Öster (Öster-Ark Arkitektur & Design) Landscape architecture/ grey & black water system: Johanna Ardland Bojvall, (Ramböll), Anna Valman (Tengbom), Julia Vilkenas (White), Construction engineer: Cornelis Oskamp, Construction team: Local builders and volunteers Architects Without Borders Sweden*

At the foot of Mt. Kilimanjaro lies the Econef Children's centre built for the independent Tanzanian non-governmental organisation Econef, which aims to improve the standard of living for orphan children in the area.

The aim is to increase Econef's independence and reduce its reliance on private donations, achieved through sustainable resources and self-sustaining design that require minimal maintenance. The buildings have been designed to minimize the need for outsourced building expertise and excessive transportation costs. Inspiration is taken from vernacular architecture with a focus on ecological sustainability, which has been applied through using local materials and traditional building techniques.

Solar panels will generate electricity and the building has integrated structures for rainwater collection and natural ventilation. Collected rainwater is used for hygiene and irrigation, solar collectors provide hot water, greywater is led out to farming, and biogas is used for cooking. Agriculture is in surrounding fields where animals live and vegetables and fruits are grown. This provides food and income for the centre and promotes a long-term financial sustainability.

The placement of the buildings is chosen with great consideration to the local climate to optimise shade and cooling. The wooden roof beams elevate the upper roof of corrugated steel to create air flow between the roof and the inner ceiling. The space between the two roofs is covered with sisal poles, made from hard and durable wood found in the region. The inner ceiling holds a layer of thermal mass, protecting against the heat of the sun and the lower temperatures at night. Ring beams emphasise the linear aesthetic and hold up the brickwork in case of earthquakes.

The planted areas are planned as multifunctional spaces. The centre's grey and black water infiltration systems are built into these green areas. They contribute with a number of ecosystem services such as reduced erosion, binding nutrients, creating microclimates with shading and cooling effects and creating resilience through biological diversity. The green additions are shaped as outdoor social areas for play, meetings, contemplation and study.

The construction of the prototype house started in 2013 and was finished in 2014. The construction of the Children's Centre began in 2015 after the evaluation of the prototype house, and the Centre was opened in 2018.

### **Keywords**

Econef Children's Centre

### **Design project**

# Mittpunkten: Historic Significance and Sustainability in Viskans Park, Borås, Sweden

[Clara Eckersten](#)<sup>1</sup>, [Tobias Phersson](#)<sup>1</sup>

<sup>1</sup>Nyréns Arkitektkontor, , Sweden

Poster Presentation Stockholm Block 1, Stockholm, September 28, 2023, 12:30 PM- 1:15 PM

## **Biography:**

*Clara is an experienced landscape architect with a strong design sense, specializes in public projects. She believes in site-driven design and has a keen eye for details without losing sight of the big picture. Notable projects include Sjödalsparken in Huddinge and Hertig Johans Torg och Gata in Skövde.*

Mittpunkten, part of the urban development concept of Viskans Park in Borås, Sweden, is envisioned as the heart of a long continuous park corridor through the city. This corridor aims to create inclusive spaces, free from commercialism and status, and contribute to a more ecologically sustainable urban structure to address future climate challenges. The design process has been guided by local structures and existing values, with the historic Stadsparken (City Park) being a key focal point. Viskans Park will run as a green pedestrian and cycling corridor, integrating existing places such as Hallbergsbron (Hallberg Bridge) and Stadsparken into the new park while developing new spaces along its length. The vision is to adapt the corridor to the unique character of each place it passes through, with Stadsparken as the central section of Mittpunkten. The design includes two new paths that interact with the three existing hills in Stadsparken, with new additions such as a bridge over Sven Eriksonsgatan, Hallbergsbron as a scenic viewpoint, and enhanced hill-tops with a café, pavilion, and a new picnic area in Astern square. The Mittpunkten serves as an example of how this vision can be expressed, emphasizing the historical significance of Stadsparken and ensuring its value for future generations. The overall goal is to create an architectural identity for Viskans Park with common design elements such as site-specific materials, equipment, vegetation, lighting, and signage, while enhancing the individual character of existing places and creating a variety of meeting places along the park corridor.

Client: Borås stad

Relevance for theme “Act local think global”

The design process for Viskans park prioritizes local structures and existing values as guiding principles, nurturing and enhancing historically important places like Stadsparken to secure their value for future generations. The vision involves

site-specific development, with common design elements and variations along the trail. The focal point is the section through Stadsparken, integrating two principles in a harmonious way, incorporating new paths, a bridge, and additions to the green environment. The park trail creates inclusive spaces, free from commerce, and contributes to a more ecologically sustainable urban structure.

## **Keywords**

Inclusive, Historically, Viewpoint

## **Design project**

# Cattle maze-fusion and symbiosis

**Miss Yixin Jiang**<sup>1</sup>

<sup>1</sup>Washington University in St. Louis, Saint Louis, United States

Poster Presentation Stockholm Block 1, Stockholm, September 28, 2023, 12:30 PM- 1:15 PM

## **Biography:**

*Yixin Jiang, a graduate student from Washington University in St. Louis, she has dual degrees of landscape architecture and urban design, with a vision of approaching projects through landscape urbanism.*

The Mississippi Watershed region is responsible for a significant portion of agricultural production in the United States. The scope of this project is to design and implement sustainable cattle ranching practices at the scale of a cattle ranch in this region. The topography of the Midwest region is characterized by plains and prairies, making grassland ranching an ideal approach to consider.

The project addresses the issue of greenhouse gas emissions from cattle ranching through two main principles. The first principle involves creating cattle mazes to increase the surface area of plantations, providing spaces for carbon sequestration and food consumption areas for the cattle. This approach not only reduces greenhouse gas emissions but also promotes the health and well-being of the cattle .

The second principle involves designing an agricultural waste filtration system that takes local environmental responsibility into account. The system includes three layers of buffer zones, consisting of farmland, managed forests, and unmanaged wetlands. These buffer zones work together to absorb waste elements in fertilizers and soil, reducing the amount of chemicals that enter the watershed system. The legumes and thick roots of the buffer zones help absorb and filter out waste elements while promoting biodiversity in the region.

Through the implementation of these sustainable cattle ranching practices locally in Mississippi Watershed, the project aims to reduce greenhouse gas emissions and promote long-term sustainability in the pasture industry globally. By adopting a holistic approach that considers the environmental impact of cattle ranching, this project aims to create a sustainable future for both the cattle and the ecosystem in which they are raised, proposed a global approach.

## **Keywords**

Agriculture, watershed, cattle

## **Design project**

# Forbidden Military Base to Inclusive and Resilient Large Park

**Dr Jeong-Hann Pae**<sup>1</sup>

<sup>1</sup>Dept. of Landscape Architecture, Seoul National University, Seoul, South Korea

Poster Presentation Stockholm Block 1, Stockholm, September 28, 2023, 12:30 PM- 1:15 PM

## **Biography:**

*Jeong-Hann Pae is a professor of landscape architecture at Seoul National University and an editor-in-chief of 'Landscape Architecture Korea'. His research and teaching focus on the intersections between contemporary landscape architecture theory, landscape urbanism, and environmental aesthetics.*

Abandoned sites in the Anthropocene are posing challenges to landscape architects. Over the last two decades, many projects for the transformation of post-industrial sites into parks have been carried out in Seoul, Korea. This research discusses the process and features of designing Yongsan Park, a representative post-industrial park in which the landscape has served as a medium for urban inclusion and resilience.

The Yongsan US Military Base in the centre of Seoul has been transitioning into a park over the past thirty years. Having been used as a foreign military base, the site was isolated from the city for over a century. In 2005, the Yongsan Park Planning Initiative was established. The Special Act on Yongsan Park was formalised in 2007, and the General Basic Plan was established in 2011. The international design competition for the Yongsan Park master plan was held the following year and West 8 consortium won with the proposal, 'Healing: The Future Park'. They have further developed the master plan, which will transform the 243-hectare site into a super-large urban park. The Yongsan Park Basic Design was completed at the end of 2018. It was developed through an interactive process guided by the concept of healing nature and history and of inclusive culture. As a process, the act of healing and inclusion transforms the existing site into a resilient park that offers an experience of nature and a wide range of cultural diversity.

Yongsan Park conveys the potential to be inclusive and resilient in three ways. First, its X-large size can produce an urban resiliency and serve as the basis for social inclusion. Second, Yongsan Park is filled with layers of time in Korean history, and can act as a reminder of the past for future generations. Lastly, the park contains elements from both rich nature and the dynamic urban life. However, while this open-ended park has many opportunities, the roadmap for realizing the park remains unclear, open to unforeseeable changes due to unfolding political situations.

It is important to design processes carefully that can respond to changes and allow for citizen's participation.

## Keywords

inclusion, resilience, post-industrial

## Flemingsbergsparken, Huddinge - a Folkpark of our time

**Mrs Annelie Landin**<sup>1</sup>

<sup>1</sup>Landskapslaget Ab, Stockholm, Sweden

Poster Presentation Stockholm Block 1, Stockholm, September 28, 2023, 12:30 PM- 1:15 PM

### **Biography:**

*Annelie Landin is a landscape architect and co-owner of Landskapslaget. The driving force has always been the user's needs and experiences of the city's various spaces. In focus is Landskapslagets own mission to always "put the public first", which means creating places that everyone owns, loves and feels safe in.*

Flemingsbergsparken is a Folkpark, a peoples park, of our time. An inclusive meeting place for all ages, full of activities and social functions.

When the park was reconstructed, the objective was to improve safety and create a multifunctional and active park that could work as a meeting venue for the entire Flemingsberg. To ensure that important issues to the public were taken care of, the residents were involved through citizen dialogues.

With an ear to the residents, the vision for the new Flemingsbergsparken took shape. To create an inclusive space through identity-strong design and activate the park with overlapping functions that encouraged social relations.

The needs highlighted by the citizens were carefully processed to develop the park into a safe and welcoming place. Through collaboration with lighting designers and an artist, a visual concept similar to an imaginative amusement park was developed. The desire for a park for both play, activity and tranquility were developed by creating different rooms, with varying pace and content.

With lots of colour, requested by the citizens, we wanted Flemingsbergsparken to convey something very special. A park where residents could recognize themselves and see how their contribution to content and function was translated into physical form. A park to be proud of, with an identity that related to the colorful surrounding buildings, a popular artwork by Gert Marcus from 1970s.

Through the reconstruction Flemingsbergsparken is today a safe and inclusive meeting place that has given new life to the area. Citizen participation was crucial in gaining the insight about the place that was needed to be able to shape the place into the active and welcoming meeting place the users were asking for.



Through co-creation the residents were involved early in the design process. With their co-design, a positive overall solution could be designed. When the park was completed, the residents were ready to claim it and take it to their hearts. A place that is loved, is cared for and lives longer, a quality you could call “aesthetic sustainability”.

The park was reopened in 2019 and was awarded the Huddinges Building Award in 2021.

### Keywords

Co-creation, Aesthetic sustainability, citizen dialogue

## Impact of Virtual Reality Forest on Physiological and Psychological Responses

Mr. Jian Zhang<sup>1</sup>, [Dr. Minkai Sun](#)<sup>1</sup>, Ms. Yanyan Bao<sup>1</sup>, Ms. Yudie Lu<sup>1</sup>

<sup>1</sup>Suzhou University Of Science And Technology, Suzhou, China

Poster Presentation Stockholm Block 1, Stockholm, September 28, 2023, 12:30 PM- 1:15 PM

### **Biography:**

*Sun Minkai is a lecturer and deputy head at Suzhou University of Science and Technology, specializing in therapeutic landscapes and landscape perception. He has published over 20 articles. Sun is a member of the Garden Health and Horticultural Therapy Professional Committee of the Chinese Society of Landscape Architecture.*

Background and objectives: Rapid urbanization has been found to be associated with increased mental health issues among urban residents, such as depression and anxiety. Exposure to forest has a positive effect on individuals’ mental health, thereby reducing stress levels. However, accessing forest is not easy for residents who live in urban areas, especially for the elderly with mobility limitations. This raises questions about the equitable distribution of the benefits of forest across different groups of urban residents. Virtual reality (VR) technology, on the other hand, is considered a reliable tool for reconstructing perceptible environments in places like office buildings and nursing homes. Thus, present study aims to explore the potential health benefits of virtual forest and investigate how people perceive it.

Methods: A combination of questionnaires and eye-tracking experiments were conducted. The virtual reality (VR) video used in this study was captured in a fir forest located in Suzhou, China. A total of 40 participants aged between 18 and 22 were recruited for the study. Following the completion of arithmetic tasks designed to induce stress, participants viewed the VR fir forest for three minutes. Then, participants were asked to fill out a questionnaire to evaluate the VR video. Additionally, the participants’ blood pressure was measured before and after they viewed the VR video.

Results: Results of present study shows: 1) the results indicate that viewing a virtual forest can effectively mitigate stress, as evidenced by the significant reduction in participants’ blood pressure and pulse. 2) despite the fir tree canopy occupying the majority of the scene(55.45%), the shrubs(5.45%) near the ground received greater visual attention from the participants. 3) The sky and cottages in the scene did not elicit notable visual attention from the participants.

Conclusion: Present study demonstrated the potential of integrating therapeutic landscapes with VR technology. Results of present study verified that VR forest can be used as a valid surrogate for real forest in terms of therapeutic effectiveness.

Moreover, present study provided an overview of people's visual attention towards VR forest and offered insights into design strategies that could enhance the VR forest's therapeutic ability.

### Keywords

virtual reality; forest

## Timewalk Myeong-dong Shared Garden

**Mr YoungJoon Choi**<sup>1</sup>

<sup>1</sup>Seoul National University Department Of Landscape Architecture, Seoul, South Korea, 2lab D+H Seoul, Seongnam-si, South Korea

Poster Presentation Stockholm Block 1, Stockholm, September 28, 2023, 12:30 PM- 1:15 PM

### **Biography:**

*YoungJoon is an assistant professor in the Department of Landscape Architecture at Seoul National University. Prior to his arrival, he had been working at Lab D+H Seoul as a Founding Partner and a Design Director since 2014, created various open spaces in many cities in Korea, U.S and China.*

To revitalize the reputation and vitality of Myeong-dong, a landmark district of shopping and tourism in Seoul, the tower's multi-level gardens on the first, fourth, and seventh floors have been extensively renovated and refreshed. Inspired by the shopping district's identity as a "walking city," this project proposes a "WALK-IN-GREEN" concept that embodies Myeong-dong's experiential identity in different ways in the landscaped

spaces on each floor, allowing visitors to walk through the greenery in the heart of city. 'Walk through Meadow' for 7th floor, 'Walk into terrace' for 4th floor and 'Walk along Street' for the ground floor are three distinctive concepts for respective floors, provides a continuous walk through the garden, while the beauty of plants that change with the seasons and the rest areas with various atmospheres provide a sense of relaxation. Open to all, shared gardens offer a variety of programs and create new social networking that bring people together. Both on weekdays and weekends, various programs such as flea markets, OJ parties, and garden classes are held to give people unique experiences. The shared garden can accommodate groups of all ages and sizes, and is freely used at various times of the day. The garden hosts a number of classes for retraining and hobbies for nearby office workers, making it a center for communication and cultural exchange.

Timewalk Myeong-dong shared garden has been a great catalyst for urban regeneration in Myeong-dong, overcoming the recession, and has become a model for new open space operations for Seoul. **Keywords**

Shared-garden, Garden-programming, Open-Space-Operation

### **Design project**

# Fallow Landscapes

**Mrs Alba Rodríguez Illanes**<sup>1</sup>, Dr Cristina Del Pozo<sup>1</sup>

<sup>1</sup>Universidad Rey Juan Carlos, Madrid , Spain

Poster Presentation Stockholm Block 1, Stockholm, September 28, 2023, 12:30 PM- 1:15 PM

## **Biography:**

*Alba (MArch, MSc) is an Architect / Urban Planner & Landscape Designer / Researcher & Teacher, based in Madrid, Spain. Her work spans across different scales and geographies always focusing on the urban landscape as a medium for establishing social equity within cities.*

The intensifying urbanization processes that have transformed most of the rural and natural areas surrounding cities in the last decades have been a direct result of the rapid development of transport & communication infrastructures within urban regions. The south of Madrid is a desertified & fragmented territory due to these urbanization processes; resulting in an area that allocates all the non desirable uses of the city, but that has a rich history and vast natural & agricultural resources. Fallow Landscapes is a case study project that analyzes the urban landscapes of the city of Madrid and it's surroundings, specially focusing in the southeast area of the territory as it is the most vulnerable. These southern landscapes are characterized by it's inherent inequalities which are present in it's urban landscapes which we name as "fallow" as they are waiting to be regenerated, reactivated and repurposed.

The analysis methodology applied in this territory is based on the understanding that the urban landscape is a multiscale and multilayer process. The project defines the urban landscape of a city as the scene of the communal life where a myriad of components interact in order to create urban life.

The proposal is organized in 4 main strategies that have to be applied in order to reduce the urban inequality and vulnerability factors present in the study area. All of these strategies are connected and work together to create a more inclusive urban landscape that leaves no one behind.

The project analyzes one of the most vulnerable areas in Madrid to help establish a critical methodology based on the concept of using the landscape as a tool to improve quality of life. By mapping the territory, the project uncovers forgotten layers of the existing landscape, some of them impossible to recover and some just waiting to be reactivated.

The proposal creates a connected network of different ecologies, human and natural, that work together to improve the quality of the urban landscapes of the most vulnerable areas in order to impact positively the wellbeing of it's inhabitants.

**Keywords** urban-landscapes, urban-inequalities, vulnerable-areas

**Design project**

# Yoga Pavilion in Vasaparken, located in central Stockholm

**Johanna Jarmeus**, Tobias Phersson<sup>1</sup>

<sup>1</sup>Nyréns Arkitektkontor, Stockholm, Sweden

Poster Presentation Stockholm Block 1, Stockholm, September 28, 2023, 12:30 PM- 1:15 PM

## **Biography:**

*Johanna, a landscape architect with 20 years of experience, specializes in urban development, design, and project management. Her expertise includes ecosystem services, stormwater management, and sustainable construction. Johanna is known for her analytical, collaborative, and pragmatic approach to achieving successful project results.*

Nestled high up on a cliff, at the cusp between bustling noise and serene greenery, lies Vasaparken's Yoga Pavilion, a place for yoga and mindfulness, open to everyone, in the heart of the city. This tranquil haven, born from a citizen proposal, now beckons to all in the heart of the city. The pavilion's strategic location on one of the heights that define the western part of the park not only provides panoramic views but also preserves the park's precious grassy area, making it a sustainable and thoughtful addition.

The pavilion's above-ground foundation, supported by pillars anchored in the rock, ensures that the intervention is reversible, leaving minimal impact on the natural landscape. Constructed with linseed oil-impregnated pine of substantial dimensions, the pavilion boasts a self-locking structure adorned with notches and knots, adding to its aesthetic appeal.

Its transparent and space-defining design, with intriguing shadow effects from the rib system, is enhanced by integrated lighting, creating a soft luminous space. The elevated placement and view towards Sankt Eriksplan signal the pavilion's presence day and night.

The Yoga Pavilion balances on the edge of the cliff with a feeling of lightness and tranquility, warm with the hues of wood and golden among the tree crowns in the summer sun - or glowing like a beacon in the deep winter darkness.

Vasaparken's Yoga Pavilion in Stockholm promotes inclusivity and well-being through sustainable design. It fosters community engagement and democratic actions, offering panoramic views while preserving the park's grassy area. With its self-locking structure, captivating rib system, and integrated lighting, the pavilion seamlessly integrates with the environment. It serves as a prominent landmark, exuding tranquility and inviting people of all cultures to experience the harmonious

coexistence of nature and urbanity. A testament to equity and social inclusion, the pavilion offers opportunities for participation, tolerance, and acceptance in landscape planning and design.

### Keywords

Tranquil, Light, Elevated

### Design project

## Tenstadalen

**Mr Ludvig Bratt**<sup>1</sup>, **Helena Emrani**<sup>1</sup>

<sup>1</sup>Nivå Landskapsarkitektur, Stockholm, Sweden

Poster Presentation Stockholm Block 1, Stockholm, September 28, 2023, 12:30 PM- 1:15 PM

### **Biography:**

*Nivå: In each project, we aspire to deepen the connection between analysis, concept, and material expression, creating contemporary landscape architecture that lasts. Our work is focused on public spaces at a range of scales, operating across the design of parks, gardens, squares, site studies, and landscape analyses.*

Tenstadalen is a park covering a large area in the long valley between Tensta and Spånga. The park is one of Stockholm city's Greener Stockholm projects with the aim of creating renewed green spaces for all ages. The brief involved early stage community dialogue with residents and local groups to capture opinions and wishes around the design of the park.

Using insights from the dialogue as a starting point, a proposal was designed with inspiration found in the concept of the English-style landscape park. The park has points of interest dotted throughout, linked together via sightlines. The main event is a multifunctional gathering place and activity centre placed in the steep hillside by Tenstavägen. The area forms a link between the valley and Tensta-Hjulsta with adventure climbing features and an exhilarating slide. Apart from the activity hub, you can find barbecue areas and a gathering place suitable for toddler play beneath a pergola roof, as well as a long sinus-shaped concrete wall between the park and a coming wetland construction. The existing footpath and cycle lane has been widened to increase the accessibility of the park.

The dialogue work was the basis for the proposal, to ensure social and thus also economic sustainability over time.

Initially, a dialogue work with the public was carried out during Järva week, a political festival. To get a more targeted and in-depth dialogue we meet "Livstycket". They were chosen as we found it interesting to get opinions on how the park should be designed to increase the presence of women in public space. Livstycket consists of a group of unemployed women with a foreign background, including those with language difficulties, who generally take little place in public space and conversation.

### Keywords

Community, social/ecological sustainability

### Design project

# The renovation of Paris Park, Seoul, South Korea.

## **Mr Youngmin Kim**<sup>1</sup>

<sup>1</sup>University Of Seoul/Landscape Architecture, Seoul, South Korea

Poster Presentation Stockholm Block 1, Stockholm, September 28, 2023, 12:30 PM- 1:15 PM

### **Biography:**

*Youngmin Kim is a landscape architect and theorist in South Korea. Currently, he is a professor at the University of Seoul, and the design director of VIRON, a landscape architecture firm. He is also an author, editor, and translator of various books on landscape design and urbanism.*

The proposed presentation will discuss how landscape design can promote the issue of equity and solve potential conflicts among different generations in park use by reviewing the design process of the Paris Park renovation project in Seoul, South Korea. Paris Park was built in 1987 on the 100 years anniversary of diplomacy between Korea and France. This park has special meaning in the history of contemporary Korean landscape architecture since it is regarded as the first park design project recognized as an artwork. Originally the park was planned as one of 5 main neighborhood parks for the new town of Seoul called Mokdong, which was the result of an early Korean urban design experiment reminding Le Corbusier's Ville Radieuse. 35 years later, the symbolic meaning of the park was gradually forgotten, and the worn-out park facilities required intense repair. The government decided to renovate the entire park in 2021.

The renovation project was required to conserve the concept of the original design while solving issues that the original designers couldn't expect. Since the town was built at once as a planned new town, the social stratum of the residents is relatively homogenous. Most of the residents are middle class with a similar income level. It is hard to find any issues related to ethnicity or religion. The main reason for the most significant conflict lay in the generation difference, especially conflict between the elder generation of the 70s to 80s and the 30s to 40s female group who is mainly mothers of elementary school children. Also, the teenage group was alienated in the park because there were no suitable programs or spaces they use. The public space designed as a memorial park is not commemorated anymore, and it needs to be renovated for the daily life of ordinary people. During the design process, the research to understand the actual use and needs of different generation are accompanied. After the reopening of the park, additional research comparing the use of the elder generation in different parks was done to review the new park design.

### **Keywords**

Park, Renovation, Equity

# 29 SEPTEMBER

## Round table

# Aesthetic sustainability in practice

**Mr Anders Mårsén**<sup>1</sup>, **Mrs Lise Strand Hellström**<sup>1</sup>

<sup>1</sup>Landskapslaget, Stockholm, Sweden

The Importance of aesthetic sustainability, Stockholm, September 29, 2023, 2:00 PM- 3:00 PM

## **Biography:**

*Lise Strand Hellström and Anders Mårsén are interested in complex relationships within physical planning. They work with research, strategies, analyses, processes and design, how the challenges of our time can be handled with landscape architecture as a tool. They have been central in developing Landskapslagets sustainability mission 'the common first'*

We stand before a new situation. We as landscape architects are working hard to take on the increasing number of sustainability challenges. At the same time, one of our most important tasks has since long been to give form and meaning to the landscape we design. We can, at the present see a tendency that the work with important sustainability questions often dominate our processes and put less attention to aesthetic side of our profession. We assume that this dilemma is related to our society's increasing tendency to favor measurable aspects over immeasurable qualities. In 2018, the Swedish Parliament introduced a new architecture and design policy in which architecture, form and design are seen as means to create a sustainable, equal and less segregated society. As stated in the policy, we agree that aesthetic values are crucial for promoting sustainable development. The sustainable should also be beautiful, and beauty should be a natural integrated quality in the sustainable society. We at Landskapslaget are at present investigating, in a preliminary study together with scientists at SLU, Uppsala Municipality and building actor Nordr, what aesthetic sustainability can be, not least in relation to other concepts of sustainability.

At the seminar, we want to discuss how we as landscape architects can develop a more fruitful relationship between sustainability and aesthetic qualities. As a background we will present the methods and results in completed and ongoing projects where sustainability issues where reuse and co-creation have handled and influenced the design. Examples of projects are Rinkeby Norra stadspark, Trumängården and Kultur and the activity site Nya Ödlan. We want to broaden the sustainability discourse by introducing the aesthetic values of architecture in creating sustainable environments. We discuss aesthetic values such as scale, proportions, spatial composition, in relation to the aesthetics that come from both co-creative processes and reuse.

Our conclusion is that more attention to aesthetic sustainability can contribute to safety, biological diversity, gender equality, etc. rather than not only beauty. Qualitative, relevant landscape architecture should embrace and make space for all these different concepts of sustainability.

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**Keywords** Aesthetic sustainability

## ARARAT 2023 - a new beginning for mobility

Trafikverket, Swedish Agency of Infrastructure

“ARARAT 2023- a new beginning for mobility”, Stockholm, September 29, 2023, 1:00 PM-  
2:00 PM

Ararat is the mountain where Noah and his Arc stranded after the great flood. A place and time for a new beginning.

This round table session takes inspiration from an exhibition in the modern Museum of art in Stockholm 1976. ARARAT- Alternative research in art, resources and technology. The exhibition was created by a group of artists, architects, humanists and technologists exploring an alternative future, prototyping recyclable buildings, circular energy and water systems.

Quoting the British economist E.F Schumacher:

“Any intelligent fool can make things bigger, more complex and violent. It takes touch of a genius – and a lot of courage to move in the opposite direction.”

Three guests will spotlight contemporary tendencies in planning for mobility. The societal misbehaviour of craving for more transport, the potential in designing spaces for wellbeing and the courage to provide a different direction.

## In Relation to Nature

# How does equity affect local residents' conservation willingness and behavior?

**Ms Yuqi Zhang**<sup>1</sup>, Dr Yin Zhang<sup>2</sup>, Dr Frank Vanclay<sup>1</sup>

<sup>1</sup>Department of Cultural Geography, Faculty of Spatial Sciences, University of Groningen, Groningen, the Netherlands, <sup>2</sup>School of Architecture

and Urban Planning, Chongqing University, Chongqing, China

In relation to nature, Stockholm Rörstrand 2, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*Cultural geography PhD candidate at the University of Groningen, researching heritage conservation, social impact assessment, and rural landscape. Recently focus on protected areas and local community sustainable development.*

Despite the increasing importance attached to social justice in biological conservation, limited evidence has examined the effects of social equity on local support, which is crucial for the success of conservation initiatives. This study focused on how perceptions of the various forms of equity (distributional equity, procedural equity, recognitional equity) could affect local residents' conservation willingness and behaviors. Questionnaire surveys were conducted with 426 households living in and around the Giant Panda National Park in China. The results from structural equation modeling revealed that local residents with optimistic perceptions of procedural and distributional equity were inclined to develop pro-conservation intentions and actions. Surprisingly, perceived recognitional equity had no effect on local willingness and negatively impacted on their conservation behaviors. This highlights that it is essential to promote recognitional equity to a certain degree, but the extent to which recognitional equity is achieved deserves further consideration. In addition, other demographic factors (e.g. education level, environmental knowledge, and household income) influenced local willingness and behaviors. This highlights that, in order to achieve better park-people relationships, in addition to equity concerns, it is necessary to implement supplementary measures, such as nature-based education, and development assistance for adjacent residents.

## **Keywords**

social justice

# Where is the voice of the country?

Mr Lamia Ahmed<sup>1</sup>, Mr Daniel Urey<sup>1</sup>, Mrs Christina Hoffmann<sup>1</sup>, **Mrs Lamia Ahmed**<sup>1</sup>, Mr Jan Perrin<sup>1</sup>, Mrs Ebba Landén Helmbold<sup>1</sup>

<sup>1</sup>Lablab, STOCKHOLM, Sweden

In relation to nature, Stockholm Rörstrand 2, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*LABLAB is a research and design think tank with the ambition to link theory and practice in correlation with the spatial shiftings in the Nordic and Baltic Sea Region.*

*Lamia Ahmed is part of LABLAB, architect and urban designer from KTH Stockholm and Bangladesh University of Engineering and Technology.*

The Bangladesh delta landscape is ever-changing, with two-thirds less than 5m above sea-level, land submerge and extricate. Here, one of the world's largest mangrove forests, the Sundarbans – a carbon sink crucial to the planet – serves as protection from cyclones and coastal erosion. With the climate change, caused by CO2 emissions, Bangladesh is facing a 50cm sea-level rise, equal to losing more than 11% of land and affecting 15M people.

Landscapes are visible, multi-layered and complex systems. Landscapes hold resources, meaning and experience; contain stories, identification, past and future. The ELC defines landscapes as evolving “through time as a result of being acted upon by natural forces and human beings.” This brings us into the energy landscape of Bangladesh.

Bangladesh has been relying on domestic natural gas, a resource now deteriorating, creating a huge gap between energy production and use. Thus, infrastructure and investments are steered towards imported coal and LNG.

Europe is taking measures to reduce coal dependence. Bangladesh is moving contrarily to safeguard energy capacity for its manufacturing industry supplying European markets. To meet global demand and speed up expansion, private companies can invest and generate electricity using any energy source, without paying taxes for 15 years. Half of the new coal power plants are financed by China, Japan, and India, several proposed to be located in coastal areas, the Rampal station (a 50/50 JV with India) 14km north of the Sundarbans.

40% of the Sundarbans lies in India, where the Ministry of Environment and Forests prohibits power plants within 25km of an ecologically sensitive area, natural forest or wildlife habitat. The Rampal station would be placed in Bangladesh, outside Indian jurisdiction. Yet, the Sundarbans knows of no borders.

Landscapes are sensitive to local and regional changes through global scales. Bangladesh is no exception. Yet, construction, destruction, and re-invention of the landscapes all repeat themselves without acknowledging the risk of increasing CO2



emissions on the edge of a planetary carbon sink.

If landscape literacy is about understanding how landscapes emerge, by what means they are sustained, are we prepared to give this country a voice?

### Keywords

landscapes, landscapeliteracy, energylandscapes

## Agricultural Land Boundaries in Tokyo's Agricultural Scenic Area

**Ms Mamiko Tanaka**<sup>1</sup>, Professor Tetsuo Nemoto<sup>1</sup>

<sup>1</sup>Nara Women's University, Graduate School of Humanities and Sciences, Nara, Japan

In relation to nature, Stockholm Rörstrand 2, September 29, 2023, 1:00 PM- 3:00 PM

### **Biography:**

*Mamiko Tanaka is a Ph.D. student researching urban agriculture and landscape design at Nara Women's University. Her work emphasizes how urban agriculture and the surrounding environment can spatially coexist in ways that benefit the city. She also enjoys investigating land histories by examining old maps.*

Urban agriculture was once a cultural landscape in Tokyo, where agricultural land was nurtured according to the natural topography. The agricultural land, along with secondary nature such as homestead woodlands and mixed forests, formed a visually and systematically connected landscape without artificial boundaries. However, urban development over the years has subdivided agricultural land, and the resulting boundaries have disrupted the connectivity of the agricultural landscape.

The aim of this study is to clarify the current situation of agricultural land boundaries created at the district level and to conduct basic research that can be used for city planning to promote coexistence between agricultural land and nature on a broader scale.

Tokyo has a system called "Agricultural Scenic Area Development System," and currently, five districts are designated. This study targeted these districts for research. Two investigations were conducted for each district: investigation 1 focused on changes in land use, and investigation 2 focused on on-site inspections of agricultural land boundaries. For investigation 1, a literature review was conducted on the history of agricultural land, green space, and urban development. Based on the findings, land-use maps were created using aerial photographs and topographic maps from before urbanization and the present. For investigation 2, the boundary condition of the agricultural land was recorded on-site, using the land-use maps as a reference.

As a result, In Investigation 1, it was revealed that the original landscapes of each district were seamlessly connected without giving a sense of boundaries, as well as the existence of boundaries created by the subdivision of farmland and urbanization.

In Investigation 2, it was identified that the typology of structures present along the road boundaries of farmland and confirmed the relationship between adjacent outdoor spaces and agricultural landscapes. It was also revealed the factors that determine the boundaries and how these boundaries hinder the continuity of the landscape.

Reading the connections between urban farmland and the surrounding environment from various angles for each district, and incorporating the characteristics of the location, may be the key to realizing a rich agricultural landscape that brings out the potential functions of the farmland.

### Keywords

Urban Agriculture

## People's Contribution to Nature in China's National Parks

**Ms Fangyi Wang**<sup>1,2</sup>, Ms Zhicong Zhao<sup>1,2</sup>, Mr Rui Yang<sup>1,2</sup>

<sup>1</sup>Department of Landscape Architecture, School of Architecture, Tsinghua University, Beijing, China, <sup>2</sup>Institute for National Park, Tsinghua

University, Beijing, China

In relation to nature, Stockholm Rörstrand 2, September 29, 2023, 1:00 PM- 3:00 PM

### **Biography:**

*Fangyi Wang is a PhD candidate in the Department of Landscape architecture, School of Architecture in Tsinghua University. Her research experience has focused mainly on protected area management and biodiversity conservation, including conservation planning, wilderness conservation, conservation-development and conflict mitigation. Her research interest is in improving human-nature relationship.*

The world is facing serious ecological crises, such as biodiversity loss and climate change, which have been proven to be mainly caused by human activities. While the negative impacts of human activities on nature have been widely studied, little attention has been paid to the positive contributions of humans to nature. In fact, humans have made positive contributions to nature by establishing protected areas, restoring ecosystems, and protecting biodiversity. These actions are not only for our own well-being, but also based on love and respect for Earth. In addition, valuing and strengthening our contributions to nature may be a prerequisite for achieving transformative goals such as "living in harmony with nature". To some extent, the goal of landscape planning is to maximize our contributions to nature.

In this context, we proposed the concept of "People's Contribution to Nature (PCN)" as the opposite of "Nature's Contribution to People" and applied it to the first five national parks in China to develop corresponding landscape planning and management frameworks. China's national parks are exemplars of harmonious co-existence between human and nature. Constructing national parks is an important means for China to achieve the modernization in harmonious coexistence between humans and nature. Understanding PCN in China's national parks is of great significance for harmonizing human-nature relationship globally. In this study, we first proposed that PCN includes two categories: "value conservation" and "loss compensation", as well as four dimensions: ecosystem composition, structure, function, and biodiversity. Second, we developed assessment methods for each category and dimension. Finally, we evaluated the PCN of China's national parks and provided planning and management recommendations. Results showed that China's national parks have made outstanding contributions to improving human-nature relationship, particularly in the western national parks. The successful experiences of national parks should be promoted to other regions in China. Through this study, we

hope to provide scientific evidence and references for achieving “living in harmony with nature”. Additionally, we also hope to arouse people’s love for nature through the concept of PCN and establish a deeper connection with nature.

### Keywords

People’s-contribution-to-nature, national-park, landscape-planning

## Ecosystem Services through the Eyes of Public: Developing Demand Indicators

**Dr Yonghoon Son**<sup>1</sup>

<sup>1</sup>Graduate School of Environmental Studies, Seoul National University, Gwanak, South Korea

In relation to nature, Stockholm Rörstrand 2, September 29, 2023, 1:00 PM- 3:00 PM

### **Biography:**

*Yonghoon Son is an Associate Professor at the Department of Landscape Architecture in GSES, SNU. He holds a Ph.D. in Agriculture from Tokyo University. His research interests include rural planning, urban green space, and cultural ecosystem services. He is currently focused on developing research methodologies using various social big data.*

In recent years, there has been a growing interest in the benefits of nature for addressing climate change and promoting healthy living environments, leading to the emergence of ecosystem services, nature-based solutions, and green infrastructure as important principles in landscape and urban design. While ecosystem services have traditionally been studied from suppliers’ perspectives, such as assessing the biophysical environment or the accessibility of parks and green spaces, there is an increasing focus on the ecosystem service process, which covers service supply, demand, and benefit. This study aimed to develop indicators for public surveys to reflect user demand, which has been insufficiently considered in existing approaches to ecosystem services assessment. To achieve this, a combination of big data and small data was used to develop questionnaire indicators on the benefits of ecosystem services from the public’s perspective. Social media big data text mining and focus group interviews with local activists were used for big and small data analysis, respectively. The study resulted in the development of 21 questionnaire indicators for the four categories of ecosystem services: provisioning, regulating, cultural, and supporting. The questionnaire was then conducted in a public panel survey, with 7,278 valid responses collected from across the Republic of Korea. The study provided a comprehensive understanding of the public’s perception of ecosystem services. Specifically, the study identified differences in satisfaction with ecosystem services based on demographic attributes such as gender, age, occupation, and educational background. Furthermore, the study analyzed differences in satisfaction levels between residents of urban, suburban, and rural areas, and it is also possible to compare satisfaction levels between different cities or neighborhood areas. The study found that highly educated people and females had a higher awareness of ecosystem services on an individual level, while residents in rural areas of Korea had lower satisfaction with ecosystem services despite having a rich natural envi-

ronment. Finally, the study suggests that continuous research on public perceptions of ecosystem services can help verify the effectiveness of parks and green spaces policies and practices over time.

## Keywords

Text-mining, FGI(Focus-Group-Interviews), Perception

# Environmental, social benefits, and their coordination in urban wetland parks

**Dr Yang Ye**<sup>1</sup>, Prof. Xiong Li<sup>1</sup>, Prof. Hongfei Qiu<sup>2</sup>

<sup>1</sup>Beijing Forestry University, Haidian, China, <sup>2</sup>Huazhong Agricultural University, Wuhan, China

In relation to nature, Stockholm Rörstrand 2, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*Dr. Yang Ye is a lecturer at Beijing Forestry University and was a visiting fellow in Department of Geography, National University of Singapore in 2022. His research interest is landscape planning, design and theory, and he has long been engaged in urban blue-green space function research and Interdisciplinary planning practice.*

The area shrinking area, functional degradation, and habitat loss of urban wetland pose challenges to the sustainable development of global cities. To address this issue, Wuhan hosted the 14th Conference of the Parties to the Convention on Wetlands (COP14) in 2022, and the Wuhan Declaration recognizes wetland parks as crucial for protecting urban wetlands. As important and typical urban blue-green spaces, urban wetland parks (UWPs) have a variety of environmental and social benefits. However, existing studies usually focus on a particular UWP benefit and factors affecting it, so there is no comprehensive evaluation method and framework for evaluating UWP benefits and guiding their development. Through field survey, geographic information system (GIS), text analysis and an AHP-entropy method, environmental and social benefits of 38 UWPs were determined in Wuhan, China. Eight geographically weighted regression (GWR) models and three coupling coordination models were constructed to explore park attributes and built environment factors that affect UWP benefits, and to evaluate UWP coupling coordination. GWR models explained UWP environmental (Adj.  $R^2 = 0.493 \pm 0.777$ ) and social (Adj.  $R^2 = 0.419 \pm 0.709$ ) benefits well. Environmental benefits, such as heat island mitigation, air purification, habitat creation and stormwater management were more affected by park attributes (water proportion, park area, park age, and average slope); while the social benefits, such as facility supply, access improvement, scenery provision, tourist reception were more affected by the built environment (landscape shape index, population density, road density, plot ratio). Most UWP coupling coordination was medium (with CCD from 0.55 to 0.75, and an average of 0.630), which is caused by insufficient environmental benefits or uncoordinated environmental and social benefits. We built a framework for diagnosis, analysis, and improvement that can quickly evaluate UWP benefits, put forward development suggestions to promote UWP coordinated development so that UWPs will bring more well-being to residents. In the future, UWP benefit evaluation frameworks can

be further enriched by more potential benefits and and promoted to improve more extensive urban blue-green spaces. In a word, this interdisciplinary study proposed landscape approaches to help urban wetland parks worldwide to achieve the United Nations' 2030 sustainable development goals of cities.

**Keywords**

Environment, Social, Park

## Landscapes of well-being

# Design principles for outdoor rehabilitation garden : a qualitative study

**Miss Tongyue Zhou**, Dr xiaomei Yuan

<sup>1</sup>South China University Of Technology, Guangzhou/Tianhe, China

Landscapes of well-being, Stockholm Rörstrand 1, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*Tongyue Zhou is a PhD candidate in Landscape Architecture of South China University of Technology. Her research direction is healing landscape and nature-based intervention and have published related papers. She is particularly interested in the interdisciplinary research on landscape architecture and rehabilitation medicine.*

The number of people with functional impairment is increasing as the population ages and these individuals often require long-term or even life-long rehabilitation services. With the shift of medical model, outdoor rehabilitation garden have been widely applied due to the increasing awareness of the value of environment for improving rehabilitation effect. However, research on outdoor rehabilitation garden is still in an initial stage compared with the wide practice. At present, the fragmented design ideas from designers are insufficient to provide systematic guidance for outdoor rehabilitation garden design practice, and it is necessary to explore the design principles. Outdoor rehabilitation garden is an interdisciplinary research field of rehabilitation medicine and landscape architecture, the design suggestions from the rehabilitation staff may overcome the limitations of designers from another disciplinary perspective. Qualitative research design using Inductive content analysis was used. Rehabilitation staff (n=84) participated in brief interviews. Data were collected at three national rehabilitation conferences in China from March 2019 to November 2020. Transcribed textual data included responses to the open-ended question querying about participants' recommendations related to the design principle for outdoor rehabilitation. Six categories were identified: (1) maximize safe and security (2) provide good accessibility (3) offer comfort (4) gradient challenge (5) engagement with nature (6) sociocultural environment. The affordance of the outdoor rehabilitation garden to support gradient challenging training activities while guaranteeing safety is the prime concern to rehabilitation staff. This study proposed six design principles for outdoor rehabilitation garden to maximize the value of the training environment. Outdoor rehabilitation garden can be used in institutions and communities as an environmental intervention technology to promote the transformation of lifestyle of patients so as to achieve health management. Further study of the design strategies of outdoor rehabilitation garden for specific functioning improvement is warranted.

**Keywords** outdoor rehabilitation; therapeutic garden; environmental intervention

# Identification and renewal of urban informal linear fitness network

**Mr Li Tan**, Mrs. Yujia Zhong

<sup>1</sup>Soochow University, Soochow, China

Landscapes of well-being, Stockholm Rörstrand 1, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*TAN Li is the lecturer in the Suzhou University. He is the Ph.D of Landscape Architecture. His research areas include informal landscapes and green space networks. He conducted one project supported by National Natural Science Foundation of China and one project supported by China Postdoctoral Science Foundation.*

National fitness in China is faced with the real problems of unbalanced regional development and insufficient supply. Linear fitness including running, walk and biking is an important way of daily fitness for Chinese people, and it mostly occurs in informal linear spaces such as streets, riverside or greenbelts, which can be called informal linear fitness network (ILFN). ILFN provides an entry point for the coordination of supply and demand for fitness space in high-density urban areas, where public fitness infrastructures are hard to meet everyone's needs.

At present, people's selection mechanism for informal space and the distribution level of ILFN in the city are still unclear. A targeted evaluation system and optimization approach have not been established. Therefore, ILFN has not been effectively identified and utilized. Informal space is closely related to residents' autonomous choices. In the era of the Internet, the crowd sourcing model emerged, which refers to handing over tasks originally completed by users without professional backgrounds to capture and analyze the true feelings of users. In this study, the recommended routes provided by mobile fitness apps were drawn by users themselves, and these data provide effective crowdsourcing technical support for analyzing ILFN.

The study selected the central urban area of Shanghai as the research sample. A framework with 3 phase was conducted to realize the supply and demand coordination of ILFN: Firstly, through the correlation analysis between crowdsourced data and urban spatial data, bottom-up exploration has been done for identification mechanism of ILFN. Secondly, an evaluation was conducted based on the mechanism, which enables decision makers to evaluate the quality, structure and spatiotemporal change level of the exposed and potential ILFN in the city from top to bottom. Distribution level can be measured through the synergy of supply and demand. Finally, based on the synergy between supply and demand, qualitative and quantitative optimization are proposed from three levels of quality update, structural repair and utilization resilience. Through the above research and optimization

plan, the potential of ILFN can be effectively and quantitatively exploited in order to better meet everyone's fitness needs.

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- Keywords** supply-demand, slow-traffic, crowdsource

## Students' experience in greenspace, nature connectedness and pro-environmental behaviour

**Ms Yarden Woolf<sup>1</sup>**

<sup>1</sup>University of the West of England - UWE Bristol, Bristol, United Kingdom

Landscapes of well-being, Stockholm Rörstrand 1, September 29, 2023, 1:00 PM- 3:00 PM

### **Biography:**

*I am a fully funded PhD researcher at UWE Bristol. My research looks to explore the relationship between students' experience in greenspace, nature connectedness and pro-environmental behaviour.*

*I am also a certified landscape architect and urban designer, with nearly eight years of experience working on different planning projects in Israel.*

Spending time in greenspace is positively associated with nature connectedness and pro-environmental behaviours. This is particularly important, with the ongoing climate crisis and biodiversity loss. A sense of connection to the natural world is influenced by childhood experiences of nature. This is particularly interesting as a university is a transitional stage from childhood to adulthood, hence crucial to developing environmental responsibility. Considering the importance of greenspaces for sustainability, universities can therefore have an important role to play. Students represent the future generation of decision-makers and are at a crucial stage in their lives where their behaviours are shaped.

This study, therefore, aims to explore the relationship between use and experience in greenspace, nature connectedness and pro-environmental behaviours in university students. To achieve this, qualitative and quantitative data will be collected about two British universities (the University of the West of England and the University of Bristol) students' use and experience of greenspaces, design of greenspaces, students' sense of nature connectedness and its effect on their pro-environmental behaviours.

Research methods include a preliminary survey to determine which greenspaces are used by UWE and UoB students and collect quantitative data about the frequency of use and activities they engage in within these greenspaces. Observation sessions will be used to understand how students use greenspace, and walking interviews will be conducted to collect in-depth qualitative data about the relationship between students' experience in greenspace, nature connectedness and pro-environmental behaviours.

Research suggests that greenspaces are under-used among students. Hence, for

greenspaces to contribute to sustainable behaviours, we need to better understand how the student population experiences them, what encourages their use and experience of nature within these greenspaces, and whether this relates to pro-environmental behaviours. Then, we can provide accessible greenspaces and design behavioural interventions to benefit both students and the planet, and contribute to more resilient urban environments.

Research findings can assist universities and municipal authorities, both hosts to students, in tying education practice and policies to the landscape planning and design of greenspaces that will better attract students to use them, potentially enhancing their nature connectedness and encouraging pro-environmental behaviours.

### Keywords

Greenspace, students, environment

## Intergenerational Integration: Behaviors of “Grand-parents’ Looking After” in Communities

 **Lu Yang**<sup>1</sup>, Dr. Liang Li<sup>2</sup>

<sup>1</sup>School of Landscape Architecture, Beijing Forestry University, , China, <sup>2</sup>School of Landscape Architecture, Beijing Forestry University, , China

Landscapes of well-being, Stockholm Rörstrand 1, September 29, 2023, 1:00 PM- 3:00 PM

### **Biography:**

*Yang Lu is a PhD candidate at the School of Landscape Architecture, Beijing Forestry University. Her research interests include green infrastructure and landscape architecture planning and design.*

Behavior of “the grand-parents’ looking after” is a prevalent behavior pattern in community outdoor public spaces. In order to understand the behavior characteristics of “the grand-parents’ looking after” and its relationship with the landscape elements of outdoor public space, this study investigated the basic situation of the actors, the characteristics of their behavioral activities and the landscape elements of the community park using questionnaire interview and behavioral observation, and then analyzed the relationship between them. It is found that: 1) Grandparents, one of the main actors in behavior of “the grand-parents’ looking after”, play a dominant role in this behavior pattern; 2) In community outdoor public spaces, there are far more “separate” types than “interactive” types of “the grand-parents’ looking after” behaviors. The activity contents of the “separate” type of “the grand-parents’ looking after” behaviors are mainly recreational activities, while the “interactive” type of “the grand-parents’ looking after” behaviors is mainly sports activities; 3) The landscape and spatial elements of the activity spot have no significant influence on the type of behavior of “the grand-parents’ looking after” (separate/interactive), but have a significant influence on the content of “the grand-parents’ looking after” behaviors (through/sport/recreation); 4) The higher the level of shade in the spot, the higher the number of “the grand-parents’ looking after” behaviors in both recreational and sport categories; the richer the services and facilities in the spot, the higher the number of “the grand-parents’ looking after” behaviors in the recreational category, but the richness of the services and facilities had no significant effect on the number of “the grand-parents’ looking after” behaviors in the sport category. Other landscape spatial factors had no significant influence on the behavior of “the grand-parents’ looking after”. On the basis of further analysis, several recommendations are made for the future construction of outdoor public space in the community: community outdoor public spaces should be equipped with more service facilities and improved shading rate, so as to provide more interaction opportunities and more comfortable rest space for the old and young.

**Keywords** generation-relationship, community, behavior



# A Research-Based Design of Thammasat Inclusive Park, Thailand

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<sup>1</sup>Department of Landscape Architecture, Faculty of Architecture And Planning, Thammasat University, Pathumthani, Thailand, 2Thammasat University Research Unit in Making of Place and Landscape, , Thailand

Landscapes of well-being, Stockholm Rörstrand 1, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*Associate Professor at Faculty of Architecture and Planning, Thammasat University. Her research interest is in history and theory of Western and Thai landscape architecture. Her latest book of History of the Western Garden: from the 4th-19th Century was released in 2021. Current research is a research-based design inclusive park.*

Approximately 1.3 billion people or 1 in 6 people worldwide experience some form of disability. This skyrocketing numbers seem to be growing rapidly. Everyday people with disability face many societal barriers. Everyone should be a part to take down these barriers and promote inclusion. Public park is an urban facility that helps improving physical and mental health. However, exercising facilities that are suitable for people with disabilities have been neglected in most typical public parks. People with disabilities are unable to be independent or use the park safely. These matters became a subject of an interest of this study, which is to design an inclusive park based on a research process. Apart from reviewing previous studies, semi-structured interviews and questionnaire surveys with stakeholders were applied as design integration. The disabilities who participated the study were able to express their views freely on all matters of how the inclusive park should be. Results of the study are united to the design of an inclusive park on Thammasat Water Sport Center, Pathumthani, Thailand, which will be implemented by the end of 2023.

## **Keywords**

Inclusive Park, Disabilities,

# Green Open Space Accessibility Correlation with Socio-economic Status in Jakarta

**Ms Zaki Maharani Maharani**<sup>1</sup>, Ms Seohyeon Bae<sup>2</sup>, Mr Justin Heejoon Lim<sup>3</sup>

<sup>1</sup>Graduate School of Environmental Studies, Seoul, South Korea, <sup>2</sup>Graduate School of Environmental Studies, Gyeonggi, South Korea, <sup>3</sup>Graduate School of Environmental Studies, Gyeonggi, South Korea

Landscapes of well-being, Stockholm Rörstrand 1, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*Zaki Maharani is a master's degree student at the department of Landscape Architecture, Seoul National University. She received her bachelor's degree in landscape architecture from IPB University.*

Urbanization has resulted in a decrease in green open space in many cities worldwide, including Jakarta, the capital city of Indonesia. The unequal distribution of green open space throughout the city has been attributed to socio-economic disparities, where those with higher status have better access to green open spaces. This study aimed to analyze the accessibility of green open spaces, specifically walkable access within a 10-minute distance, in the urban districts of North, South, Central, East, and West Jakarta. To achieve this goal, data from the Indonesia Family Life Survey (IFLS) and Central Agency on Statistics, including information on education, household expenditures, and economic status, were used to identify the socio-economic development level of each district. GIS-based analysis of the city's district shapefiles was used to calculate urban green space accessibility. The research procedure involved two significant steps: identifying socio-economic development levels and evaluating Green Open Space justice through calculating and analyzing the spatial distribution of Green Open Space in each urban district. The study's results revealed that the accessibility of green open space in Jakarta is unevenly distributed, with disparities across socio-economic levels. The findings can serve as a source of information for the public regarding the need for green open space and as a reference for the government's green open space expansion plan. By identifying areas and locations that require more green open space, the study's results can aid the Jakarta Provincial Government to determine how to develop green open spaces throughout the city evenly. The study underscores the importance of considering social equity and access in urban planning and highlights the need for policy interventions to address Jakarta's unequal distribution of green open spaces.

## **Keywords**

Open space, Socio-economic

# Bredäng Park - Dance and play!

**Stina Hellqvist**<sup>1</sup>, **Stina Näslund**<sup>1</sup>

<sup>1</sup>Nivå Landskapsarkitektur, Stockholm, Sweden

Landscapes of well-being, Stockholm Rörstrand 1, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*Nivå: In each project, we aspire to deepen the connection between analysis, concept, and material expression, creating contemporary landscape architecture that lasts. Our work is focused on public spaces at a range of scales, operating across the design of parks, gardens, squares, site studies, and landscape analyses.*

In collaboration with a focus group of girls living in the suburb Bredäng, Stockholm, Nivå developed a park for spontaneous dance, play and free sports. Current research demonstrates that a majority of Swedish children and youth do not engage in enough daily physical activity; this problem is most pronounced amongst older teenage girls. With that in mind, the process of seeking to formulate new, more inclusive opportunities for physical activity that would appeal to a wide cross-section of society started.

The proposal responds to the fact that the site is presently dominated by a football pitch, used mainly for organized sports events for boys and men. The focus group, in contrast, emphasized the importance of rather creating a safe and vibrant space for everyone, where friends, siblings and even parents and relatives could spend time together. Through a series of workshops, the project developed a design for a park that would stimulate spontaneous physical activity more broadly.

A pergola with stepped seating encloses the parks north-east boundaries. It was custom-made for the project and integrates lighting in its steel structure to ensure that the site can be used throughout the day and during all seasons. A sound system with a Bluetooth receiver allows visitors to play music of their choice.

Steel webs with vines builds transparent borders to the surroundings. In the western end of the pergola a BBQ area is situated, using the pergola roof as a canopy in case of rain. In the opposite end, a climbing net and climbing ropes are integrated in the structure.

All over the black asphalt surface a playful pattern of orange and white thermo plastic circles, lines and dots is rolled out. It aims to inspire kids, teenagers or whoever comes around, to spontaneously engage in playful running, jumping, dancing or kick-biking. A range of various play and sport equipment are spread over the site – a ping pong table, basketball hoops, trampolines, and a large multi-swing - all of which were results of the underlying dialogue process.

**Keywords** Community engagement, Inclusive

**Design project**

## **Narratives of territory**

# Research on Landscape Justice in Restoration of Historic Rivers, Beijing

**Ting Da**<sup>1</sup>, **Ms Mengqiang Chen**<sup>1</sup>

<sup>1</sup>Beijing Forestry University, Beijing, China

Narratives of territory, Stockholm BIRKA, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*Ting Da, Ph.D., is an associate professor teaching urban design courses in School of Landscape Architecture, Beijing Forestry University. As a class 1 registered architect and registered urban planner of P.R. China, her research interest is focused on urban waterfront landscape and urban historic landscape.*

Beijing's 14th Five-Year Plan drafted that within the old city, the historic rivers will gradually and sequentially be restored. The riverside environment will also be built. The restoration of historic rivers was believed to improve the inner city environment, expand public space and contribute to social justice. Landscape justice of historic river in community has an experiential dimension, in that people can perform various activities in historic riverside. By distinguishing the types of visitors, and discussing the differences in sense of place of the historic river landscape at community level, we aimed to identify the ways to enhance the justice of historic river landscape. The method of in-depth interview was used to collect data about sense of place of residents, tourists and community workers who visited Yu River and Sanli River in Beijing. Based on grounded theory analysis, a historic river place perception model framework was built with four dimensions, including individual elements, physical environment, social environment and interactive process. We proposed that: ① the perception categories of place elements of historic river restoration were different among residents, tourists and community workers, which affected their attitudes towards historic river landscape restoration, ② at the urban level, historic river restoration could improve the spatial pattern of river system, increase the supply of riverside space, and improve the distribution justice of public space. At the community level, the justice of historic river landscape restoration did not only refer to the distribution justice in physical environment(riverside public space) but also social environment(housing, management, security and commercial services) and interactive process(leisure activities and communication).

## **Keywords**

Historic river restoration

# A Tale of Two Rivers: A Water-based Memory Mapping

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<sup>1</sup>Department of Landscape Architecture, Istanbul Technical University, Istanbul, Turkey

Narratives of territory, Stockholm BIRKA, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*Arzu Güler is a researcher and landscape architect. She graduated from Istanbul Technical University (ITU) Landscape Architecture Dept. bachelor and master programs. She continues her PhD at ITU. Her main research areas are archaeological landscapes, landscape changes and memory. She studies as a visiting PhD researcher at Newcastle University, UK.*

Existing both naturally and artificially, water has the power to create unique places. Such areas develop an economic, social and cultural organism that depends on water. Many historical settlements located in the ancient Mesopotamian lands, in the Tigris and Euphrates basins, have developed water-dependent reflexes and tangible and intangible life practices. However, these areas are sometimes rebuilt by new water encounters as in the case of the 12,000-year-old Hasankeyf settlement in South East Turkey, which was flooded by the construction of a new dam. While the change in settlements develops organically with long-term needs or encounters, sometimes it happens suddenly, like cities drowned by dam constructions. Is this phenomenon, which is frequently encountered in the lands of ancient Mesopotamia, a geographical destiny? What do the emerging "new organisms" say about the change in cultural memory? How can this shift be mapped through a water-based narration? The aim of this study is to understand how the niche settlements in the ancient Mesopotamian lands created by water became the subject of memory with a new water layer and what these new layers can tell us about the future. The water-related practices of the buried cultural life in the flooded settlements, the continuity of these practices to the migrated regions, and the intangible and tangible fragility of the remaining lands will be examined with mapping through selected examples between the Tigris and Euphrates Rivers. In this context, historic Hasankeyf, Samosata, Halfeti and Botan Valley settlements will be analyzed. Their stories will be revealed through a water-based mapping created by superimposing the natural data, journey of water and memory nodes. It is believed that the study will leave a water-based narrative about understanding the transferability of the memory layers and the remained vulnerability.

## **Keywords**

Water, Memory, Mapping

# RTD and cross-border hybrid territoriality: Anáhuac Farm case study, USA

**Ms Suzanne Katz<sup>1</sup>**

<sup>1</sup>Ecole Nationale Supérieure De Paysage - Versailles/Marseille, Versailles, France, 2CY Cergy Paris Université, Cergy, France

Narratives of territory, Stockholm BIRKA, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*Suzanne Katz is an American-born landscape architect who completed her MLA at the Ecole Nationale Supérieure de Paysage (ENSP) in 2019. Currently a PhD candidate at Cergy Paris Université and ENSP, her research focuses on the intersection of human migration, agriculture and the changes they bring to landscape.*

This Research-Through-Design (RTD) project explores the role of a cultural and agricultural center for the Anáhuac Farm Program in an emergent hybrid territoriality across the Willamette Valley in the United States and across borders. Drawing on Raffestin's theory of relational territoriality and Besse's concept of landscape as a relational act, it asks, through the design process itself and accompanying qualitative research methods, what role the center plays in an emergent hybrid territoriality of Mesoamerican peoples in a North American Landscape. The project integrates participant observation, semi-directed interviews, and co-design workshops with the Mesoamerican farmworker community, who provide input on the design of the new cultural center and garden on 22 hectares of agricultural land. The Anáhuac Farm Program aims to adapt, preserve, and pass on ancestral land-based practices from their indigenous communities (Maya, Nahuatl, Purepecha, Zapotec, and Mixteco), including languages, agricultural practices, spiritual practices, and culinary arts in a new landscape.

In the Willamette Valley, the concept of the border is broadened to encompass areas of cultural friction and hybridization that occur upon the immigrant community's arrival on their migration journey. An analysis of the current dominant territoriality and agricultural landscapes of the Valley provides a contrasting form of place-making practices. To accomplish these objectives, the research employs a landscape prism and examines the changes that immigrant indigenous peoples can bring to places, soils, and agricultural spaces, highlighting a local perspective within a global vision. The study challenges the commonly held assumption that migrant workers are merely passing through agricultural spaces and sheds light on their active role in shaping landscape and territory.

This research aims to contribute to our understanding of migratory identities and place-making practices, as well as provide insights for how to design and plan for culturally responsive spaces in productive landscapes.

## **Keywords**

Agriculture, Territoriality, Americas

# Conserving the Sacred; conservation efforts in Loita Naimina Enkiyio Forest

**Ms Joan Nyagwalla Otieno**<sup>1,2</sup>, Prof. Pieter Van den Broeck<sup>1</sup>, Prof. Lawrence Salaon Esho<sup>2</sup>

<sup>1</sup>Ku Leuven Belgium, Department of Architecture, Planning and Development Research Unit, Leuven, Belgium, <sup>2</sup>Technical University Of Kenya,

School of Architecture and Planning, Nairobi, Kenya

Narratives of territory, Stockholm BIRKA, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*Nyagwalla is a PhD researcher at KU Leuven in the Department of Architecture. Her research focuses on community stewardship as a paradigm for conserving sacred indigenous forests. She is affiliated with the Technical University of Kenya, School of Architecture & Planning.*

Indigenous communities have been able to conserve their forests thanks to the sacrality of the latter. However, the link between communities and forest conservation is often mired by dynamics of dispossession and, in some cases, displacement associated with modern-day postcolonial conservation strategies. Empirical data drawn from indigenous sacred landscapes from Latin America, Asia, Australia, and Africa show approaches to environmental protection that alter Indigenous communities' use and access rights, with detrimental consequences to the community. In some instances, indigenous communities succeed in counteracting such effects. This article explores such a case, investigating how Indigenous Loita Maasai in the south of Kenya mobilise the notion of the sacred in negotiating alternative conservation outcomes. Using a qualitative case study approach, we elaborate on this question in four episodes. In the first episode, we explore how embedded the sacred forest was and is in the way of life of the Loita. The second episode explores how the Loita challenged two initiatives seeking to reach specific conservation outcomes but driven by value systems other than the sacred. The first initiative, the Narok council, attempted to gazette the sacred forest as a Nature reserve. The second, is the International Union for Conservation of Nature's (IUCN) proposal to fund a Loita Integrated Conservation and Management project. The Loita community rebuffed these two initiatives. The third episode explores State interest in the Loita Naimina Enkiyio, triggered by the significance of the forest as a critical water tower in the region. In the last episode, we explore the innovation in the conservation efforts of the Ilkimpa Community Conservation Association (ICCA), a community initiative grappling with and responding to the pressure on the Loita Naimina Enkiyio socio-ecological system. We first conceptualise the sacred forest as a socio-ecological system. Then using a social innovation framework as a lens, we analyse community actions in addressing societal needs and the interactions between key stakeholders.

The findings show that the notion of the sacred, as ascribed to the Naimina Enkiyio forest, has been integral in ensuring the conservation of the forest in the face of significant changes in Loita land and forest dynamics.

## **Keywords**

Conservation, Indigenous, Loita

# Free the Wai

**Dr Matthew Bradbury**<sup>1</sup>, Sam Fatongiatau<sup>1</sup>, Robert Havel<sup>1</sup>, Will Heays<sup>1</sup>

<sup>1</sup>Unitec Institute of Technology | Te Pūkenga

Te Whare Wānanga o Wairaka, Tamaki Makaurau, New Zealand Aotearoa

Narratives of territory, Stockholm BIRKA, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*Dr Matthew Bradbury is an Associate Professor in the landscape architecture programme at Te Puukenga. Matthew is the author of Water-City, Practical Strategies to address Climate Change. Matthew has been recently invited by national media, professional and community groups to discuss ways to build civic resilience to catastrophic flooding.*

On the 27th of January, Tāmaki Makaurau, the largest city in Aotearoa, was hit by a 300mm deluge in a couple of hours. The results were catastrophic. Whole suburbs were flooded while major roads were closed, shutting down the city. What became evident was the return of Tāmaki Makaurau’s natural hydrology, the awa and ripo ( streams and wetlands) that were an integral part of the city’s volcanic topography. Over the last 150 years, this topography has been built over; the streams piped, the wetlands drained. On the 27th, the indigenous landscape returned with a vengeance, old streams returning on their journey to the sea, and ancient wetlands that had been drained, filled up again.

Emerging out of the devastating wreckage and tragedy of the flooding was a sudden awareness by many Aucklanders of fundamental hydrological truths; they all live in catchments that receive and discharge water governed by the topography. Māori (the indigenous people of Aotearoa) knew where all the original streams and wetlands were; tangata whenua( people of the land) named these places in Tamaki, and one can see how many begin with the word wai ( water).

To demonstrate how a landscape-based design methodology could be developed to adapt to future flooding, a case study for a 100-ha sub-catchment in Mangere will be discussed. This site was badly flooded in the anniversary day disaster. Hundreds of houses were severely damaged many locals lost all their possessions. The case study, developed by students of Te Puukenga, examines how the local people could be protected from future flooding. The first step was to relocate the existing housing to allow for natural flooding while retarding the effects of flooding downstream. Consideration of the impact of increasing housing in the rest of the sub-catchment was studied, with the design work concentrating on reducing the housing footprint to increase the amount of previous surface in the sub-catchment, thus increasing the absorption of runoff.

The result was a landscape-based strategy that ensured locals did not suffer again by focusing on local hydrological conditions to ameliorate future flooding.

## **Keywords**

Climate Change Whenua

# Without Boundaries: “Mile Long Burn” and “Broken Kilometer”

**Mr Kevin Benham**<sup>1</sup>

<sup>1</sup>Robert Reich School Of Landscape Architecture, Louisiana State University, Baton Rouge, United States

Narratives of territory, Stockholm BIRKA, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*Kevin Benham is the Jon Emerson/Wayne Womack Endowed Professor at the Robert Reich*

*School of Landscape Architecture at Louisiana State University. He received his MLA from the Graduate School of Design at Harvard University and his M.Arch. at the Taubman College of Architecture and Urban Planning, The University of Michigan.*

The author will present two companion land art pieces that both use the act of erasure as a means to increase biodiversity. “Broken Kilometer”, located in Southern Sweden, was constructed in conjunction with the Swedish Military and Project Sand Life as a kilometer long fissure in the earth that acts as an immersive experience while simultaneously increasing the vegetative biodiversity in the region. This earthwork, which is the width of Swedish tank and a total kilometer in length, is temporal in nature and will continue to dissipate as the exposed soil becomes occupied with fresh herbaceous material. Over a period of time, the piece will disappear and will only exist as a trace of the original act of manipulating the land.

“Mile Long Burn” a companion land art piece located in the Tall Grass Prairie National Preserve in Kansas (USA) was conducted with the National Park Service and uses the alchemy and magic of earth, wind and fire to reconstitute the biodiversity and native species in the dwindling tallgrass prairie. The piece is a mile in length and the width is variable, depending on biomass and prevailing meteorological conditions.

Both pieces transcend borders, physically and metaphorically. Both are unbounded and their existence continues to evolve into artifacts of the original acts of erasure.

## **Keywords**

LandArt, Temporality, Biodiversity

## **Responding to climate change**

# BIMitigation - visual climate emissions calculation for Landscape Architecture

**Mr Fredrik Toller<sup>1</sup>**

<sup>1</sup>Sweco Architects, Stockholm, Sverige

Responding to climate change, Stockholm Karlberg, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*Fredrik Toller is the studio manager and head of business development of Sweco Architects landscape architects. He works as a practitioner and design both common cityscapes and develop private properties. Sweco Architects has more than 200 Landscape Architects worldwide, and is one of the worlds largest firms.*

Climate change mitigation are crucial for the future of the built environment. Landscape architecture plays a significant role in achieving these goals, but there has been a lack of tools to aid in early-stage decision-making. In response, Sweco Architects has developed BIMitigation, a tool that enables visual assessments of emissions from landscape architectural designs.

BIMitigation is based on a list of 100 commonly used landscape materials, for which generic emission factors were obtained from open environmental databases. The tool's values are based on product environmental declarations (EPD) and their global warming potential (GWP). BIMitigation supports landscape architects in optimizing designs to reduce climate emissions by identifying the objects that generate the most significant emissions. The tool is anticipated to be helpful in aiding clients to make informed and sustainable decisions.

Fully integrated in our BIM-models the calculation is automatic and the result is shown in real time. The result is shown as a heat map with red objects for high emissions, green for low, and blue for carbon sinks. It also reveals the numbers in schedules and is calculated both per material and per square meter.

In conclusion, BIMitigation is a significant development in the field of landscape architecture, providing support for early-stage decision-making towards achieving sustainable designs.

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## **Keywords**

Mitigation, Climate, BIM

# The European Master in Landscape Architecture a cross-borders curriculum.

**Mrs Karin Helms<sup>1</sup>**

<sup>1</sup>AHO, The Oslo school of Architecture and Design, Oslo, Norway

Responding to climate change, Stockholm Karlberg, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*Karin Helms Professor, PhD, Landscape architect and research at AHO The Oslo school of Architecture and Design. Before she was associate Professor at Ecole Nationale Supérieure de Paysage Versailles. She is the originator and founder of European Master: EMiLA. Nationalities French and Danish. She was past IFLA EUROPE president .*

The European Master in Landscape Architecture (EMiLA) was launched ten years ago (2013) by five schools/universities in Europe: the Amsterdam Academy of Architecture, Ecole Nationale Supérieure de Paysage, Leibniz Universität Hannover, Edinburgh College of Art and the Universitat Polytècnica de Catalunya.

The primary objective of the participants was to align teaching and professional education by drawing on the strengths and authority of our shared European perspectives. We undertook this work with high regard for The European Landscape Convention (Council of Europe 2000), believing that educators had an essential and potentially impactful role to play in meeting the aims of the convention.

We observed within major international competitions that the Landscape Architectural knowledge applied to the design of major infrastructural projects in anticipation of sea-level change and in addressing flooding issues and coastal resilience was missing at that time. Our European landscapes do not stop at national borders, even if the national and historical policies have been significant in each nation. As the curriculum developed, we set out to address significant cross-border and large-scale landscape questions: linked to our European energy system, to flood risks and the resilient planning of coasts through landscape architectural practice and policy-making... We set up a learning module, the 'Intensive summer school' to experience cross-border landscape challenges together with teachers from the five institutions but also with guest teachers and students from other continents, mainly from the Americas and Asia, south pacific regions to share professional cultures and help the emergence of a future generation of landscape architects.

## **Keywords**

Cross-border, Large-scale landscape



# Building Climate Resilience: Conservation Network planning for China's National Parks

**Xiaoshan Wang**<sup>1</sup>, Mr Pei Wang<sup>1</sup>, Dr Zhicong Zhao<sup>1</sup>, Prof Rui Yang<sup>1</sup>

<sup>1</sup>Tsinghua University, Beijing, China

Responding to climate change, Stockholm Karlberg, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*I am a Ph. D. Candidate from Department of Landscape Architecture & Institute of National Parks*

*, Tsinghua University. My research Interest includes:*

*National parks Climate-Smart Conservation Planning;*

*National parks Climate Change Risk Assessment and Adaptation Strategy; Climate Change Refugia*

Conserving biodiversity in the face of climate change requires landscape strategies at larger scales. Expanding the protected areas network is one such strategy. In China, a protected area system is being established, with national parks as the main body, providing a promising avenue for building a conservation network around them. However, there is still a pressing need to explore the extent to which a national park's landscape strategy should extend beyond its boundaries and determine which protected areas it should connect to.

This study proposes a novel method for defining the extent of a conservation network using climate analogues, and we apply it to the first five national parks in China. Specifically, we (1) evaluate the climate analogues of the five parks under four scenarios (SSP126, SSP245, SSP370, and SSP585) and three time periods (2041-2060, 2061-2080, 2081-2100) within a 500 km buffer, (2) map two types of climate buffer zones as the conservation network extent, (3) list the protected areas that should be included in each park's conservation network, and (4) calculate climate corridors for each park's conservation network.

The study findings demonstrate significant differences in climate analogues among the different national parks. As time and climate change progress, most national parks experience shrinking climate analogues. While Wuyishan National Park experiences a dramatic increase before shrinking dramatically again. The Northeast Tiger and Leopard National Park faces higher climate risks than other national parks, with only 3% climate analogue left under SSP585. Based on the degree of consensus of climate analogues, the study delineates two types of climate buffer zones for each national park and proposes a protection network plan for protected areas within the buffer zones.

To connect with their future climate analogues, many national parks may need to establish conservation networks across provinces or even countries.

The proposed conservation network planning based on climate analogues provides a reference for constructing a conservation network centered on important protected areas to build climate resilience. The results of the study can potentially inform and guide policy decisions on climate change adaptation for national parks not only in China but also worldwide.

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## **Keywords**

Conservation-network, Climate-change, Climate-Analogues

# Co-creating carbon-smartness through transdisciplinarity

**Dr Ranja Hautamäki<sup>1</sup>**

<sup>1</sup>Aalto University, Espoo, Finland

Responding to climate change, Stockholm Karlberg, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*Ranja Hautamäki is Associate Professor in Landscape Architecture at Aalto University, Finland. Her research addresses planning discourses and practices to tackle societal challenges of climate change, well-being and biodiversity. Ranja has 13-year professional background at City of Tampere. Her dissertation was the first PhD by a landscape architect in Finland.*

How can transdisciplinary research promote urban green spaces as next-generation solutions for climate-smart cities? While the multiple benefits of urban green spaces are widely recognized, their potential to mitigate climate change through carbon sequestration has not yet been fully harnessed. In the transdisciplinary CO-CARBON project we seek science-based solutions to improve carbon storage and sequestration in landscape design, construction and management. Our aim is twofold: 1) to quantify the carbon storage of urban green and 2) support its practical operations through the bridging concept of carbon-smartness. In this presentation I reflect how transdisciplinarity has taken place in the project and what results we have gained through it.

Systemic approach to climate change mitigation necessitates multidisciplinary and efficient knowledge transfer to practice. In CO-CARBON we have brought together atmospheric, soil and social scientists with landscape architects. We have operationalized the concept of carbon-smartness to facilitate collaboration across disciplines. We have used environmental observations, process-based modelling and life cycle assessment to identify the factors influencing carbon storage and carbon footprint of green spaces. On the basis of the findings, we have produced scenarios and recommendations for carbon-smart planning and management. Social surveys have complemented our understanding of the perceptions of carbon-smartness.

Accelerating the transition towards carbon-smartness require not only different disciplines but also multistakeholder engagement. The core of our project is transdisciplinary knowledge production and co-creation with four main groups: 1) individuals 2) municipalities, 3) businesses and 4) governmental actors. We have engaged general public to carbon-smartness with garden coaching and open co-carbon festivals. We have collaborated with municipalities in real-life planning projects to support their climate mitigation aims. We have worked together with landscape industries

to develop their processes and products. Finally, we have contributed to the legislative framework and communicated through national interest organizations.

Through co-creating and operationalizing the concept of carbon-smartness we have managed to cross the borders of different disciplines and stakeholder groups and brought urban green into climate discussion. We have above all learned from each other and understood that transdisciplinary knowledge integration needs time, curiosity and facilitation in the interface between practice and research.

## **Keywords**

carbon-smartness, transdisciplinarity, co-creation

# Utilizing computer vision for city-wide street tree profiling

**Mr Dongwei Liu**<sup>1</sup>

<sup>1</sup>City University Of Hong Kong, Hong Kong, Hong Kong

Responding to climate change, Stockholm Karlberg, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*Dongwei Liu is a PhD candidate at City University of Hong Kong and is passionate about urban visual intelligence. With a master's degree in urban planning and a bachelor's degree in engineering, he is focused on exploring interdisciplinary solutions to ecology modeling and how to achieve environmental justice.*

The accelerated process of urbanization and industrialization in contemporary cities has given rise to a multitude of environmental conundrums. Two paramount issues amongst these are the emission of greenhouse gases, such as carbon dioxide, and particulate matter pollution, exemplified by PM2.5. As an essential component of urban ecosystems, street trees serve a vital function in combating these challenges by sequestering carbon dioxide and absorbing PM2.5 particles. In this scholarly investigation, we examine a novel computer vision methodology for the automatic analysis of street view imagery to accurately and comprehensively identify and profile street trees, emphasizing aspects such as height, crown diameter, trunk diameter, and species.

Moreover, this study delves into the potential benefits of these street tree assessments in quantifying their carbon sequestration and PM2.5 absorption capacities. The findings of this research facilitate a more profound understanding of street tree distribution patterns and their eco-benefits, accentuating the importance of effective urban greenery management for nurturing sustainable, health-promoting urban environments. This study also provides invaluable insights for policymakers, urban planners, and environmentalists seeking to address urban ecological challenges.

Lastly, our research highlights the considerable potential that lies within the utilization of street view imagery for precise and efficient tree profiling. This approach serves as a promising foundation for informed urban planning strategies and targeted environmental initiatives, which are crucial in the context of ever-evolving modern cities.

## **Keywords**

Urban visual intelligence

# Effectiveness of Climate-Responsive Landscape Strategies in Rapidly Transforming Urban Neighbourhoods

**Dr Shanmuga Priya Gnanasekaran**, Ms Joy Gloria S

<sup>1</sup>School of Planning and Architecture, Vijayawada, Vijayawada, India

Responding to climate change, Stockholm Karlberg, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*Dr. Shanmuga Priya G is an Associate Professor and Programme Coordinator of M. Arch (Landscape Architecture) at SPA Vijayawada, India. She has 27 years of teaching and research experience in the fields of Architecture and Landscape Architecture with a PhD in Design and Planning from University of Colorado Denver, USA.*

Cities are drivers of global climate change due to energy consumption and greenhouse gas emissions. Local climates within cities are also modified due to Urban Heat Island (UHI) effect which further contributes to climate change. The urban morphology and landscape characteristics have the potential to mitigate these negative impacts at various scales. However, quantitative analysis on effectiveness of urban open spaces and landscape strategies in enhancing urban microclimate in different climates are not readily available to promote the adaptation of such measures. To fill this gap, this study adopts the Local Climate Zone (LCZ) framework by Stewart and Oke, and aims at the following: i) Understanding the changing pattern of LCZs in a city; and ii) investigating the effects of green open spaces, green roofs and landscape elements on the microclimate in critical LCZs. Rapidly urbanizing areas of the Chennai Metropolitan Area in India with hot-humid climatic conditions are chosen for analysis. In the study area, due to urbanization, agricultural lands were converted into open low-rise development. More recently, these open low-rise zones are transforming into compact low and mid-rise zones with significant increase in UHI. Using Envi-met software, seven different scenarios in two different zones, namely compact low-rise and compact mid-rise neighborhoods, were developed and analyzed. The simulation results were validated with field measurements. Scenarios were developed by a combination of various options such as increasing surface albedo, introducing green roof, increasing vegetation and introducing 10% open space. In the above scenarios, average air temperature for two days in two different seasons i.e., in May 21st and December 21st, was estimated. The results indicate that in compact low-rise and mid-rise zones a combination of various strategies reduced the average daytime air temperature in summer by a maximum of 1.92 and 1.31 degree C respectively. Further, by comparing the scenarios, the effectiveness of individual and combination of strategies in modifying the microclimate are evaluated. The knowledge gained through the effectiveness

of context specific mitigation strategies can inform the development of guidelines for open spaces and landscape strategies at neighbourhood level in cities ultimately mitigating UHI and climate change.

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### **Keywords**

Local-Climate-Zone(LCZ), Microclimate, Scenario

## **Transforming shorelines**

# Flood-prone suburbs: residents at the heart of the response

**Mr Frederic Dellinger**<sup>1</sup>

<sup>1</sup>Grenoble School Of Architecture, Grenoble, France

Transforming shorelines, Stockholm Rörstrand 3, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*Landscape designer and environmentalist, senior lecturer at the Grenoble School of Architecture and member of the Architecture, Environment and Constructive Cultures Laboratory. Founding manager of the Lyon-based landscape office, Eranthis. The rainwater management and biodiversity are at the heart of his professional practice, his teaching and his research work.*

The purpose of this presentation is to present the results of an idea competition on the floodable city launched by the French Ministry of Ecological Transition on nine inhabited territories. Our team, composed of the landscape architect office Eranthis, the urban planning studio Anne Durand and the Groupe de Recherche en Architecture Ouverte, worked on the faubourg district, a flood-prone area of Béziers, on the Mediterranean coast. It is a poor district, in the valley of the Orb, at the foot of the historic city center, the acropolis dominating the valley. It is very regularly flooded and the problem raised by this competition is to propose an ambitious urban renewal project.

Our first investigations allowed us to note both the great urban, heritage and landscape qualities of this suburb, but also that the rise of the water is regular and inexorable, except to entrench behind high dykes and transfer the risk to the neighboring territories. On the other hand, this district also presents a solid associative tissue and aware of the means to implement in case of rising waters.

Our proposal, a guide plan for the district, was therefore built around these inhabitants, their associations and their knowledge of the risk in order to develop with them, for them, a daily living space where one learns to live again with his river, the Orb. It is a method and a spatial project around the culture of water, the memory of the risk, the upstream-downstream solidarity and the ecological cohabitation in the daily life with the living.

Several fundamental principles are thus put forward: working at all geographical scales, revealing the “already there”, reducing vulnerability to water-related risks, involving the inhabitants and using intermediate temporalities as a support for the projects.

The main challenge of the project is to place the inhabitants at the heart of the transformation process of their territory. The project enhances the culture of wa-

ter, transforming it into a tool for eco-management. It also aims at amplifying this culture built in this district, to spread it in the whole of the downstream catchment area/plain of the Orb.

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## **Keywords**

suburbs

flooding

residents

# Designing Resilient Coastal Urban Landscapes for Post-disaster Temporary Spaces

**Ekin Seker Kaya**<sup>1</sup>, Assoc. Prof. Dr. Fatma Aycim Turer Baskaya<sup>2</sup>

<sup>1</sup>Graduate School, Istanbul Technical University, Istanbul, Turkey, <sup>2</sup>Department of Landscape Architecture, Faculty of Architecture, Istanbul

Technical University, Istanbul, Turkey

Transforming shorelines, Stockholm Rörstrand 3, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*Ekin Seker Kaya is an Istanbul-based landscape architect. She completed her bachelor's and master's degrees in landscape architecture at Istanbul Technical University. She currently continues her Ph.D. studies in the same field. She focuses on Smart Cities and Urban Sustainability in her academic studies and professional works.*

Creating sustainable urban open spaces is one of the branches of a sustainable future that concerns landscape architects. In this respect, disaster-resilient landscapes are one of the significant subjects that are studied. This research aims to generate a resilient multi-scape coastal landscape model that handles city scale suitability analysis followed by design strategies for the selected temporary sites functioning as a transfer center of services, information, and energy in post-disaster situations. The first part of the research has a top-down approach. The literature review was conducted on resilient coastal landscape planning and design. Various examples from the world are examined and the prominent aspects are determined. The benefits of successful global applications are discussed in this part. Since the seismic risk is a well-known fact for Turkey and after the devastating two major earthquakes on 6 February 2023 (with a magnitude of 7.7 and 7.6); the second part of the study focuses specifically on the post-earthquake situation for Istanbul. In this part, the potential coastal areas in Istanbul are investigated to plan as a post-disaster temporary open space. Bakirköy and Pendik regions, the nearest locations to fault lines, are determined as case study areas. The landscape character and potentials of these areas are investigated to develop resilient landscape design strategies for these coastal areas. In the last part, the research methodology has shifted from a top-down to a bottom-up approach. In this part, a landscaping model is proposed for selected coastal areas. Hard and soft landscape design strategies are used according to the coastal character of these sites to ensure the future earthquake resiliency of these sites. Besides, the post-disaster landscape planning strategies were developed for the case study areas to construct them as multi-functional spaces in a post-disaster situation. Proposed strategies include local solutions to specific problems of the site. As a result, it is aimed to propose a global model to interpret similar coastal areas in the world.

As a long-term vision, these models can serve as an example for tackling global challenges such as multi-disaster situations.

## **Keywords**

Resilience, urban, landscape

# A call for a coastal landscape governance manifesto

**Mrs Carla Gonçalves**<sup>1</sup>, Professor Paulo Pinho

<sup>1</sup>CITTA – Research Centre for Territory, Transports and Environment / Faculty of Engineering of the University of Porto, Porto, Portugal, 2CITTA –

Research Centre for Territory, Transports and Environment / Faculty of Engineering of the University of Porto, Porto, Portugal

Transforming shorelines, Stockholm Rörstrand 3, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*Carla Gonçalves advocates for coastal landscape governance. She is a Portuguese landscape architect, MSc in Regional and Urban Planning, currently doing her PhD in Spatial Planning at FEUP/CITTA. Her research (Towards Coastal Landscape Governance) explores the contribution of coastal landscape governance for safeguarding and enhancing the coastal socio-ecological system.*

Coastal landscapes are contested landscapes where competing and conflicting interests, values and perceptions co-exist. Many coastal landscapes worldwide face enormous challenges due to the climate crisis and biodiversity loss, including rising sea levels, coastal erosion, intensification of storms and hurricanes, increased flooding, and extreme heat waves. Along with the climate injustices many communities are already experiencing, managing the complex negotiations and power struggles between stakeholders operating in the coastal zone is even more demanding. Although environmental discourses entered the international political and research agenda fifty years ago, influencing coastal governance evolution, today, the scientific debate still stresses the need to politically recognise the coastal zone as a socio-ecological system. In the landscape debate, the systematic conceptualisation of landscape governance was introduced in the literature in 2007 to integrate the politics of scale with the natural conditions of places, being advocated as the spatialisation of environmental governance. Nevertheless, landscape governance research has not influenced the coastal governance debate yet. This presentation will explore this research gap, exploring Gonçalves and Pinho's (2022) systematic literature review on the conceptualisation and operationalisation of coastal governance and landscape governance. Results will allow the authors to explore the main differences between the governance concepts co-existing in a coastal strip, namely, environmental, territorial, coastal and landscape governance, advancing with a coastal landscape governance definition to address two inter-connected crises: the landscape crisis and the climate crisis. Finally, the authors will discuss a manifesto for coastal landscape governance claiming the need for institutions and actors to tackle outstanding and ordinary coastal landscapes as socio-ecological systems, on which the State must recognise them as a public and common good, acknowledging its relationship with planning and management institutions. The manifesto also addresses the role of landscape justice through co-production, demanding

transformative change and regional design to explore alternative futures for coastal landscapes. Lastly, the manifesto also argues for the need to regionalise coastal landscape governance theory beyond Euroamerican theory, inviting scholars to contribute with their own theoretical and empirical research on coastal landscapes, from a trans-disciplinary and inter-disciplinary perspectives.

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## **Keywords**

governance; sustainability; ELC

# Artistic design approaches to rising sea levels and climate change

**Dr Carola Wingren**

<sup>1</sup>Dep of Urban and Rural Development, SLU, Uppsala, Sweden

Transforming shorelines, Stockholm Rörstrand 3, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*Carola Wingren, professor in Landscape Architecture and orientated towards landscape aesthetics and change; especially coastal landscape and sea level rise. Her focus is on how society can adapt to citizens' needs for meaning and memory-making, place identity, cultural heritage through the act of design and planning of a changing landscape.*

With a need to bridge the gap between on one side an overwhelming scientific knowledge about climate change and need for adaptation, and on the other a lack of action in accordance to this, art seems to be an option to focus on. This paper present an actual research project in Kalmar municipality where scientists from geology, meteorology, planning and landscape architecture collaborate to approach the coastal landscape through the concept of “flexmark” or flexible land, also collaborating with an artist team named #Konstkiosk and the municipality of Kalmar. The project takes place in Kalmar municipality on the Baltic coast in southeast Sweden, where #Konstkiosk is built up during the summer 2023 as a platform for art, communication, knowledge production, interaction and participation. Methods used in this inter- and transdisciplinary project are scientifically based within each discourse, with the landscape architecture part of the project as a more eclectic exploration that draw on both design and art. The artistic approach involves collaboration with locals through images and talks from a basis of the actual landscape, different and global findings as well as scientific representations in form of diagrams and GIS maps. Results will turn out as representations and narratives by local citizens, analysed through filters related to the physical landscape and its processes. The paper approach the global challenge of climate change and adaptation through a locally based initiative where design and art is used to open up a fruitful dialogue involving scientific as well as experiential knowledge, with the aim to co-create a readiness for action in relation to sea level rise, planning and landscape design. Discussions will draw towards if and how the gap between science and local experience can be bridged by artistic approaches.

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## **Keywords**

Artistic-exploration, Landscape-design, Rising-sea-levels



# Slussen

**Mr Gustav Jarlöv**<sup>1</sup>, **Jack Johnson**<sup>1</sup>, **Miss Paula Mackenzie**<sup>1</sup>

<sup>1</sup>White Arkitekter, Stockholm, Sweden

Transforming shorelines, Stockholm Rörstrand 3, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*Paula is a senior landscape architect that has worked with the design of public places in Sweden and abroad. Through her work with Årstafältet and Slussen she is used to work with large complex projects. Paula is passionate about ensuring that early design ideas live through to the built project.*

Nestled in the heart of Stockholm, one of Scandinavia's most complex urban infrastructure projects is underway. The new Slussen (Swedish word for The Lock) project aims to address climate change issues, solve complex urban mobility challenges, and create vibrant and functional public space within a 14h site.

Slussen is located at Stockholms crossroads where the lowlying Old Town meets the higher city structure to the south along a north/south axis . The site is bisected east/west by Lake Mälaren and the lock that leads to the Baltic Sea. Multiple transport modes crisscross the site, from boats, cars, busses, trucks, bicycles, and pedestrians. The project goal is to make these systems more effective, while adding a rich layer of open spaces for the public.

Together with the City of Stockholm, Fosters+Partners, and a large consortium of engineers and architects, White has been the lead landscape architect working with the design and development of the project, and its integration with the critical underlying infrastructure. Two of the driving factors in the project are the protection of drinking water and flood protection. Increased rates of precipitation require a more resilient discharge system from Lake Mälaren. Slussen increases this capacity by 250%. Additionally, rising sea levels threaten the source of drinking water for 2 million people, and the new lock systems create a barrier to prevent saltwater intrusion.

Vegetation also aids in the capture and detention of rainwater. While most of the project is built on-structure, White designed planting beds that accept and store runoff. Trees are placed in strategic areas to utilize this water, as well as creating valuable shade in the urban environment. A combination of green roofs and climbing plants integrate architecture into the landscape.

Walkways, bicycle paths, and staircases are woven throughout the project which

help connect the quaysides with the higher levels of the city, as well as creating generous car free areas in direct connection to the water. New public plazas are created above and adjacent to the new lock systems, creating a dynamic urban environment.

## **Keywords**

Infrastructure  
Climatechange  
Public

## **Design project**

# Mapping Urban and Landscape Change under Sea Level Rise Scenarios

**Ms Jiyue Zhao**<sup>1</sup>, Dr. Rosanna Rivero

<sup>1</sup>University of Georgia, Athens, United States

Transforming shorelines, Stockholm Rörstrand 3, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*Jiyue Zhao is a Ph.D. candidate in the College of Environment and Design. Her educational background includes a bachelor's degree in urban planning and a master's degree in landscape architecture. The focal point of her research is the impact of climate change on urban morphology and green infrastructure.*

Sea level rise (SLR) poses a significant risk to urban and landscape areas located near coastlines. It is projected to be 0.9 m with the potential to inundate 4.2 million people by 2100 in the U.S. There is no doubt that sea level rise will significantly change the morphology of coastal cities and the pattern of green infrastructure. Therefore, it is necessary to explore what are the impacts of sea-level rise feet by feet on human settlements and the natural environment. Various computing and information techniques have been developed to aid in visualizing coastal change caused by SLR, including tools like the Sea Level Rise Viewer (NOAA) and Surging Seas (Climate Central), among others. However, most of the visualization tools are based on comprehensive scenarios. Furthermore, the study of urban morphology and green infrastructure focuses on two different aspects of urban and landscape planning. Urban morphology studies the formation and transformation of urban forms in cities, towns, and villages over time (Oliveira, 2006). While green infrastructure focuses on open spaces, watersheds, wildlife habitats, parks, and other critical landscapes. Both studies are affected by several factors such as urban history, culture, geographical as well as natural resources. On the other hand, urban and landscape metrics that quantify the spatial characteristics, are outstanding data supports for measuring the quality of the environment and ecosystem, have not been combined with SLR. With the valuable numbers calculated from urban and landscape metrics, there will be more comprehensive and detailed results that express the impact of SLR on human settlements and the natural environment. The purpose of this paper is to separately identify and quantify the landscape and urban morphology changes using urban and landscape metrics under the SLR impact feet by feet. While the approach and outcomes presented in this paper were implemented at a local level, they have the potential to serve as a reference for analyzing sea level rise adaptation on a global scale.

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**Keywords** Landscape, Climate change

# A New Kind of Landscape Possibility - Automatic Design

Xueqi Yao<sup>1</sup>, Xianyue Zhang<sup>1</sup>, Yuting Li<sup>1</sup>, Sijia Jiang<sup>1</sup>, 博士 Ran Chen<sup>1</sup>, Jing Zhao<sup>1</sup>, Xi Zheng<sup>1</sup>

<sup>1</sup>Beijing Forestry University, Haidian district, 中国

Poster Presentation Stockholm Block 2, Stockholm, September 29, 2023, 12:00 PM- 1:00 PM

## **Biography:**

*Sijia Jiang is pursuing a B.E. degree in Landscape Architecture at Beijing Forestry University, focusing on the application of intelligent technologies in landscape architecture and digital landscapes.*

*Sijia Jiang was awarded the China National Scholarship for 2021 and 2022, and she also holds two national patents and some competition results.*

As one of the most important components of the human living environment, the green space system contains parks and green areas, and plays a balancing role in the game between urban economic development and ecological construction. Parks are one of the resources with the largest proportion and most critical role in urban ecological construction and green infrastructure. Most of the functional areas in the green space system can be found in the city parks, so the plan layout of the parks also reflects the planning of the green space system to a certain extent. Reasonable arrangement of the location of each layout element in the park can better provide the comprehensive service function of urban green space and enhance people's health and well-being.

Artificial intelligence algorithm-driven generative design is the current frontier area in habitat planning and design. One of the emerging areas is the application of generative adversarial networks, which empowers artificial intelligence algorithms to create capabilities. In the past studies, the research objects were buildings, settlements, campuses, etc. with a rigorous layout logic. In contrast, urban park is a complex object with weak layout logic, free form and multi-functional composite, which poses a higher challenge to the design capability of artificial intelligence.

We construct an intelligent design process for urban park floor plan design based on generative adversarial networks, and deeply explore the characteristics of different algorithms and their generative design capabilities. In this study, we first construct a park plan dataset and train the computer to generate a complete urban park layout scheme based on the city base conditions; then we explore the generation capability of the algorithm through the fast design of four special layout schemes of planting, structures, buildings, and pavement plazas.

## Poster Presentation

The results show that the unsupervised training-based machine learning algorithm can deeply acquire landscape garden planning and design features, and its intrinsic features of the algorithm are intrinsically related to human planning and design experience. The present research results broaden the scope of application of artificial intelligence in design disciplines and help realize a new level of interaction between designers and artificial intelligence.

### Keywords

Automatic design; AI

## Living with Natural Disasters in Tohoku, Japan

**Ms Eleni Mente**<sup>1</sup>, Mr Yuhei Nakajima

<sup>1</sup>Element Hub, London, United Kingdom

Poster Presentation Stockholm Block 2, Stockholm, September 29, 2023, 12:00 PM- 1:00 PM

### **Biography:**

*Eleni is a landscape architect and founder of Element Hub. She has 19 years of experience in a broad range of projects with a focus on sustainability, resilience and ecosystems. Eleni holds her MSc from Sheffield University, UK and she is a Daiwa Foundation small grant awardee.*

Natural disasters are becoming even more severe due to climate change. Consequently, the need for more sustainable, regenerative design proposals in landscape architecture projects and adaptive planning is more urgent than ever before. We visited the Aomori, Iwate, and Miyagi prefectures in Japan, which were affected by the Great Eastern Earthquake and the tsunami that hit the Tohoku area in 2011 to have a broad understanding of the post-tsunami reconstruction methods, and their impact to the coastal communities. The leading policy to post-disaster recovery was to reinforce the existing flood defense schemes. However, the Miyagi Prefecture implemented an alternative plan by using nature-based solutions to restore natural ecosystems, recycle materials and prevent a future flooding by creating the Great Forest Wall and a wider masterplan proposal, the Millennium Hope Hills. The green 'wall' is a collaborative project between the local authorities, professionals and volunteers and the planting method applied is based on Prof. Akira Miyawaki's concept of Potential Natural Vegetation of the area. The focus of our research is the Millennium Hope Hills project, part of a wider, landscape-led masterplan approved by the mayor. Apart from the site visits, we interviewed key decision makers, officers from Iwanuma City, people from non-profit organisations and the leader of the local community. Also, questionnaires were distributed, and the responses shed light on the residents' needs and their views on the post-disaster mitigation measures. The analysis of the data revealed that, even though the reconstruction approach was different between the three prefectures, the coastal communities have common demands when it comes to mitigation measures. Key factors such as diverse policies, land ownership difficulties, local groups decision-making power, and the distinctive topography of each area, informed the reconstruction methods. The results illustrate that the obligation to protect the coastal communities from future flood events needs to be mirrored through design proposals which reflect the wish of memory keeping, respect the human need of belonging and prioritise the connection to nature and the sea. We concluded that those needs have no borders, are universal and should be included as key principles in disaster mitigation projects.

**Keywords** resilience, forests, communities

# The Efficiency Revolution in Landscape Design: AI-Assisted Workflow Tools

**Dr Jing Zhao**<sup>1</sup>, Dr Ran Chen<sup>1</sup>, Mengyuan Han<sup>1</sup>, Miss Zhengqi Han<sup>1</sup>

<sup>1</sup>Beijing Forestry University, Beijing, China

Poster Presentation Stockholm Block 2, Stockholm, September 29, 2023, 12:00 PM- 1:00 PM

## **Biography:**

*Associate Professor of Landscape Architecture, Beijing Forestry University. Deputy Editor of Landscape Architecture Journal. Deputy Director of Chinese Landscape Thought Research Center. Vice Head of Academic Department of Education Committee, Chinese Society of Landscape Architecture. Researcher of Urban Ecological Environment Lab and Beautiful China Human Settlement Ecological Environment Res.*

Humanity is in the midst of the fourth industrial revolution, powered by advances in computer technology such as complex algorithms and massive computing power. Every industry is exploring how to integrate artificial intelligence (AI) into their research and work, creating innovative human-machine collaboration models. In the past century, landscape design has gone through stages of manual, CAD, and parametric design. Now it is entering a stage of alignment with AI, requiring new logic and creativity.

One of the biggest challenges for landscape design in intelligent research and application is the difficulty of quantifying and explaining design content with computer algorithms, due to its flexibility and complexity. Can AI be an opportunity for design innovation? How can AI and landscape designers work together? These are topics that all designers should study and think deeply about.

To address this dilemma, we used generative algorithms from machine learning to train over 7,000 mature design schemes from around the world, enabling the algorithm to learn from human designers' experience. We developed "Design Superman" - Landscape GAN series models. Furthermore, we combined them with traditional digital analysis methods such as big data and parametric design, and developed a full-process intelligent design workflow. The workflow consists of four modules: site analysis, real-time rendering, scheme calculation, and real-time adjustment. This is a mature and complete human-machine collaboration workflow that introduces AI technology and is also a complete set of tools.

This research is the first to apply AI to landscape design, achieving an exploration of new productivity and production forms represented by AI in the field of planning and design. In summary, we built a computer-assisted full-design process system for planning and design content, which can be applied by various roles such as designers in many scenarios. It helps designers quickly get scientific solutions based on big data, reduces meaningless work, improves concepts and indicators. We hope

this research can inspire researchers to rethink computer and design disciplines, as it combines computer creativity with human cognition, contributing to creating new collaborative modes between them. With this research achievement, we can encounter countless future forms of design.

## **Keywords**

AI; Generative design

# Cross-regional Landscape Collaboration Based On 3D Real Scene Technology

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Poster Presentation Stockholm Block 2, Stockholm, September 29, 2023, 12:00 PM- 1:00 PM

## **Biography:**

*Master of landscape architecture, Tsinghua University, Senior Engineer, Registered Urban Planner, Council member of Planning and Design Branch of Chinese Society of landscape architecture, Director of Tsinghua Tongheng Urban 3D Realistic Research Center*

Due to limitations in spatial perception and visual performance, the 2D Digital Geographic Information System cannot meet the requirements for visualizing urban management information. In the past decade, based on the development of 3D laser scanning, photogrammetry, and drone technology, the 3D real scene technology has been widely applied in industries such as emergency command, homeland security, urban management, and real estate taxation. Facing the needs of cross regional landscape construction, management and operation, landscape architects have also applied this emerging technology in practice, to achieve collaborations in multiple professional fields. Traditional 3D technology is mainly applied to the visual expression of the final renderings in the planning and design process of landscape architecture. But 3D real scene technology is a digital representation of the physical and functional characteristics of material objects. It can visualize the data of the 3D model through processing of the plane, elevation, texture, color and other information about the image, realize the 3D real scene construction of the site, and reflect the real site landscape. It is not only a digital modeling technology, but also a method and process for project implementation. The digital model itself also serves as a shared knowledge resource of landscape architectural information, forming a credible digital basis for describing the whole life cycle of the landscape architecture project. The technology effectively breaks space, region and time constraints, and transmits the required geographic information to landscape architects, developers or government departments. Taking 3D real scene data as the carrier, establishing 3D digital green space can improve the level of urban planning, construction, management and public service. The government, investors, landscape architects and citizens can share the technology to support and protect the sustainable development of cities. The research summarized the application of 3D real scene technology in the planning, design and management of landscape projects, demonstrated the technical advantages in multiple application scenarios related to landscape architecture, reflected the application value of this technology in planning, design, con-

struction, operation management, and protection of landscape historical heritage.

## **Keywords**

3D-real-scene, landscape architecture, digital technology

# Forskarparken i Stora Ursvik

**Linnea Bohlin**<sup>1</sup>

<sup>1</sup>Sundbyberg stad, Sundbyberg, Sweden

Poster Presentation Stockholm Block 2, Stockholm, September 29, 2023, 12:00 PM- 1:00 PM

## **Biography:**

*Tengbom in collaboration with Sundbyberg stad. A team of landscape architects from Tengbom has designed and planned the project for the project owner Sundbyberg stad. They will presentate the project.*

In Stora Ursvik, Sundbyberg, a park area has been created on a former military research area. At the top of the area Forskarparken has been built. It is the surrounding areas unifying park. It consist of an slighty undulating topography with pines and lots of rock slabs. The park is nestled among new developments and provides space for play, movement and recreation for residents and visitors. The design of the area takes its starting point in the preservation of existing vegetation, the history of the place and recreating natural green areas. By making few but well-thought-out additions with simple design language and few materials, the natural character is highlighted even more. Several military defenses have been saved as historical traces. The military defenses have been given new roles as barbecue area, viewing area and seating areas through careful design. The naturalistic vegetation units the preserved vegetation areas, promotes biological diversity and facilitates maintenance. The material palette and a consistent design language together with elaborate details give a whole to the project. In Forskarparken, wooden constructions are used to gently sneak functions into the existing environment and adapt the park to the existing topography and defences. We will gladly clarify or complement the material.

In the park the focus has been on:- Adapt to the existing topography - Be able to minimize rock shaft - Preserve as much nature as possible - Light wooden constructions - Possible to restore - Minimal footprint - Carbon friendly- Support biological diversity - Meadow - Habitats for birds and insects - Site specific solutions - Minimize maintenance- Inform the visitors to raise awareness about nature habitats in the park.

## **Keywords**

Historical, nature, playground

## **Design project**

# Passing

**Mrs Alexandra Schulze**<sup>1</sup>

<sup>1</sup>Swedish University of Agricultural Sciences, Uppsala, Sweden

Poster Presentation Stockholm Block 2, Stockholm, September 29, 2023, 12:00 PM- 1:00 PM

## **Biography:**

*Master Student at Swedish University of Agricultural Sciences*

This project presents a fictional graphic novel about a monument by the shore of the Baltic Sea in Kalmar, Sweden. The novel tells the story of one place at different points in human history, where the constantly present sea is slowly rising due to climate change. With a temporal monument that manifests the ephemeral sea-shore, the focal point is our experienced understanding of time and our personal connection to place. The monument is built with local clay and burnt to terracotta stone slabs. With time, it will crumble into the water. Using the changing sea as a measure of change and the passing of time, Passing becomes a medium to reach and communicate emotions that often are difficult to comprehend. Due to climate change, sea levels in the south of Sweden are rising, and extreme weather will become more common. As a consequence, coastal flooding will cause erosion, loss of land, and destruction of our built environment (Hieronymus & Kalén 2022). The issue of losing land is not solely connected to rising sea levels and locality. Drought, heavy storms, and war affect homes, livelihood, and relations worldwide. Adapting to change demands us to understand the issue, and before acting we need to process the effects it will inflict on us.

The local narrative of a place Imagining future situations and landscapes is difficult without an establishing narrative. By using an accessible format as a comic we can send a message of how to become more aware of places that moves and connects us. The monument can be built in several places globally, with local narratives describing the development of the site in comic form. Starting with a setting and manifesting it with architecture, the place itself is celebrated while an important point of reference is created for future generations. The storytelling of a landscape can connect the community and practicing landscape architects to discuss our future environment.

## **Design project**

# The wings of Vårberg

## **Alice Örnö Ax**

1Kragh & Berglund Landskapsarkitekter AB, Stockholm, Sweden

Poster Presentation Stockholm Block 2, Stockholm, September 29, 2023, 12:00 PM- 1:00 PM

### **Biography:**

*Alice is a landscape architect at Kragh Berglund, educated at Chalmers and UMA. She has a great interest in cities, public places, and urban planning. Recently, she extended her skills of public art and artistic approaches at the interface between urban planning, art, architecture and design at Konstfack.*

In Vårberg, two pedestrian tunnels are being demolished to make room for urban development. We propose to recycle the triangular prefabricated concrete retaining walls, so called wing walls, that hold back the slope at the mouth of the tunnels. The wing walls are then reconfigured into a garden of ideas, a public garden in proximity to Vårberg Centrum.

The Stockholm suburb Vårberg was constructed during Sweden's record years in the late 60s. It is characterized by very consistent separation of car and pedestrian traffic. Where the two systems cross, tunnels have been built. The idea behind this was safe intersections and green, car-free neighborhoods with homes for all Swedes. Today the traffic-separated cityscape has been heavily questioned for many years. Still it is important to remember that the original intention behind it was security and equal opportunity, values that although they might have taken on a different meaning are of equal importance today.

The garden of ideas is placed in a green corridor connecting Vårberg Centrum and nearby sports-fields. Instead of pushing earth back, the wing-walls are now embracing it, with lots of flowering and fruiting plants to bring lushness and biodiversity. The garden has informal seating and can be used by the public or by associations, for meetings, as an outdoor classroom, debates and recitals, performances, or simply as a beautiful garden to rest in for a minute.

When striving towards building socially sustainable communities that also respond to climate challenges, we need utopian thinking and visionary ideas. The wings of Vårberg proposes to recycle both the physical concrete elements, and the utopian intention with which the "million homes program" was built 60 years ago.

### **Keywords**

Community, recycling, placemaking

### **Design project**

# Substantially green

## **Mr Anders Mårsén**<sup>1</sup>, **Ms Ellen Sundin**<sup>1</sup>

1Landskapslaget, Stockholm, Sweden

Poster Presentation Stockholm Block 2, Stockholm, September 29, 2023, 12:00 PM- 1:00 PM

### **Biography:**

*Anders is a landscape architect who works in projects at Landskapslaget and teach at SLU, Uppsala. He is interested developing methods for combining nature's processes and people's ideas in sustainable and aesthetically interesting ways. Anders has, together with others, developed Landskapslaget's mission "Det allmänna först".*

For some decades now, 'the dense and green city' has been the ideal of urban design policies in many Swedish cities. But what does the concept really mean? We would argue that the purpose of "the dense" is clear, for the most part: the economic, demographic, and spatial motives seem obvious. However, the true content of "the green" have been less clear. We as landscape architects have an important task to explore and develop what the "green" in the city can be.

In recent years, we have seen a change in attitude. We have worked alongside experts in different projects where we have sought new ways of adding true qualities of greenness to our cities. We have dug into the growing medium, the ecological qualities of the plants, the processes over time, eco system services, educational potential, and sustainable ways of maintenance.

Our conclusion it that we, with the urgency of biodiversity loss and climate change in mind, must act, try, and work, without prestige, together with experts, to find solutions within our planetary boundaries. We would like to run a workshop on this issue together with other landscape architects and experts to share experiences and best practices.

One example is the exploratory mission "Greener housing estates in Fittja". In an outdoor area consisting of plain asphalt, with a garage beneath, new plantations are added in order to provide ecosystem services and benefit pollinators. The growing media consisting of only two parts, crushed brick and gravel, where the crushed brick is a residual product from a brick factory. The innovative plantsman Peter Korn have selected and planted meadow plants and perennials tolerant of dry conditions.

Another project example is the commission to development a strategy for en-



hanced biodiversity in central Jakobsberg, Sweden. New habitats will be created with the aim to establish a new local green infrastructure that connects to larger green infrastructures in the surrounding landscape. The new system can provide different qualities: biodiversity, as well as educational values, eco system services and social qualities. The project is in collaboration with the ecologist Josefina Oddsberg with colleagues from BeeUrban.

### Keywords

Urban green

## True No Net Loss City

**Miss Katariina Väättä**<sup>1</sup>, **Elisa Lähde**<sup>2</sup>

<sup>1</sup>Aalto University, ESPOO, Finland, <sup>2</sup>Aalto University, ESPOO, Finland

Poster Presentation Stockholm Block 2, Stockholm, September 29, 2023, 12:00 PM- 1:00 PM

### **Biography:**

*Katariina is a fresh Landscape Architect. She has a burning interest to include ecological knowledge in her work to tackle biodiversity loss and to create climate resilience and well-being. Currently, she is working as a project researcher at Aalto University in the department of architecture (landscape ecology and planning).*

Due to biodiversity loss, many authorities, such as the European Union, insist on the need to introduce the No Net Loss (NNL) principle in urban development. The Target of NNL is to preserve the current biodiversity with the Mitigation Hierarchy (MH) which is an operating model implementing NNL by 1. avoiding 2. mitigating/restoring and 3. offsetting biodiversity losses caused by urban development. This process reveals the cost of destroying natural areas and it has been regarded as a promising tool for tackling biodiversity loss. However, NNL has been created in the context of nature conservation, and its application to urban planning as a process of developing and designing urban areas to meet the needs of a community, is not without problems. In this presentation, we argue that landscape planning can operate as a facilitator between two logically different approaches of MH and urban planning. The presentation introduces the three concepts and reviews them from a comparative and connecting perspective. As MH has still very few real-life applications in urban settings, the theoretical approach of our presentation is well justified. Landscape planning can offer tools for on-site mitigation and lead the encounter of nature values and urban development. For example, preserving the hydrological cycle in a construction site requires an understanding and management of local ecological processes which is a typical landscape planning task. Further, landscape planning considers multifunctional ecosystem services delivery of the urban green structure thus including social aspects important for urban planning. Finally, we present that a change of mindset from traditional approaches to systems thinking will enhance the operability of MH. Urban areas need to be considered as a complex multifunctional social-ecological system where the biophysical environment and social factors interact in both negative and positive ways. The unique feature of the green structure is its ability to produce several environmental, social, and economic benefits in a regenerative way while simultaneously improving the capacity to tolerate the impacts of climate change meaning increased urban resilience globally and locally. To truly create an NNL city that improves both social-ecological resilience and biodiversity, approaches of landscape planning are needed.

**Keywords** No Net Loss

# Linescapes

**Ms Emelie Lenning**<sup>1</sup>

<sup>1</sup>SLU, Uppsala, Sweden

Poster Presentation Stockholm Block 2, Stockholm, September 29, 2023, 12:00 PM- 1:00 PM

## **Biography:**

*Emelie Lenning is a landscape architect student finalizing her master's at the Swedish University of Agricultural Sciences (SLU) in Uppsala. She believes in experimental methods and finding new approaches to better meet the issues of climate change.*

Linescapes is an experimental, investigative zine in the field of landscape architecture that brings influences from pop culture and its way of communicating information. The zine is an attempt to approach complex climate problems and turn them into creative, enticing entertainment in order to increase engagement.

The idea of Linescapes is to observe the landscape through the lens of lines, mainly because that is how Western culture has perceived, designed and planned the world. However, as the world is changing more rapidly, lines will do so too. Still, we act as if the lines in the landscape are permanent, almost as static shapes. Despite our perception, climate change will increase the pace of a changed landscape. By highlighting the lines, they become easier to question and investigate, which turns into a communicative approach in itself.

The zine is divided into three parts: Understanding, Investigating and Adapting. The first part questions the lines linked to a specified climate issue from a philosophical and theoretical point of view (issue #1 examines sea level rise), the second part investigates the physical line through experimental methods, and the third introduces a local place with proposed landscape architecture adaptations.

In each issue, the zine investigates a local area linked to a local climate issue to see how an experimental approach rooted in the lines can solve global climate issues. The first issue presents investigations and adaptations in Kalmar. Kalmar is a city in the south-eastern part of Sweden that experiences an increased concern for rising sea levels. By suggesting implementations adapted for this matter, a global effect can later be realised in similar places that suffer from equivalent issues.

## **Keywords**

experimental, magazine, lines

## **Design project**

# City In The Forests

**Mr Wenwu Du**<sup>1</sup>, Mr Haiyang Wang<sup>1</sup>, Miss Lamei Qing<sup>1</sup>, Miss Bailu Deng<sup>1</sup>, Mr Jingren Zhou<sup>1</sup>, Mr Songlin Sun<sup>1</sup>, Mr Zheng Li<sup>1</sup>, Mr Yuhang Wu<sup>1</sup>,

Miss Miao Sui<sup>1</sup>, Mr Zhiyuan Li<sup>1</sup>, Mr Shixiang Yu<sup>1</sup>, Miss Wenxin Du<sup>1</sup>, Miss Jie Yu<sup>1</sup>, Miss Xiaoying Ran<sup>1</sup>, Miss Yao Hu<sup>1</sup>, Mr Lang Yuan<sup>1</sup>, Miss Qiyao Pu<sup>1</sup>, Miss Can Yuan<sup>1</sup>, Mr Weicong Shu<sup>1</sup>

<sup>1</sup>Department Of Landscape Architecture, College Of Horticulture And Landscape Architecture, Southwest University, Beibei, China

Poster Presentation Stockholm Block 2, Stockholm, September 29, 2023, 12:00 PM- 1:00 PM

## **Biography:**

*Du Wenwu is an associate professor, head of the Department of Landscape Architecture, College of Horticulture and Landscape Architecture, Southwest University, China. He got his doctor degree from Chiba University, Japan. He studies landscape planning & design and spatial governance, particularly protected areas with their adjacencies.*

Maximizing the social and ecological benefits of urban forests within land constraints presents a challenge for cities facing high population density, the protection of farmland, and expanding development. This project optimizes the forest spatial network through cross-scale coupling and a combination of bottom-up and top-down approaches, planning for localized themed forests and trail systems. Research on regional forest habitats will utilize nature-based solutions to inform plant selections to facilitate a natural forest habitat construction. Initiatives will promote corporate participation in terms of initial construction and public participation through community build projects and future recreation. PROJECT DESCRIPTION How to ensure the health and efficiency of green space under the premise of ensuring the demand for construction land and agricultural land in Chengdu, a high-density city, is an arduous challenge. In the context of a growing global population, it is also an international problem.

## **Keywords**

Forest; Plan; Habitat

## **Design project**

# The Sharing Nature of Pocket Parks under Urban Renewal

**Ms Mengying Tang<sup>1</sup>**

<sup>1</sup>College Of Architecture And Urban Planning, Tongji University, Shanghai, China

Poster Presentation Stockholm Block 2, Stockholm, September 29, 2023, 12:00 PM- 1:00 PM

## **Biography:**

*Doctoral student at Tongji University, majored in Architecture Design and its Theory. She has been working as an Architect at Sasaki from 2018 to 2022. She holds a Master of Science degree at Columbia University (2018), and a Bachelor's degree in Architecture at Xi'an University of Architecture and Technology (2017).*

In recent years, urban renewal has become the main direction of China's urban development. In this context, many small-scale pocket parks have been gradually added in cities to enhance the image of the city, strengthen the vitality of the city and improve the quality of citizens' life. As part of the urban public landscape, pocket parks can serve the surrounding residents and beautify the community environment, as well as provide public interaction, leisure and entertainment, cultural display and other functions, greatly revitalizing and enhancing the space of unused and reused land in the city.

Pocket parks have five typical characteristics: small scale, specialized function, close distance, active space and high efficiency, and their types can be divided into crossing blocks, in the center of one block, and in the corner of one block. During the design of pocket parks, public participation methods such as social media, resident participation and collaborative disciplines can be used to make space users also become space designers, thus making pocket parks a true urban public space for the people. Meanwhile, by sharing the space of pocket parks in two ways, which are Sharing by time and Sharing by Differentiation, the possibility of expanding from group sharing to overall sharing can be realized, thus improving the social equity of urban public space.

The study analyzes the influence of pocket parks as urban micro-public spaces by summarizing the types and characteristics of them; explores the social value and cultural significance of pocket parks by combining various methods of introducing public participation in the design process; analyzes the sharing nature of pocket parks and summarizes how landscape design should realize the vision of urban renewal.

## **Keywords**

Public Participation, Sharing

# NEW SPACE: DESIGN GUIDELINE LIVEABILITY OF PUBLIC SPACE

**Mr Michiel Van Driessche<sup>1</sup>**

<sup>1</sup>Felixx Landscape Architects And Planners, Rotterdam, Netherlands

Poster Presentation Stockholm Block 2, Stockholm, September 29, 2023, 12:00 PM- 1:00 PM

## **Biography:**

*Michiel is a landscape architect and founding partner of Felixx Landscape Architects & Planners. He has a strong focus on environmental challenges and specializes in strategic planning. His strength as a designer lies in spatial research and large scale planning projects, as well as in complex public space projects.*

NEW SPACE is an inspiration document for a new kind of public space with less space for parked cars and bicycles and more space for green, sports, play and social interaction.

It suggests a design method in which mobility is no longer normative but where accessibility, safety, perception, health, social interaction, ecology, climate adaptation, economics and cultural history together make up the street.

Leave no one behind - The starting point of the guide is the street, where the human scale is most prevalent. In order to design streets for people, it is important to rethink the street as "a shared space," a public space for people rather than a mere functional connection from point A to B. The guide shows which dimensions are necessary for a high-quality public space and helps the conversation with inhabitants about the opportunities for a better quality of life in the streets, the neighborhoods, the city and villages.

When cars no longer are the dominant factor in our streets, valuable public space can be used for climate adaptation, biodiversity, emission reduction and safety. By naming these ten dimensions at the outset, a new balance between all these interests is created.

The City Council of Groningen approved the guideline for recognizing mobility and public space throughout Groningen.

## **Keywords**

Streets for People

## **Design project**

# TRAPPARKEN - A STAIR TO LONG UP

**Jenny Andersson**<sup>1</sup>, Sara Vikstrand<sup>1</sup>

<sup>1</sup>Tengbom, , Sweden

Poster Presentation Stockholm Block 2, Stockholm, September 29, 2023, 12:00 PM- 1:00 PM

## **Biography:**

*Jenny Andersson is a Landscape architect with 15 years in the profession. Jenny works with both concept and masterplanning as well as detailed design. A key skill of Jenny's is the ability to identify early on both design and function issues from a landscape perspective.*

Just outside of Stockholm's city centre, the new neighbourhood of Tollare is emerging. We were given the task to develop a long and narrow strip of land, which runs from Tollare square on top of the hill down to Hamntorget, Harbour square down by the water. How do you design a park with a height difference of 35 meters including a series of flights of stairs between houses that do not yet exist so that it becomes space appreciated by the residents and an exciting destination for excursions? We wanted to turn this challenge into a real experience for visitors.

We studied the movement of the sun across the park in a new and unusual way. We based our design on how the light spreads when it is time to go to work, when you would want to have a picnic lunch, an afternoon ice cream or go for an evening walk. We try to take advantage of the daylight as much as possible.

When you move through the park, there are interesting details to look at. The concept for the stairs takes you on a journey from the water to the forest or the other way around. The vegetation climbs up the angled walls from raised beds. Multi-functional design was a large part of trying to find the solution, to find elements that could fulfil many requirements and that did not disturb either the overall impression or the views. This is compact living – the park version.

To turn Trapparken into something else, we needed to try to imagine what it would feel like to move about there. How do you invite people to ascend? How can we meet in new and more inclusive ways? What could we expect in the way of surprises?

## **References**

<https://tengbom.se/projekt/trapparken/>  
<https://landezine.com/trapparken-by-tengbom/>

## **Keywords**

INCLUSIVE MEETING PLACE

**Design project**

# NAIROBI

\*Session times stated in CET time

# 28 SEPTEMBER

## Harnessing Indigenous Knowledge & Participatory Planning

## The Promoting Effect of Mass Media on Participatory Landscape Revitalization

**Xiyao Zhao**<sup>1</sup>

<sup>1</sup>School of Landscape Architecture, Beijing Forestry University, Beijing, China

Harnessing Indigenous Knowledge & Participatory Planning, Nairobi, september 28, 2023,  
15:00- 16:00

### **Biography:**

*ZHAO Xiyao is a Ph.D. candidate of landscape architecture, Beijing Forestry University. Her research focuses on participatory landscape revitalization, and historical urban landscape, regional landscape change in pearl river delta, China.*

Citizen participation is regarded as the bedrock for good urban renewal practice. However, public participation in current urban renewal initiatives remains poor. Citizens' awareness of participation is low, accompanied by a general lack of background knowledge. The degree of participation is mainly superficial and lacks depth. Some urban renewal actions fail to form social consensus due to the neglect of citizen participation and information disclosure, which in turn leads to public dissatisfaction and even resistance.

Therefore, how can we promote public participation? The process of engaging people may be more important than the specific planning strategies themselves. Professionals also need strong and powerful communication tools for the public. Mass media has the ability to influence human perceptions and behaviors, but its role has been overlooked.

Our observations and practical work experience show us a considerable amount of coverage of participatory urban gardening projects in Chinese mass media. Surprisingly, people who had seen the news coverage also contacted the designer to express their desire to participate and invited the designers to lead their local community garden construction.

This study aims to arouse professionals' attention to mass media and promote interdisciplinary cooperation through empirical evidence. By observing the performance of participatory urban gardening projects in Chinese newspapers, we highlight the positive effect of mass media on participatory landscape revitalization. We selected two projects in China as samples, collected newspaper reports on them during 2017–2021, and analyzed the textual framing and report communication based on communication theory. According to the result, we present four promoting effects: reducing the cost of information acquisition for the public, increasing the public's perceived knowledge and sense of efficacy, empowering participants, and providing access to know public attitudes. These four promoting effects not

only affect the public, but also contribute to participatory landscape revitalization by influencing other participants. Based on the results, we discuss the consistence of views of the mass media and landscape architecture. This study suggests that landscape architecture needs to actively collaborate with public media to better leverage the role of landscape in sustainable urban transformation.

### Keywords

public-participation; communication; urban-renewal

### Visual material

## Puqian-town restoration suggestion based on local residential sense of place

**Dr Huaiyue Liang**<sup>1</sup>, Ms Dan Li<sup>1</sup>, Mr. Hansong Xue<sup>1</sup>, Dr. Biao Huang<sup>2</sup>

<sup>1</sup>Hainan University, Haikou, China, <sup>2</sup>International Centre for Bamboo and Rattan, Beijing, China

Harnessing Indigenous Knowledge & Participatory Planning, Nairobi, september 28, 2023,  
15:00- 16:00

### **Biography:**

*Dr. Liang Huaiyue, Chinese, graduated from Beijing Forestry University, lecturer of Hainan University since 2019. Research field: History and theory of Landscape architecture. Hosting one national social science project. Presenter of sub-forum in 58th IFLA Congress Korea.*

The Puqian Town, established in 1895 and thrived in 1919-1930, was an important trade port for the Wenchang region in Hainan Island, China. It is a historic district with unique mixed-culture features. The characteristic of buildings facade with corridors (known as Qilou building) along the main street has formed from the frequent trade activities with cities in South Asia and Kantong China Mainland. But since millennium, it has become a place left behind because of the changing location of the main port in the region. To resume regional economy, to promote the trade culture and local customs, it is advisable to ask the opinion of local residents. The remaining local people know the best of their hometown. And the residents should not be only considered as the last one to be noticed for any restoration plan from officials.

To examine the residential sense of place in Puqian, this study conducts 48 depth interviews and 100 questionnaires. Using the NVivo 12 data analysis, the survey indicates that there are six core categories affecting the sense of place among Puqian residents: local culture, traditional elements, basic needs for living, official information from local government, future development opportunity. Those six core categories can separate into fourteen sub-theme factors. Among them, the local culture and traditional elements have a positive impact on the continuation of residents' sense of place, while unreasonable government measures and inadequate infrastructure condition are the leading negative forces.

Based on the Puqian residential sense of place, the strategies to restore and utilize the material and intangible cultural heritage of Puqian Town is deducted. For the physical aspects, it is crucial to motivate the community participation, and at the exact locations mentioned by residents, carefully preserve the surrounding natural context, repair historical buildings focusing on authenticity, improve basic infrastructure, activate traditional public space. In the cultural aspects, it is suggested to

use new media platform, apply local traditional elements, and make regional tourism initiative, etc.. This study can serve as an good example for restoration of historic district to form equitable landscape for both citizens and visitors.

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## Keywords

sense of place

# Shepherdism in revitalisation of Bełchatów coal mine environment and Tale of Two Watersheds: Environmental Justice through Gender Equitable Spaces

**Lauren Elachi**<sup>1</sup>, **Mr Jack Campbell Clause**<sup>2</sup>, Franklin Kirimi<sup>2</sup>

<sup>1</sup>Kounkuey Design Initiative, Los Angeles, United States, <sup>2</sup>Kounkuey Design Initiative, Nairobi, Kenya

Harnessing Indigenous Knowledge & Participatory Planning, Nairobi, september 28, 2023,  
15:00- 16:00

## Biography:

*Jack Campbell Clause, Senior Design Principal, and Franklin Kirimi, Senior Associate, lead participatory design and planning projects in the KDI Kenya office. Lauren Elachi, Senior Design Principal, leads urban planning and park-related work for the Los Angeles KDI office. All three are landscape architects committed to equity in public space.*

No matter the geographic context, landscape architects and planners often find themselves grappling with overlapping and systemic ecological, spatial, social, and political inequities. Drawing on our cross-disciplinary work along the Ngong River , Nairobi (Kenya) and at the Salton Sea in the Eastern Coachella Valley, California (USA), Kounkuey Design Initiative (KDI) will lead a discussion that focuses on our participatory design process as a pathway towards dismantling the status quo method of operating, which leaves so many behind. Though starkly different in their contexts, these two places share many of the same qualities - decades of governmental disinvestment, environmentally degraded watersheds, lack of basic infrastructure and services; and yet these places are home to vibrant and entrepreneurial communities. We will use our work to pull out these common threads and illustrate how our approach has resulted in landscapes that reflect and serve the diverse communities that surround them, build communal power, and catalyze action towards a more just public realm.

From the scale of the pavement to that of the watershed, this discussion will help practitioners build their own frameworks for approaching participatory design in their own contexts and work. Through the lenses of gender equity and nature-based solutions, we will explore how action-based research, planning policy, and on-the-ground built projects can work together towards the goal of equitable and productive public spaces. With an emphasis on our transdisciplinary approach, we will illustrate how partnerships across multiple sectors strengthen and build new working models within the profession and the communities we work in.

Experts from both the American and Kenyan contexts will provide further nuance and detail on the context-specific histories and political realities of these two places, and how deliberate methods of participation and co-design have built gender equity within landscape design and planning projects. Rooted in a belief that landscape architects can and must be agents of social, environmental, and political change, our discussion will provide concrete examples of how to approach projects in ways that elevate the voices of those often left out of design and planning processes, resulting in spaces that benefit everyone.

### Keywords

equity, participation, gender

## IFLA 75 cultural landscapes: combined works of nature and humanity

### Ms Patricia Odonnell<sup>1</sup>

<sup>1</sup>Heritage Landscapes LLC, Charlotte, United States, 2ICOMOS IFLA International Scientific Committee on Cultural Landscapes, , Global Committee

Harnessing Indigenous Knowledge & Participatory Planning, Nairobi, september 28, 2023,  
15:00- 16:00

### **Biography:**

*Patricia M. O'Donnell, FASLA, AICP, F.US/ICOMOS, preservation landscape architect and urban planner, founded Heritage Landscapes LLC in 1987 and serves as president of the ICOMOS IFLA International Scientific Committee on Cultural Landscapes. A World Heritage expert, she has led the evolving practice of cultural landscape works for 40 years.*

Over the decades IFLA members and committees have made contributions to the emerging, evolved and maturing field of cultural landscape. From IFLA's beginnings in 1948 aspects of cultural expression in landscapes were included in the constitution. In this presentation the evolution of these contributions and the progress of the cultural landscapes realm will be tracked highlighting key points that created shifts and embraced new directions. The 1971 founding of the ICOMOS IFLA International Scientific Committee on Cultural Landscapes is one such important shift as it recognized that places shaped by landscape architects were a worthy focus for research, learning, and efforts to preserve the inherited master works of society and great landscape architecture. From elite beginning the field of cultural landscapes broadened. That growth and increased realm of interest was captured in the 1992 World Heritage Committee inclusion of three types of cultural landscapes- defined, evolved and associative, for inclusion onto the World Heritage list. The 21st century vectors of resilience, inclusion, biodiversity, carbon drawdown, and the climate emergency have shifted the directions for cultural landscape preservation. In recent years that work acknowledges Planetary Rights recognizing all life on earth as valuable and important for today and the future. A Planetary Rights perspective can yield works that combine bio-cultural diversity and climate action for resilience honoring our heritage of landscape architectural works while adaptively managing them for a vibrant future. This presentation will highlight the people, concepts and professional contributions that have evolved to bring forward the paths of IFLA on cultural landscapes.



## References

World Heritage Operational Guidelines, cultural landscapes.  
ICOMOS IFLA ISCCL 40th Anniversary booklet.  
ICOMOS IFLA ISCCL 50th Anniversary proceedings.

## Keywords

culture bio-cultural diversity

# Harnessing Collective Power for Sustainable Urban Development: A Collaborative Model from Nairobi

Harnessing Indigenous Knowledge & Participatory Planning, Nairobi, september 28, 2023,  
15:00- 16:00

We present the Nairobi Placemaking Network, a collaborative alliance of diverse organizations in the built environment sector. By leveraging collective expertise and resources, this network addresses urban challenges, advocates for improved public spaces and policy, and fosters a sense of community and ownership among Nairobi's residents.

Nairobi's rapid urbanization poses challenges and opportunities for sustainable urban development. A collaborative approach can address complex issues arising from urbanization and create livable, resilient, and inclusive cities. The Nairobi Placemaking Network, a strategic alliance of various organizations, leverages collective expertise and resources to make a lasting impact on the urban environment. The network includes the Public Space Network, UN-Habitat Global Public Space Programme, Safer Nairobi Initiative, Architectural Association of Kenya, Naipolitans, Trust for Indigenous Culture and Health, Kounkuey Design Initiative, Women in Real Estate, and The GoDown Arts Centre. Each organization contributes unique strengths and expertise in aspects of the built environment, such as urban planning, design, safety, and public engagement.

The network aims to:

1. Strengthen advocacy efforts for improved urban policies prioritizing people and public spaces.
2. Organize annual "Placemaking Week" events, engaging stakeholders and communities in creating vibrant, inclusive, and sustainable public spaces.
3. Collaborate on pressing urban issues in Nairobi, leveraging the collective power to develop innovative solutions.

Our collaboration provides:

1. Enhanced collective impact, amplifying advocacy efforts and influencing policy decisions.
2. Knowledge exchange, fostering knowledge sharing and cross-pollination of ideas.
3. Resource optimization, maximizing the impact of pooled resources and efforts.
4. Community engagement, allowing local communities to participate in decision-making processes.

By presenting this collaborative model at the IFLA World Congress, we aim to share our successes, challenges, and lessons learned with a global audience, promoting dialogue on collaboration in creating sustainable and inclusive urban environments. This partnership can inspire other cities and organizations in the built environment

sector, demonstrating the potential of collective action to drive positive change.

## Nature Based Systems

# Soil and Water Bioengineering as Natural Based Solutions beyond Frontiers

**Ms Paola Sangalli**<sup>1</sup>, Mr Federico Preti<sup>1</sup>, Mr Crocetti Cesare<sup>1</sup>

<sup>1</sup>EFIB/Sangalli Coronel y Asociados S.L, San Sebastián, Spain

Nature Based Systems, Nairobi, september 28, 2023, 15:00- 16:00

### **Biography:**

*Biologist and Landscape architect President of the European Federation of Soil and Water Bioengineering EFIB [www.efib.org](http://www.efib.org) Partner and Executive Director of SCIA SL, Sangalli Coronel y Asociados SL, [www.sangallipaisaje.com](http://www.sangallipaisaje.com) Professional activity and experience in ecological restoration, landscape and garden design and in Soil and Water Bioengineering*

There is growing recognition that nature can help provide viable solutions that use and deploy the properties of natural ecosystems and the services that they provide in a smart, ‘engineered’ way. Soil and Water Bioengineering are Natural Based Solutions offer sustainable solutions to cope with climate change mitigation and adaptation challenges and are effective not only in normal but also in extreme situations such flooding or landslides .

According to the European Federation of Soil and Water Bioengineering (EFIB), Soil and Water Bioengineering is a specific discipline that combines technology and biology in which native plants and plant communities are used as living building material to solve erosion and conservation problems, contributing to the regeneration of degraded ecosystems due to natural or anthropic causes, to regenerate the dynamics of ecological and geomorphological processes and to the recovery of Biodiversity.

The term “Engineering” refers to the use of technical and scientific data for constructive, stabilization and erosion control purposes and “bio” because the functions are related to living organisms, mainly native plants with biotechnical characteristics and with the purpose of restore ecosystems and its biodiversity

It is a discipline that requires a holistic vision shared by different professionals, from civil engineers, hydraulic engineers, forestry engineers, architects, ecologists, and landscape architects.

In recent years, EFIB have initiated what we have called “Bioengineering without borders”, with collaborations in Africa (Ethiopia, Burundi) and in Latin America (Brazil, Argentina, Colombia...) by organising courses and practical workshops in collaboration with local entities, in order to promote the use of these techniques ,exchanging experiences and learning by doing. These techniques require site-specific adaptation that starts from the analysis of the problem to solve, , the selection of indigenous pioneer species and local materials, as well as the necessary training of the local staff.

In these presentation we will show the strategy used to adapt these techniques to situations as different as those mentioned above with concrete examples such as those carried out in Brazil (ten years old) or more recently in Burundi in collaboration with Unagri.

## Keywords

Ecological Restoration, EFIB

# Contributions of Landscape Architecture to metabolic approaches: an evidence-based inquiry

**Dr Sareh Moosavi**<sup>1,2</sup>, Prof Daniela Perrotti<sup>1</sup>

<sup>1</sup>Louvain Research Institute for Landscape, Architecture, Built environment, UCLouvain, Brussels, Belgium, <sup>2</sup>National Fund for Scientific Research - FNRS, Brussels, Belgium

Nature Based Systems, Nairobi, september 28, 2023, 15:00- 16:00

## **Biography:**

*Sareh Moosavi is a post-doctoral research fellow with funding from National Fund for Scientific Research-FNRS, in Belgium. Her research focuses on innovative approaches in landscape architecture to tackle climate change through resource sensitive design. She investigate the synergies between practice, policy and education to prepare designers for complex future challenges.*

In the quest for alternative approaches to managing resources to tackle climate change, the concept of Urban Metabolism (UM) is increasingly becoming relevant to planning and designing green-blue infrastructure in cities. Through a metabolic lens, landscapes and territories are studied as connected open systems or organisms with a metabolism resulting from the interactions between anthropogenic and natural systems. While UM assessment approaches are not widely used by landscape architects, the principles underlying UM is often embedded in systems design thinking. Emerging studies have focused on the need for material-energy flow accounting in spatial planning and design. However, the contributions of design and design practice to UM theory are not fully explored. This research aims to unfold the multilevel contributions of landscape design practice to expanding the UM metaphor, where spatial-temporal aspects interact with social dimensions of distribution and use of resources and their underlying infrastructure.

An analytical framework was developed through the review of literature on UM and landscape/design. This framework was used to examine three case studies in Belgium, where, from the perspectives of the interviewed designers, principles of metabolic thinking in line with sustainability targets were adopted to create resource-sensitive outcomes.

Three projects with different scales and scopes were analysed. 1) Large: Wonderwood near Gent (regeneration of an old airport runway); 2) Medium: Cimenterie Delwart near Tournai (renewal of a former cement factory and open spaces into mixed-use development)., and 3) Small: Church Garden in Weteren (a new neighbourhood green space built at the footprint of an old building).

Results show that the incorporation of metabolic principles in projects is highly linked to the scale and initial design ambitions. Project briefs in large scale public

projects often include minimum sustainability targets. Nevertheless, this allows designers to leverage resource efficiency and circularity in designs and advocate for higher standards. Smaller private projects, on the other hand, require a proactive approach from designers to push for sustainability agendas through evidence, negotiation and communication with the clients. Key metabolic approaches used by designers in the selected projects are discussed in-depth, and contributions of design and design thinking to UM is highlighted.

### Keywords

Metabolism; Resources; Practice

## Nature-based solutions: Addressing biodiversity and climate challenges in urban areas.

**Ms Sharon Ogot<sup>1</sup>, Ms Saba Fazel<sup>1</sup>**

<sup>1</sup>Un Habitat, Nairobi, Kenya

Nature-based solutions: Addressing biodiversity and climate challenges in urban areas, Nairobi, September 28, 2023, 4:00 PM- 5:00 PM

### **Biography:**

*Ms. Joy Mutai is a Landscape Architect. In 2016, she joined UN Habitat's Global Public Space Programme where she leads NBS activities and guides the development of tools and methodologies. She supports cities in conducting city-wide public space assessments, developing city-wide public space strategies and monitoring progress towards S.D.G 11.7.*

### BACKGROUND

55 percent of the global population currently lives in urban areas<sup>1</sup>. Globally, the rate of urbanization has been increasing rapidly, resulting in increased pressure on urban landscapes and creating complex challenges such as biodiversity loss, climate change, and urban pollution. Currently, over 75 percent of earth's habitable land has been degraded with an expected increase if business proceeds as usual<sup>2</sup>. This calls for synergies and knowledge sharing amongst urban practitioners in developing tools and methodologies to regenerate, protect and enhance urban landscapes. Nature-based solutions (NbS) are increasingly recognized as a critical tool for promoting sustainable development, addressing global environmental challenges, and providing socio-economic co-benefits<sup>3</sup>.

### THE ROUNDTABLE DISCUSSION:

UN-Habitat seeks to facilitate a roundtable discussion on the integration of NbS in urban and territorial planning to address biodiversity loss and climate change. The discussion will focus on a series of playbooks, developed by UN Habitat promoting the integration of NbS to address climate change and biodiversity loss issues in urban areas. The playbooks provide a practical, action-oriented roadmap to help cities prioritize, plan for, design and effectively integrate NbS when planning for cities and urban regions, following an incremental approach from site to regional level.

### OBJECTIVES

The discussion seeks to promote conversations on NbS amongst urban professionals, enabling the team to disseminate knowledge and gather feedback on the playbooks.

The discussion seeks to:

- i) Promote knowledge exchange amongst urban professionals.
- ii) Reflect on the success factors of NbS and discuss lessons from NbS practices at

various scales.

iii) Promote networking opportunities to advance the collaborative implementation of NbS.

#### METHOD

UN-Habitat will provide an overview of the playbooks, providing an opportunity for organizations and individuals to provide input. The discussion will promote active interaction between the audience and the facilitators, enabling the exchange of ideas and perspectives on the topic, through a Q&A session. Thereafter, the session will conclude with key messages on the topic.

#### RESULTS AND CONCLUSION

In summary, the discussion will be valuable to practitioners interested in integrating NbS into their practices. The discussion will provide a platform for sharing knowledge, building networks, and identifying opportunities for collaboration.

#### References

1. UN-Habitat, World Cities Report (2022), <https://unhabitat.org/wcr/>
2. EU Science Hub. [https://joint-research-centre.ec.europa.eu/jrc-news/land-degradation-threatens-well-being-people-and-planet-2018-03-28\\_en](https://joint-research-centre.ec.europa.eu/jrc-news/land-degradation-threatens-well-being-people-and-planet-2018-03-28_en)
3. Nature-based Solutions. (2023, April 11). IUCN. <https://www.iucn.org/our-work/nature-based-solutions>

**Keywords** Climate, Biodiversity, Planning

## The Land and Water Dance

# YANKA Project Ressort: When wellbeing culture is expressed on the landscape

## **Mr Bayong Fritz**<sup>1</sup>

<sup>1</sup>BALAZ STUDIO / Cameroonian Landscape Architects & Engineers Association (RIPAC-CALEA) Engi, Douala, Cameroon

The Land and Water Dance, Nairobi, september 28, 2023, 15:00- 16:00

### **Biography:**

*Fritz Bayong is a IFLA landscape architect individual Member .Owner and Director- Balaz Studio, a landscape design agency in Cameroon working in the field of, landscape architecture, environmental design , marine and coastal and territorial planning. One of his recent portfolio projects is the Bafoussam Leisure Park in west Cameroon.*

ISSIMA Ranch is a cultural setting full of history and traditions. It is a natural space on the outskirts of the city of Douala which allows a connection between the city, the Dibamba River and the communities. The Yanka Ressort project, which means bridge in the local language, is a project initiated by the Upper Chieftaincy of Bakoko Canton, Japoma, in the coastal region of Cameroon, which demonstrates how the culture of the local communities can be expressed in the landscape. Our role as landscape architects has been to immerse ourselves in the symbols, customs and habits of their territories, their ideas of development for a sustainable landscape architecture project for the community development of the local populations.

### **Keywords**

Culture,river,landscape,tourism,collaboration,wood

# River and City Park Design in Dar es Salaam, Tanzania

**Ms Josje Hoefsloot**<sup>2</sup>, Mr Remco Rolvink<sup>2</sup>, Mr Berrie Van Elderen<sup>2</sup>, Ms Maria Sachsamanoglou<sup>2</sup>, Ms Eleni Chronopoulou<sup>2</sup>, Ms Stephanie Idon-gesit Ete<sup>2</sup>

<sup>2</sup>DASUDA Dutch Alliance for Sustainable Development in Africa, Dar es Salaam, Tanzania, United Republic of, 2VE-R landscape architecture and urbanism, Haarlem, Netherlands

The Land and Water Dance, Nairobi, september 28, 2023, 15:00- 16:00

### **Biography:**

*Josje Hoefsloot, landscape architect in Dar es Salaam, specializes in river rehabilitation using nature-based solutions. She excels in turning complex assignments into designs. She initiated Nhartanda Verde in Mozambique and works with VE-R, DASUDA, and Africa Wood Grow. She was trained at H+N+S Landscape Architects as a specialist in water-related projects.*

Dar es Salaam, the economic hub of Tanzania, is experiencing rapid transformation due to population growth, urbanization, and infrastructure expansion. However, these developments have also brought challenges, such as floods, inadequate housing, traffic congestion, and environmental degradation.

To address these issues, the Lower Msimbazi Upgrading Project was launched to enhance the resilience of the City Centre of Dar es Salaam. The project focuses on the Msimbazi River and its tributaries, where the city experiences severe flooding, putting lives, properties, and infrastructure at risk.

The consortium was hired to conduct feasibility studies and prepare detailed designs in close collaboration with experts, stakeholders, and the government. Key earthwork insights have been aligned with the City Park development ensuring flood resiliency.

This “green lung’ of the city will provide a public place for people to come together and engage in sports, recreational and cultural activities and events. The park is designed with the environment in mind and mostly features unpaved surfaces with native trees to improve air quality, biodiversity and regional micro-climate. The park caters to citizens, providing a much-needed escape from urban life, a place for festivals, sports, and peaceful moments. The rehabilitated basin will be the first of its kind on the continent.

The Lower Msimbazi Upgrading Project relates to all three subthemes.

Under Leave No One Behind, the project pushed for stakeholder involvement on

all levels through a 'Charette process'. Stakeholders from the highest levels of government to the grassroots of the community, from civil society to the private sector came together to determine how to address the multi-faceted challenges.

Under Act Local, think global, the project uses a site-specific approach to enhance the resilience of the city center of Dar es Salaam, while also considering global effects of climate change. It uses international best practices and knowledge in a multi-cultural (Dutch and Tanzanian) and -disciplinary team.

Under Beyond Borders, the project addresses global challenges, such as floods and environmental degradation, that require joint efforts across borders. Through the spatial framework angles from different experts were integrated, such as geotechnical and civil engineers, ecologists, social safeguard specialists, and others.

### **Keywords**

river-rehabilitation, public park

### **Design project**

## **NORTH BAY BOULEVARD LANDSCAPE RESTORATION PROJECT. VERACRUZ, MEXICO**

**Ms Monica Pallares**<sup>1</sup>, Arch Raul Campero

<sup>1</sup>Mp Larch/ IFLA, Mexico City, Mexico

The Land and Water Dance, Nairobi, september 28, 2023, 15:00- 16:00

### **Biography:**

*Landscape architect with master degree in arts. Freelance practitioner oriented in urban and regional scale projects. Landscape design professor at the UNAM. President of IFLA Americas Region. Member of CLARB Board of Directors.*

The project has had the objective of creating a new focus of design in the North Bay Boulevard in the harbour of Veracruz in the Gulf of Mexico. It is 2.5 km long and is a coastal landscape. An area of recent creation with land reclaimed from the sea. At the west part of the site there is an area rich in biodiversity with four important ecosystems: low deciduous forest, medium deciduous forest, medium semi-deciduous forest and an area of mangrove. Due the environmental impact as consequence of the harbour's construction, one the off-setting recommendations was to keep this natural area in protection with the legal status of Environmental Management Unit (EMU), named "Punta Gorda". Part of activities developed there are: production of native plants of the existent ecosystems, environmental education programmes, constant monitoring of ecosystems.

At the south part there is a community of Casuarina cunninghamiana, declared EMU as well. The Casuarina (native from Australia) trees were introduced in Mexico at the beginning of the 20th century because of their capability to function as green windbreak curtains. Nowadays this tree has been having an important role in the protection of the remnant natural ecosystems exposed to the several weather conditions like hurricanes. This tree was planted all along the coast of the Gulf of Mexico and we can find extensive communities associated with fauna and some native vegetation.

The Boulevard represents a physical line that connects both areas: "Punta Gorda" and the Casuarinas' community, with the opportunity of generating a green corridor.

The project is based on plantation modules attending to plant associations in the ecosystems. The plants are being produced at the EMU. We alternate modules for windscreens and also dune-fixing plants to stabilize the sand areas.

At the moment the project is in the second stage of design and execution and we are monitoring the plants' adaptation of the first stage.

It is a pioneer project in Mexico, a design based on the use of native plants, revaluing the richness of our ecosystems, generating a biological system with an aesthetic value.

### **Keywords**

Biodiversity, Coastal landscapes

### **Design project**

# Qaammat pavilion

## **Mr Konstantin Ikonomidis<sup>1</sup>**

<sup>1</sup>Konstantin Arkitekt, Tanga, Tanzania / Sisimiut, Greenland, Greenland / Tanzania

The Land and Water Dance, Nairobi, september 28, 2023, 15:00- 16:00

### **Biography:**

*Konstantin Ikonomidis is a Swedish architect and the founder of Konstantin Arkitekt, and is currently based in Tanzania. He graduated from the Royal Danish Academy of Fine Arts, School of Architecture, Copenhagen. His work bridges the territories of art, architecture, and scientific research, with a special interest in extreme climates.*

A pavilion designed and built by Architect Konstantin Ikonomidis in cooperation with Qeqqata Kommunia (the Qeqqata Municipality), located on a UNESCO site in Sarfannguit, Greenland.

Located in Sarfannguit, a cultural landscape in West Greenland and a UNESCO World Heritage site since 2018, the Fjeld pavilion by Konstantin Ikonomidis is designed to celebrate and promote the Inuit intangible cultural heritage and traditional knowledge of the environment. Characterized by the two fjords that meet on Sarfannguit's eastern tip on the hills, the pavilion's location has been carefully chosen by the local community, site manager Paninnguaq Fleischer-Lyberth and architect Konstantin Ikonomidis for its impressive view over the Sarfannguit municipality. The opening ceremony for the Qaammat pavilion took place on 3 October 2021.

Respecting the site. - Adding to a landscape.

The choice for the site was guided by a strong desire to respect nature and find a balance within the extraordinary landscape. The pavilion seeks to embrace a sensitivity towards nature instilled in the local culture, and establishes a subtle presence by blurring the physical boundary between man-made structure and the natural terrain and landscape.

The pavilion is anchored in the rocky terrain. Drilled into the ground with 40-mm holes, the foundation is constructed with rock anchors in the exact same way that every typical house in the settlement is. Attached to the upper part of the metal poles is a custom made stainless steel bracket with a circular geometry. The metal bar is fully horizontal and the poles vary in length according to the terrain. The curving walls, constructed in glass blocks, form a linear pathway open at both ends, which serves as entrance to the pavilion.

One of the more distinctive features of the structure is its glass 'shell', its play of transparencies, scale and weight, resulting in a feeling of surreality. The Qaammat pavilion can simultaneously alter the viewer's perspective, merge, and even vanish into the surrounding topography.

### **Keywords**

Art, Architecture, Research

### **Design project**



# Vista Villas River Front Rehabilitation

**Ms Augustine Shitote**<sup>1</sup>, Mr. Peter Mwangi<sup>1</sup>, Loice Ouma<sup>1</sup>

<sup>1</sup>Elarch Designs Limited, Nairobi, Kenya

The Land and Water Dance, Nairobi, september 28, 2023, 15:00- 16:00

## **Biography:**

*Shitote Shivere (AAK Corporate) is the Director at EDL Limited, Nairobi Kenya where he engages in the design, planning, implementation, and daily running of the firm.*

*He is particularly keen on the integration of design and implementation and enjoys bringing thoughtful executable ideas with a focus on ensuring sustainable/resilient projects.*

Heavy Farming and use of synthetic fertilizer upstream, together with construction within the site had led to erosion, destruction of Biodiversity and loss of plant cover. The Project involved introduction of plant cover upstream to help in water filtration. There was the damming of the water to reduce water speed and increase siltation and the creation of a cataract to help in aeration of the water. Water plants e.g., reeds were planted along the stream to increase filtration. The intervention saw the reoccurrence of biodiversity e.g., frogs, crabs and birds which found the area friendly.

The fragmentation/departmentalization of the area enabled ease of management hence a clean environment which is resilient. This has attracted human use of the area close to the waterfront due to the fish bowl effect created. This shows how Educational emphasis on Conservation and policy need for protection can be combined with practice to ensure that at a small scale, when replicated, there would be resilience at a global level.

## **Keywords**

\*Act Local

## **Design project**

# 29 SEPTEMBER

## Shaping the Urban Fabric

## Scales of Emergent Realities

**Dr Christian Car**<sup>1,2</sup>

<sup>1</sup>Chrili Car, Brunn am Gebirge, Austria, <sup>2</sup>VIDA Masterplanning + Design, San José, Costa Rica

Handdrawing Habitats, Nairobi, September 29, 2023, 1:00 PM- 3:00 PM

### **Biography:**

*Chrili Car works interdisciplinary. His design investigations dealt with milieu-therapy, circular economy, self-organised growth dynamics of rural settlements, and migration patterns resulting from coastal erosion. Chrili has a phd from BOKU Vienna, led the landscape department of the Nigerian Studio Elementals and works with VIDA in Costa Rica.*

Landscapes change immensely in this era called the Anthropocene. When, gradually, the sea takes away houses, the village where you grew up continues to exist only in your memories. Where the belief in the spirits of the earth fades, sacred groves are the last of their kind. The face of huge water bodies changes with the construction of artificial islands. In West Africa, humankind increasingly informs landscapes, but landscape architects are rarely involved in the most drastic transformations of the land. From artistic flashmobs, plant essences to intercontinental trajectories, 'Scales of Emergent Realities' seeks to understand transformative forces by listening. These fragments of realities will open our eyes to an intimate experience of landscapes and to understanding their scales of emergent interactions.

### **Keywords**

listening, spatial-agents, West-Africa

## VIDA Sessions: Handdrawing Habitats

**Dr Christian Car**<sup>1</sup>, Alejandra Gutierrez Castro<sup>1</sup>, Hans Hoepker<sup>1</sup>, Amanda Vargas Love<sup>1</sup>

<sup>1</sup>VIDA Masterplanning + Design, San José, Costa Rica

Handdrawing Habitats, Nairobi, September 29, 2023, 1:00 PM- 3:00 PM

### **Biography:**

*Alejandra Gutierrez Castro, Hans Hoepker and Amanda Vargas Love are Associates at Vida Design Studio in San José, Costa Rica. Vida Design Studio is a landscape architecture and landscape planning firm that designs spaces that remake the enduring connection between us, our communities and our habitats.*

VIDA Masterplanning + Design developed a methodology of participatory workshops to combine private eco-tourism initiatives with land restoration. Although now leading in environmental protection in Latin America, Costa Rica lost large parts of its tropical forests until the 1970ies due to policies such as related to cattle farming and timber extraction. As a result, large areas of land are deforested and in private ownership.

VIDA Sessions are two to five-day workshops with the projects' key decision makers to understand the site, the ecology, the business case, the people, place and context, the history and the trends, the market, potential risks, programming, and phasing. VIDA creates a space in time that rarely exists these days – to focus, observe, be present, and discuss what's possible. Through hand drawing. With the intent to create lively habitats.

### **Keywords**

hand-drawing, eco-tourism, Costa-Rica

# Manufacturing Metabolism - Fair Trade Zone in Akuse, Ghana

**Dr Christian Car**<sup>1,2</sup>, Juergen Strohmayer<sup>3</sup>

<sup>1</sup>Chrili Car, Brunn am Gebirge, Austria, <sup>2</sup>Vida Design Studio, San José, Costa Rica, <sup>3</sup>Juergen Strohmayer, Accra - Vienna, Ghana - Austria

Handdrawing Habitats, Nairobi, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*Chrili Car is a landscape architect, who works in West Africa, Central America and Europe. In his trans-disciplinary design realisations, he investigated topics such as self-organised growth dynamics of rural settlements, coastal erosion and resulting migration patterns, and milieu-therapy through compositions of perennial plants.*

Led by a women's cooperative to achieve financial independence and create an ergonomic workplace, the Fair Trade Zone by Accra-based architect Juergen Strohmayer and landscape architect Chrili Car is an alternative model for sustainable manufacturing, agriculture, and eco-tourism in Ghana.

Global Mamas is establishing a manufacturing hub for fair trade fashion in Akuse, Ghana. As driving force for rural empowerment, the new Fair Trade zone creates and ensures jobs for 200 women artisans and will be a step toward gender equality. Its design supports the vision of the organisation in becoming a sustainable alternative model to production facilities in the region by providing a socially conscious and ergonomic work environment, creating a tourist destination, and integrating innovative building strategies and technologies throughout the site.

The design understands the concept of circular economy as a spatial metabolism between architecture and landscape. While the raw materials processed in the built interior grow outdoors, the buildings harvest rainwater and nourish the plants with ecologically purified production wastewater through the courtyard's drainage channels and gravity-fed furrow irrigation. The result is a striated landscape composed of different biomes suitable for the diverging ecological requirements of a dye garden, a paper garden, a textile garden, a skin garden, and an energy garden. Interwoven into the productive terrain are a variety of spaces ranging from clean indoor production rooms bordered by shaded outdoor circulation spaces that open into courtyards and social spaces such as meeting spaces.

The project's design and construction process follow a cooperative and participatory approach. The growing facility is constructed by local builders and combines local and international expertise. The focus on building with the topography and the water cycle are both inspired by the pre-colonial legacy of the local community.

**Keywords** circular-economy, women-empowerment, fair-fashion

**Design project**

# Saving large trees in urban redensification projects

**Mr Uwe Fischer**<sup>1</sup>

<sup>1</sup>Landscape architects Wankner und Fischer, Munich, Germany

Shaping the Urban Fabric, Nairobi, september 29, 2023, 13:00- 15:00

## **Biography:**

*Uwe Fischer Landscape Architect and Urban Planner. Manager/owner of a landscape architecture business (since 1991; 20 employees; focus on object planning). Member of Admissions Committee, BDLA & Committee for International Affairs. Lecturer at German Chamber of Architects. Graduated from Technical University of Munich in landscape architecture (1981-1986; Weihenstephan)*

## SAVING LARGE TREES IN URBAN REDENSIFICATION PROJECTS

### Redensification in the city

In densely populated cities, the order of the day is "resource-conserving use of land" due to the effort of compacting cities further.

Unfortunately, this often leads to the removal of existing, mostly old tree population. As a result, all their positive characteristics are lost, such as evaporation with buffering of the temperature, binding of fine particles, providing shade and creating microhabitats for many animal species. This happens locally in many cities and not only has a direct impact not only on local human and animal inhabitants, but also in total on the global climate development.

### Preserving trees by transplanting

To address the global challenge of reducing tree population, large trees must be preserved through transplanting. For years, my architectural firm has made it its mission to check in advance whether and to what extent large trees can be preserved and transplanted in all construction projects we oversee in the inner-city areas. By taking this approach we protect the local tree population and provide added value for all inhabitants.

The general refurbishment of a special school in the south of Munich serves as an example to illustrate the procedure:

On an area of 3.5 hectares, an entire school campus was completely renovated. There were approx. 150 large trees on the entire site, of which approx. 100 trees were in the later construction area and had to be removed. In this case, the situation was favourable for large tree transplantation as the trees were about 30-50 years old at that time. Unfortunately, there was no space on the property to transplant all the trees permanently. However, 50 trees could be selected for transplan-

tation to an adjacent field. A tree nursery was established on the designated field over several years. Over a period of 3 years, all trees could be transplanted back to their final location in 5 planting measures. Thus, a valuable contribution to the preservation of the trees with all their positive effects could be achieved. This model serves as a reference model for other projects in the future.

### Keywords

trees redensification transplanting

## Growing landscape architecture: worldly engagement for a young, rural program.

Mr Jeremiah Bergstrom<sup>1</sup>, **Mr. Donald Burger**<sup>1</sup>, Dr. Pat Crawford<sup>1</sup>, Dr. Rob Dalton<sup>1</sup>, Dr. Elizabeth Tofte<sup>1</sup>

<sup>1</sup>South Dakota State University, Brookings, United States

Shaping the Urban Fabric, Nairobi, september 29, 2023, 13:00- 15:00

### **Biography:**

*Don Burger is associate professor of landscape architecture at South Dakota State University. He has lived extensively abroad and now leads travel study programs around the United States and Europe. He has been instrumental in the development of the SDSU Landscape Architecture program and its focus on travel and exploration.*

As landscape architects, we draw from immersive, travel experiences and exposure to new environments. An essential role of formal landscape architecture education is in developing the mindset to embrace risk and ambiguity in the pursuit of opportunities that might seem beyond our grasp at first glance.

South Dakota State University embraces its rare position amongst accredited educational institutions in the United States. Brookings, its home community, has a population of 24,000 and is the fifth-largest community in South Dakota. The overall makeup of the region of the Northern Plains is of isolated communities surrounded by large-scale agricultural operations. Many introductory students have never traveled outside their community and have narrow exposure to other cultures or new opportunities.

As one of the youngest and most isolated landscape architecture programs in the United States, South Dakota State University has constructed a tiered series of required and optional travel-study experiences throughout the professional design curriculum. This is directly to aid students' ability to think broadly for and within the Northern Plains region. SDSU landscape architecture courses begin with regional field studies within the first year and expand to national and international travel studies in the second through fourth years. For landscape architecture students, participation in field study, travel study, and study abroad experiences has been linked to positive learning outcomes, including improved global learning, ethical reasoning, civic engagement, and intercultural knowledge and competence (Dalton and Crawford, 2014; AAC&U 2010); enhanced creativity and design skills (Myers et al., 2005); and incidental learning (Crawford et al., 2017). Utilizing this landscape architecture pedagogical research as a basis, this case study explores student travel impacts through University and LAAB required assessments as well as student quali-

tative surveys for rural landscape architecture students.

Impacts of these experiences correlate with benefits identified above. Students have shown an increased likelihood of pursuing regional, professional employment, indicating a greater acceptance of risk and ambiguity. This progress demonstrates how both global mindedness and key funding can impact a growing curriculum, prepare students for the profession, and promote a service-leader mentality for our connected future in landscape architecture.

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## Keywords

pedagogy  
travel studies

# Influence of road infrastructure projects on urban land use changes

Ms Augustine Shitote<sup>1</sup>, [Loice Ouma](#)<sup>1</sup>

<sup>1</sup>University of Nairobi, Nairobi, Kenya

Shaping the Urban Fabric, Nairobi, september 29, 2023, 13:00- 15:00

## **Biography:**

*Ms Loice is a registered Landscape Architect and she holds a Bachelor of Landscape Architecture degree from Jomo Kenyatta University and a Master of Urban Management from Nairobi University.*

*She works at the State Department for Public Works in Nairobi and has a wide experience in landscape design and implementation.*

Road infrastructure development in Kenya has risen steadily over the past decade as the need for urban land-use changes becomes a development agenda for economic prosperity. As this growth and development occurs, urban management challenges emerge. The impact of urbanization due to increase in road infrastructure projects has placed more pressure on the existing land resulting to land use changes that take place without public involvement. The study focuses on investigating how road infrastructure projects has an impact on urban land use, a case of the Eastern Bypass in Nairobi, Kenya. The study objectives are; to investigate the extent to which road infrastructure development affects land use/cover along the Eastern bypass, to establish land use conflict driving forces that emerge from road development along Eastern bypass and to recommend medium-term urban management framework that will involve public participation and guide land management actors in prevention and management of land use conflicts caused by road development projects. The study was guided by the bid rent theory, industrial location theory and central place theory. It employed descriptive and historical designs, while carrying out a time series analysis of the different time periods of the construction of the Eastern Bypass in order to analyze the impact of the road on the different land uses. Stratified sampling was used to get a sample size of 382 respondents for primary data collection obtained using structured questionnaires. The findings indicated that vegetation and buildings continuously increased while bare land reduced throughout the study period (from 2009 to 2021). The road overlay length increases in 2021 more than in 2015 and 2009. Noise pollution, traffic congestion, inadequate social amenities and land use conflicts are the main urban management challenges along Eastern bypass. The residents along Eastern bypass are also not familiar with the development controls in the area. The study gives recommendations on the strategies aimed towards achieving a sustainable urban land management

framework that incorporates public participation, transport-oriented development plan and land use planning.

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## Keywords

Infrastructure, land-use, management

# Park health examination evaluation system to guide high-quality urban renewal

**Ms Yutong Liu**<sup>1</sup>

<sup>1</sup>Beijing Forestry University, Haidian, China

Shaping the Urban Fabric, Nairobi, september 29, 2023, 13:00- 15:00

## ***Biography:***

*LIU YUTONG, is a Phd student in the School of Landscape Architecture, Beijing Forestry University. Her research focuses on Blue-green space health and Urban renewal.*

*E-mail: 904020067@qq.com*

*Beijing Forestry University*

Entering the middle and later period of urbanization, Chinese cities have got into the stage of high-quality development and transformation. Accurate evaluation of the park system is the key to guide the improvement of the quality of urban blue-green space, and is of great significance to ensure human well-being and ecological health. Focusing on the park to respond to more grand environmental and social issues in the new era, including urban resilience, aging of population, community integration, disaster prevention and emergency response, this paper discusses the objectives and guidelines of Park health examination. Under the two spatial ranges of urban scale and plot scale, taking the park system and individual Park as the evaluation objects respectively, the index system is constructed from the four levels of natural resource, ecosystem service, economic value and operation status, covering 9 sectors: quantity, pattern, health, recreation, beauty, resilience, culture, industry and management, with a total of 45 evaluation factors. A scientific evaluation technology method combining geospatial analysis, software simulation evaluation and satisfaction survey is established to objectively diagnose the current situation of the park and quantify the service performance level of the park. This paper constructs the linkage working mechanism of monitoring, diagnosis and governance, and forms a set of replicable Park health examination and evaluation framework, which provides effective support for better promoting the fine management and high-quality renewal of urban blue-green space. Finally, taking the park health examination project of Liuzhou City as an example, this paper systematically evaluates 204 parks in the urban area of Liuzhou City, puts forward targeted improvement

suggestions through framework construction, data collection, analysis and diagnosis, preparation of reports and other links, and forms the park health examination evaluation manual of Liuzhou.

### Keywords

Park-health-examination;comprehensive-assessment; urban-renewal

### Visual material

## Saving Nature with Science Fiction: Digital Innovation and Biodiversity Restoration

Miss Fiona Nyadero

Shaping the Urban Fabric, Nairobi, september 29, 2023, 13:00- 15:00

### **Biography:**

*Fiona Nyadero is a Kenyan Landscape Architect working with the State Department of Housing and Urban Development. Through the Kenya Urban Support Programme, she has left a mark in various infrastructure developments within the County Government of Taita Taveta.*

The IFLA World Congress 2023 theme and subthemes aim to explore emerging forms of collective problem-solving and networking to find solutions to urgent issues of Climate change, social inequality and biodiversity. While our physical environment essentially conditions our lifestyles and use of resources. We have witnessed a paradigm shift in recent times, the digital disruption.

The subtheme “Act local, Think global” argues that our actions have global consequences. I would like to believe that digital innovations enable us to; act locally (individual users) and globally (multiple users) while thinking locally and globally by rapidly moving across scales. The technology is infused with local site-specific knowledge to run algorithms, which consider their global effects both, individually or collectively.

Digital innovation refers to leveraging technological tools to create new products or services whose main aim is to improve the efficiency and effectiveness of a certain process or procedure. Technologies such as artificial intelligence, machine learning, blockchain and the Internet of Things have been used with groundbreaking success to achieve near-impossible feats for humanity.

The landscape industry is already swept up in this wave, with tools such as Computer-aided design (CAD), Geographic Information Systems (GIS), Building Information Modeling (BIM), virtual reality (VR), augmented reality (AR) and Digital fabrication technologies becoming standard practice in most parts of the world.

We can use this resource to solve one of the biggest challenges facing our planet, which is biodiversity loss. This essay will explore ways in which we can apply Digital Innovation to biodiversity restoration. It will delve deeper into features to consider while developing and using this technological tool to combat biodiversity loss, such

as Data Collection, Goals and Metrics, Algorithm Selection, Model Validation and Ethical Considerations.

Digital innovation can and ought to be used to restore ecosystems and improve biodiversity. However, the approach taken should be holistic and thoughtful. By facilitating public engagements, monitoring changes, analyzing large datasets, raising awareness, and developing and implementing conservation plans (with the right priorities), we can leverage technology in repairing our planet.

### **Keywords**

Digital Innovation Biodiversity

## **Sustainable & Inclusive Open Space**



# Sustainable Open Space Planning through Citizen Science in Nakuru, Kenya

**Ms Sharon Onyango**<sup>1,2</sup>, Dr. Romanus Opiyo<sup>1,3</sup>, Dr. Cassilde Muhoza<sup>1,4</sup>

<sup>1</sup>Sustainable Urbanization Programme, Stockholm Environment Institute - Africa Centre, Nairobi, Kenya, <sup>2</sup>Department of Landscape and Environmental Sciences, Jomo Kenyatta University of Agriculture and Technology, Nairobi, Kenya, <sup>3</sup>Department of Urban and Regional Planning, University of Nairobi, Nairobi, Kenya, <sup>4</sup>Department of Environment and Geography, University of York, York, United Kingdom

Sustainable & Inclusive Open Space, Nairobi, september 29, 2023, 13:00- 15:00

## **Biography:**

1. *Sharon Onyango is a Landscape Planner, Graduate Fellow at Stockholm Environment Institute (SEI) – Africa Centre and a postgraduate student at JKUAT.*

2. *Dr. Romanus Opiyo is a Research Fellow at SEI-Africa Centre & a Lecturer at the University of Nairobi. He holds a PhD Urban and Regional Planning.*

The rapid urbanization experienced in developing countries is largely linked to negative impacts to both the environment and health of their city residents. However, there exist minimal information on these impacts' direct effects on wellbeing, particularly in the growing secondary cities, which can be used as a planning tool to support decision making. Additionally, planning and design of open spaces as part of urban developments, usually, exclude the target communities' (users) input and engagements. Citizen Science (CS) approach is emerging as a responsive participatory tool to better address the specific-contextual environmental challenges of the local communities in research processes. This paper therefore investigated the effectiveness of CS in landscape planning for open spaces in Nakuru City. The paper highlights application of co-created citizen science, where Nakuru residents had the opportunity to identify priority environmental risks of concern and mapped the green spaces within their neighborhoods. Later, collectively with the Stockholm Environment Institute (SEI) researchers, the community went through a participatory mapping and visioning activity, where they designed their future outdoor open spaces. The common environmental challenges were established as heat, flooding, solid waste management, noise and air pollution and water quality. Similarly, distinct and common outdoor spaces identified included a mix of roadsides and road reserves, church compounds and marketplaces, with some being vegetated, while others were not, and were commonly used for political gatherings, meetings, relaxing, sport and church crusades. To achieve their visions for their neighborhood,

participants felt greater stakeholder involvement was required in the creation and implementation of policies, including the non-governmental organizations (NGOs), community leaders and the residents. The findings validated the efficacy of CS approach for improving well-being of Nakuru's residents, raising awareness, while presenting successes and challenges that may be encountered while running similar projects. This will be useful for landscape and urban planners, city managers and policymakers in improving urban open spaces' availability, access, quality, and distribution towards improving livability in these cities. Further, it will play a paramount role in the realization and achievement of the New Urban Agenda for SDG 11, focusing on making cities safer, more resilient, and sustainable.

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## **Keywords**

Citizen-Science  
Participatory-mapping  
Sustainable-Planning

# Linking attitudes with space use: framework for sustainable park design

**Ms Sylvia Mutua**<sup>1</sup>, Dr. Micah Makworo<sup>1</sup>, Prof. Mugwima Njuguna<sup>1</sup>, Dr. Stella Kasiva<sup>1</sup>

<sup>1</sup>Jomo Kenyatta University of Agriculture and Technology, Juja, Kenya

Sustainable & Inclusive Open Space, Nairobi, september 29, 2023, 13:00- 15:00

## **Biography:**

*Sylvia Mutua, a lecturer and practising landscape architect from Kenya, is a PhD candidate undertaking her doctoral studies in landscape architecture at the department of Landscape Architecture at Jomo Kenyatta University of Agriculture and Technology. She holds an undergraduate degree in landscape architecture and a post graduate degree in planning.*

Urban parks are an integral part of achieving liveable urban areas yet the extent of impact of user attitudes on urban park use remains overlooked during their design and development. The paper embraces qualitative methods by undertaking content analysis of relevant scholarly articles in peer-reviewed journals. It establishes the following perceived attitude variables that relate to park use: access, park features, biodiversity, safety, aesthetics and park condition. Park use variables realised include: approach-avoidance, participatory-nonparticipatory, engaging-disengaging, sociability-unsociable and planned-emerging activities. In linking the attitude and park use variables, the study establishes that the positive dimension of any of the user attitudes generally attracts more users into the urban park, leads to more participation, more engagement in park activities, higher sociability and minimises emergence of unplanned-for activities. Inasmuch as the linkage is clear, the extent to which the attitude variables explain urban park use variables is lacking in the literature. In this regard, this paper recommends a framework that establishes the extent of explanation of park use variables by attitude variables. This is anchored on the quantitative research strategy whereby attitudes and space use are measured and the extent of relationship established through regression analyses. The framework is a useful guide in sustainable design and management of urban parks.

## **Keywords**

attitudes, park use

# Users' perception towards urban wilderness and its implication for design

**Miss Yuan Chen**<sup>1</sup>, Prof. Steffen Nijhuis<sup>1</sup>, Prof. Machiel van Dorst<sup>1</sup>

<sup>1</sup>Delft University of Technology, DELFT, Netherlands

Sustainable & Inclusive Open Space, Nairobi, september 29, 2023, 13:00- 15:00

## **Biography:**

*Yuan Chen is a PhD researcher from the section of Landscape architecture in the faculty of architecture and built environment, Delft University of Technology, the Netherlands. Her research focuses on the topic of public perception and attitude towards urban wilderness and its implication for planning and design.*

There is a wealth of research in multidisciplinary fields demonstrating the value and benefits of wilderness to the urban environment and dwellers (e.g., Botzat, Leonie K. Fischer, et al., 2016). It has also been suggested that people have contradictory perceptions of wilderness, e.g., relaxing while experiencing anxiety and insecurity (Jorgensen et al., 2007). It has not yet been determined how individuals perceive and comprehend an urban wilderness park. The question of whether users in an urban wilderness can fully comprehend the planning and design intentions and whether there is sufficient space and facilities to accommodate the behavioral patterns of users remains unanswered. To investigate these topics, a case study was conducted on the Jiangyangfan ecological park in Hangzhou, China. The perception and attitude of visitors towards urban wilderness were evaluated using questionnaire and mental mapping, with environmental behavior observation supporting as a supplementary data source. A semi-structured interview was conducted with the designer to determine if and to what extent the user's perception and behavior pattern correspond to the designer's ideas and if there are any unrealized design intentions or missing elements that users expect. The majority of users perceive the nature and characteristics of urban wilderness and indicate a high level of willingness to visit, despite the fact that few of them possess an expert understanding of it. Plant diversity, water quality, and plant density were the most influential factors affecting participants' perceptions. During the preservation and construction of an urban wilderness, strategies aimed at these components should be considered. The majority of participants' intentions to visit an urban wilderness park differed from ordinary urban parks, and their visit intentions or predicted activities differed from actual conducted activities. It may demonstrate the guiding function of urban wilderness for user behaviors and activities. During the planning and design of urban wilderness, human intervention should be limited to enable nature to develop spontaneously, giving users more opportunities to interact with nature.

On the other hand, more space and opportunities should be made available for people to observe and appreciate the grandeur of the wilderness.

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### Keywords

wilderness, perception, design

### Visual material

## Accessibility of Public Spaces - Inclusion or Separation?

**Mrs Shelly Cohen**<sup>1</sup>, **Tsofit Tuvi**<sup>2</sup>

<sup>1</sup>Tel Aviv University, Kfar Sirkin, Israel, <sup>2</sup>Kav Landacape Architecture, Tel Aviv, Israel

Sustainable & Inclusive Open Space, Nairobi, september 29, 2023, 13:00- 15:00

### **Biography:**

*Shelly Cohen (PhD) is a researcher, curator and architect. Her PhD dissertation (Tel Aviv University), explores care ethics in architecture. Her post-doctoral research (Technion IIT) explores shared residence of seniors with caretakers. She curated a series of exhibitions at the Architect's House Gallery, which examined political aspects of Israeli space.*

The lecture will investigate the effect of planning laws that promote accessibility and encourage diversity of users and the inclusion of people with disabilities in public spaces. In Israel there are about 1.6 million people with disabilities (Barlev, Nagar Eidelman, & Konstantinov 2022). The Law of Equal Rights for Persons with Disabilities was enacted in Israel in 1998, aimed at protecting the dignity of persons with disabilities and ensuring their equal participation in society. In 2005, a chapter was added to the law, establishing an obligation to make infrastructures, buildings and services accessible. This legislation is compatible with the international theory in planning concerning the need for diversity and care for others. Following this legislation, many efforts have been made to make public spaces and public buildings accessible in new and renewed projects.

Although these laws, which require the planning of ongoing ways to access public buildings, using ramps to bridge level differences, indicate progress in the attitude towards human diversity and in including people with disabilities in society, users on wheelchairs often describe these ramps as isolated from the central space. This echoes the criticism of universal design for not becoming mainstream and failing to prevent the exclusion of people with disabilities from the public sphere (Hamraie 2016). A study of contemporary planning regulations in Israel (Israeli Standard, 1918 Part 2) shows how the law that requires that ramps be separated by walls, fences and railings is regarded by landscape architects as a manifestation of excess regulation.

The presentation will examine the implementation of regulations in a number of public spaces that were renovated or built in recent years in Tel Aviv and Jerusalem, comparing them to contemporary international trend that combine ramps, stairs and amphitheater stairs.

Co-presenter Tsofit Tuvi

## References

Aimi Hamraie (2016) Universal Design and the Problem of “Post-Disability” Ideology, *Design and Culture*, 8:3, 285-309, DOI: 10.1080/17547075.2016.1218714

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Israeli Standard 1918 Part 2: Accessibility of the built environment: the environment outside the building

## Keywords

Accessibility Inclusion Diversity

## Visual material

## HerCity HerStreets: A gender-lensed approach for inclusive public spaces

**Ms GRACE SYOMBUA VALASA**<sup>1</sup>, Mr DEMPSEY GATUNGU<sup>1</sup>, **Ms JOY MBOYA**<sup>2</sup>, Mr MK MBUGUA<sup>2</sup>, Ms REHEMA KABARE<sup>2</sup>

<sup>1</sup>Urban Green Landscapes Limited, Nairobi, Kenya, <sup>2</sup>The GoDown Arts Centre, Nairobi, Kenya

Sustainable & Inclusive Open Space, Nairobi, september 29, 2023, 13:00- 15:00

### **Biography:**

*Grace Valasa-Okaro (grace@urbangreen.co.ke) is a Kenyan corporate member of the AAK Landscape Chapter and Senior Landscape Architect in Urban Green Landscapes, a firm that designs and transforms urban spaces into delightful landscapes that respect nature. Grace is the lead Landscape Architect for the The GoDown Arts Centre HERCITY HERSTREETS INITIATIVE.*

The GoDown Arts Centre’s HerCity#HerStreets initiative looks into improving Dunga and Dundori streets, the streets around the upcoming New GoDown Cultural Arts Complex. The aim is to make them safer and more inclusive public spaces, accommodating a diversity of shared commercial, social and cultural activities, thereby facilitating the urban regeneration of the neighbourhood. These street improvements are a continuation of studies that started in 2011, exploring the possibility of creating a ‘Cultural Axis’ in the Industrial Area of Nairobi, as part of macro explorations of connections in the neighbourhood.

The HerCity#HerStreets initiative involves the deployment of the step-by-step inclusive methodology of UN Habitat’s HerCity toolkit, which is designed to improve citizens’ participation in the development of public spaces, with a special focus on including vulnerable groups such as women, girls and youth. The toolbox provides users with best practices, digital tools and a methodology to prioritise, plan, develop and implement public spaces.

As the key focus of the HerCity#HerStreets initiative, a Primary Stakeholder Group composed of about 35 women and girls, from ages 11 to 55 of diverse occupations, different education levels and social classes, made observations and gathered data on the streets during the initial assessment phase. In the second ideation phase, they provided ideas and visions describing how they would improve the two streets, using tools such as MethodKit cards and the Minecraft computer game. They participated in the third and final implementation phase by working with the technical professionals (Urban planners, Landscape Architects and Engineers) to develop designs and plans for development, while ensuring that gender, age and vulnerable perspectives are mainstreamed in the sector.

Other stakeholders engaged include Government Duty Bearers, Global and National Urban & Transportation organisations, Street Vendors, Premised Business and Landowners, Practicing artists and art enthusiasts.

## References

UN Habitat - Streets As Public Spaces & Drivers of Urban Prosperity (2013)  
ITDP - Street Design Manual for Urban Areas in Kenya (2019)

## Keywords

Participatory Inclusivity Shared-use

## Design project

# Kiminini Minipark and Placemaking Guide

**Ms Marion Mukolwe**<sup>1</sup>, **Ms Pia Jonsson**<sup>1</sup>

<sup>1</sup>Vessal, Nairobi, Kenya, <sup>2</sup>Landskapslaget, Stockholm, Sweden

Sustainable & Inclusive Open Space, Nairobi, september 29, 2023, 13:00- 15:00

## **Biography:**

*MARION MUKOLWE is an urban designer, landscape architect, and lecturer with 11 years experience. Marion has a Msc in Human settlements from KU Leuven, Belgium and Bachelor of Landscape architecture from JKUAT, Kenya. She is currently the Principal at Vessal, a landscape architecture, planning, urban design firm based in Nairobi.*

**PROJECT DESCRIPTION** In 2015, the Government of Kenya through the Council of Governors embarked on the SymbioCity Kenya Programme. The programme is intended to promote inclusive, innovative, and sustainable urban development planning in Kenya. It is implemented in cooperation with the Swedish Association of Local Authorities and Regions. Kiminini was chosen as one of seven towns to take part in the SymbioCity program. Kiminini is situated in the western parts of Kenya and was identified as a city with good potential for sustainable urban growth. In 2019 landscape architects Marion Mukolwe, Kenya, and Pia Jonsson, Sweden, came on board to develop an area that had been identified as a future public space, through the method of placemaking. The landscape architects worked together in a multidisciplinary team consisting of representatives from the municipality, from local youth organisations, community representatives, and experts in urban planning. Participatory methods were central throughout the project where prototyping and temporary activities were performed on site, together with the team. Testing out different activities on site could enable smart solutions that respond to the current needs and activities on site. The process inspired a site plan of a mini park with shading, greenery, playground, and seating that was tested in a 1:1 scale on site together with the team and residents. The project illustrated a prototype public space intervention that laid ground for a placemaking guide that was handed over to the community. The guide gives participatory tools continue the public space development.

## **Keywords**

Landscape, placemaking, community

## **Design project**

# Hidden yet Visible

**Ms Monique Bassey<sup>1</sup>**

<sup>1</sup>Lsu, , United States

Sustainable & Inclusive Open Space, Nairobi, september 29, 2023, 13:00- 15:00

## **Biography:**

*Monique Bassey is a professor at the Louisiana State University Robert Reich School of Landscape Architecture. Monique teaches both graduate and undergraduate design studios with a focus on environmental and social justice. Monique holds both a Bachelor of Architecture and a Master of Landscape Architecture from the University of Arizona.*

“Leave No One Behind” is a powerful theme that provides the opportunity to tell the real and hidden stories of our landscapes that are in need justice and restoration. If we begin to truly study the transformation of land and community over time, starting from as early as the 1800 to present day, we can begin to understand the systematic issues of injustices that have occurred environmentally, social culturally, and politically. It’s important for the profession of landscape architecture to become knowledgeable and honest about how our cities and neighborhoods were developed and our role in shifting the narrative that brings hope, dignity, respect, and a sense of belonging. Money and Power were the origin story for the city of Baton Rouge. Scotlandville, a historically black neighborhood located in Baton Rouge, Louisiana was once plantation land with a horrible past of slavery. In the 1800’s, the landscape was used for wealth and exploitation of enslaved people and most desirable due to its proximity to the Mississippi River and along a bluff forty feet above the water. Free Slave labor made Baton Rouge one of the wealthiest cities along the Mississippi River due to the construction of the railroads, roads, and ports that brought mass volumes of goods and services to the area. In early 1900’s, Standard Oil Company (now Exxon), established in Scotlandville, generated a great deal of wealth while also polluting the land through toxic chemicals, waste dumps, and destroying the bayou corridors within the neighborhood. Although many forms of environmental injustices occurred, during the period of segregation, the neighborhood of Scotlandville was a thriving business district from 1919-1980 with great schools, businesses, and churches.

Unfortunately, due to the polluted land, construction of the interstates, and the closure of local businesses, disinvestment, blighted streets, and white flight, Scotlandville struggles to keep its rich history and sense of belong. It’s within these stories that we as landscape architects need to contribute towards ways of not only restoring the land but healing each other.

**Keywords** Environmental Justice

## **African Landscapes & Collaboration**

# The African Landscape Network – A platform for transdisciplinary collaboration

**Mrs Carey Duncan**<sup>1,2,6,7</sup>, **Mrs Marike Franklin**<sup>1,2,3,5</sup>, Mr Graham A Young<sup>1,2,5</sup>, Mrs Liana Jansen<sup>1,2,3,4,5</sup>

<sup>1</sup>SACLAP (The South African Council for the Landscape Architectural Profession), , South Africa, <sup>2</sup>IFLA (International Federation of Landscape Architects), , , <sup>3</sup>ICOMOS - ISCC (International Council on Monuments and Sites - International Scientific Committee on Cultural Landscapes), , , <sup>4</sup>APHP (Association of Professional Heritage Practitioners), , South Africa, <sup>5</sup>SILASA (Institute for Landscape Architecture in South Africa), , South Africa, <sup>6</sup>AAAPM (Association des Architectes Paysagistes du Maroc), Morocco, <sup>7</sup>ASLA (American Society of Landscape Architects), , America

African Landscapes & Collaboration, Nairobi, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*Carey Duncan is South African who has crossed boundaries and works as a Landscape Architect in Morocco. She is active with IFLA, where she serves on the IFLA Africa ExCo having previously served as regional president. She works on the core team which established the African Landscape Network.*

The African continent is a vast geographic area with richly diverse landscapes and cultures. Numerous international and local organisations are doing noteworthy work in this continent, but often, the work is not shared or even known about.

Through our experience, capacity building happens in the sharing of information and connection between people, across disciplines, borders and cultures.

The African Landscape Network (ALN) is an online map-based interface that features a landscape-focussed network of individuals and projects across the African continent. The ALN came into being through seed funding from UNESCO and collaboration between the International Federation of Landscape Architects (IFLA) and the International Council on Monuments and Sites (ICOMOS). Its concept was guided by an advisory committee made up landscape architects, heritage practitioners and others who deal with the landscape every day. The ALN promotes the African Landscape Convention by connecting professionals working on Landscape issues in Africa.

The African Landscape Convention (ALC) is a tool used by professionals and academics to teach future leaders when working with landscapes of all scales. IFLA Africa's vision is that the principles and values contained in the convention be applied and shared through a matrix of different professionals. The Network is the platform through which this matrix connects.

As the seed project was initiated by IFLA, the current majority of 47 individuals on the network, and 30 projects featured, are those of landscape architects. The collection of projects is already providing lessons from practising landscape architects to inform new projects across different cultures. Our goal is to enlarge the scope of contributions, by encouraging other professions and especially communities to partake. Ultimately celebrating the rich diversity of the African continent while growing

the repository of best practice case studies.

A platform for collaboration in Africa is a needed, and exciting notion. Multi-disciplinary and trans-disciplinary approaches are essential to solving environmental challenges such as climate change, biodiversity loss and land degradation. The ALN platform can provide the necessary case studies and connections to help plan and design transboundary resources for their sustainable utilisation.

## **Keywords**

collaboration, transdisciplinary, transfrontier

# African Landscape Futures

**Dr Gareth Doherty**<sup>1</sup>

<sup>1</sup>Harvard University Graduate School Of Design, Department Of Landscape Architecture, Cambridge, United States

African Landscapes & Collaboration, Nairobi, September 29, 2023, 13:00- 15:00

## **Biography:**

*Gareth Doherty is a landscape architect, researcher, and educator who consolidates core knowledge in ethnography and participatory site methods. This work builds on and critically reassesses 20th century approaches, to advance pedagogy, tools, and techniques that address issues of equity, identity, cultural space, and the human impacts of changing climates.*

Based on fieldwork across at least eleven African countries during the 2022–23 academic year, this talk speculates on the future of landscape architecture in the Global South. Seven countries in Africa currently have a professional association of landscape architects and forty-seven do not (see Fig. 1), raising fundamental questions about the role of experts and the importance of alternative professional arrangements in landscape architecture. While visiting projects, educational programmes, and meeting practitioners across African nations, the author saw and registered various landscape practices as they exist on the ground, whether professionally designed or not. Interestingly, some forms of “grassroots” practice are more deeply engaged with solving the problems of our age—such as climate change and social inequalities which landscape architects are so well-equipped to tackle— than their more formalized and institutionalized counterparts.

Informed by this year of comparative landscape fieldwork across African borders, the paper will speculate on the future possibilities for landscape architecture in Africa and beyond. The paper will present some of the options the discipline is faced with as it unfolds throughout the Global South. Based on evidence gathered during fieldwork, this paper will answer questions such as: how can landscape architects create and work with local knowledge while at the same time being part of a global profession? How can landscape architecture avoid being left behind in the current wave of urbanization? Part of the answer to these questions lies in the practice of fieldwork itself, and in particular “landscape fieldwork,” which teaches landscape architects an awareness of the human dimensions of landscape; the importance of working with deference and respect to others values and ways of life; and the need to decenter the western canons of knowledge and to create new literature that can be used in educating future generations of landscape architects in Africa and the Global South.

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## **Keywords**

Africa, Fieldwork, Futures



# VIRTUAL

\*Session times stated in CET time

# 28 SEPTEMBER

## Landscapes, memory and tradition

# Reconnecting the Urban Landscape and National Park

**Lin Song**<sup>2</sup>, **Mr Xiaojie Wang**<sup>1</sup>

<sup>1</sup>School of Architecture and Urban Planning, Tongji University, Shanghai, China, <sup>2</sup>School of Architecture and Urban Planning, Huazhong University of Science and Technology, Wuhan, China

Landscapes, memory and tradition, Online, September 28, 2023, 3:00 PM- 5:00 PM

## **Biography:**

*Song Lin, male, born in 1991, from Hunan Province, Doctor, Lecturer, Department of Landscape Architecture, School of Architecture and Urban Planning, Huazhong University of Science and Technology. His research interest covers planning and theory of national parks and heritage sites.*

Objective: To break through the boundaries of national park management, view the relationship between natural resource conservation and urban development from a historical and dynamic perspective, integrate national park conservation into the regional historic landscape stratification process, and promote high-quality urban transformation and sustainable and healthy development of regional scenic resources. Methods: The mountains to the north of Jiaozuo City are a series of national parks near the city of Jiaozuo, and are a well-known tourist destination in China. This paper summarizes three different stages of Beishan regional construction guided by landscape construction, coal mining industry development and national park protection, and points out the problems of time-space fracture between the national park (landscape) and urban development (city) in Beishan area. This paper proposes a spatial planning method and strategy that takes the current national park construction as the anchor point, reconnects the city and landscape, and integrates into the layered evolution process of the regional historical landscape. In terms of the integration of physical space structure, it is proposed that: 1) combine multiple types of national parks to coordinate the management of Beishan National Park; 2) build suburban parks to connect Beishan National Park and urban landscape; 3) connect urban areas and national parks with traffic networks and guide cities to undertake tourism functions of national parks. In terms of the continuation of intangible cultural memory, it is proposed that: 4) constructing tourist towns to transform historical and cultural heritage into fresh tourism content, activating and utilizing historical culture; 5) transforming traditional village space into a new tourist spot, inheriting the traditional living environment and life of Beishan; 6) developing industrial tourism with mine park as the main body to preserve the historical mark of the city's industrial development stage. Conclusion: Human beings are always seeking the balance between environmental protection and rational use of natural resources. It may be an effective way to realize the integrated and sustain-

able development of Beishan region to protect the historical landscape and develop ecological and cultural tourism.

## **Keywords**

Landscape, Holistic Approach

# Aesthetic Perspectives on Eastern Landscapes: a San Yuan Painting Philosophy

先生 **Cuize Lin**<sup>1</sup> 女士 Lingyun Liao<sup>1</sup> 先生 Siren Lan<sup>1</sup>

<sup>1</sup>Fujian Agriculture and Forestry University, Fuzhou, China

Landscapes, memory and tradition, Online, September 28, 2023, 3:00 PM- 5:00 PM

## Biography:

*The first author is a Master's student in Landscape Architecture at Fujian Agriculture and Forestry University, Fuzhou, Fujian Province, China, with research interests in National Parks and Nature Reserves*

Landscape aesthetics involves both landscape and people dimensions, and conservation planning for aesthetic values is typically based on an assessment of the aesthetic quality of the landscape dimension, making it difficult to identify the emotional value of people in aesthetic activities. Eastern landscape aesthetics is closely tied to landscape painting theory, the most famous of which is San Yuan painting philosophy, which combines a spatial and temporal understanding of composition with traditional aesthetic principles. Mount Wuyi, one of China's ten most famous mountains, is used as a case study in this research. It attempts to analyze the aesthetic environment operated by the 'San Yuan' of landscape painting philosophy, which is both an object of aesthetic activity and an expression of aesthetic emotion, by combining the principles of landscape painting with spatial presentation methods. Results show that 1) as a compositional principle, the San Yuan painting philosophy operate on the 'touring nature' of the aesthetic landscape of the Wuyi Mountains in terms of horizontal and vertical layout, route layout, building location, and mode of viewing; 2) as a method of landscape creation, the San Yuan painting philosophy create aesthetic contexts of the Wuyi Mountains in terms of orientation, height difference, and proximity of viewpoints. To produce the beautiful mood of the Wuyi Mountains, the San Yuan painting philosophy is employed. Finally, the paper addresses the San Yuan theory's potential for aesthetic value conservation and application, which will aid in improving current landscape value assessments and promoting culturally oriented conservation strategies.

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**Keywords** Cultural-Landscape; Landscape-Aesthetics; Painting-Philosophy

# Sustainable renewal's post-industrial landscapes' coherence and legibility perception research

**Jing Xu**<sup>1</sup>, Associate professor Fang Wei<sup>1</sup>

<sup>1</sup>The School Of Landscape Architecture, Beijing Forestry University, Haidian, Beijing, 中国

Landscapes, memory and tradition, Online, September 28, 2023, 3:00 PM- 5:00 PM

## **Biography:**

*Jing Xu is a master student in the School of Landscape Architecture, Beijing Forestry University. Her research focuses on landscape architecture planning and design.*

[Objectives] Vacant industrial land presents a significant opportunity for the development of urban green spaces and public areas in the context of sustainable renewal. The unique spatial structure of post-industrial landscapes, including the composition and arrangement of industrial heritage and new design elements, greatly influences the visual quality and public perception of the landscape. Coherence and legibility are two essential dimensions of landscape preference that express the degree of harmony, recognisability, and visual orientation of post-industrial landscape elements in physical spaces. Establishing the correlation between coherence, legibility, and public perception is crucial for judging the sustainability of post-industrial landscapes.

[Methods] To explore this correlation, this research employed an eye-movement experiment and questionnaire survey on 21 renovation scenes of Yangpu riverside public space in Shanghai. A cluster analysis of the scenes based on coherence and legibility perceptions was conducted to clarify the correlation mechanisms between different landscape elements, visual attention, and perceptual preferences.

[Results] The results indicate that scenes dominated by plants, industrial remains, and open spaces have different effects on the public's perceptions of coherence and legibility. In scenes with iconic industrial remains and structures, visual fixation on these elements is positively correlated with legibility but negatively correlated with coherence. In scenes dominated by plants, the first fixation time of natural elements is negatively correlated with legibility, while the first fixation time of newly installed facilities is positively correlated with coherence. Scenes dominated by industrial remains show that the fixation duration time of natural elements is positively correlated with legibility, while the state of fixation on water bodies has a greater impact on the perceived state of coherence. In scenes dominated by open spaces, visual attention to iconic industrial remains plays an important role in the perception of legibility.

[Conclusions] This research establishes the relationship between visual concerns and the perception of coherence and legibility and explores the different effects of

old and new elements on the public perceptions in post-industrial scenes. The findings provide a reference for the sustainable use of existing resources in optimizing the spatial layout of post-industrial landscapes and protecting the historical industrial landscape.

## **Keywords**

post-industrial landscape perception

# Modeling multi-scale relationships between wilderness area changes and potential drivers

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<sup>1</sup>Fujian Agriculture and Forestry University, , China

Landscapes, memory and tradition, Online, September 28, 2023, 3:00 PM- 5:00 PM

## **Biography:**

*Xu Zhengduo (1997-), male, current graduate student.*

*National parks and protected areas.*

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The global wilderness area is shrinking dramatically in response to increased human activities. To support wilderness conservation, it is critical to understand the trends in and causes of wilderness change. However, quantitative measurement of the driving mechanisms of wilderness area changes with incorporation of spatial heterogeneity remains a challenge. This study used an integrated wilderness mapping method to identify the spatial distribution and land-use change matrix of wilderness area changes in Fujian Province, southeast coastal China, in the early 21st century. We investigated the potential drivers of wilderness area changes and captured spatial variations using a Multi-Scale Geographically Weighted Regression model. The main findings of this study are as follows: The distribution of wilderness in the study area showed spatial characteristics corresponding to high frequency in the west and low in the east. The area and quality of wilderness showed a decreasing trend from 2000–2020, with the area of wilderness decreasing by 3.63% at an average annual rate and wilderness degradation being especially severe from 2010–2020. Nanping, Longyan and Sanming are the areas with the highest loss of wilderness area, with a total reduction of 27527.83km<sup>2</sup>. Wilderness change was influenced by multiple factors. Due to spatial heterogeneity, the correlations and intensity of each driver varied widely across different spatial scales. Among them, anthropogenic activity factors such as Nighttime Lights and Secondary Industries were dominant factors leading to the degradation of wilderness at near-global scales, while nature factors exhibited significant spatially non-stationary characteristics, showing positive and negative “two-way effects”. As compared with global regression and geographically weighted regression models, MGWR can obtain more realistic results in addressing the relationship between wilderness area changes and potential drivers. This study provides a new perspective for wilderness research, reveals the complex mechanisms of change in wilderness areas, and provides important guidance for global wilderness conservation efforts as well as a reference point for development of local environmental protection policies.

**Keywords** wilderness conservation ; wilderness loss

# A Cross-Boundary Landscape: Ankara Tumuli Beyond Ankara

Assoc. Prof. Ela Alanyali Aral<sup>2</sup>, Dr **Gizem Deniz Guneri**<sup>1</sup>, Ms. Buket Ergun Kocaili<sup>2</sup>

<sup>1</sup>Atilim University Department Of Architecture, Ankara, Turkey, <sup>2</sup>Middle East Technical University Department of Architecture, Ankara, Turkey

Landscapes, memory and tradition, Online, September 28, 2023, 3:00 PM- 5:00 PM

## **Biography:**

*Gizem Guneri graduated with a professional degree in architecture. She went on to complete a Masters in Architecture and Urban Design at Columbia University and a Ph.D. in Architecture at METU. She has conducted post-doctoral research at Harvard University GSD. Her research focuses on urbanism, landscape, and utopianism.*

As fragments of a cultural landscape with regional reach – the Phrygian culture region, which has a significant role in the nature-culture continuity of the Central Anatolian landscape – the Ankara Tumuli, constitute significantly rare urban assets with archeological, cultural, and landscape value. They evidence the cultural appropriation of the natural topographical and ecological structure by the Phrygian (c. 1200 BC) and preceding ancient civilizations. Despite being ripped off from their original geographical continuum due to expansive urbanization, these fragments, monumental in size and components of the oldest visual structure of the city, still offer significant potentialities – social, ecological, recreational – to reformulate nature-culture relationships in today’s Ankara.

The Tumuli have been researched and registered since the early years of the Republic. During the 60s and the 70s, the registered tumuli were heavily affected by rapid urbanization, and yet rescue excavations upheld the archeological research during the period. The following decades, however, witnessed a significant recession in attention within fields of archeology, urban history and culture, landscape, and urban planning. Today, the Tumuli have widely decreased in number, and the surviving ones have been significantly damaged. They are almost erased from the memory of the city and its inhabitants.

This research intends to reanimate a critical gaze in these urban-landscape patches as, on one side, parts of the urban spatial structure and life – as open spaces and, on the other, as components of a unique value system created by tumuli in the wider Phrygian geography. Departing from its findings from historical aerial imagery and maps that indicate the number of tumuli in Ankara far exceeds the formerly registered ones, the work highlights the cross-boundary capacities suggested by this network that structures over topographical and ecological corridors. It reflects on how this cultural-natural integrity might become operative in reappraising the urban-rural continuum within the current urban condition. Therein, the study dwells on the interdisciplinary framework this urban-regional reach entails – its conserva-

tion, research, integrity to urban structure, history, life, memory, and ecology – and accentuates the urgency of constituting partnerships among the public, professionals, and authorities across scales.

### **Keywords**

Cultural Landscape, Tumuli

## Integrated language and liberation war memorial

**Mr Muhammad Shamsuzzaman<sup>1</sup>**

1LGED, Dhaka, Bangladesh

Landscapes, memory and tradition, Online, September 28, 2023, 3:00 PM- 5:00 PM

### ***Biography:***

*Architect Urban Planner*

Project description (max 250 words) : a multipurpose public space has been created by uniting two existing monuments with a platform and landscape elements. An existing deteriorated space turned around to a positive public place. Inviting, accessible public space has been created by providing access from 3 directions and steps for seating. A backdrop wall for liberation war and language movement based artworks attracts people. Openness and provision of lighting have made this place gender responsive. Ramp has been provided to make the space accessible to people with disabilities. Green infrastructure such as permeable pavement, bio-pond and flower beds have been incorporated. The existing trees are retained.

Relevance for theme: the project responds to climate change and biodiversity loss issues by incorporating green infrastructure and by retaining existing trees. The backdrop wall of artwork links present generation with history of liberation and language movement. The newly created platform using as a stage for cultural and political activities. At the same time it is a public open space for the citizen.

### **Keywords**

inclusive public space

**Design project**

## Philosophical and interdisciplinary approaches of landscape architecture

# Evolving Perspectives on Ideologies of Alternate Ecological Living

**Mr Mehmet Taylan Tosun**<sup>1</sup>, Prof. Dr. Meltem Erdem Kaya<sup>2</sup>

<sup>1</sup>Istanbul Technical University / Department of Landscape Architecture / Masters Program, Istanbul, Turkey, <sup>2</sup>Istanbul Technical University /

Department of Landscape Architecture, Istanbul, Turkey

Philosophical and interdisciplinary approaches of landscape architecture, Online, September 28, 2023, 3:00 PM- 5:00 PM

### **Biography:**

*Mehmet Taylan Tosun is a Turkish architect. He received his Bachelor's degree in Architecture from Istanbul Bilgi University in 2020 and currently studying his Master's degree in Landscape Architecture at Istanbul Technical University. His field of study is Eco-futurism and the perception of society on ecology.*

The condition of the world is progressively deteriorating due to the growing disconnect between humans and nature. Therefore, ecological living is essential. To be prepared for the future, it is necessary to know past ideas and discussions and examine their evolution over time. Alternative ecological life ideologies, which existed in various formats with their effects from the past to the present, show that societies have been in search of an ecological life for the future since the emergence of the climate crisis, while at the same time questioning whether an ideal ecological life can exist. This study employs comparative discourse analysis to identify common themes in various ecological ideologies, their intended audiences, primary objectives, successes or failures, and societal impacts while questioning an ideology's success criterion. It is assumed that today's eco-smart city projects and urban green plans for the future are at the end of this chronology of ecological life ideologies, which evolve into many different formats from experimental hippie communal settlements to green utopia literary works, from visualized manifestos and movements to smart urban plannings. The development of ecological life ideologies is closely tied to the evolution of societal ecological awareness, with each influencing the other in an iteration, resulting in an overall increase in ecological consciousness within the society. Thus, it is questioned that Eco-Futurism can be used as a perception tool in landscape design with the continuous development of technology at the source of this mutualistic development.

### **Keywords**

Utopianism, Eco-Futurism, Discourse

# Renewing mapping tools in light of the more-than-human turn

**Mrs Violaine Mussault Forsberg<sup>1</sup>**

IAHO - Arkitektur og designhøgskolen i Oslo, Oslo, Norway

Philosophical and interdisciplinary approaches of landscape architecture, Online, September 28, 2023, 3:00 PM- 5:00 PM

## **Biography:**

*Violaine Mussault is a french-norwegian landscape architect and PhD candidate. She has experimented with bottom-up processes for designing public spaces and has conducted several subjective mapping experiments with communities. She is currently pursuing this research on representational tools, focusing on the consideration of non-human agents in climate action issues.*

Recent contributions to anthropology encourage us to go beyond the modernist nature-culture paradigm and overcome humans' strictly utilitarian vision of nature to develop a relational ecology with non-human beings. In light of these discourses, a more-than-human turn in the landscape discipline has emerged. Scholars suggest seizing the window of opportunity offered by this perspective to claim a more critical role of non-human agents in spatial planning processes. The more-than-human turn encourages landscape practice to notice, decipher, visualize, and design for more-than-human interrelations where living beings are no longer objectified but considered possible partners.

One of the most human-centered aspects of our culture's approach to our environment has been the heavily engineered efforts to control geohazard through levered rivers and avalanche safety installations. Thus, the discipline's foundation in human-nature mediation can take on an even more compelling significance today in light of this new post-human paradigm and the urgency of climate action.

In this context, the anthropocentric approach to mapping is no longer acceptable, and the discipline needs to redefine mapping as a tool for "inter-species diplomacy."

The research takes landscape practitioners' recent experimental cartographic works as a starting point. It investigates how they can contribute to building renewed representational tools by experimenting with a large interdisciplinary research team involved in a research project on Nature Based Solutions for adaptation and mitigation.

It explores ways of visualizing non-human beings and natural elements -such as rivers- to capture their interests, movements, and "perspectives." These represen-

tations allow a more refined understanding of more-than-human interrelations and geohazards. Furthermore, this is a crucial step in the design process of solutions that support the interests of non-humans.

Through practice, the research sees its contribution in experimenting with more-than-human cartographic models and building transferable mapping methods for landscape planning in the context of risk management. The research by practice is conducted by designing a landscape guide-plan for the Aurland region in Norway, integrating interdisciplinary contributions and insights from the communities.

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**Keywords** Geohazards, Cartography, Post-human



# Large-scale afforestation to compensate for the loss of climate connectivity

**Dr Qiyao Han**<sup>1</sup>, Dr Ming Li<sup>2</sup>, Professor Greg Keeffe<sup>3</sup>

<sup>1</sup>Nanjing Agricultural University, Nanjing, China, <sup>2</sup>ETH Zurich, Zurich, Switzerland, <sup>3</sup>Queen's University Belfast, Belfast, United Kingdom

Philosophical and interdisciplinary approaches of landscape architecture, Online, September 28, 2023, 3:00 PM- 5:00 PM

## **Biography:**

*Qiyao Han is an associate professor at the Department of Landscape Architecture, Nanjing Agricultural University. Previously, she was a research fellow at the School of Natural and Built Environment, Queen's University Belfast, working with Professor Greg Keeffe. Her work focuses on climate change adaptation and climate-driven species migration.*

Climate-driven species redistribution is one of the most pronounced and challenging impacts of global warming on biodiversity conservation. Extensive deforestation is likely to impede species range shifts by removing connections between forest patches, reducing the climate connectivity of forests for species' range shifts. Large-scale afforestation is an effective way to mitigate the negative impact of forest loss. Over the past decades, the Chinese government launched a series of afforestation projects to increase forest cover, yet whether the new forests can offset the loss of connectivity due to deforestation—and where future afforestation would be most effective—remains largely unknown.

Here, we evaluate changes in climate connectivity across China's forests between 2015 and 2019. Our method evaluates both the extent of climate connectivity (ECC) and the probability of climate connectivity (PCC). ECC measures the degree of climate warming that species can circumvent by range shifts, while PCC measures the probability that connectedness can be achieved between climate analogues which have similar climates across current conditions and future scenarios.

We find that although China's large-scale afforestation alleviated the negative impacts of forest loss on climate connectivity, only ~55% of the trees planted in this period could serve as stepping stones for species range shifts. The results were summarized in each forest-dominated biome. We then identified 53 million hectares (Mha) of land that would significantly enhance climate connectivity if their forest cover were increased to 30%, which would require 5.6Mha of forest gain.

Our findings indicate that focusing solely on the quantitative target of forest coverage without considering forest connectivity may fail to maximize the biodiversity benefits of afforestation under climate change. More attention should be paid to creating effective stepping stones for species range shifts. Given the increasing momentum of tree-planting initiatives around the world, it is important to understand

how large-scale afforestation can improve climate connectivity and facilitate species range shifts and where afforestation efforts would be most effective. We believe our study will be of great interest to policymakers and practitioners working on tree planting and stimulate wider consideration and incorporation of climate connectivity in future afforestation efforts.

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**Keywords** climate connectivity forest

# Resilient future cities through landscape urbanism in Tehran, Iran

**Mr Reza Farhadi**<sup>1</sup>, Mr Hadi Soltanifard<sup>2</sup>, Mr Ramin Sabouri<sup>3</sup>

<sup>1</sup> Lecturer, Department of Landscape Architecture, University of Hormozgan, Bandar Abbas, Iran, Researcher in urban planning at University of Tehran. Corresponding author: Reza Farhadi Email: reza.farhadi@ut.ac.ir , , Iran, <sup>2</sup> Faculty of Geography and Environmental Sciences, Hakim Sabzevari University, Sabzevar, Iran, , Iran, <sup>3</sup> PhD candidate in Urban Landscape at Paris-Lodron-Universität Salzburg, 5020 Salzburg, Austria, Salzburg, Austria

Philosophical and interdisciplinary approaches of landscape architecture, Online, September 28, 2023, 3:00 PM- 5:00 PM

## **Biography:**

*Reza Farhadi is an urban planner, landscape architecture consultant, urban futurist and lecturer at universities in Iran. He has co-authored three books on urban planning and landscape architecture in Persian. The titles of these books are “Plants in Landscape Architecture,” “Urban Parks Design Guide,” and “Introduction to Urban Livability.”*

In recent decades, many cities have faced a combination of environmental conflicts at the same time. While some cities may temporarily face such conflict, finding a global approach is essential to ensuring solutions that recover over time. This study addressed Landscape Urbanism (LU) to show how to consistently apply this approach to planning and designing future cities more resilient to climate change and global environmental problems such as climate change, urbanization, and social inequality. In LU's view, planning and designing resilient cities requires a flexible framework to manage environmental stresses and shocks and address challenges properly. Our work aims to explore an interdisciplinary approach based on the concept of LU that contributes to adapting eco-friendly planning and design to the complexity, uncertainty, and vulnerability of urban areas. The study provides an optimized framework to provide solutions to Tehran's physical and spatial features, characterized by its local complexity. The results show that LU has much potential to help urban ecosystems and communities adapt to problems and make Tehran more resilient. Adopting the proposed framework suggests that resilience will be enhanced by integrating cities' ecological, social, and physical characteristics and broadening local tolerance to the challenging environment. The framework also suggests that Tehran should be transformed into a multifunctional, ecologically connected, and resilient system where biodiversity can be simultaneously enhanced, promoting an open society and encouraging economic growth. The findings of this study have important implications for urban planners, designers, landscape architects, policymakers, and stakeholders who care about the future of our cities. LU is a new way to plan and design cities, considering how ecological and social systems

affect our built environment. As population growth, climate change, and other environmental issues put increasing pressure on cities, they need new ways to make themselves sustainable, resilient, and worthy. LU is a novel approach to achieving these goals and could be essential to planning, designing, and building future resilient cities.

## **Keywords**

landscape urbanism(LU), resilient, Tehran

# (Re)searching landscape cartography: Cartography sources for better understanding contemporary challenges

**Mr Ivan Tolić<sup>1</sup>**

<sup>1</sup>Geodesign J.d.o.o., Zagreb, Croatia

Philosophical and interdisciplinary approaches of landscape architecture, Online, September 28, 2023, 3:00 PM- 5:00 PM

## **Biography:**

*I am a self employed landscape architect with professional experience in the field of landscape architecture (planning and design) and a PhD student at the Faculty of Architecture in Zagreb*

Cartography plays an important role in building humanized spaces and by using cartographic tools, landscape architects can create more accurate and comprehensive depictions of the environments. This helps to better understand how different elements interact with each other, leading to greater insight into potential solutions for a given area. Furthermore, cartography can be used to identify patterns and correlations between objects in different environments, allowing for more informed decision – making when it comes to practicing landscape architecture (planning and design), across different environmental (or landscape) typologies and scales. The author explores how historical cartography sources can be used to address contemporary environmental challenges and the problems that can arise relying on such sources in the context of the discipline of landscape architecture. The possibility of using cartographic sources in researching environmental (or landscape) transformation for addressing contemporary challenges are analyzed through cartographic analysis of Croatian rivers.

## **Keywords**

Landscape, Cartography, Transformation

## **Place identity and transformation**

# Performance of Art-based Spectacle in Busan's Urban Landscape

**Ms Juyeon Kim**<sup>1</sup>, Dr. Myungjin Shin<sup>2</sup>

<sup>1</sup>Seoul National University Graduate School Of Environmental Studies, Seoul, South Korea, <sup>2</sup>SNU Environmental Planning Institute, Seoul, South Korea

Place identity and transformation, Online, September 28, 2023, 3:00 PM- 5:00 PM

## **Biography:**

*Juyeon Kim is a Ph.D student at Seoul National University Graduate School of Environmental Studies. Her research interest includes postindustrial city, performance, and city events.*

Busan Biennale is a site-specific art and cultural event in Busan, South Korea, that uses local sites within the city as well as the art museum to re-envision the urban landscape. In particular, its impact is most visible when considering the industrial sites such as factories, train stations, and modern structures that have transformed into a public landscape via artistic event.

This study focuses on the adaptation of industrial landscape as biennale site between the years 2014-2022 to analyze the process of landscape changes and to understand the site-specific performance of the biennale and its impact on urban landscape. Based on literature review, interviews and observation-based site analysis, the transformations of the sites are discussed in terms of their context and public reception. Key sites discussed include Suyoung Steel Factory, Old Bank of Korea, and Busan Port Pier 1. These sites have been abandoned due to industrial changes in Busan. However, the symbolic values and memories embedded within the sites are revitalized as part of the performance of the biennale.

These sites, prior to the biennale, had been long lost from public view. The artists participating in the biennale found artistic merits of the site in relation to their placeness revealed their performative qualities. As the utilization of the changes, a new placeness can emerge as a result. In fact, all of the sites discussed either are used as public cultural spaces or is under discussion towards the goal.

While the term 'spectacle' has become subjected to negative connotations during the last few decades, this study finds that the spectacle, if used within a long-term strategy, can be beneficial to the urban landscape. With preconceived plans in terms of their life after the biennale, the spectacle in fact functioned as a public engagement event for the sites discussed. The case of Busan Biennale and the related industrial sites demonstrate a potential for adapting artistic spectacle as public engagement program for long-term transformation of the site into a public landscape.

**Keywords** spectacle, industrial, Busan

# Evaluating the Restorative Effects of Extraordinary Natural in VR Interventions

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<sup>1</sup>Beijing University Of Civil Engineering And Architecture, Xicheng District, China

Place identity and transformation, Online, September 28, 2023, 3:00 PM- 5:00 PM

## **Biography:**

*Zhang Lin is studying for a Master's degree in Architecture at Beijing University of Civil Engineering and Architecture. I'm in the first year of graduate studies and my research interests are in the field of architectural technology and science, with a focus on virtual healing landscapes and human factors engineering.*

## **Objective:**

Some researchers have suggested the concept of extraordinary nature, which elicits feelings of awe in individuals. Some studies have shown that extraordinary natural landscapes are more effective in reducing negative emotions than common landscapes. The purpose of this research is to evaluate extraordinary natural landscapes along four dimensions and investigate the relationship between restoration outcomes and evaluation scores.

## **Method:**

The present study employed a combination of objective physiological measurements and subjective ratings to investigate the restorative benefits of extraordinary natural landscapes. First, a Semantic Differential (SD) scale was developed to evaluate the extraordinariness of landscapes. Subsequently, three extraordinary and three common landscapes were selected for participants to experience in virtual reality (VR). A total of 60 healthy college students (with a balanced gender ratio) participated in the experiment. Participants wore wearable devices to monitor physiological data, including EEG, GSR, and HRV. Additionally, subjective questionnaires, including the Perceived Restorativeness Scale and the SAM Emotional Scale, were administered to evaluate the impact of restoration effects and emotions.

## **Results:**

The experimental results revealed that extraordinary natural landscapes, as rated using the SD semantic differential scale, were found to have significantly stronger restorative effects compared to common landscapes. The physiological indicators (EEG, GSR, HRV) also showed that participants had lower stress levels and higher relaxation levels in extraordinary natural landscapes. Additionally, the Perceived Restorativeness Scale scores were significantly higher for extraordinary natural landscapes compared to ordinary ones. Participants also rated the extraordinary natural landscapes higher on the four dimensions of evaluation, including being away, fasci-

nation, coherence, compatibility.

Conclusion:

The findings of this study indicate that extraordinary natural landscapes have better restorative effects, as evidenced by the physiological indicators and subjective ratings of participants. However, it is important to note that excessive level of extraordinariness may trigger negative emotions such as fear and helplessness. Additionally, the acceptance and preferences for extraordinary landscapes are influenced by various social-cultural factors, such as personal experiences and long-term living environments, as well as physiological factors such as gender. Overall, this research provides a new perspective and quantitative data for the study of therapeutic landscapes.

### Keywords

Healing-Environment, Perceived-Restorativeness, Virtual-Reality-Interventions

## Euljiro Shutter Art: A Part-time landscape project in Seoul

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Place identity and transformation, Online, September 28, 2023, 3:00 PM- 5:00 PM

### **Biography:**

*Myungjin Shin, Ph.D is an adjunct researcher at the SNU Environmental Planning Institute. With background in art and architectural history, landscape theory, and environmental aesthetics, she has recently finished her thesis "Landscape Authenticity in the Post-industrial City." She has published works on Olmsted, sculpture parks, urban tourism, and modern landscapes.*

Euljiro Shutter Art Project in Seoul is an example of temporal adaptation of a city landscape that has changed the nighttime context based on site-specific conditions and on-site negotiations. Based on literature review, on-site surveys and in-depth interviews, this case study demonstrates how a time-based public art project can be adapted to form a new identity for urban landscape while supporting the existing tenants and their livelihoods.

Euljiro is part of Seoul's old city center known for small-scale factories and industrial networks. For decades, it has remained a maze-like back-alley district, filled with factories, mills, and diners that serve the laborers. Even though the manufacturing industry in Seoul has stagnated, if not reduced, the area remains a vibrant source of innovation and hands-on creativity.

However, in recent years, Euljiro has become subjected to inflow of art and cultural visitors, resulting in the pseudonym 'Hip-jiro' to describe the area. Several institutions including artist residences, cultural centers and galleries have claimed the space, particularly on the second or third floors that are less occupied. Such a phenomenon has garnered issues regarding gentrification and threats of large-scale redevelopments.

What differs Euljiro Shutter Art Project is that the project claims the streets after dark. By making use of the shutters after the factories have closed for the evening as the canvases for graffiti artists, it has become one of the most successful and sustainable examples of mural artwork in Seoul. This project demonstrates a careful consideration for the site-specific conditions and invisible networks that allow the site-specific conditions to operate.

Furthermore, the streets not only become gallery spaces but also as a platform for loose networks that can bring together the industrial workers and the urban tourists without direct interaction. The project is curated so that it cannot survive without the factories in operation; it is founded on the fact that Euljiro has become a tourist magnet, therefore placing idiosyncratic aspects of the landscape to co-exist

with the existing contexts. It is a case that considers the relationship between local industry with global tourism trends through the lens of site-specific conditions and potentials.

### Keywords

graffiti, multipurpose, postindustrial

## From abandonment to hotspot: a Community Transformed by Art Field

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<sup>1</sup>South China University of Technology, China, Guangzhou, China

Place identity and transformation, Online, September 28, 2023, 3:00 PM- 5:00 PM

### **Biography:**

*Zeng Yue, a Ph.D. candidate in Urban Planning at the School of Architecture, South China University of Technology, with a dual M.A. in Urban Design from Tongji University and Technische Universität Berlin, has over ten years of experience, participated in more than 60 planning projects and published many articles*

**Background, objective and result:** The West Bank community is part of Xiqiao Town, Nanhai District, Foshan City, China. It has excellent natural resources, but is an enclave across the river from the main township. Due to the early and failed implementation of large-scale tourism projects, the government lost the trust of local residents. Planning stepped in during this period.

The government first held a strategic planning launch to create positive expectations for the community. It then mobilized social resources to contribute, and finally organized the Art Field Nanhai Festival. Finally, this community's trust in the government has improved.

**Research methods:** By interviewing community members and crawling and analyzing web reviews of local hotels, restaurants, and other service industries, the study evaluates the benefits generated by this festival.

**Conclusions:** Planning timing is critical. Before strategic planning began, there was strong community resistance, and even the laying of power lines was dug up. After the launch and fundraising, from initial resistance to communicating with visitors and taking the initiative to volunteer, community members gradually increased their trust in the government. The data showed that the festival was also a financial success. This further increased the residents' trust in the government. At the same time, the festival strengthens villagers' identification with their communities and facilitates their communication with the outside world by artistically transforming existing abandoned ancient villages and derelict buildings, turning waste into landscape and forgotten communities into social media hotspots.

### Keywords

art, trust rebuilt

# Dynamics of human-nature interaction at Rameswaram-Dhanushkodi sand spit, India

**Ms Haritha M K**

1Manipal School Of Architecture & Planning, Department Of Design, Manipal, India

Place identity and transformation, Online, September 28, 2023, 3:00 PM- 5:00 PM

## **Biography:**

*I am a Landscape Architect and assistant professor at Manipal School of Architecture and Planning. Having worked on a wide range of industry projects ranging from residences to warehouses in South India, I am currently studying coastal landscapes with emphasis to sand spit based formations and their communities.*

The dynamics between human and nature play a significant role in altering the narrative of a region. Human-nature interactions create a powerful dialogue among the tangible and intangible elements associated with a space. These interactions allow the people to develop a strong relationship with the region. The island of Rameswaram is in the south-eastern end, separated from the main landmass of India. The Rameswaram-Dhanushkodi sand spit is a 20-kilometre-long landform that extends into the confluence of Bay of Bengal and Indian Ocean. The region is heavily influenced by human activities that can be categorised into 3 groups - tourists, locals and refugees. Rameswaram is a popular pilgrim destination, thus, national and international tourism plays an important role. The sand spit carries within itself 3 lagoons that have abundant seaweed and seagrass growth therefore attracting large number of migratory birds. This in turn draws large number of tourists and encourages research too. The sand spit historically hosted a ferry service to Sri Lanka, which was discontinued due to the storm of 1964 that destroyed the entire town of Dhanushkodi. Sri Lanka being the closest neighbouring country here is just 18 kilometres away, therefore making the sand spit the first point of contact for refugees during times of distress. Through primary observations and secondary references, the paper studies the association of people – tourists, locals and refugees with the sand spit: a landform of high ecological value. Examining the challenges and opportunities of human-nature interactions provides a wide scope to explore the characteristics of the region, its sensitivity and its potential; eventually creating a strong framework for future development.

## **Keywords**

Coast, Sandspit, Community

## **Planning for healthy everyday life**

# Is green open space's walking accessibility declining in mountainous city?

**Dr Dan Luo**<sup>1</sup>, Miss Yishan Zhang<sup>1</sup>

<sup>1</sup>Chongqing University, Chongqing, China

Planning for healthy everyday life, Online, September 28, 2023, 3:00 PM- 5:00 PM

## **Biography:**

*Dr. Luo Dan, Associate Professor, Vice Director of Department of Landscape Architecture, Faculty of Architecture and Urban Planning, Chongqing University. Member of CHSLA, expert of Chongqing Society of Landscape Architecture, member of Park City Professional Committee of SRC Urban Streetscape Design Research Center. Research interest: urban green space.*

Walking accessibility is an important index to evaluate the service efficiency of green open space. The quantitative evaluation of walking accessibility is difficult in mountainous areas, and the influencing factors of accessibility are complex. The accessibility range of green open space is relatively limited. Therefore, accurate and objective measurement of walking accessibility and analysis of its influencing factors are the key issues facing the optimization and improvement of green open space in mountainous city. Taking Yuzhong District, Chongqing, China as an example, the quantitative evaluation method of spatial accessibility based on actual walking paths was explored by relying on network map API and ArcGIS platform, and compared with point buffer method and network analysis method, the real walking accessibility of green open space in mountainous city was evaluated and the reasons for the differences were analyzed. The results show that: based on the comparison of the three quantitative evaluation methods, the walkable range of green open space in mountainous city declines by 24.81% and 42.47%, and the walkable range based on the actual walking path declines most obviously, and the attenuation degree of each object is not balanced. Further analysis shows that the reasons for the differences among the three methods include mountain barrier, traffic facility barrier, fence barrier and poor entrance setting, and then puts forward the accessibility improvement strategy of green open space in mountainous city. This study provides ideas for objectively evaluating the walking accessibility of green open space in mountainous city, and has important practical significance for optimizing the layout of green open space in mountainous city and improving service efficiency.

## **Keywords**

GOS; Walking-accessibility-decline; Mountainous-city

# Putrajaya steps as environmental healing instruments for sustainable urban living

**Mr Nazri Ishak**<sup>1</sup>, Mr Wan Fakaruddin Wan Abdul Aziz

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Planning for healthy everyday life, Online, September 28, 2023, 3:00 PM- 5:00 PM

## **Biography:**

*Nazri Bin Ishak is Landscape Architect based on Kuala Lumpur. As Certified Landscape Architect from Institute Landscape Architect Malaysia since 2018, Nazri involve d with a lot of project from master planning to small scale landscape design and built, Sustainable and Resilience Design is always implement to his project.*

Over the years, the impact of climate change has tremendously influenced people's way of living, especially in urban areas, which caused environmental degradation and affected health quality. Therefore, the Putrajaya Steps (Tangga Putrajaya) were initiated as a combating tool for climate change from the perspective of the built environment domain. This recent iconic green infrastructure project for Putrajaya is in Precinct 1, Federal Territory of Putrajaya, Malaysia. It's a staircase project equipped with 199 stairs to enhance the vibrant urban healthy lifestyle and ensure a sustainable urban environment to improve urban dwellers well-being. A systematic review was conducted from various sources like Elsevier, SciRes, Taylor & Francis, Emerald, ESA and published technical journals or data publication from the technical agencies to gather findings that could justify the development of Putrajaya steps as a healing mechanism for the environment and the people. The study indicated two crucial variables relevant to the case study subject; physical activities as an urban healthy lifestyles indicator and the healing and healed milieu approaches. In the case of Putrajaya Steps, performing a set of flights of stair climbing as a form of physical activity could burn up to 37.15 calories. A combination form of exercises will increase the number of burned calories. In this regard, the more intense the calories burned, the healthier our body will be. As the Putrajaya Steps is being planted with *Tabebuia rosea*, it will ensure cleaner surrounding and better air quality as this plant have an excessive capability for carbon sequestration to reduce the amount of CO<sub>2</sub> in the air and a high air pollution tolerance index (APTI) value. As Putrajaya Steps is a project that applied the ecosystem-based adaptation concept to climate change, this project could contribute to better and sustainable urban living by promoting a sustainable healthy lifestyle and enhancing the existing site components.



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## Keywords

Sustainable Healing Environment

# The relationship between airborne pollen concentration and vegetation spatial structure

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<sup>1</sup>Beijing Forestry University, Beijing, China

Planning for healthy everyday life, Online, September 28, 2023, 3:00 PM- 5:00 PM

## Biography:

*YU Miao is a Ph.D. candidate in the School of Landscape Architecture, Beijing Forestry University. Her research focuses on landscape planning and design.*

[Objective] This study explores the relationship between spring airborne pollen concentration and vegetation spatial structure, and summarizes the spatial structure of vegetation under different pollen concentrations to provide a scientific basis for designing and modifying communities containing allergenic plants, and to improve the reality that the incidence of pollen allergy is increasing year by year worldwide. [Methods] In this study, we applied Durham pollen collectors to monitor air pollen concentrations at 92 sampling sites in Beijing from April 3, 2021 to April 9, 2021. The spatial classification of vegetation with different pollen concentrations was performed by using CART, and the spatial structure model maps of vegetation corresponding to high, medium and low pollen concentration profiles were obtained. [Results] Tree cover was the main control index to distinguish pollen concentration in different squares. Besides, the control indexes for different pollen concentration in different vegetation spaces include the average height of shrubs, the average height of trees, the average height of groundcovers, the type of plant community structure, the proportion of trees, and the amount of three-dimensional greenery of groundcovers. The spatial structure of vegetation with low pollen concentration is mainly high in the upper layer of trees and low in the middle and lower layers of shrubs, and the vegetation type is mainly large trees with high branch points. The spatial structure of vegetation with high pollen concentration is mainly of two types, one is when the upper layer of tree cover is low, the middle and lower layers are densely vegetated, and the other is when the upper layer of tree cover is high and the vegetation community is dense. [Conclusion] For new urban green spaces, sensitized plants should be used in vegetation communities with a spatial structure similar to that of vegetation with high pollen concentration. For established vegetation communities containing airborne pollen-sensitizing plants, the original spatial structure of vegetation with low pollen concentration can be transformed into a spatial structure of vegetation with high pollen concentration by adding plants.

**Keywords** airborne pollen;CART;vegetation spatial

# Species and Planting Configuration on Microclimate for Urban Trees

**Dr Dan Zhao**<sup>1</sup>, Pro Wenli Ji<sup>2</sup>, Pro Jun Cai<sup>1</sup>

<sup>1</sup>College Of Landscape Architecture, Beijing Forestry University, Beijing, China, <sup>2</sup>College of Landscape Architecture and Arts, Northwest A&F University, Yangling, China

Planning for healthy everyday life, Online, September 28, 2023, 3:00 PM- 5:00 PM

## **Biography:**

*Dan Zhao, female, PhD candidate in Landscape architecture, College of Landscape Architecture, Beijing Forestry University, China. Her research direction is urban green space and low-carbon landscape design*

**Objectives:** The urban heat island (UHI) is a well-known phenomenon, which not only reduces the comfort level of the urban population, endangers their health, but also reduces urban biodiversity. Facing the problems caused by UHI, the way of increasing the vegetation seems to be a vital strategy to alleviate UHI. However, the influence of urban trees with different configurations on the urban thermal environment has not received enough attention. Herein we show how spatial arrangement and foliage longevity, deciduous versus evergreen, affect the urban microclimate.

**Methods:** Our study analyzed the differences between meteorological parameters (air temperature, relative humidity, vapor pressure deficit) of 10 different species of urban trees (5 evergreen and 5 deciduous tree species), each of which had been planted in three configuration modes in a park and the campus green space in Xi'an. By manipulating physiological parameters, crown structure, and plant configurations, we explored how local urban microclimate could be altered. Results showed that: 1) Microclimate regulation capacity: group planting (GP) > linear planting (LP) > individual planting (IP). The diurnal variations of air temperature and relative humidity in the three configuration modes and the control sites all showed the shape of "U". 2) Deciduous trees (DT) regulated microclimate better than evergreen trees (ET). 3) Microclimate regulation capacity was ranked as group planting of deciduous (DGP) > linear planting of deciduous (DLP) > group planting of evergreen (EGP) > linear planting of evergreen (ELP) > isolated planting of deciduous (DIP) > isolated planting of evergreen (EIP). 4) We constructed the microclimate regulation capability model of urban trees. The transpiration rate, stomatal conductance, three-dimension green quantity, and leaf area index could explain 94% variation of microclimate effect. **Conclusions:** This study demonstrated that the UHI could be mitigated by selecting deciduous broadleaf tree species and planting them in groups. Given the above research, more theoretical support can be provided for landscape architects in future planting design to reduce the negative impact of the urban heat island effect. **Keywords** Urban heat island

# Determining the priority of green healthy space in Ordos, China

Mr. Yiqun Yang, **Miss Siwen Hao**<sup>1</sup>, Mr. Dong Gao, Dr. Qin Guo

<sup>1</sup>College Of Landscape Architecture, Central South University Of Forestry And Technology, , China

Planning for healthy everyday life, Online, September 28, 2023, 3:00 PM- 5:00 PM

## **Biography:**

*Yiqun Yang is an urban designer in SOM who has participated in many world-renowned landscape design and planning works. Yiqun is particularly interested in developing innovative ideas to address challenging urban planning contexts and integrating the healthy living concepts into the green open space design by sustainable method.*

Despite many studies focusing on human health and urban green space, few considered the priorities of green healthy space construction. We identified the priorities for urban green space construction by cooperating with residents using data from Kangbashi District, Ordos. Attributes influencing residents' health, well-being, and social interaction were collected through questionnaire and investigated using the Delphi method and Asymmetric Impact-Performance Analysis. Satisfaction with green space in Kangbashi district was asymmetric and the priorities should be biodiversity, accessibility, number and area of activity places and facilities, and privacy. The study provided a guide for future urban green healthy space construction.

## **Keywords**

green-healthy space; satisfaction

# Outdoor Thermal Comfort in Taksim Square and Gezi Park, Istanbul

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Planning for healthy everyday life, Online, September 28, 2023, 3:00 PM- 5:00 PM

## **Biography:**

*She graduated from Landscape Architecture Department and continues to study in Urban Design Master Program at ITU. She has been interested in climate change and ecological design since her BSc; additionally, she focuses academically on the topics such as resilient cities, urban morphology and human thermal comfort.*

Public open spaces have various microclimatic conditions created by the varied landscape elements they contain. These conditions cause people to feel thermally comfortable or stressed and significantly affect users' comfort. Designing microclimate-sensitive public open spaces that support user comfort, requires both subjective and objective measurements to accommodate users' numerous perceptions of thermal comfort. However, studies still lack site-specific data and are limited in number, especially in Turkey, despite an increasing interest in the subject worldwide over the past 20 years. This study aims to define the summer outdoor thermal comfort conditions and thermal perception categories in Taksim Square and Gezi Park, located in Istanbul. In this context, microclimatic monitoring and more than 400 surveys with pedestrians were simultaneously realized between 30 July-2 August 2022 from 10:00 to 18:00 in selected 4 locations. Air temperature, relative humidity, wind speed and direction were measured for microclimatic monitoring. Personal information including gender, height/weight, age, clothing and activity level was gathered from the participants through a questionnaire survey, and participants rated their thermal sensation, acceptability, preference and general comfort situations using ASHRAE and McIntyre scales. Microclimatic and environmental data were analyzed using ENVI-met software to calculate the mean radiant temperature and RayMan software to calculate the PET index [Physiological Equivalent Temperature] that was chosen for thermal comfort calculations in this study. A regression line was used to determine neutral and preferred PET ranges based on questionnaire responses. Lastly, PET values were compared temporally and spatially, and a summer thermal perception scale was created for the study area. The study findings show that public open spaces have different microclimatic conditions and these conditions are perceived differently by pedestrians. The study highlights the need to determine outdoor thermal conditions on a site-specific basis. Additionally, it is the

first study in Istanbul to include both objective and subjective evaluations simultaneously. Moreover, questioning the thermal comfort conditions of open spaces on a micro scale will enable the creation of sustainable urban policies, and will enable the creation of cities that are more resistant to climate change and heat waves, which are urban problems of today and the future.

## **Keywords**

outdoor thermal comfort

# Natural solutions for health: the improvement of allergy in green-space

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<sup>1</sup>Beijing Forestry University, Beijing, China

Planning for healthy everyday life, Online, September 28, 2023, 3:00 PM- 5:00 PM

## **Biography:**

*Song Shuqing received a Bachelor's degree in Landscape Architecture from Beijing Forestry University, Beijing, China, in 2021. Now a student of Master of Landscape Architecture at Beijing Forestry University, the research direction is Landscape Architecture Planning and Design, Landscape Architecture and Public Health.*

The COVID-19 pandemic renewed global awareness of the irreplaceable role of life and health values in social sustainability. For the ecological health of cities and the physical and mental well-being of people, green spaces are essential. However, the spreading and maturing of some allergic fast-growing trees can pose an increasingly critical seasonal allergy risk. With the emphasis on the health and well-being of green spaces, governments and the public have begun to pay close attention to improving allergy risks in areas of China with severe pollen allergies, such as Beijing and Shaanxi, as well as in developed countries such as Japan and England. However, green spaces are living green infrastructures, and how to reduce allergy risks with natural solutions based on existing conditions is crucial in providing a high-quality and liveable living environment.

This study monitored pollen allergy in green spaces in Beijing over 2 years. Pollen collection of typical local pollen-sensitive plants was carried out. We studied 61 green spaces and vegetation information from 310 sample sites. A modified Durham pollen sampler was used to collect pollen grains in spring and autumn. A total of 23 species, 18 genera, 11 families of allergic plants, and over 400,000 pollen grains were identified by microscopy. Based on the collection and identification, through regression model, CART decision tree model, CFD simulation and multiple statistical analyses to explore the mechanism of pollen dispersal and deposition, and the improvement path of pollen allergy risk based on natural solutions.

The research shows that (1) The source of allergic pollen in Beijing is common landscape plant, which shows seasonal variations. (2) The main distance for pollen dispersal is between 40 and 73 meters. Meanwhile, the group pattern favors pollen deposition and the street tree pattern accelerates dispersal. (3) Regarding the community configuration, communities with tall upper layers and sparse lower layers stimulated dispersal. Low canopy cover and dense vegetation in the lower layers or

very high canopy cover communities promoted internal deposition. Finally, a monitoring-assessment-tracking-optimization pathway for risk reduction is proposed, which can serve as a reference for cities also facing seasonal pollen allergies.

## **Keywords**

Allergy; Health; Solutions;

## Resilient heritage - learning from the past

# Theory and Methods for Livable, Resilient Ecological Landscape Planning

**Xiangdong Xiao**<sup>1</sup>, Miss Jiayi Jiang<sup>2</sup>, Miss Zixuan Li<sup>3</sup>, Miss Ming Cheng<sup>4</sup>, Miss Ruilei Zhou<sup>5</sup>, Miss Yimei Xiong<sup>6</sup>

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Resilient heritage- learning from the past, Online, September 28, 2023, 3:00 PM- 5:00 PM

### **Biography:**

*Professor, PhD, majoring in landscape architecture*

The research on climate resilience of urban and rural landscape space is mostly focused on the analysis of blue-green infrastructure adapting to climate change, while the research on multi-dimensional improvement of blue-green infrastructure lags behind significantly. Based on the intensity differences of climate vulnerability under local climate zones, it lays the foundation for identifying key areas of climate vulnerability; using the comparison and superposition of natural solutions to study the spatial and temporal patterns of urban and rural climate resilience is of great significance for deepening the understanding of the promotion mechanism of climate resilience and optimizing the design. This project aims to identify the regional levels of climate vulnerability and their intensity differences in urban and rural areas through the study of "Urban and Rural Local Areas-Climate Resilience". By screening and studying the climate adaptability indicators of the sample plots and the blue-green infrastructure green space plant indicators in local climate zones, comparative analysis and numerical simulation to quantify the priority order and hierarchical structure of the influence of regulatory factors on urban and rural climate adaptation, exploring the quantitative relationship and the interaction mechanism between the intensity difference in vulnerability due to differences in urban and rural areas and the landscape ecological spatial factors, this project provides a unique solution to the cutting-edge scientific problem of the adaptation mechanism of urban and rural landscape ecological space to climate change. By constructing a principal component hierarchical urban and rural landscape ecological livability evaluation standard for adapting to climate change, it provides planners and designers with a more scientific optimization design strategy of livable urban and rural landscape ecological space.

### **Keywords**

Landscape;Climate;Blue Green Infrastructure

# Resilience and Heritage Impact Assessments of Cultural Heritage Region

**Ms Shiyao Li**, Chi Li

<sup>1</sup>School Of Landscape Architecture, Beijing Forestry University, , China

Resilient heritage- learning from the past, Online, September 28, 2023, 3:00 PM- 5:00 PM

## **Biography:**

*PhD candidate of School of Landscape Architecture, Beijing Forestry University*

Cultural heritage contains profound historical and cultural values, and has been protected and developed correspondingly in surrounding urban areas, which could be regarded as a resilient landscape system with dynamic adaptation and evolution characteristics. City modernization and expansion bring opportunities to social economy, while obstruction to heritage scenic area construction and make it more fragile, including destruction of cultural landscape, disappearance of traditional culture, and fragmentation of spatial sequence.

Resilience theory can find out the ability of cultural heritage protected area to recover and adapt to external disturbances quickly and maintain its own internal system balance. Heritage Impact Assessment (HIA) is the important tool for identifying and assessing impact of proposed development projects on cultural heritage, emphasizing both material and immaterial variables. Existing research usually focused on the assessment of heritage value and the impact of external damage. Combining the resilience theory and HIA, a specific method of city cultural heritage spatial assessment was constructed, which could make up for the limitation of past protection methods.

The case study is the Ming Tombs Scenic Area in Beijing, the famous World cultural Heritage, which is one of the most complete and large-scale emperor tomb complexes in the world. The research area is about 120 km<sup>2</sup>, including complex landscape construction components such as village, tourism service building, scenic spot, green space, and reservoir.

Study aim was to introduce resilience and cultural heritage evaluation ideas into the Ming Tombs construction evaluation, and three steps were carried out to achieve the goal. First of all, the analytical framework of Resilience–HIA was put forward including 4 first level and 16 second level indicators. Secondly, based on landscape characteristics and scenic spot distribution of Ming Tombs scenic area, distribution level was classified by cultural value and resilience characteristic through GIS platform by means of kernel density analysis, buffer analysis and superposition analysis. Finally, landscape construction strategies were proposed by overlaid result: maintaining the landscape resistance ability, improving the recovery ability, and

promoting the cultural influence, so as to provide a new perspective for improving the resilience environment in cultural heritage area.

## **Keywords**

Resilience-Theory Heritage-Impact-Assessments Cultural-Heritage

# Research on resilience protection and activation of traditional villages

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Resilient heritage- learning from the past, Online, September 28, 2023, 3:00 PM- 5:00 PM

## **Biography:**

*PhD candidate of School of Landscape Architecture, Beijing Forestry University*

With the rapid urbanization and modernization in china, traditional villages have problems such as ecological fragmentation, cultural absence and decline. And the original spatial pattern is also non-renewable and fragile. It is urgent to explore ancient villages to walk out of a suitable development path.

Qianshanzhuang Village is a typical stone village in Taihang Mountain area which has a long history. Also, it is one of the villages along the scenic road on the top of Taihang Mountain Valley. So, it has good geographical location and traditional culture. However, in recent years, due to extreme climate, living environment damage, incomplete facilities and so on, the number of residents in the villages is gradually decreasing and in urgent need of protection and activation..

The article takes the Qianshanzhuang village of Taihang Mountain as an example and introduces the theory of resilience into the study of ancient village activation. By using literature review, field investigation, GIS analysis and other means, doing the in-depth investigation of the ecological environment, the built environment and the cultural environment of the Qianshanzhuang village. Then, the existing problems under the impact of different risk factors are understood, and the changes and needs of village public space under the perspective of resilience are summarized and the reasons for the resilience imbalance of them are put forward.

Finally, putting forward the design strategy from the three levels of regional environment, multiple function and scenic spot construction, and support the point of view through design practice. Hoping to carry forward the rural traditional culture, improve the production and living environment and achieve the goal of sustainable development.

## **Keywords**

Traditional-village Resilience-protection Activation-design

# Eco-resilience of Geo-Disaster Relic Site through Landscape: Case of Huangtupo

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Resilient heritage- learning from the past, Online, September 28, 2023, 3:00 PM- 5:00 PM

## **Biography:**

*Zheng Zeng received her bachelor and Ph.D degree in Urban Planning and Design from Wuhan University in 2006 and 2012 respectively. She joined the Department of Landscape Architecture at China University of Geosciences as a full-time faculty member since 2012. Her research interests include landscape remediation planning, participatory design, etc.*

Taking the case of Huangtupo geo-disaster site in Badong County located in the Three Gorges Project region in China, which is characterize by its special geological condition and complicated residual issues, the objective of the study is to explore an approach through landscape restructuring to improve the ecological resilience of the landslide relic site and retrofitting it into a site with educational value, historical continuity based on sound security and ecological conditions.

The study employs GIS-based analysis such as DEM study of the site to grade the vulnerability levels of site, risks and causes of landslide, and thus land use suitability of different areas; and taxonomic classification of the physical elements of ecological and landscape planning into topography and water bodies, biological entities, roads and circulation, buildings and facilities; to identify the causal relationship of key factors and optimal coupling of landscape and ecological functions with land use, spatial and physical factors, activities and social functions to mitigate the geological and ecological threats through landscape restructuring.

Further, a planning framework and specific design recommendations are proposed for the relocated relic Huangtupo area regarding waterfront area, water discharge system, building demolition, re-vegetation, agricultural landscape, cultural conservation and display.

The study concludes with a positive outlook on such a framework, affirming its roles in improving nature ecology, place-making, visual quality and eco-resilience under the premise that the Huangtupo area is freed from socio-economic activities but obliged with new educational, cultural and ecological functions to ensure its sustainable use and historical continuity. The study argues that this framework can serve as references for similar planning practices of relic site both in China and abroad and also stresses that the indigenous factors of the site should be properly

addressed to enhance the social value and contextual meaning of the specific site.

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## Keywords

landslide, eco-resilience, Huangtupo

# Construction of Rural Landscape Resilience Measurement System

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<sup>1</sup>Beijing Forestry University, Beijing, China

Resilient heritage- learning from the past, Online, September 28, 2023, 3:00 PM- 5:00 PM

## Biography:

*Zichan Zhang, a PhD student at Beijing Forestry University, has participated in a number of international competitions and projects and achieved several results.*

With the national strategy of “rural revitalization” proposed by China, the development of rural settlements has become the focus of social attention. In recent years, with the rapid development of urbanization and other external social and economic disturbances and impacts, many problems have emerged in China’s rural settlements. This paper takes typical village settlements in the Taihang Grand Canyon scenic area as the research area, compares and corroborates them through field surveys and ethnographic texts, and discusses the spatial and temporal changes of the habitat environment of village settlements on three scales: the canyon, the region, and the village, based on the “adaptive cycle theory”, and discusses the natural ecology, social life, and economic production through three subsystems. The three subsystems are analyzed to explore the core influencing factors and mechanisms in the process of settlement construction.

Taihang Grand Canyon scenic area is a national forest park with both natural and humanistic landscapes. The dangerous terrain in the canyon has formed a typical mountainous village settlement and preserved many cultural landscapes and customs. The study selected 12 landscape resilience factors in three categories to build an evaluation system for the development and evolution of the social-ecological system of the Grand Canyon rural settlement. The study shows that the rural settlements, as an independent habitat unit, constitutes a multi-scale nested landscape spatial system pattern under the influence of various factors at different times, and establishes an “ecological-social-economic” coupled adaptation mechanism in the process of formation and evolution. The study summarizes the original adaptive construction characteristics of rural settlement space from the perspective of landscape resilience, obtains three insights for the revival of rural communities, and proposes reconstructive strategies for various spatial forms such as housing, culture and leisure, and public services.

## Keywords

resilience, social-ecological system



## Striving for equity in urban areas

# Age-friendly Co-Building Communities: Old Town Renewal Practices

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Striving for equity in urban areas, Online, September 28, 2023, 3:00 PM- 5:00 PM

### **Biography:**

*Shuoqi Wu, Graduate student of Nanjing Forestry University college of Landscape Architecture, Jiangsu, Nanjing, China*

The ageing population and urbanisation are two of the most significant trends and challenges facing China today. Influenced by the traditional Chinese society of the family, ethics and customs, it is common for the elderly to bring up their grandchildren and for the old and children to live together.

Located in the old city of Nanjing, China, the Suojin community was a welfare housing community for state employees in the 1980s, with a resident population of 70,000. As the community's residents age collectively, 80% of the population is over the age of 60.

There is a serious lack of public space between the old intensive unit buildings, with only 5% of the community space available for residents to actually access. The 3,000 m<sup>2</sup> site – the Suojin Central Square - has to carry different people of all-day outdoor activities.

The Central Square, as the design entry point, is the first step in the renewal programme for the Suojin community. The transformation process makes use of the existing objects of the site as much as possible and preserves the memory of the site. The site has been reorganised to meet the needs of all age groups. From the outset, the community was considered a key participant in the design and construction of the site, and was organised to be involved in the subsequent construction and maintenance.

The university to which our research team belongs is part of this community and it supports the development of the university. It also has a decisive impact on this community. Building a positive symbiotic relationship is important to strengthen the increasingly fragmented community relationship. The research team has successfully organised more than 10 community events, reaching over 3,000 residents and gaining widespread interest and support through the integration of resources from community residents, universities and community management committees.

The team and the Community Management Committee hope it as a starting point to build a vibrant and inclusive new complex over the next five years, which will be better equipped to deal with the impact of the changing trends of the times.

### Keywords

Co-creation; age-friendly

## Collective urban gardens: Exploring the concept of participatory governance

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Striving for equity in urban areas, Online, September 28, 2023, 3:00 PM- 5:00 PM

### **Biography:**

*Slavica Čepić is a Research Associate at the University of Belgrade. She specializes in landscape architecture with keen interest in environmental psychology. Her recent thesis examines urban gardens' socio-economic value, including their impact on ecosystem services, human well-being, land use, and participation, using a mix of qualitative and quantitative methods.*

Collective urban gardens have attracted the attention of scholars, local organizations, the non-governmental sector, and policymakers as they seem to provide a valuable ground for meeting the interests and needs of different urban actors. As part of green infrastructure, they demonstrate a challenge for open green space governance and management. This study focuses on the concept of participatory governance and explores top-down and bottom-up initiatives of collective urban gardening in three European cities: Malmö, Zagreb, and Belgrade. The objectives of the research are to describe and analyze the organization and governance models of collective urban gardens using the governance arrangements approach and identify the main success factors that support long-term, sustainable organization and governance. The study is based on a qualitative research approach, including document analysis and semi-structured interviews with local government representatives, NGOs, and users. The results suggest that there is no single successful model of organization and governance of collective gardens - each location requires an understanding of the context and local conditions, as well as the users' needs. Still, some factors can be identified as relevant for long-term sustainable governance. Having the support of city or municipal institutions in setting legal and planning parameters and supplying resources such as land and education is a significant contributor to achieving success. Another relevant aspect is the readiness of local governments to cede some of their authority in managing green areas and transfer it to an organization or group of users. A transparent and open participatory process, based on the trust and equality of actors, is needed for sound cooperation between different stakeholders involved in governance. Any support that comes from outside the community, including support from the city or municipal government, must be on a partnership basis. Institutional support is particularly relevant for scaling up

local initiatives and integrating collective urban gardens into the system of green areas at the city level.

### Keywords

urban gardens, governance

## Green gentrification research and green space planning guidelines for mega-cities

错过 **Chi Zhang**<sup>1</sup>, Associate Professor Fangzheng Li<sup>2</sup>

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Striving for equity in urban areas, Online, September 28, 2023, 3:00 PM- 5:00 PM

### **Biography:**

*Graduate student in the School of Landscape Architecture, Beijing Forestry University.*

*Scientific abstracts were accepted by 2022 IFLA.*

*Participated in an oral presentation at 2022 IFLA.*

British sociologist Glass first used the term “gentrification” to describe the replacement of disadvantaged classes by gentry in London’s urban regeneration. Along with sustainable ecological urbanization, green gentrification occurs in megalopolises such as New York, where green practices such as urban park construction create or exacerbate environmental injustice, an unjust process by which environmental resources are appropriated by the gentry.

Glass has pointed out that gentrification is difficult to stop once it is initiated, however, American scholars such as Kenneth A. Gould mention that injustice and inequity from green practices are not inevitable and early public policy interventions may produce more just and sustainable outcomes.

Taking Shenzhen, the third largest metropolis in China, as an example, this study first establishes a comprehensive assessment system of gentrification effects, and scientifically studies the gentrification process of each ministry in Nanshan District by superimposing “direct displacement” indicators such as income, home ownership rate, housing value and rent, education level, occupational status, and “indirect displacement” indicators such as education, medical care, transportation, and cost of daily life through literature research and expert scoring with different weights. In turn, a system of indicators from quantity to quality of green space is established. Quantitative indicators include the number of parks, park scale, three-dimensional green volume, etc., while quality indicators include distance from the city center, accessibility, visibility, ecological services, etc. Third step, multivariate correlation analysis and bivariate spatial autocorrelation analysis were conducted using SPSS, GeoDa and other statistical analysis and spatial data analysis software to quantitatively explore the positive or negative correlation and spatial correlation of multiple green space indicators on the comprehensive effect of gentrification. Finally, based on the research results, the green space layout planning model and green space optimization design strategies are proposed for regions in the early stage of gentri-

fication to slow down the rate of green gentrification and suppress the intensity of the negative effects of green gentrification.

The research addresses the phenomenon of “planetary gentrification”, “acting locally, thinking globally”, and guiding different classes to “transcend borders” and disadvantaged classes to enjoy green resources and environmental rights “without being left behind”.

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## Keywords

Green Gentrification, Green Space, Planning

# Managing the Community Open Space in North-Western Nigeria

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Striving for equity in urban areas, Online, September 28, 2023, 3:00 PM- 5:00 PM

## Biography:

*Landscape architect and town planner with a Ph.D. in landscape studies and a bachelor’s degree in urban and regional planning (ABU Zaria). member of the Nigerian Society of Landscape Architects (SLAN) and the Nigerian Institute of Town Planners (NITP). conversant about open spaces, disturbed landscapes, cultural landscapes, and ecological landscapes.*

Community open spaces are seen as an intrinsic part of the landscape in rural communities in semi-arid areas since they host the community’s socio-cultural and economic activities. As a result, well-managed communal open spaces not only assure their presence but also their sustainability in supporting socio-cultural events. The study focuses on the participants in the management of community open spaces by studying their responsibilities in the semi-arid area of northern Nigeria. In-depth interviews with the community’s leaders were conducted in 5 areas to identify the individuals responsible for managing the open space. In the research, participants in the management of community open spaces were defined as community members, community-based organizations (CBOs), non-governmental organizations (NGOs), and government bodies at the state and local levels. Despite a lack of a clearly defined set of roles and responsibilities, the participants are engaged at various levels of management. The study recommends a structure for the duties of all parties involved and suggests governments take on the position of administrator by recognizing and supporting non-governmental organizations (NGOs) and community-based organizations (CBOs) both financially and in other ways. This ensures that no one is left out while managing community open spaces, empowering them to accomplish their community management objectives.

## Keywords

Community, open-spaces, Semi-arid

# Cooperating With Residents to Construct Green-healthy City in Multi-ethnic Areas

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Striving for equity in urban areas, Online, September 28, 2023, 3:00 PM- 5:00 PM

## **Biography:**

*Siwen Hao is a Ph.D. Candidate majoring in landscape at CSUFT, willing to achieve One Health through sustainable planning and design methods. Siwen has worked in the field of landscape since 2016 and is experienced in environmental construction, especially in multi-ethnic Areas.*

The green-healthy city construction is an important part of urban planning, which is both beneficial to the physical and mental health of residents, and the sustainable development of green spaces. Despite previous studies focusing on the construction of a green healthy city, there is still a lack of attention to multi-ethnic cities. We, therefore, aimed to identify the landscape factors influencing green-healthy city construction in multi-ethnic areas, cooperating with local residents. The environmental factors were identified and the model of green-healthy city construction in multi-ethnic areas was built by multiple linear regression. Application of these will improve green healthy space construction by enhancing decision-making efficacy.

## **Keywords**

green-healthy; multi-ethnic; modeling

# Reactivating Spaces of Urban Resettlement Community through Participatory Landscape Design

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Striving for equity in urban areas, Online, September 28, 2023, 3:00 PM- 5:00 PM

## **Biography:**

*Zheng Zeng received her bachelor and Ph.D. degree in Urban Planning and Design from Wuhan University in 2006 and 2012 respectively. She joined the Department of Landscape Architecture at China University of Geosciences as a full-time faculty member since 2012. Her research interests include landscape remediation planning, participatory design, etc.*

As Chinese cities have entered an era of stock development, resettlement community, as a special type of urban community where most residents are relocated in mass from their original place of residence to the new site, can be predominantly described as “community of acquaintance” which is characterized by a high degree of community integration, but often lacks traditional communal space and sees poor quality of living environment. Small-scale spatial intervention and local transformation of the existing community not only includes improvement of physical spaces and landscape enhancement through planning and design, but also includes helping the community to establish a common goal, stimulating community vitality, setting organization rules and galvanizing common action.

Based on a qualitative analysis of the characteristics of residents in the resettlement community, the study adopts an approach to public participation integrating PPGIS, visual presentation and participatory design methods by proposing a participatory framework comprising various steps i.e. “entering the community -matching and coordination - organizing and planning community activities - participatory design in micro-transformation of community public spaces”, aiming to explore participatory design methods suitable for residents in the resettlement community to increase the use and enhance the vitality of public spaces and improve community landscape. Furthermore, an analysis at the macro level is made concerning problems and structural constraints in participatory planning and design.

The study argues that participation in planning and design by residents in the resettlement community still requires top-down orientation and guidance. Taking into consideration of their generally limited education, a suitable participation method should be easy to understand and execute, ideally by intuitive visual expression. The study concludes with the argument that participation process of the residents in the resettlement community is more important than the result of participa-

tion per se, as it facilitates the understanding of both the objects of planning and subjects of the participating parties and thus contributes to decision-making in planning and design. Additionally, in this process, the role of community planners is particularly important in each stage of the organization and implementation of participation and deserves careful attention.

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## Keywords

participatory design, resettlement

# Double Edged Sword: Parks in Tel Aviv-Jaffa as Gentrification Mediators

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Striving for equity in urban areas, Online, September 28, 2023, 3:00 PM- 5:00 PM

## **Biography:**

*Dr. Naama Meishar is a researcher, teacher and curator of art and architecture. She teaches Urban Design in the Faculty of Architecture in the Technion, Haifa. Her research explores urban landscapes as a multifaceted phenomenon through cultural, political, and socio-ecological perspectives.*

Research shows that parks and hiking trails are the main generators of green gentrification in cities, which aim at attracting high-end green life-style seeker populations rather than improving lives and secure housing of veteran low-income ones. The paper explores such socio-spatial course in Neve Sha'anana, a Tel Aviv-jaffa (TLV) neighborhood, populated with low-income veteran Israeli residents, African asylum seekers and labor migrants. Open spaces are scarce here and drug dealing is on each street corner. However, urban regeneration gradually occurs, with sprouting single urban plots projects as well as with Urban Master Plans for mega high-rise projects of entire blocks.

As a researcher and planning activist, I advised the local Feminist NGO 'Achoti' in three different struggles for equitable open public space. The paper traces the struggle along with the planning, design and use of each open space. I argue that municipal planning officials adopts entrepreneurs' and new-comers' perspectives rather than consult or benefit veteran populations in the design and use of new open spaces.

While affordable housing in the neighborhood is limping numerically, and is scarcely affordable for local very poor residents, a new high-end landscape architecture language entered the neighborhood in 2022. This language was born with new luxurious high-rises in the city's center: visually eye-catching, highly refined with well-articulated details. It appeared in a small and very attractive new park, and became the scenery of a bitter fight over the right of local veteran children, mostly African, to use this public park. The same language appears in a new project of a massive dance center, which local residents saw as alienating to local cultural histories and to the physical open space system of the neighborhood. At the same time, the municipality planned to destroy part of the only large park in the neighborhood in order to build elementary school for foreigner kids only – which is against the law. Exploring these three existing and planned open spaces shows the double-edged

sward which undermines existing green infrastructure and the right to the city of veteran population, while simultaneously puts together a new high-end open spaces for wealthier new-comers.

**Keywords**

green gentrification park

**Utopian thinking on landscape  
architecture**

# Design Impact Through Inner Growth - Merging Landscape and Coaching

**Mrs Anne Lassé**<sup>1</sup>

<sup>1</sup>Grow Design Influence, Hamburg, Germany

Utopian thinking on landscape architecture, Online, September 28, 2023, 3:00 PM- 5:00 PM

## **Biography:**

*Anne coaches landscape architects to achieve greater impact. Having worked as a landscape architect for 10 years, including in two large multi-disciplinary practices, Anne developed a passion for translating her values of nature and sustainability into her work. This led her on a quest to help others do the same.*

Landscape architects are at the forefront of key decisions that shape our world. We are generalists, advocates and leaders fighting for a better future. We do this without the necessary training or inner development needed. So often we fall victim to politics, social pressures and the bottom line.

Envision a world where landscape architects embody the skills needed to influence a politically charged and highly competitive world. To help the world change, we as a group must actively evolve and change. We need to foster a culture that helps us to do this by developing skills such as introspection, curiosity, empathy, confidence, resilience, creativity, and communication. Setting meaningful and motivating goals, driven by our values, at both the individual and project level, will lead to a more meaningful impact on an individual, team, and global scale.

These ideas merge the boundaries between landscape architecture and coaching. Coaching can be 1:1 or in teams. It draws on neuroscience, positive psychology, learning and motivation theories, wellbeing and performance science.

If the landscape industry focuses on personal development with each individual taking responsibility for their own growth, then this will have an impact. When people look inward they can build confidence, overcome imposter syndrome, and identify and overcome limiting beliefs. This will have a ripple effect on our projects and therefore our future built environments. Our brains are wired to repeat patterns from surviving past experiences but these patterns may not serve us now. If we work at reprogramming, then we can develop patterns that help us achieve the things we want most. When we do this, driven by purpose, the challenges become smaller. We move from survival and reaction mode to thriving with intention.

The fastest way to make a difference is through personal growth. We have the technical skills and technology to design well, but progress is slow. We are competitive, focused on winning design competitions or awards and afraid to collaborate. Let's unite and step into a culture of growth and make the impact we know we can.

## **Keywords**

Influence Impact Outcomes



# Sihai yifang Manor: an exemplary application of landscape performance

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Utopian thinking on landscape architecture, Online, September 28, 2023, 3:00 PM- 5:00 PM

## **Biography:**

*SUN Hu is the Founder, Chief Designer of Guangzhou S.P.I Design Co., Ltd, graduated from Nanjing Forestry University, he has more than 20 years of experience in landscape architecture design. He has presided over nearly 100 international and domestic landscape planning and landscape design projects.*

An integrated landscape project includes preliminary site investigation, conception, mapping, designing strategies and construction, above all, the evaluation and optimization of the built project, which are largely ignored by the discipline of landscape architecture. Landscape performance is defined as a measure of the efficiency of a landscape solution in achieving its pre-set goals as well as meeting sustainability development requirements. Landscape performance system (LPS), designated as a significant complementary procedure, has been employed typically to evaluate the various benefits of built projects. Sihai yifang Manor located in Guangzhou, China, constructed for almost ten years, has been selected as the research object to carry out multi-dimensional balanced landscape performance evaluation. In the article, three major benefits including 20 metrics of general applicable were evaluated: 1). environmental: the constructed project created 2.5 hm<sup>2</sup> of green infrastructure. More than 360 tons red sandstone was discovered on top of the sandstone formation during the clearing and utilized as retaining walls, ground pavement and tree pools. The species survey results showed high biodiversity as there are 19 kinds of native trees, 12 kinds of shrubs and 16 kinds of herbs in the 5 sample lands. The primitive species or native species such as palms, large ferns and ancient banyan trees in the original site were reserved, which provided habitat for at least 26 species of arthropods, promotes the habitat ecological stability, low-maintenance and self-renewal. 2). social: composed of oyster shell wall, dragon boat wood sculpture and red sandstone, which represents the long navigation history of Guangzhou, 9 mainly cultural landscape spots have been created in the manor, bringing people rich cultural knowledge. With the daily average number of tourists exceeding 35 thousand, majority (94.6%) of the tourists were satisfied with the overall experience in the survey. 3). economical: the project provided about 200 of long-term and temporary jobs. In conclusion, an evidently systematically quantitative data will demonstrate the dynamic changes during the continuous con-

struction and use of a project; furtherly it may help operators to adjust to changing times and offer valuable reference for the construction and evaluation of projects in the future.

## **Keywords**

sustainable landscape; performance;

# Research on Sky Sharing Landscape in Singapore's High-rise Communities

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Utopian thinking on landscape architecture, Online, September 28, 2023, 3:00 PM- 5:00 PM

## **Biography:**

*The author is now a post-graduate student majoring in Architecture in Tongji University in Shanghai, and has great passion on urban design and landscape design which has gradually played an vital role in urban renovation and a sustainable future.*

High rise buildings in land-scarce cities often stack repetitive floor plan vertically without variation to optimize land use and accommodate more population, which have little to do with the site, culture and climate, thus resulting in poor interaction among residents and limited access to green spaces. By contrast, as one of the most densely populated states worldwide, Singapore turns high-rise communities into sky villages with integrated sharing landscape, creating a hospitable and lively public domain for residents. On this paper, author analyzed communities in Singapore like Duxton(2009), Skyville(2010), Sky Habitat(2016), etc, which have successfully integrated sharing landscape into high-rise living environment, and summarized the strategic objectives of sky sharing landscape, which focused on the following key aspects:

1)Ecology - Sky sharing landscape is inserted into buildings' porous facades and permeable structures, acting as a natural screen for shading and rain protection. This climate-adaptive method both reduces the energy costs and minimizes the environmental impact.

2)Equality and Accessibility - Sky sharing landscape is utilized to form diverse public spaces like "sky streets", "sky terraces" and "sky gardens", which include a range of amenities to encourage social contact among different racial groups and create a communal space of equality for residents' activity. The justification for sky sharing landscape is to ensure the continuance of a cohesive and integrated community.

3)Policy Correspondence - Sky sharing landscape has been devised in parallel with Singapore's Garden City ideal and has been formally further developed under the Singapore's Green Plan and SDG's goal. When completed, it could achieve both Singapore's nation vision for a green city and an improved living environment for the inhabitants.

Based on the result, author attempts to provoke some thinking on how other regions can learn from Singapore's mode and develop climate-adaptive landscape

with site-specific characteristics to create a resilient and sustainable high-rise community.

## **Keywords**

Sky Landscape, Sharing

# Landscape Architecture Roles in Mitigating Air Pollution Beyond Undefined Boundaries

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Utopian thinking on landscape architecture, Online, September 28, 2023, 3:00 PM- 5:00 PM

## **Biography:**

*Kanokwalee is a faculty member of the Department of Landscape Architecture at Chulalongkorn University, Bangkok. She is a landscape architect and a researcher at Healthy Landscape and BioPhilia - Research Unit (HEAL-BiP).*

*Sunantana Nuanla-or is a lecturer at Landscape Architecture Department, Wuhan textile university (BIFCA), Wuhan, China.*

Particulate Matters (PM2.5) is a pressing issue, contributing to climate change, health problems and economic recession. PM2.5 has occurred and circulated with no boundaries across the world, impacting areas which might not be the source of the problem. In March 2023, according to IQair.com, Chiang Mai, Thailand had the world's worst air pollution with the highest concentration rate of PM2.5. As a result of annual air pollution drift from nearby farmland and forest blazes, and smog spreading from areas of the Golden Triangle which sit outside of the country. In the past few years, PM2.5 has caused negative impacts on the health and socio-economics of many cities around the world. Reducing PM2.5 enhances the benefits of solving climate change; however, significant challenges appear on controversial issues of undefined boundaries, unspecified responsibility, and unplanned management.

This essay outlines the interlinked consequences of air pollution and climate change, and the need for the response through the lens of sustainability. In response to the increasing PM2.5 crisis, important questions have to be addressed; how can we tackle the air pollution problem in the context of the undefined boundaries? What are the roles of landscape architects in promoting and applying landscape and planning strategies to help mitigate the impact from air pollution beyond spatial boundaries across all scales? This study focuses on the comprehensive review, examination, and unfolding effective approaches and policies that undertake direct and indirect mitigation methods of PM2.5 from the best practices, while addressing critics and lessons learned. It examines the way in which landscape projects tackle the PM2.5 problems; the concept of Walkable City, the performance of trees and urban forests in capturing the air pollution, C40 Cities, Transboundary Haze Pollution Act, and other methods. Ultimately, the study aims to understand

and reflect on the current role of and suggest future action for landscape architects to become the driving force for delivering plausible and innovative, diversified solutions to alleviate these environmental issues beyond the boundaries.

## **Keywords**

Air-pollution regulation, PM2.5

## Landscapes of our shared futures: Cohabitation

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<sup>1</sup>METU, Ankara, Turkey

Utopian thinking on landscape architecture, Online, September 28, 2023, 3:00 PM- 5:00 PM

### **Biography:**

*Ece Gören is an architect and M.Arch candidate at METU, conducting research on relations between ecology and architecture, alternative ontologies, and the climate crisis. They are passionate about climate-animal rights activism, seeking a more equitable future through design and engagement. They look forward to sharing their insights at IFLA 2023.*

As ecological strategies reach an increasingly impendent and paradoxical halting point on one hand, and a new geological epoch is widely recognized in academia with the Anthropocene on the other; architecture, landscape and planning disciplines are seeking new ways to approach practice in light of the system-wide disruptions of humankind. Herein, the fundamental missing link in environmental discourse begins from the very basis of thinking. Within this discourse, the notion of cohabitation emerges as a model for a holistic attitude to unify the nexus between ecology, landscape architecture and architecture, as well as to remodel professional ethics for practices that positively construct, rather than systematically despoil. The common objective of cohabitation produces a rethinking of human-nonhuman relations on a horizontal basis of equality and designs for solutions toward the possibility of a buzzing coexistence among planetary biodiversity. For the premise of cohabitation in the urban realm, two propositions are recognized; human and architecture are not transcendent to, but entirely immanent to nature –therefore neither human, nor design can be posited as outside, above, or beneath nature– and secondly, cities are habitats, they constitute a major part of ecosystems, and that the city is one modification of nature —thus the city is virtually unimaginable as separate from, or autonomous to nature. The study aims to determine the fundamental lexicon of cohabitation as the landscape of the future. Three typologies are identified here; functional symbiosis, capable architecture, and integrated engagement, to define and discuss what design approaches can be adopted over these to be translated to practice. Cohabitation produces a new methodology to actively design coexistence and interaction on the planet by reorganizing design as a strategy of existence.

### **Keywords**

cohabitation, post-anthropocentrism, symbiosis.

## South Essex Estuary Park: A Resilient Infrastructure

**Ms Alexandra Steed**<sup>1</sup>

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Utopian thinking on landscape architecture, Online, September 28, 2023, 3:00 PM- 5:00 PM

### **Biography:**

*Alexandra is the Founding Director of Alexandra Steed Urban in London, UK. She has a vision to bring joy to people's everyday experiences, by integrating the intelligence of nature throughout all her projects. She is an FLI, FRSA, Design Council UK Associate, and lecturer at the Bartlett, UCL.*

The South Essex Estuary Park (SEEPARK) plan provides a radical vision to transform South Essex into a single parkland system, encompassing the region's 70,000 hectares. It emerges out of a demand for innovative practices of planning, pioneering a strategic landscape infrastructure approach that integrates natural systems, built environment and social equity to create an extraordinary place. Located within the Thames Estuary, South Essex is challenged with flooding that threatens significant habitat sites, properties and infrastructures; a lack of access to open space; a lack of connectivity; intense development pressures; a history of contamination and pollution from industry; and, an abundance of agricultural land to be enhanced. SEEPARK presents a solution to the challenges, with an integrated and resilient infrastructure, that recognises the need for collaboration with nature to restore health to the region. A vast and robust landscape framework, comprised of 30% of the land area, provides a new backbone that will not only protect South Essex and all of London from flooding but that create a new identity and attractive green offer for modern living to support residents, businesses, industry, tourism, and leisure activities, right on the doorstep of one of the world's great cities. A multitude of benefits is gained across local to international scales, as an exemplary model of strategic landscape planning, especially within estuary environments. The many benefits include flood protection, biodiversity net gain, active travel networks, improved community health and wellbeing, carbon offsetting and sequestration, green job creation, and provision of a scalable green investment model.

SEEPARK presents a landscape infrastructure approach that emerges out of its unique local landscape setting, but that also acts as a replicable model for many locations globally, especially estuary environments (of the thirty-two largest cities in the world, twenty-two are located on estuaries). It also demonstrates how local actions that provide benefits to climate change and biodiversity, not only improve local conditions but have beneficial effects even on an international scale. In South

Essex, for example, there are many protected nature sites for migratory birds that are important locally and internationally, that reveal the interconnected and precious web of life.

### Keywords

strategic landscape infrastructure

### Design project

## The Biennale of Urban Landscape, a Laboratory for Collaborative Futures

**Mr Sebastian Schlecht**<sup>1</sup>

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Utopian thinking on landscape architecture, Online, September 28, 2023, 3:00 PM- 5:00 PM

### **Biography:**

*Architect and urbanist. Founder of lala.ruhr and the first biennale of urban landscapes. Director for green cities and regions at Baukultur NRW. Project manager of the European Green Capital Essen 2017. Speaker at the Urban Transitions Alliance. Board Member of JAS e.V. Teacher at various universities.*

Landscape is all of us! The heart of the lala.ruhr initiative is the understanding, that the basis of our coexistence is a well-designed environment, and that a future suitable for living can only be created through a collectively developed and reoriented understanding of design and ecology. The effects and findings of climate change and biodiversity loss show that we need to reorient our actions. A previous (and current) understanding of aesthetics and sustainable design has become a major contributor to resource consumption and CO2 emissions and ecosystem degradation. Our position is that we need to renegotiate and realign experiences and knowledge and understanding in new interdisciplinary formats and together in regional and international exchange to move from negative impacts to a positive outcome of our cultural practice. With the first formats, the online Festival of Landscape 2021 and especially with the first on site event, the Biennale of Urban Landscape 2022, we have succeeded in developing these interdisciplinary and integrative formats that engage a variety of different participants and bring them into an active exchange. The Biennale sees itself as a very active format in the form of a festival that essentially actively engages participants rather than addresses them as consumers. Over 200 people from Europe and many local initiatives were actively involved in the implementation of the Biennale with their own contributions. Such an interdisciplinary and internationally networked format contributes in an exemplary way to developing urgently needed solutions for the future in a global community and with local and regional specific linkages. Under the motto “The future is only possible together”, we set out to develop a collaborative, learning and inclusive format. The access to an active participation was deliberately simplified by consulting all contributors with one’s ideas and supporting them already during the elaboration of their program item and, as necessary, on site with technical support or even a moderation. This creates new linkages, mutual recognition, inspiration and motivation for local action as part of a response to a global crisis in a European

and global context. #thinklandscape

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### **Keywords**

#thinklandscape #imagineurbanfutures

# Poster presentations

# Future productivity of landscape architecture: an all-AI automatic design system

博士 **Ran Chen**<sup>1</sup>, Kexin Pi<sup>1</sup>, Shuhan Xu<sup>1</sup>, Xianyue Zhang<sup>1</sup>, Sijia Jiang<sup>1</sup>, Prof. Xi Zheng<sup>1</sup>, Prof. Jing Zhao<sup>1</sup>

<sup>1</sup>Beijing Forestry University, Beijing, 中国

Poster presentation 1:2 online, Online, September 28, 2023, 12:30 PM- 1:30 PM

## **Biography:**

*Landscape Architecture Ph.D. at Beijing Forestry University(BJFU). Research on AI and digital landscape. Published 9 academic papers and 3 literatures. Co-founder and technical advisor of Zhijingyuntu(Beijing) Technology Co., Ltd., Leader of an AI&Landscape team at BJFU. Research funded by the Chinese government and got 120k views from social media exposure.*

Humanity is experiencing the fourth wave of the industrial revolution. Like the steam, electrical and information revolutions, AI is transforming productivity, which will have a profound impact on the shape of human society. Likewise, in the landscape gardening industry, we have gone through purely manual, CAD and parametric stages in the past century or so. Today, we are entering a phase of integration with human intelligence, and AI is gradually playing a role in all aspects of production.

The application of AI is a typical “beyond border” problem, and it brings a new logic to design work with an exotic interdisciplinary perspective.

We are building a complete AI design system that “eliminates boundaries” and re-examines this new design logic from an interdisciplinary perspective. In this new work logic, the role of the designer has changed. The designer’s role becomes selecting, evaluating, and guiding powerful AI tools to generate scientific design solutions. This frees the designer from tedious work and allows them to focus on refining and choosing design solutions. The design system consists of the following parts:

- 1) Extraction: Automatically obtain site information from remote sensing images
- 2) Generation: Automatically generate design layout solutions based on site information
- 3) Vectorization: Automatically generate vector data from layout solutions
- 4) Modeling: Automatically generate three-dimensional models from vector data
- 5) Presentation: Automatically generate renderings from three-dimensional models
- 6) Rendering: Automatically generate color plans from layout solutions.

This research is the first to build a full-process AI-generated landscape design framework, which explores the new productivity and production forms represented by artificial intelligence in the planning and design field. We hope this research can

inspire researchers to “eliminate disciplinary boundaries” and rethink computer and design disciplines, as it combines computer creativity with human cognition, which helps create new synergies between them. With this research achievement, we can encounter countless future forms of design.

## **Keywords**

AI-aided Design; Interdisciplinary

# A Comprehensive Model for Pedestrian-Scale Evaluation of Linear Greenery Visibility

**Ms Mingze Chen**<sup>1</sup>, Yuxuan L Liu<sup>2</sup>, Ms Trishla Chadha<sup>2</sup>

<sup>1</sup>University of British Columbia, Vancouver, Canada, <sup>2</sup>University College London, London, United Kingdom

Poster presentation 1:2 online, Online, September 28, 2023, 12:30 PM- 1:30 PM

## Biography:

*Mingze Chen is a Ph.D. student at the University of British Columbia. He used to work as a researcher at UCL and as a landscape architect in Shanghai for the past three years. His research focuses on using big data and machine learning interdisciplinary technology in urban nature analytics.*

Linear green spaces, composed of street trees, shrubs, and grass, provide diverse areas for human-nature interaction. The visibility of street greenery plays a significant role in how individuals behave, appreciate, and experience their environment. However, current research tends to visualize street greenery from a single perspective, such as images or planar analysis and neglects pedestrian-scale street tree visual analytics. This study proposes a comprehensive evaluation model for pedestrian-scale green visibility, integrating Visibility Graph Analysis (VGA) from the space syntax method, Green View Index (GVI) using neural networks for street view image feature extraction, and street scoring by volunteers. These methods are compared and combined to generate the Pedestrian Street Tree Visibility (PSTV) index, providing both quantitative calculation and qualitative observation results.

The space syntax approach examines the relationship between human societies and space by considering the urban area as a matrix of interconnected spaces. VGA is an automated method based on space syntax to calculate the visibility of several positions. In contrast, Street View Imagery (SVI) from crowdsourced platforms has been widely used to compute the GVI, using a deep learning model for image segmentation to analyze view imagery and measure the color percentage of street greenery. Nevertheless, limitations of methods exist. Space syntax relies on precise urban context data input, and SVI analysis does not cover sidewalk greenery visibility. Overcoming these limitations, the integration of the two methods with participation scores provides more comprehensive greenery visibility mapping.

In conclusion, this article highlights the promising approach of integrating multi-methods to analyze the benefits of linear green space visibility. The proposed evaluation model serves as a useful tool for policymakers and urban planners to attract public participation and understand pedestrian-scale green visibility of linear

greenery, leading to informed decisions and improvements in the quality of urban environments.

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## Keywords

Greenery Perception, Deep Learning, Urban Forestry Model



# Examine an Intelligence Education Framework of Landscape Architecture (EFLA)

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Poster presentation 1:2 online, Online, September 28, 2023, 12:30 PM- 1:30 PM

## **Biography:**

*Xiwei Shen's areas of interest include the contemporary theory of Landscape Architecture and Environmental/Ecological Restoration. As a scholar, his articles have been published in numerous peer-reviewed journals. He holds a Master of Landscape Architecture from Harvard Graduate School of Design and a Bachelor of Landscape Architecture from Louisiana State University.*

The discipline of Landscape Architecture is currently expanding its disciplinary boundary and shift from Art to Science. Entering 21st century, the supporting technology were shifted from craftsmanship to art design to the digital based technology to solve the hybrid environmental issue. Hence, the education framework is needed to be reframed. This research firstly refined a Network Model of Technology in Landscape Architecture (NMTLA) by using network analysis, and Delphi method, then examines an intelligence Education Framework of Landscape Architecture (EFLA) in 21st century based on it. In refining the NMTLA, this research identified 23 key categories through content analysis of secondary research. Then, the Delphi Method and network theory were then used to analyze and visualize the mutual influence and relationships among the categories. The results showed different disciplinary positioning of different technologies in landscape architecture according to their difference in degree centrality, closeness centrality, and betweenness centrality. Based on these patterns, the study categorized the existing technologies which are cores of NMTLA and navigated the EFLA in 21st century. The significance of NMTLA and EFLA would potential to methodically guide the expansion of discipline research boundaries and future landscape education structure.

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**Keywords** Technology, Cross-disciplinary, Education

# Evidence-based design of greenways to improve acoustic and thermal comfort

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Poster presentation 1:2 online, Online, September 28, 2023, 12:30 PM- 1:30 PM

## **Biography:**

*Li Yanhan is a student pursuing a PhD degree in the School of Landscape Architecture at Beijing Forestry University. Her research interests are in landscape planning and design, and urban microclimate.*

A comfortable acoustic-thermal environment in urban green space plays an important role in promoting public outdoor activities and improving physical and mental health. Greenways are important linear corridors that carry residents' slow walking activities, and are a special category of urban green space, so it is particularly important to examine the relationship between acoustic-thermal factors and slow walking satisfaction on greenways and to propose targeted strategies. Firstly, through a comprehensive overview of the literature, it is found that noise in urban green space has a significant effect on thermal comfort, and they together affect residents' satisfaction with landscape quality. Then, field measurements and questionnaire were designed to verify and further explore the relationship between noise, thermal comfort, and landscape preference during greenway walking. The results show that: 1) increased noise reduces thermal comfort and acceptability; 2) the degree of the effect varies according to short-term activity status; 3) residents' landscape preference and travel willingness is higher when the greenway is more thermally comfortable and less noisy. Finally, a design strategy including greening, water, roads, and landscape installations is proposed based on the evidence. The study provides a scientific and practical framework for landscape architects to design greenways and suggests a way to integrate multidisciplinary theoretical research into practice.

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## **Keywords**

Acoustic-and-thermal-comfort; Greenways; Evidence-based-design

# Effect evaluation and design strategies of site modifications

Professor Xiaoshan Fang<sup>1</sup>, Miss Xuefei Zhang<sup>1</sup>, Mr Jinhui Ai<sup>1</sup>

<sup>1</sup>South China University Of Technology, Guangzhou, China

Poster presentation 1:2 online, Online, September 28, 2023, 12:30 PM- 1:30 PM

## **Biography:**

*Xuefei Zhang,*

*She is currently working toward a Ph.D. degree in Landscape architecture with the School of South China University of Technology, Guangzhou, China. Her research interests include ecological planning and design, and wetland park design.*

Guangdong Haizhu high bed-low ditch traditional agricultural system(HB-LD) is a typical wetland ecological agricultural system created by ancient working people to develop dry farming in low and flat areas with dense river networks. In recent years, a series of site modifications have been implemented, however, the effectiveness of the site modifications has not yet been evaluated. It has been demonstrated that the changes in morphology and layout characteristics of landscape elements affect microclimate and the survival of biotic communities is affected by a microclimate. Therefore, microclimate is used as a basis to determine whether site modifications cause microclimate changes and affect biotic communities.

We surveyed Guangdong Guangzhou Haizhu National Wetland Park (GGHNWP), the only large urban wetland in a high-density urban center in China. Therefore we addressed three questions: (i) morphology characteristics of different site modifications (ii) microclimate differences in different site modifications (iii) The relationship between site characteristics and microclimate

We surveyed 36 site units of 2 types in spring and used the methods of inductive classification, field measurement, and statistical analysis.

We divided the sites into restoration sites(RSTs) and reshaping sites(RSHs), according to the different degrees of modification. RSHs had a higher ratio of water surface and sparser layout than RSTs. There are significant differences in Ts and Rh between RSTs and RSHs. The spatial distribution of Ms in RSHs varied significantly and Ms in RSHs had a potential threat to native plants. We also found that the area ratio of the canal to its adjacent raised field (ARcrf) was the dominant factor affecting Ta, Rh, and Ms.

Site modifications create a different microclimate environment, and sites with higher ARcrf have high soil moisture, which in turn affects the growth of native plants. Therefore, ecological effects should be considered in the site modification process. Therefore, based on the results of our study, we proposed some modifica-

tion recommendations, which can be used not only for the HB-LD modification but also guide the landscape enhancement and ecological restoration of other similar climatic zones, similar geographic environments, similar agricultural systems and lowland wetlands around the world.

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## **Keywords**

Microclimate, Wetland, Modification

# Study on Grassland settlement Evolution and Human Settlement Environment

**Miss Wenzhen Jia**<sup>1</sup>, Mis Qing Lin

<sup>1</sup>Beijing Forestry University, , China

Poster presentation 1:2 online, Online, September 28, 2023, 12:30 PM- 1:30 PM

## **Biography:**

*Jia Wenzhen, female, Master student of Landscape Architecture, College of Landscape Architecture, Beijing Forestry University, Inner Mongolia, August 1998, Lin Qing, Landscape Architecture Planning and Design, shibei1273@163.com, (Beijing 100080, China)*

Tribes and towns in Mongolia integrated in the conflict, gradually forming the ecotone of agriculture and animal husbandry, which promoted the decline of nomads and the construction of cities and towns. In the process of modern urbanization and climate change, human settlements on grassland are facing more severe impacts. How to deal with the needs of animal husbandry, urban development and climate impacts is a common problem facing the global grassland ecological leading areas. Based on the grassland human settlement environment of Inner Mongolia Autonomous region, combined with the current situation and problems of grassland human settlement agriculture, animal husbandry and settlement in Mongolia region and the world, this paper studies the development direction of grassland production and life from the perspective of ecological sustainable development. This paper analyzes the changes of the production and living structure of the grassland in history, constructs and evaluates the sustainable development index system of grassland human settlements from the aspects of agricultural and animal husbandry industry relations, settlement conditions, ecological resource value and sustainable conditions of the grassland in modern and modern times, and combines the spatial and temporal distribution differences of industrial distribution and human settlements. The sustainable development of grassland human settlement ecology is studied by combining qualitative and quantitative methods, and the development strategy of grassland human settlement ecological environment is discussed. Inner Mongolia has a relatively low level of economic development, a fragile natural ecological environment, serious climatic disasters such as wind and sand affected by wind and monsoon, and pollution problems such as poultry breeding, farming and fertilization, and factory pollution. New animal husbandry settlement and ecological migration are adopted to initially deal with the sustainable development of grassland human settlements. The future protection and development of grassland human settlements were discussed through three aspects of grassland ecological car-

rying capacity, sustainable development and comfort level of human settlements. The commonality and difference of global grassland human settlements were discussed in combination with different regions and cultural backgrounds, and the feasible routes for global grassland ecological sustainable development and human settlements improvement were discussed.

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**Keywords** Grassland-habitat, agricultural-pastoral-ecotone, climate

# From local to global: the Landscape Laboratory approach as inspiration

**Dr Catherine Szanto**<sup>1</sup>

<sup>1</sup>Ecole Nationale Supérieure D'architecture Paris-la Villette, Paris, France

Poster presentation 1:2 online, Online, September 28, 2023, 12:30 PM- 1:30 PM

## **Biography:**

*Catherine Szanto is a landscape architect, with a MLA from Cornell University (USA) and a PhD in Architecture (Université Paris 8, France). After some years of practice in France, she moved to teaching and research. She is interested in theoretical research that informs practice, as done in Alnarp.*

The Landscape Laboratory in Alnarp is a experimental urban woodland on the SLU campus of Alnarp near Malmö (Sweden). It was designed and planted in the 1980s and 1990s by the landscape architecture professor Roland Gustavsson, and has been since then a place for research, teaching, and pleasure.

Being dedicated to scientific research, the Landscape Laboratory can be the place for research-driven design, planting and management; it has a potential for interdisciplinary research in landscape architecture, forestry, as well as sociology or pedagogy. As a landscape architectural project, it can be a place to explore creativity in management and on-going design inspired by the evolution of the vegetation – i.e. “creative management”. Besides, as a public place, it affords an opportunity for public involvement in research, design and management: design decisions, as well as on-going management processes at different time-scale, can be designed to include original forms of public participation. Indeed it can be a vivid place for public life and shared experiences for local inhabitants and visitors, children and grown-ups, students and practitioners.

The variety of spaces and ambiances created with modest means over a long period of time reveals the potential of landscape architecture when practiced with thoughtful dedication. The Landscape Laboratory approach developed at Alnarp is a process that can be experimented in a variety of existing vegetated places. Further, it is a state of mind, open to ongoing experimentation whose goal is not “success”, but temporary responses to ongoing processes and to new conditions it itself created. In a world with decreasing resources and increasing uncertainty that lies ahead of us, such a landscape architectural design attitude, acknowledging change and respecting the life with which it interacts, may be the way towards a more resilient world, in both a physical and an aesthetical sense.

The Landscape Laboratory in Alnarp is an inspiring example. The strong emotions its spatial diversity and richness can arouse in visitors locally are an important part of

its agency as a herald for this new global landscape architectural approach. This is what I would like to explore in my presentation.

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## **Keywords**

“Landscape-Laboratory”, “creative-management”, “on-going-design”

# Resilience Assessment of Social-Ecological Systems using Landscape character Units

**Dr Wanyue Lyu**<sup>1</sup>

<sup>1</sup>Tongji University, Shanghai, China

Poster presentation 1:2 online, Online, September 28, 2023, 12:30 PM- 1:30 PM

## **Biography:**

*Wanyue Lyu is a young researcher and PhD candidate at Tongji University's School of Architecture and Urban Planning, born in 1995. Her research focuses on exploring the locality of landscape and adaptation of Urban and Rural Built Environment.*

## CONTEXT and OBJECTIVE

Global changes are constantly shaping the social and ecological systems in delta regions, resulting in localized landscape character changes. To promote sustainable development in these regions, spatially explicit strategies that enhance social-ecological resilience are crucial. Therefore, the objective of this research is to analyze social-ecological system resilience using landscape character units as the fundamental spatial units, which can provide valuable insights into the localized differentiation of resilience and inform targeted management and development strategies.

## METHODS

Landscape typologies were delimited using K-means clustering by raster datasets of four natural attributes (land cover, soil, geology and water network density), two cultural attributes (farmland patterns and building density), and one perceptual attribute (landscape aesthetic perception). Then, a spatial resilience evaluation system for the Yangtze River Delta region is established from three dimensions, including ecological system resilience (landscape connectivity, air and water pollution), social system resilience (community value impact, size of social network, spatial mobility, average accessible infrastructure services), and production system resilience (food security, resource availability). The differential resilience of different landscape character units is determined based on this system.

## RESULTS

Based on the resilience measurements of different landscape character units, they are classified into six types: economic-dominant barrier type, social-dominant barrier type, ecological-dominant barrier type, social-ecological dual barrier type, economic-ecological dual barrier type, and economic-social dual barrier type. The study also proposed targeted resilience enhancement paths based on the human-nature resource background of different landscape character units. These paths aim to address the challenges faced by each landscape character unit and enhance their resilience.

## DISCUSSIONS

The study demonstrates the importance of incorporating landscape character assessment into the sustainability science research paradigm of social-ecological systems. The use of a landscape-scale spatial resilience evaluation system allows for a better understanding of the localized differentiation of social-ecological system resilience. This spatial framework helps to quantify the dynamic adaptive capacity of the regional space and achieve sustainable regional development through zoning management.

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**Keywords** social-ecological; Resilience; landscape-character-units

# Emergent interaction: Guangzhou's sustainable landscape planning practice focusing on biodiversity

**Zhu Yu Hang**, Li Yu, Xu Yue Jia, Liu Ping Hao  
1Beijing University Of Civil Engineering And Architecture, Beijing, China

Poster presentation 1:2 online, Online, September 28, 2023, 12:30 PM- 1:30 PM

## **Biography:**

*Yuhang Zhu, a graduate student at the School of Architecture and Urban Planning, Beijing University of Civil Engineering and Architecture, China. Email:2507651225@qq.com.*

Ecosystem imbalances are an important issue for urban development around the world today. As urban development intensifies and human activities intensify, humans are having long-term impacts on ecology and biodiversity, the issue that is directly linked to the United Nations 2030 Agenda. As the first city in China to submit a voluntary review, Guangzhou actively implements the important principle of the 2030 Agenda - leaving no one behind, and strives to practice the new development concept of "innovation, coordination, green, openness and sharing". Taking the green transformation model of Guangzhou as a megacity as an example, this paper explores landscape practices of different scales with biodiversity conservation as the core from three aspects: policy, education and practice based on its own environmental background. The results show that: (1) Regional ecological network: taking the water system as the basic framework, combined with the "eight roads and three belts" green lanes parallel to "waterways, wind channels, fish paths, bird paths, swimming paths, promenades, jogging tracks, cycling paths" and "waterfront economic belt, cultural belt and landscape belt", connecting the main ecological and cultural sites with public activity spaces and promoting sharing by the whole people. By 2019, a total of 3,560 kilometers of greenways have been built, forming an important ecological corridor. (2) Group ecological restoration: adhere to the basic principles of conservation first, scientific restoration, rational utilization and sustainable development, and adopt a series of restoration measures such as dredging and plant group allocation to improve biodiversity. During the 13th Five-Year Plan period, Guangzhou built a 221-kilometer-long ecological landscape forest belt, 91 forest parks, and added 23 wetland parks from 2012 to 2019. (3) Community micro-landscape: Introduce community designers to implement community greening transformation. By the end of 2019, the city had added 400,000 square meters of three-dimensional green flower landscape, and completed the greening of 426 bridges and 350 kilometers of overpasses. The research results highly reflect the landscape planning and design of Guangzhou's localization, publicity and diver-

sification, and provide reference examples for landscape planning and design such as maintaining biodiversity, social equity of specific sites, resource sharing and spatial equity.

## **Keywords**

landscape, biodiversity, inclusiveness

# Improvement of water front in Shannah Oman

**Mr Kamran Seyed Azizi**<sup>1</sup>

<sup>1</sup>Global Landscape Designers, Muscat, Oman

Poster presentation 1:2 online, Online, September 28, 2023, 12:30 PM- 1:30 PM

## **Biography:**

*Principal landscape designer in Global Landscape Designers who spent 22 years in design and construction of great landscape projects in United Arab Emirates and Sultanate of Oman and in jointure with three other IFLA Jinzhou winners established Global Landscape Designers international company .Kamran is a poet and writer too*

We designed a project for Al Wusta Municipality in Saltanate of Oman to improve the waterfront in Shannah area which is a lowland to increase livability, bio-diversity, climate change issues and local inequality. The design is approved, budget for construction allocated and tender run. In this project by attracting tourists and engaging investors we will improve local economy and fishermen can earn more money and local inequality issue will be solved. Also creating a large mangrove forest is enhancing the micro-climate and create a new ecosystem to improve biodiversity. Ecologues which enjoy a sustainable design are elevated to not be affected by climate changes effects, etc.

## **References**

Al Wusta Municipality management Mr Marwan Al Farsi Mob: +96899755388  
Email: masfarsi@moi.gov.om

## **Keywords**

Biodiversity, Climate, inequality

## **Design project**

# Experiences and enlightenment of public participation in creating “Scenes”

**Miss Yiman Li**<sup>1</sup>, Professor Xiaomei Yuan<sup>1</sup>

<sup>1</sup>South China University of Technology, Guangzhou, China

Poster presentation 1:2 online, Online, September 28, 2023, 12:30 PM- 1:30 PM

## **Biography:**

*Yiman Li is a PhD candidate in Landscape Architecture at South China University of Technology, Guangzhou, China. Her research topics include Chinese garden history and traditional ecological knowledge.*

With the intention of leaving no one behind, this study expands the temporal and spatial dimension of the vision of sustainable and equitable landscapes by exploring the experiences and enlightenments of public participation in the creation of “Scenes”, which is a landscape appreciation paradigm in Chinese gardens that encompasses activities ranging from public construction to artistic creation, from the general public to the literati.

Specifically, the Eight Scenes of Guangzhou through the ages, including the Song, Yuan, Ming and Qing dynasties, and contemporary editions (1963, 1986, 2002 and 2011) are interpreted, particularly concerning the selection and communication medium and procedure, as well as the culture and social expression of place-making and public life reflected therein. During the analysis, the method of digital humanities is used for richer collection and interpretation and field study to investigate the sites involved.

In relation to historical experience, it is found that the expansion of media of the Scenes’ creation has allowed for more inclusive participation. From poetry and paintings to the more diverse forms in newspapers, magazines, video and social media, people with diverse identities are engaged in the selection and appreciation of Scenes to a greater extent. And yet, the design expression of these Scenes also gives enlightenment that there is still room for improvement in taking up historical culture and contemporary life. The literature shows that the Eight Scenes of antiquity were inseparable from people’s lives, carrying their sensitive perceptions of the surrounding nature day and night. In contrast, although the newly selected scenes have received wider attention, some of them do not continue this kind of relationship between people and Scenes. Thus, there is still a need for appropriate site design in the corresponding places of the scenes to ensure that people with different identities can have a dialogue with nature in their own personal way on the site, rather than just keeping the scenes in untouchable impressions and forms. In this way, the contemporary creation of “Scenes” can be a participatory way for a diversi-



ty of transmitting culture and carrying the diverse lives of people.

### Keywords

Scenes; public-participation; urban-landscape

## Comprehensive Public Participation Reflected Everyone's Voice and Needs

**Mr Dan Shen<sup>1</sup>**

<sup>1</sup>Beijing Tsinghua Tongheng Urban Planning and Design Institute, Beijing, China

Poster presentation 1:2 online, Online, September 28, 2023, 12:30 PM- 1:30 PM

### **Biography:**

*Dan Shen works in Beijing Tsinghua Tongheng Urban Planning and Design Institute as Deputy Chief Planner and Vice Director of Research Center for Landscape Architecture. He has presided and participated in more than 50 national, provincial and municipal projects, won 30 domestic and international awards, and published 10 academic papers.*

It was a renovation practice in five consecutive villages in Guangdong province in south China. According to government budget, US\$ 15,000,000 would be spent to improve the quality of the rural human settlement environment. It was a golden opportunity to improve basic facilities such as country roads and sewage system, as well as promote the neighborhood social relationship through new-built public space system.

The problem and the challenge for landscape design and construction process were that half of the villagers were engaged in industrial or engineering works in other cities, but their concerns and opinions for hometown renovation must to be considered carefully. Therefore, other than the conventional public survey was highly used, such as door-to-door interview and intensive explanation, an online platform named "Beautiful Luoxi" on the WeChat application was also created for those who worked in other cities. The survey questions, design proposals and the construction process reports were issued on the platform in time for everyone's review. Over 300 constructive feedbacks and even sharp criticisms were displayed directly on the platform and presented three key urgent needs: river embankment reinforcement work, sewage system construction work and the public space for daily fitness, dancing, wedding and funeral events.

As a result, this public participation involved all villagers in the entire process of design and construction. Villagers with engineering experience even participated in the supervision work in engineering construction. A 10 kilometer long riverbank greenway connected 5 villages, became a good place for villagers to run and walk. Each village had a centripetal public space for villagers and a playground for children. Every night at 7:30 pm, over 50 villagers gathered here to perform square dancing. These public spaces had profoundly enriched the villagers' lifestyle, strengthened the neighborhood relationships and respected everyone's voice espe-

cially those away from hometown.

## Keywords

Comprehensive Public Participation

# Landscape planning as a means of achieving social justice

**Mr Benjamin Chemarum<sup>1</sup>**

<sup>1</sup>University of Belgrade, Belgrade, Serbia

Poster presentation 1:2 online, Online, September 28, 2023, 12:30 PM- 1:30 PM

## **Biography:**

*Benjamin Chemarum was born in the pastoralist county of West Pokot, in North-Rift Kenya. He pursued a Bachelor of Landscape Architecture degree at JKUAT and graduated successfully in 2016. He holds a master's degree in Landscape Architecture and is currently a Ph.D. student in the Department of Landscape Architecture.*

Kenya has over the years faced internal security challenges caused by social injustice, especially among pastoralist communities in the arid and semi-arid counties. Cattle rustling is a traditional cultural practice which has been passed down across generations. Each of the governments ever since independence has made efforts to eradicate this problem, but to no avail. Even currently, the new government of Kenya is tackling banditry in these regions, which has increased due to the recent remarkable drought that was occasioned by five failed rainy seasons. The drought itself was brought about partly because of climate change.

These pastoralist regions of Kenya are largely rural and underdeveloped compared to other regions of the country. In terms of literacy, availability of health care facilities, water for humans, animals and crops, food security, and decent housing, among other social amenities, the pastoralists in North-Rift Kenya are lagging behind, compared to more civilized Kenyans living in the rest of the country. The current military operation meant to track down and prosecute the bandits will not solve the social inequality issue which the pastoralist communities have been facing for years.

However, landscape architecture, through strategic landscape planning, can effectively and creatively be applied to solve this problem. This paper purposes to propose possible interventions in land use planning which may bring long-term social justice in these rural pastoral areas. Examples include creation of special areas such as eco-tourism zones; dams for rain water harvesting; agroforestry zones; ecologically-sensitive training centers and schools; healthcare centers that promote healthy lifestyle; sustainable quarry zones; sustainable community cattle ranches; manufacturing zones for agricultural tools, organic fertilizers and biogas; recreational zones where communities may hold social gatherings; market zones where rival communities may meet, interact and trade peacefully; among other meaningful measures.

A number of methods were applied in this research, namely, first-hand observations by the author, who comes from a pastoralist community in Kenya, and literature re-

view in the fields of social justice, landscape planning and climate change, with the help of the co-authors. In conclusion, landscape planning should be valued globally as a vital tool for tackling social inequality.

### References

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**Keywords** Landscape planning, social justice, climate change.

# 29 SEPTEMBER

## Round table

# Advancing Democratic Landscape Transformation: Co-Creating the Open Landscape Academy

Dr Ellen Fetzer

Advancing Democratic Landscape transformation: Co-creating the open Landscape Academy,  
Online, September 29, 2023, 1:00 PM- 3:00 PM

We invite the international landscape architecture community to co-create a collective vision of how higher education institutions can address the global and local need for democratic landscape transformation as a foundation for deep and long-term sustainability. The university sector has substantial infrastructure and intellectual property, which should be activated in support of civic engagement as a distinct Third Mission Strategy. Landscapes are the concrete spatial context in which sustainability challenges become visible, relevant and a permanent subject of democratic discourse. Universities are part of these landscapes and share them with civil society and many interest groups. The 'landscape approach' is an invitation to co-create sustainable futures, locally, and with everyone involved who is living and acting in these landscapes. Co-creation and innovative governance are more necessary than ever, but across sectors, there is limited capability for cultivating truly co-creative approaches.

During our workshop at the IFLA Conference, we will collectively address the following questions in order to build the Open Landscape Academy as an evolving common good: (1) How can universities develop sustainable partnerships with their local communities to address local landscape challenges? (2) How might universities collaborate globally to exchange and learn from each other on how these community partnerships can be cultivated? (3) Which values will guide our actions towards democratic landscape transformation? (4) How might these values influence education, research and professional practice? (5) What is the role of the professional sector in democratic landscape transformation?

This workshop is planned to be part of a series of co-creation events in 2023. The first one will be at the Landscape Forum in June in Germany and the second at the annual conference of the European Council of Landscape Architecture Schools in Czech Republic in the beginning of September. Hosting an additional workshop at the IFLA Annual Conference at the end of September provides the opportunity to continue our co-creation process with the global landscape architecture community. The Open Landscape Academy is currently a three years ERASMUS+ funded cooperation project. This workshop will be part of a co-creation phase and contribute to reaching the objectives of the first project year. On that basis, we will use the remaining time of the project to develop an organizational framework.

## Conscious lifestyles

# Joint Participation : Nature Education Curriculum in K-12 Schools

**Yixue Wang**<sup>1</sup>, Miss Shuoqi Wu<sup>1</sup>, Miss Haichen Wang<sup>1</sup>

<sup>1</sup>Nanjing Forestry University, Nanjing, China

Conscious lifestyles, Online, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*Yixue Wang, Graduate student of Nanjing Forestry University college of Landscape Architecture, Jiangsu, Nanjing, China*

Chinese traditional education emphasizes written knowledge, leaving students with no hands-on experience, which leads to a dilemma of being detached from the labor environment and lacking agricultural knowledge. Students in public elementary schools spend 8 to 10 hours a day in school on average, but they spend no more than one hour outside. The K-12 years is a crucial time for shaping values. Typical outdoor space for students is less than 3m<sup>2</sup>. As a result, students have had little contact with natural sites during their formative years.

In view of the traditional Chinese campus building-dominated distribution pattern, the design team then uses the campus roof, abandoned open space, and other spaces to design more than 20 lightweight, low-cost, assemblable modules to provide site support for over 30 different nature education programs in different seasons, use general knowledge of traditional farming culture in China, planting plants according to traditional farming seasons. A typical outdoor classroom will have 60 types of plants, with edible plants accounting for 70% and ornamental plants accounting for 30%.

Bringing some of the classrooms of compulsory education courses, like art, labor, science and biology outdoors, the team designed a closed-loop nature education curriculum involving construction, biological observation, nature science, composting and regeneration, enhancing children's health and sense of collaboration by increasing their physical contact with nature. Teachers and the design team will manage the completed school environment. The environmental science courses are involved in design updates and site expansions, and the annualized maintenance cost doesn't exceed 10% of the construction cost.

By incorporating traditional Chinese sustainable agriculture techniques, the school will process and use harvested crops directly and donate the surplus harvest to the community and NGOs. This design model was first tried in 2018 at Zhiyuan Foreign Language School, which won the 2022 Landscape Institute Awards (Final winner of The Dame Sylvia Crowe category), and the 2022 International Landscape Architec-

ture Design Award-School and Playground special award. Currently, 21 nature education programs have been developed, covering 10000 students. There have been significant social benefits locally, and more schools will join.

## **Keywords**

Nature education

# The Productive Fringe - Exploring Self-Sufficiency in the Intermediate City

[Lina El-Rifai](#)<sup>1</sup>, [Miss Linnéa Seevers](#)<sup>1</sup>

<sup>1</sup>Chalmers University Of Technology, Gothenburg, Sweden, <sup>2</sup>Chalmers University of Technology, Gothenburg, Sweden

Conscious lifestyles, Online, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*We are two architecture students from Chalmers with a great interest in urban agriculture in correlation with urban planning. The project we are presenting is part of our master's thesis. We believe that if it is applied on a substantial scale it will greatly improve our future.*

Sweden's food production is a major concern, as the country imports double the amount of agricultural food items it exports, leaving it vulnerable in times of crisis. The ongoing conflict between Russia and Ukraine, which countries account for a significant proportion of global wheat and corn production, has raised the prices of these staple foods. Still, several countries are capable of covering non-Ukrainian exports. The issue is how to deliver wheat to countries in desperate need. Large areas of Africa and the Middle East are reliant on Ukraine and Russia for food imports. One way to mitigate these concerns is through urban agriculture, which can be implemented in the intermediate city by using residual spaces within existing typologies and fabric, such as rooftops, facades, courtyards, streets, parks, and undeveloped spaces. This abstract is part of a master thesis that aims to explore the potential of urban agriculture in Gothenburg, Sweden, by investigating whether the intermediate parts of the city can make the entire municipality self-sufficient in vegetables and fruits. The investigation focuses on a typical intermediate city site in Gothenburg and calculates the potential yield in this specific area. The research combines knowledge gathered about agricultural systems and their productivity with various analyses of the selected site to program the land according to its optimal agricultural functions. The result of the research is a handbook showcasing today's agriculture systems and design ideas for integrating these systems into the built fabric and open spaces in the surrounding area. In addition to addressing food security concerns, the project aims to enhance the practical skills of architects and planners in integrating agriculture systems into the urban environment. By utilizing residual spaces, cities can create green spaces, promote biodiversity, and reduce the environmental impact of food transportation. The research finally concludes that urban agriculture in the intermediate city can produce enough vegetables and fruits to make Gothenburg self-sustaining.

This finding highlights the potential of urban agriculture to address food security concerns and promote sustainability in cities.

## **Keywords**

Self-sufficiency, food production

# A Carbon Neutrality Design Method of the Country Parks Structure

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<sup>1</sup>Beijing Forestry University, Beijing/ Haidian District, China

Conscious lifestyles, Online, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*The author is a master of landscape architecture in Beijing Forestry University, and her research direction is landscape architecture planning and design.*

Carbon neutrality target is an important ecological requirement in green space design and an effective means of global environmental equity instantly. As the transition section between urban residential areas and natural agricultural areas, urban country parks play an important role in the absorption and transmission of urban carbon dioxide. The design of the internal green space structure of the country park plays a crucial role in its high carbon sink function. To achieve this function, this study focuses on different effects of edge space and internal space in the country park on the carbon dioxide accumulation, transmission and absorption. Based on the basic landscape elements of 'corridors and patches' in landscape ecology, the experiment constructs green space quadrats for three types called 'carbon capture area, carbon circulation area, and carbon absorption area'. Each of the above types of quadrats contains three different green space design structures. CFD fluid simulation software is used to simulate and compare the changes of wind environment and carbon environment about these 9 typical green space quadrats, and the purpose is to select the green space sample with the highest efficiency in carbon dioxide absorption and circulation under different carbon environments. To confirm this study, an urban park in Beijing second green belt has been designed experimentally. Coupling application relationship between the above selected green space quadrats and the park landscape elements is analyzed in this practice, and the construction approach of the internal green space structure layout of the country park under the guidance of carbon neutrality target is preliminarily explored.

## **Keywords**

Carbon-Neutrality, Country-Park, Environmental-Simulation

# Can Ecodistricts Help Cities Act Locally: Analysis of Case Studies

Mr **Bard Rama**<sup>1</sup>

<sup>1</sup>Prague Technical University, Faculty Of Architecture, Design Studio li, Prague, Czechia, Germany

Conscious lifestyles, Online, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*Architect and urban designer with over 22 years of experience in international organizations. Finishing PhD studies (thesis submitted) on Ecodistricts - principles of planning and designing based on case studies.*

Europe region is home to a large number of ecodistrict sites that have flourished in the last two decades. As we know, cities and urban areas account for a high percentage of energy use as well as greenhouse gas emissions, however it is widely recognized that cities are also best places where the bold actions against climate change can be taken. Cities around the globe, especially those in Europe, have committed to achieving sustainable development goals and net zero carbon.

This contribution seeks to highlight and bring experiences from a PhD thesis project that is exploring how ecodistricts are planned and designed based on case studies. It used data from three worldwide well-known case studies and elaborated them in several categories, including urban planning, mobility, energy, green areas and a few others. In this contribution, I will bring the lessons learned from those three case studies and will explore the challenges of planning and designing city components, based on selection criteria of the site location maximum 10 km away from city center and maximum 20 minute ride by public transportation.

The thesis research includes some questionnaires with residents where they are specifically asked about their satisfaction with a number of elements including urban planning, mobility and transportation, therefore resident's views would be added to the contribution.

Based on ecodistrict case study analysis the research identifies a number of features that are critical for cities and ecodistricts in achieving their sustainability goals, but most importantly in providing green and healthy environment that enhance the quality of life and wellbeing of their residents.

Finally, this research underscores the role of the ecodistricts in positioning cities as drivers of change, encouraging the use of innovative approaches in urban planning

and other aspects, as well as influencing other cities around the globe to use similar approaches.

## Keywords

ecodistricts; cities; local

# Strategies for engaging public with community-based approaches to climate action

**Ms Jiaming WU**<sup>1</sup>, Mr Liang LI, Ms Yining LIU

<sup>1</sup>Beijing Forestry University, Beijing, 中国

Conscious lifestyles, Online, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*Jiaming WU is a master candidate in the School of Landscape Architecture, Beijing Forestry University. Her current research focuses on climate action and landscape. Her work: Landscape Planning and Design Toolkits Under Carbon Neutrality Goal has been published on landscape Architecture Journal and create influence nationally.*

Individual awareness and behavior have a close relation to global climate change. Current research is mainly focus on technical facet consideration relating to carbon reduction and sequestration, whereas the public and communities, which have a key role in the transition towards a sustainable society, have often been overlooked.

Taking the advantage of landscape socialization, the active landscape interventions engage the public with community-based climate actions, aiming to pose a positive interaction between environment crisis and individual response. On the basis of “cognitive-emotional-behavioral” three dimensions of public participation and the theory of planned behavior, this essay drastically endeavors to explore a systematic landscape intervention framework of community climate action, with action mechanisms and domestic and international designed projects to further illuminate. The intervention process follows in three steps: enhancing awareness - stimulating action - long-term guarantee mechanism, including seven key interventions: 1)In terms of enhancing awareness, integrate global climate change information into a multi-sensory public space design and activity system, and simulate what climate change implications could look like in real-world setting, in order to create climate change cognition and establish emotional connection; 2)In terms of stimulating action, create pop-up experiences and participatory low-carbon construction to motivate behavioral change and a low carbon living; 3)In terms of long-term guarantee mechanism, launch the formation of policies, organizations, financial guarantees, and the improvement of feedback mechanisms. Enhancing awareness of climate risks and attitude can occur through active engagement which can in turn positively impact the behavioral dimension, while the long-term mechanism supports the sustainable intervention process.



This essay also includes two vivid practice examples in the old city of Beijing, China, which have lasted for five years -the “Zero waste” recycling lifestyle in Qianmen Hutong and the “Basket rafting program”. Through a series of educational workshops, pop-up activities, participatory community building, the two projects illustrate how to integrate local climate information in design and how to choose adequate theme for participatory activities to mobilize community. Furthermore, it presents an alliance mode of multiple social groups, which shows how residents, social organizations, government, and schools are united.

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HUTONG PEOPLE’S “ZERO WASTE” LIFE  
<https://news.bjd.com.cn/2022/03/29/10061908.shtml>

## Keywords

community climate action

## Circular economy and a renewable energy park

**Mr Maurizio Ori<sup>1</sup>**

1O+A Studio, Cremona, Italy

Conscious lifestyles, Online, September 29, 2023, 1:00 PM- 3:00 PM

### **Biography:**

*Maurizio Mario Ori (1957), architect and landscape architect enrolled at AIAPP (Italian Association of Landscape Architects), focuses his research on integrated and complex processes that involve architecture, landscape, and energy in high-valued environmental areas.*

*In 1994 he founded O+A Ori Arienti Landscape and Architecture with Paola Arienti.*

The rethinking of the relationship between the energy system and the environmental system implies the need for complex transformation processes in order to integrate climate, biophilia, health, social inclusivity and technology for a real landscape quality of contemporary habitat consisting of multiple identities. The landscape project promotes a systemic design based on the fusion of knowledge and the integration of the mix of technological and naturalistic elements. Reducing - Reusing - Recycling - Landscape as a resource and “working memory”: these are the contents on which our Masterplan of the Circular Economy and Renewable Energy Park was based. The Park aims to put three polarities system - Wastewater purifier, Ecogate waste collection to differentiate and Technological Plants (waste to energy plant and biomass) defining a strategy for a flexible environmental system also for the future transformation of plants, synthesis between energy production, landscape and technological infrastructure. The project is located south of the city of Cremona in an area of 400ha: located in the paleovalley of the river Po has meandering footprints on which overlapped an agricultural function that has left imprinted recognizable ecostructures. There is a wreck of paleowoods and various drains, finally the technological settlements that give the area a negative impact in terms of landscape and environment. The landscaping and mitigation works investigate the theme of the identity of places and how the landscape project can recreate authenticity for “reverse filiation” opening a reflection on how the changing landscapes find consistency.

### RELEVANCE FOR THE THEME

A strategic landscape project is aware of the importance of local choices for achieving the European objectives of Agenda 20-30, for example, concerning the creation of energy communities through a mix of technological elements, agricultural and

naturalistic “contaminating” the idea of traditional landscape with new elements: a new contemporary habitat that combines energy needs, identity elements, ecological and landscape compensations. This creates resilient communities that combine landscape protection with the global need to produce energy from renewable sources, even on a small scale, aware of the inevitable interdependence between global and local issues.

**Keywords**

RESILIENCE, ENERGY, COMMUNITY

**Design project**

**IFLA 75 Anniversary**

## A Persuasive Network: IFLA and The Men of the Trees

**Dr Camilla Allen**<sup>1</sup>

<sup>1</sup>Liverpool School Of Architecture, Liverpool, United Kingdom

IFLA 75 Anniversary, Online, September 29, 2023, 2:00 PM- 4:00 PM

### **Biography:**

*Dr Camilla Allen is a Research Associate at Liverpool School of Architecture where she is working on an AHRC-funded project, 'Women of the Welfare Landscape' led by Professor Luca Csepely-Knorr. Camilla completed her PhD at the University of Sheffield in 2021, titled 'The Making of the Man of the Trees'.*

What does a shared interest in all things arboreal and a drive to bring about world peace tell us about a network that extends from International Federation of Landscape Architects to one of the oldest conservation societies in the world, The Men of the Trees? The Watu wa Miti - People of the Trees - was founded in 1922 in the Kenyan Highlands, with a British chapter following in 1924, and Palestine and other international groups forming from 1929, the same year as the formation of the Institute of Landscape Architects in London. Most significant was the turn after the end of the Second World War through the formation of IFLA and the Men of the Trees towards a drive to foster peace, and the significance of care for the environment in bringing about that change. The Men of the Trees was often a bit of a misnomer, as from the outset many of the members were women, and the appeal of the society brought together people with diverse interests that included the preservation of the countryside, the restoration of industrial landscapes and organic farming enthusiasts. In this paper, the memberships, organisation and crossovers of interest and activities between the two groups is examined, determining key points in the development and expansion of the Men of the Trees through the society's intersections with the Institute of Landscape Architects and the International Federation of Landscape Architects. It will chart shared preoccupations, aligned visions, and crossovers in membership and association, including Jaqueline Tyrwhitt, Lady Eve Balfour, and more peripheral figures like Rolf Gardiner. Many members of the Men of the Trees were landscape architects and often contributed to the society's journal *Trees*, with Sylvia Crowe's forestry work heralded as 'Landscaping Embraces the Science of Forestry' in the 1966 edition. One particular 'man of the trees' was the British landscape architect Derek Lovejoy, Secretary-General of the International Federation of Landscape Architects between 1960 until 1968 and whose role as Chair of the Men of the Trees is a hitherto neglected connection in a network that encompassed an international body of tree-enthusiasts.

**Keywords** Trees, Forestry, Conservation

## The first IFLA's permanent delegation (1965-68): contributions to IFLA's historiography

**Mrs Maria João Fonseca**<sup>1</sup>

<sup>1</sup>Centro de Investigação Professor Doutor Joaquim Veríssimo Serrão (CIUVS), Santarém, Portugal

IFLA 75 Anniversary, Online, September 29, 2023, 2:00 PM- 4:00 PM

### **Biography:**

*Landscape architect and researcher. She has worked with landscape architecture archives since 2019. PhD in Architecture from ISCTE-IUL graduate in Landscape Architecture from Instituto Superior de Agronomia - UTL, and a master's from the University of Greenwich. She also has postgraduate studies in Archival Science and Emerging Cultures and Discourses*

In a letter to the Gulbenkian Foundation, dated 8th of June, 1964, Geoffrey Jellicoe confirms the IFLA's secretariat has been run in Britain since the foundation in 1948 on a voluntary basis and shows his support for Francisco Caldeira Cabral's efforts to convert it to a professional basis, with a central office permanently installed in Lisbon.

From a historiographical point of view, this article aims to reconstitute the possible history of the first IFLA permanent delegation, settled in Lisbon on the 31st of March, 1965, and over the space of three years, focused on two different aspects:

- On the importance of the Calouste Gulbenkian Foundation in funding the permanent delegation, as well as other related activities in the discipline of landscape architecture. This support was vital, at that time, bringing more attention to the profession of landscape architecture in the country, but it also enabled meetings, exhibitions other costs to professionalize the federation;
- On the role of Francisco Caldeira Cabral, first as President (1962-66), but also on his deep and long involvement as Past President, which was crucial, in particular on the advance of IFLA to the "Category B" within the United Nations Education, Scientific and Cultural Organisation (UNESCO). The process was based on talks, meetings, and internal work such as designing the IFLA constitution and establishing working groups, as well as organizing a summer school, in 1968, for landscape architects' training, one of UNESCO's requirements.

Despite the fact that most of the records from this period have been either destroyed or lost, this article aims to recover from the still-existing records in different archival institutions the history of these years – which made possible the creation of the first permanent delegation (1965-68) and the advance of the IFLA's to "UNE-

SCO “Category B” (in 1970) – to be included the IFLA’s historiography. Concurrently, it also contributes to a better understanding of how necessary these institutional relations were in the diffusion of the discipline and, in this particular case, how they embodied a momentous epoch for Portuguese landscape architecture.

### **Keywords**

IFLA’s permanent delegation

## IFLA’s Contribution to the Development of Landscape Architecture in China

**Mr Zheming Cai**<sup>1</sup>

<sup>1</sup>University Of Toronto, Toronto, Canada

IFLA 75 Anniversary, Online, September 29, 2023, 2:00 PM- 4:00 PM

### ***Biography:***

*Zheming Cai is a Ph.D. candidate in Architecture, Landscape, and Design at the University of Toronto. After graduating from the Harvard University Graduate School of Design, Cai practiced as a landscape designer at OLIN in Philadelphia, the United States. His research focuses on the cultural landscape and landscape infrastructure.*

This paper explores IFLA’s role in institutionalizing landscape architecture as a professional discipline in the People’s Republic of China (PRC). I will discuss IFLA’s transnational endeavors toward the development of the conceptual, legal, and technological frameworks in which Chinese landscape architecture and allied professions in the built environment have been able to operate since 1949.

More specifically, I will show in what measure IFLA has contributed to legitimizing professional practices in China as one case of adapting international standards, regulations, and laws to different cultural and political contexts. Additionally, the study investigates China’s participation in the global exchange of concepts and practices of landscape architecture. Along the way, I will highlight the work of Sun Xiaoxiang (1921-2018), recipient of the 2014 Sir Geoffrey Jellicoe Award and a key agent in mediating the exchange between IFLA and the PRC.

This paper contributes to a global history of both IFLA and the discipline of landscape architecture in China by looking into the exchange of landscape architectural knowledge and practices across cultures and political systems.

### **Keywords**

China; transnational institutionalization

# Archiving IFLA's history

**Dr Ursula Wieser Benedetti**<sup>1</sup>

<sup>1</sup>Civa Brussels, Brussels, Belgium

IFLA 75 Anniversary, Online, September 29, 2023, 2:00 PM- 4:00 PM

## **Biography:**

*Ursula Wieser Benedetti is a curator for Landscape architecture, Garden history and Ecosystems at CIVA, Brussels. She holds degrees in Landscape Architecture (Edinburgh College of Art) and in Japanese Studies (INALCO, Paris), and a PhD in Landscape History (EHESS, Paris).*

The history of landscape architecture is particularly complex and still largely remains to be written. The patchy nature of its historiography has already widely been shed light onto and the topic is gaining more and more attention in academic circles.

Probably even more patchy is the history of landscape architecture's professional bodies and institutions, of which IFLA, created in 1948, is the without doubt the most important. In times where increasing interest is being focused towards unraveling the past and present of such organizations, it is all the more important to also reflect on how to secure and preserve the main material which allows research: archival records.

In this presentation, we propose to shed light onto the IFLA archival fonds at the CIVA foundation Brussels and its history. CIVA has been officially entrusted with the archiving of IFLA's records in 2008 and has since been receiving archival records on a regular basis.

We will detail the process of receiving, inventorizing and making available to researchers and to the general public archival sources, and the importance of creating online databases to map the available resources on an international level. In this context, it is worthwhile mentioning initiatives like the Network of European Landscape Architecture Archives NELA, created in 2019 in Oslo, precisely aimed at raising awareness on the importance of collecting archives of landscape architecture, and preserving them.

A crucial aspect for enabling present and future research is to enable and create the backstage of any research: it entails developing a culture of collecting archives, enabling the creation of new repositories, but also developing long-term financial models which allow the funding of such institutions.

**Keywords** Archives IFLA CIVA

## Landscapes of well-being

# Cultivating the spaces that hold us: postpartum, nature and design.

**Ms Emma Tempest**<sup>1</sup>

<sup>1</sup>Victoria University Of Wellington, Wellington, New Zealand

Landscapes of well-being online, Online, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*Emma Tempest is a PhD Candidate in Design Research at Victoria University of Wellington, Aotearoa New Zealand. She is a mother, educator, photographer, designer and researcher with dedicated interest in postpartum health, narratives and photo elicitation. She is currently exploring postpartum wellbeing through the lens of nature connection and liminality.*

The transitional maternal spaces of pregnancy and birth, to motherhood and parenthood, are defined by Western medical science in stages; with postpartum as the time following childbirth until an infant is one year old. Postpartum is often used interchangeably with postnatal and referred to as the Fourth Trimester.

Experiences of difficulties such as postnatal depletion, postnatal anxiety and postnatal depression are typically diagnosed and commonly experienced after birth and within the first year/s. Interdisciplinary and cross-cultural evidence reflects that postpartum can affect the physical, mental, spiritual, and communal relationships in whānau/families and communities. It can impact a connection to place and intergenerational health.

Postpartum is complex, multifaceted and often underexplored in design disciplines. The study explores the psychological, social, physical, and spiritual elements of place, and how this may create and support connections for enhancing well-being and designing for postpartum health in Aotearoa New Zealand. This research adopts a visual qualitative and participatory arts-based methodology with semi-structured interviews, to discern how postpartum women and interdisciplinary specialists articulate a connection with nature.

A design-led operative framework for postpartum health design will be tested and proposed through a community-specific project.

## **Keywords**

Postpartum, nature-led, narratives.

# Community Gardens for Lower Depression Rates? Cases in Shenzhen, China

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Design Institute Co.,Ltd., Shanghai, China

Landscapes of well-being online, Online, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*Yuhong Wang is a phd researcher at the Bartlett Faculty of the Built Environment, University College London. Her academic interests are landscape and planning, regeneration and governance.*

Increasing urbanisation has resulted in increasing financial and health burdens of stress, which require the development of mental health interventions in urban spaces. Previous work shows that poor-quality physical environments report symptoms consistent with depression. Greenspace in the urban built environment has been proposed as a significant feature that is associated with positive mental health outcomes. As a type of greenspace that is easily accessible to nearby residents in their daily routines, a community garden is beneficial to the mental health of urban dwellers. It facilitates access to natural environments, strengthens social connections, and enables various physical activities, and was acknowledged as one of the most important methods for promoting mental health among residents. However, extant literature details the mental health benefits of community gardens, it has remained challenging to characterise and assess quantitatively. Therefore, we examined the relationship between community gardens and individuals' depression rates in shenzhen, China. Then, questionnaire survey data and remote-sensing metrics were obtained for Statistical analysis. The results show that the rate of depression is significantly related to community gardens characteristics, including the infrastructure, usage (i.e. social interactions, physical activities) and social-ecological quality of urban greenspace in the neighbourhood. This study contributes to our knowledge by estimating the relationships between community gardens for depression and provides opportunities for supporting future community garden planning, design and maintenance.

## **Keywords**

CommunityGarden, MentalHealth, Depression

# Impact of Urban Evolution on Carbon Sink of Green Space

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Landscapes of well-being online, Online, September 29, 2023, 1:00 PM- 3:00 PM

## Biography:

Beijing Forestry University

Global warming is by far the biggest environmental problem facing humanity. Since urban areas are responsible for more than 75% of global carbon emissions, many cities have tried to find ways, models and patterns for low-carbon development by adjusting urban form and layout.

Beijing's urban development policy shifted from expansion to contraction in 2015. Taking Beijing as an example, this paper uses land use data for three periods, 2010, 2015, and 2020, and introduces the landscape pattern index for quantitative assessment to analyze the development characteristics of UGS; the CASA model is used to calculate the spatial and temporal distribution characteristics of urban green space carbon sinks. The spatial correlation between spatial pattern index and greenland carbon sink benefits is investigated by augmented regression tree model, and the influence of urban spatial pattern on greenspace carbon sink is quantified.

The study shows that from 2010 to 2020, the building land in Beijing suburbs decreases by 12%, and the urban landscape mix increases significantly from 2010 due to the increase of green space. The carbon sink benefits of urban green spaces are influenced by urban development policies, and from 2015 to 2020, green spaces in suburban areas gradually recover in the form of fragmentation, and the carbon sink benefits in suburban areas in 2020 increase significantly by 26% compared to 2015. The carbon sink benefits in the distant urban suburbs do not change significantly because they are less influenced by urban policies. The benefits of urban green spaces as carbon sinks showed significant positive spatial correlations with the MSIDI, SHEI, AI and FRAC. The contribution of the urban diversity index and the benefits of urban green spaces as carbon sinks ranged from 13.7% to 22.7%. Among them, MSIDI and FRAC are the most influential indicators of the carbon sink effect of urban green space.

Exploring the relationship between urban morphological development and the carbon sink benefits of urban green spaces can give full play to the carbon sink function of urban natural ecosystems, reconfigure the relationship between cities and nature, and provide development strategies for the sustainable development of global cities.

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## Keywords

greenspace, carbon sink

# Assessing Carbon-neutral Computational Tools for Green-spaces: Tool Accessibility and Applicability

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Landscapes of well-being online, Online, September 29, 2023, 1:00 PM- 3:00 PM

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The present-day peril of climate change is not a remote apprehension anymore, but a current catastrophe that already poses a threat to both humans and natural habitats worldwide. The proposal of carbon peaking and carbon neutrality have triggered a global response and delivered new opportunities and challenges for landscape architecture. While climate change has emerged as one of the most critical and conspicuous challenges, the intricate nature of carbon emissions and carbon sink capabilities in the realm of landscape planning, construction, and materials render them challenging to succinctly summarize and quantify. Hence, it is necessary to identify suitable carbon calculation tools for the entire life cycle of green spaces.

To achieve this goal, we conducted a comprehensive analysis of carbon calculation tools, developed a tool summary table and selection process to aid users, and aim to encourage the advancement of carbon calculation tools for green spaces. This study contributes to advancing research on carbon neutrality in global green space, both theoretically and practically.

Current research suggests high uncertainty in carbon calculation for green spaces

due to differences in calculation scope and factors, leading to limitations in tool use across regions. Additionally, differences in the stage, scale, and difficulty of computing tools further complicate their use.

Therefore, having a comprehensive understanding of the specific services offered by each green space carbon computing tool would be highly advantageous for researchers, policymakers, and other potential users. Such knowledge can facilitate the selection of appropriate tools for accurately quantifying carbon storage and sequestration in green spaces, ultimately enhancing our ability to combat climate change.

The review covers a total of 10 main tools currently used in the carbon neutrality calculation of gardens and green spaces, and summarizes and compares them from four aspects: calculation scope, calculation factors, regional adaptability of calculation tools, and the use of calculation tools. The results suggest a need to prioritize local perspectives, enhance global data sources, unify carbon calculation tools and evaluation methods, and facilitate development of global carbon calculation tools for green spaces.

**Keywords** green-spaces; carbon-neutrality; carbon-calculation-tool



# Relationship between Residents' Plant Landscape Perception and Protection Behavior Willingness

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## **Biography:**

*Yufei Meng is a researcher in ICBR who is mainly engaged in the research of urban green space and historical gardens.*

*Hongming Peng, chief expert of ICBR and deputy Secretary-General of CFA, is mainly engaged in the sustainable research related to the Horticultural Expo and other large-scale green spaces.*

As a subject theory of landscape architecture that represents the relationship between human and environment, landscape interaction is consistent with the research scope of the theory of consistency between human and environment in environmental psychology. Park plant landscape is an important part of the green space construction of human settlements, providing ecological service functions for urban society, and residents feed back to the environment with corresponding plant landscape protection behaviors. Based on the suitable model of human and environment, this paper starts from the perspective of residents' landscape interaction. Construct the model of the relationship between plant landscape perception and protection behavior willingness in urban parks, select 4 typical high-population parks in Chengdu as research plots, use Exploratory Factor Analysis(EFA) and Structural Equation Modeling(SEM) to verify the factors direct and indirect effects. The research results show that: 1) Residents' plant landscape perception can be divided into multiple dimensions, and landscape perception is significantly related to protection behavior intention; 2) Landscape perception factors have a mediating effect on residents' protection behavior intention, and perception factors with direct effects have a direct effect on residents' behavior intention. The action efficiency is greater than the indirect effect factor; 3) The specific plant landscape perception factors significantly affect the protection behavior willingness variable, and the order of influence degree is obtained. This study attempts to establish the relationship between residents' perception of plant landscapes in Chengdu's parks and their willingness to protect behaviors. By analyzing residents' perceptions, a good plant landscape environment in parks can be created, thereby stimulating residents' awareness and behavior of plant landscape protection, and helping to promote community participation in parks, plant landscape protection and sustainable development. **Keywords** Plant Community Interaction

# Impact of Campus Lockdown on Landscape Justice and Emotional Well-Being

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## **Biography:**

*Naisi Hua is a Ph.D. candidate at School of Architecture, Harbin Institute of Technology. Interested in promoting child-friendly urban environments and advancing the mechanisms of campus design, her research focuses on developing innovative solutions to enhance the functionality of campuses. She also involved in a number of architectural projects.*

The public landscape plays a crucial role in promoting public mental health and well-being as a healing environment. Inequities in the public landscape can lead to an absence of healing effects among certain groups, which can have implications for emotional regulation. During the COVID-19 period, campus lockdown, implemented to curb the epidemic's rapid spread in China, led to a tug-of-war between the city and the campus over the public landscape. The previously shared public landscape exhibited a bias towards a particular group of users, which likely negatively impacted some users' emotional regulation. Therefore, this study hypothesizes that campus lockdown affects the equity of the public landscape on campus, aiming to explore the impact of epidemic lockdown policies on the equity of the public landscape and possible solutions through a quantitative study. Five representative universities in China were selected to compare their campus enclosure statements before and after the campus lockdown. First, ArcGIS was used to organize campus landscape boundaries and population distribution. Then, the results of the population distribution and the accessibility of the public landscape were superimposed based on network analysis tools. Spatial overlay analysis was used to compare the evolution of landscape spatial distribution and accessibility. Finally, the importance of landscape justice and the adjustment strategies under the epidemic context are discussed. The results of the study showed that campus lockdown reduces the accessibility of public landscape and leads to inequitable spatial use. Setting additional access restrictions on campus will further differentiate on-campus users and exacerbates landscape inequity. Thus, landscape justice should be an essential factor before proposing lockdown policies. Local institutions should make timely

adjustments to the lockdown scope based on landscape justice, helping residents stabilize their emotional well-being.

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**Keywords** landscape justice; COVID-19

## Planning tools for climate resilience

# Multifunctional green infrastructure planning based on ecosystem service bundles identification

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Planning tools for climate resilience, Online, September 29, 2023, 1:00 PM- 3:00 PM

## Biography:

*Xin Ai is a Ph.D. candidate studying landscape architecture at Beijing Forestry University, with research interests in green space planning, urban ecosystem service assessment, and landscape architecture planning and design.*

As global climate change intensifies and urbanization grows, green spaces that provide many ecosystem services (ESs) to megacities are facing multiple threats. Thus, constructing multifunctional green infrastructure (GI) is important for protecting ESs and enhancing urban resilience for climate adaptation. Beijing is promoting a policy of territorial spatial planning to reconcile the spatial contradictions between urban green space and urban development needs. Existing GI planning approaches for metropolitan areas lack a systematic approach that combines ecosystem service bundles and system conservation planning to consider the trade-offs and synergies between social needs and ecological benefits.

This study aims to establish a framework for multifunctional GI planning based on ecosystem service bundle identification: We selected representative ESs in Beijing to identify ESs hotspot areas as conservation features. We used the system conservation planning model Marxan to identify spatial priority areas by setting conservation targets considering the trade-offs and synergies among ESs. We conducted simulation extrapolation to determine the green space sites with maximum ESs conservation efficiency. The functional characteristics of green space sites were identified by analyzing ecosystem service bundles. Large patches with high conservation value of regulating and supporting services were identified to optimize the current protected areas and serve as ecological source sites, while small patches with high cultural services served as “stepping stones” in constructed ecological corridors and became green spaces for public recreation. At last, a multifunctional GI network was constructed by identifying potential greenway sites among the patches. Finally, 5355.16 km<sup>2</sup> of green space network was formed, mostly clustered around existing nature reserves, maximizing the protection of ESs and connecting with urban green spaces to form an urban greenway network for public recreation, improving the multifunctional GI network in Beijing to ensure resilience to future climate change.

The planning framework provides a replicable approach for planning GI that syn-

ergizes ecological and social benefits to meet multi-objective spatial planning demand. More broadly, it will help guide future applications of GI in metropolitan areas in a global climate context to achieve conservation management of sustainable, resilient green networks.

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## Keywords

Green infrastructure; ESs

# Urban Digital Twin as a key ecosystem service estimation tool

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Planning tools for climate resilience, Online, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*Martin's professional experience ranges from designing and building temporary installations to participatory workshops, urban design and green-blue infrastructure planning. Combining a hands-on approach with scientific research ensures that the created landscapes are resilient. Aesthetics, perception, ecology, economy and maintenance are studied through the prism of predictable and unpredictable change.*

The growing use of urban digital twin (UDT) as an urban planning tool, mapping and prognostics of utilities, traffic and services in urban environments has increased the necessity to develop digital twins of urban vegetation and green spaces (a green twin). This is needed to value the green-blue infrastructure on the same basis as the built environment. Digitalization will help designers, planners, decision makers and citizens to see the living material (such as trees, shrubs, waterways) represented equally with the artificial (such as buildings, roads, utilities), which is critical if we are to preserve and enhance ecosystem services as well as livability of urban environments through right planning and design decisions.

The GreenTwins Project develops a layer of green infrastructure in UDTs of Helsinki and Tallinn, and produces three new user interfaces to UDTs in order to harness the potential of these twins in advancing planning processes and democratic decision-making.

One of green twin's many uses is the possibility to estimate the green area factor of an area. In accordance with the C/O City green area factor manual (Grönnytefaktor för allmän platsmark 2.0), this is done through the estimation of six key ecosystem services. A green twin must be able to assess and estimate these ecosystem services without an on-site visit by the user. That is, these key ecosystem services can also be calculated based on the data available in the twin's database. Such data could be for example species or individual specimen specific such as trunk and branch volume, leaf area, date of leaf outbreak. But also, area and habitat specific data such as habitat (or surface) type, species cover percentage or area size. The key idea is that a green twin enables the estimation of ecosystem services of an area in different future scenarios. It can estimate long-term changes of e.g. biodiversity, noise pollution, microclimate regulation, health or CO<sub>2</sub> sequestration.

**Keywords** urban digital twin

# Linking Ecosystem Services and Circuit Theory to Optimize Ecological Networks

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Planning tools for climate resilience, Online, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*The presenter's research interests are Quantifying and Modelling the Biodiversity & Urban Ecosystem Services, Urban Ecological Restoration, and Research Technologies and Methods in Landscape Architecture.*

**Abstract:** Blue-green spaces have a comprehensive effect on the urban landscape ecology and provide a variety of ecosystem services on which humans depend. However, we found that the unequal geographic distribution of blue-green spaces was caused by urbanization in some areas, which limited sustainable development. It can be optimized through protecting, restoring and building an ecological network to improve their connectivity. In this paper, the combination of ecosystem services, ecological sensitivity, landscape characteristics and morphological pattern analysis (MSPA), landscape connectivity analysis, and the government-protected area was applied to identify the ecological source. Then the urban ecological networks were constructed by Linkage mapper and simulated potential corridors with Circuitscape 4.0. Finally, the ecological networks were optimized by adding stepping stones according to the potential corridor breakpoints and the barrier points identified by the Barrier mapper. The results show that: (1) 35 ecological sources (6096.11 km<sup>2</sup>) were identified, the western part clustered, the eastern part scattered and connected by Xian Mountain; (2) 73 ecological corridors were constructed, and the current map showed lower values in the northern and southern parts; (3) the maximum and average values of the current map were significantly increased after optimization. The area of blue-green spaces only increased by approximately 1% of the ecological source, while the ecological corridors increased by 65.75%. This study provides recommendations for the optimization of the urban ecological network. It can also provide useful decision-making guidance for urban planners in investigating, analyzing, and adjusting the distribution of blue-green spaces to achieve equitable geographic distribution outcomes, while promoting the harmonious and sustainable development of cities.

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### Keywords

blue-green spaces, unequal geographic distribution, stepping stone

## Identifying the carbon-biodiversity co-benefits using a climate change adaptation lens

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Planning tools for climate resilience, Online, September 29, 2023, 1:00 PM- 3:00 PM

### Biography:

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To implement the goals of the post-2020 global climate and biodiversity frameworks at regional and local levels, landscape planners must identify areas of potential co-benefits for carbon storage and biodiversity for cost-effective conservation. The existing co-benefits mapping method needs a systematic biodiversity metric for integrating current biodiversity patterns and landscape-level adaptive capacity to inform where and how biodiversity-focused climate adaptation benefits coincide with climate mitigation benefits. Here, we developed a methodological framework for identifying co-benefits for carbon storage and biodiversity on the regional scale using a climate change adaptation lens (Figure 1). The approach was demonstrated in the Yangtze River Basin, China (Figure 2). First, we mapped the ecosystem carbon storage of the study area in biomass and soil. Then, we constructed two complementary climate-informed biodiversity indices, representing proactive and reactive approaches to climate change adaptation. The climate-informed biodiversity indices integrated two aspects: local biodiversity importance at species and ecosystem levels, as well as climate refugia potential based on environmental diversity and climate velocities metrics. The proactive climate-informed biodiversity index (CiB<sub>lp</sub>) prioritized areas with the highest local biodiversity importance and climate refugia potential. The reactive climate-informed biodiversity index (CiB<sub>lr</sub>) prioritized areas where unique local biodiversity is highly vulnerable to future climate change. Finally, we examined the spatial congruence of climate-informed biodiversity and carbon storage by overlapping the hotspots (20% highest values for both aspects). Our results showed that the CiB<sub>lp</sub> hotspots are primarily found in the mountainous areas in the southernmost region. The CiB<sub>lr</sub> hotspots are scattered in the western hilly and plain areas and around the major water bodies (Figure 3). There is a 37.52% and 29.76% overlap in carbon storage and climate-informed biodiversity hotspots for proactive and reactive conservation, respectively. Only 12.31% and 15.92% of these proactive and reactive hotspot areas are under formal conservation (Figure

4). Our analyses revealed areas of significant opportunities and gaps for coupled carbon and proactive/reactive biodiversity conservation under climate change in the region. Climate-smart conservation approaches should be purposefully implemented in different hotspot areas to help achieve climate change mitigation and biodiversity-based climate change adaptation goals.

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- Keywords** biodiversity, climate-adaptation, planning

## Ecosystem service assessment of Seoul, Korea using revised Importance-Satisfaction Analysis

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Planning tools for climate resilience, Online, September 29, 2023, 1:00 PM- 3:00 PM

### **Biography:**

*Ph.D course student at Interdisciplinary program in landscape architecture, Seoul National University.*

*Is interested in Assessment of Socio-cultural value of Ecosystem service.*

Compared to rural areas, social inequality, exclusion, and division frequently occur in densely populated cities, which also affect well-being. The quality of life for urban dwellers is closely related to factors such as air and leisure environment quality, as well as climate change-induced floods and urban heat island effects, which can be mitigated or improved through ecosystem processes. These benefits are referred to as ecosystem services, and various attempts are being made to quantify them, but the existing biological and physical perspectives on ecosystem service evaluation have limitations in densely populated cities with diverse beneficiaries. In this study, an online panel survey of 2,160 residents of Seoul, which has a population density of 15,973 people/km<sup>2</sup>, was conducted to examine the gap in ecosystem service values between regions from a socio-ecological perspective, rather than a biological or physical perspective. Through exploratory factor analysis, the perceived types of ecosystem services were reduced, and the revised Importance-Satisfaction-Analysis results were quantified to derive the urgency level of ecosystem service management from a socio-cultural perspective by administrative district. As a result, three types of ecosystem services were identified as perceived by Seoul citizens: urban green-based ecosystem services, biodiversity-based ecosystem services, and resilience-based ecosystem services. Despite geographical proximity, it was confirmed that the gap in the socio-cultural value of ecosystem services between regions can vary depending on social capital and environmental characteristics such as the location of power plants, experiences of flood damage, and heat damage due to income inequality.

### **Keywords**

Perceived-EcosystemService, Resilience, livelihood

# Climate Infrastructure Toolkit

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Planning tools for climate resilience, Online, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*Anya Domlesky is an urban designer and landscape architect, currently the Director of Research at SWA Group. She runs XL Lab, the firm's innovation lab undertaking practice-based research. She holds an MLA from the Harvard GSD and an M.Arch II from McGill University.*

The Climate Infrastructure Toolkit emerged out of a practice-based research project that focused on inventorying all applicable strategies for land-based climate change adaptation and mitigation within the scope of professional services. The toolkit that emerged is unique in that it provides comprehensive decision-making support for both clients and design teams at the earliest project stages in order to scale up and speed climate action.

The tool has three levels of complexity, the first being a simple, easy to grasp framework based on the only 4 ways that design projects can address climate change: flatten emissions, sequester carbon, modulate excess, and accommodate disturbance. Within these 4 impact areas, there are 19 strategies that may be variously applicable based on the type of project (site design, master planning, or urban design) and the region (fire prone, flood prone, high heat risk). A total of 70 tactics are detailed to date to help apply these strategies to a project.

Within one large, global, private firm, the tool has lowered the barriers to action for individual project teams, clients, and has also had the unanticipated benefit of enabling better goal setting at the outset of a project and better annual firmwide tracking of sustainability outcomes. The tool is not proprietary and is available for anyone to download and use free of cost. It differs from other tools available for landscape architects in that it is not based around an accounting framework or labor-intensive certification system, but one that opens up possibilities early in the development process and aids in cross disciplinary coordination.

In their research, the team incorporated both quantifiable design choices (generally for carbon) and those based on precedent (generally for adaptation), which have typically been excluded from sustainability accounting. The team used literature review, existing certification programs, and case studies including resilience, net zero carbon, and performance-based sustainable options to inform the tool.

**Keywords** climate change, adaptation

# A comprehensive framework for assessing and planning park cooling services

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Planning tools for climate resilience, Online, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*Xiao Yi, is a Ph.D. student at the College of Landscape Architecture, Nanjing Forestry University. She majored in Landscape Architecture, and her main research areas are urban green infrastructure planning, green space ecosystem service, and climate adaptation planning. She has been involved in several international research projects and international conferences.*

With increasing global warming and rapid urbanization, extreme heat events occur frequently, threatening the health of urban dwellers. Urban parks can alleviate severe urban heating climate, and numerous studies have conducted a quantitative analysis of the park cooling effect only from a single dimension, lacking a multi-dimensional perspective that explores the equity of park cooling services. To address this issue, this study proposes a comprehensive framework of cooling effect–accessibility–urban development to assess and improve planning with 111 urban parks in Nanjing, China, as empirical objects. The results showed that the park cooling services index (PCSI) exhibited an unequal spatial distribution: PCSI tended to decrease from the city center to the surrounding areas, with an average PCSI within the ring road 1.35 times higher than that outside the ring road. The value of cooling effect was relatively low, with the top two low levels accounting for 72.1%, and the low values of accessibility and urban development were concentrated outside the ring road. Additionally, we discussed the multiple linear regression between park landscape features and cooling effect to propose a more effective strategy for urban parks from the perspective of landscape planning and design, indicating that increasing park area (PA), blue-green proportion (FSAP, WAP), and largest patch index (LPI) can effectively enhance the park cooling effect. Given the assessment results of park cooling service zoning, urban parks were further divided into four types according to supply–demand, and different intervention strategies and adaptive planning measures were developed. Theoretically, this study innovatively proposes an integrated framework of park cooling services based on cooling effect–accessibility–urban development, which fills the gap of previous theoretical studies and provides a scientific basis for future research. Practically, it demonstrates the applicability and basis of the park cooling service framework, which helps effectively translate scientific understanding into practical planning guidelines. This is an attempt to

promote equity and maximize the effectiveness of park cooling services, which provides new ideas for a sustainably heated urban living environment.

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**Keywords** Park; Equity; Planning

## Responding to climate change with water



# Desert flash floods call for action

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<sup>1</sup>Berabim Landscape Architecture, Binyamina, Israel

Responding to climate change with water, Online, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*(B.L.A.; M.Urb.des) Landscape architect, founder and principal of Berabim Landscape Architecture, a studio that focuses on public landscape and urban design projects that set the stage for everyday life.*

Bir Hadaj is an agricultural Bedouin village located on the banks of the dry Revivim river, in the Negev Desert at the southern part of Israel.

The government has recognized only a third of Bir Hadaj's area, excluding most of the village from formal recognition. The unrecognized settlement does not receive basic civil infrastructure and services, such as supply of clean water, sewage system, electricity, health services, roads and transportation.

Until the early 2000's, a quarry had operated within Revivim riverbed, in which wa-di-soil and sediments were excavated from the ground. The abandoned plant left significant traces on the landscape, including hazardous pits and untreated waste causing a threat to the safety of the local community. The footprint of the deserted plant has also altered the flow regime of flash floods typical to the area. The man-made disruption of the natural flow of water increased the risk for fatalities from the floods, especially amongst the vulnerable community.

This environmental phenomenon challenged the formal social structures and power relations between the government and the local community and called for a new collaboration. We were commissioned to propose a plan for rehabilitation of the quarry and redesign of river channels that will allow safe flow of water. The river, therefore, served as a catalyst for the formal and informal to sit together and find environmental solutions through landscape design.

Following close research of the morphological attributes of Revivim river, we have designed a new and artificial topography, including stream channels and small rock-fill dams, observation points and gathering areas, and planted trees in designated areas where floodwater will occasionally accumulate.

The borders of the project were not set by formal maps or planning regulations but rather by the everyday life as observed from the ground: the hoses running above

the surface providing water to the shacks, the network of informal roads and pathways, the local signs signaling the allocation of the land, pasture areas etc.

The landscape design has set the platform for the next cycle of life by the river, where new vegetation grows, livestock grazes and kids can safely play.

## **Keywords**

Flash-floods  
Informality  
Rehabilitation

# Important resilience lessons from Cape Town's Open Space Working Group

**Ms Tamsin Faragher**<sup>1</sup>

<sup>1</sup>City of Cape Town, Cape Town, South Africa

Responding to climate change with water, Online, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*Tamsin Faragher is a built environment specialist working in the City of Cape Town's Resilience Department where she explores the nexus between policy, practice and implementation, particularly as it relates resilient cities and the competing environment and development demands. She is the new IFLA Africa Climate Change Working Group chairperson.*

The effects of climate change most adversely affect Africa. The 2015-2018 drought in Cape Town (South Africa) is one example of the many climate-related disasters that the continent has experienced. Cities are fast becoming home to the greatest proportion of the global population. Local governments consequently have the greatest responsibility to promote sustainability and resilience. The City of Cape Town's Resilience Strategy (2019) identifies a number of actions that require transversal collaboration across disciplines and departments, including an Open Space Working Group (OSWG). Both have relevance to urban planning and public space-making; and promote a multi-dimensional learning journey using a landscape approach. Whilst they are site-specific, they respond to the effects of global climate challenges. Themes explored thus far include open space and green infrastructure, open space and water, amongst many others. These two are particularly relevant for climate adaption and mitigation. Through online engagements and follow-up in-person site visits, the OSWG has built a practice of applied theory where policy-makers and regulators experience issues first-hand. Outcomes include improved knowledge around finance options and the potential of open space to add value through land-value-capture; identification of regulatory gaps; a nascent capital investment programme; and the importance of the public realm in climate adaption and mitigation.

Whilst Cape Town has experienced some success, it seems unlikely that this approach has the potential for scaling in South Africa, let alone the continent, due to significant resource and capacity shortfalls, especially when compared with North America, Europe, Asia and Oceania. "Acting local and thinking global" must therefore extend to global responsibilities that includes the landscape architecture profession. We must recognise the need for compensation and thereby lobby for increased resources and capacity that is commensurate with resource use and climate damage.

Global resilience and sustainability relies upon urgent action that is contingent upon no-one being left behind. This includes Africa.

## **Keywords**

resilience public realm

# Exploring the factors impacting transboundary water heritage for sustainable development

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Responding to climate change with water, Online, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*Sara Berahman is a post-doc researcher who has joined the chair of Architectural Design and Engineering at Eindhoven University of Technology( TU/e). Her research interest is the intersection of architecture, landscape architecture and heritage, focusing on transforming urban landscapes, particularly water-related ones, by considering social sustainability.*

Achieving sustainable development and addressing climate issues requires a delicate balance between the past, present, and future. However, water scarcity and drought continue to pose significant challenges in many regions, putting water heritage and their landscape at risk. The negative impacts of global population growth, climate change, and changing lifestyles have exerted additional pressure on our precious water resources, leading to widespread water stress in numerous countries. Working towards sustainable water heritage management can significantly contribute to achieving other critical goals while also having a positive impact on the landscape and people's livelihoods. In this context, managing transboundary water heritage becomes even more crucial due to climate change, policies, and actions that have contributed to its degradation and the surrounding environment. The importance of transboundary water heritage lies in its international significance, encompassing social, cultural, economic, political, and ecological aspects. Despite the numerous theoretical water-sharing strategies available, the influential factors to approach sustainable landscape design have not been fully considered, leading to various environmental, social, and economic changes as a result of decision-making in different dimensions and adopted policies. This issue can cause irreparable problems over time if not properly addressed.

Wetlands are species-rich and fertile ecosystems that can play an important role in socio-economic and, more importantly, environmental strategic planning. The survival of the Hawizeh/al-Azim (مىظع لاروه) marsh, which is shared by Iran and Iraq and is the only remaining remnant of extensive marshlands in Mesopotamia, is influenced by both countries' internal and external policies. The purpose of this

paper is to recognize important factors for preserving the transboundary water heritage landscape by considering Hur-al Azim marsh as a case study. To achieve this goal, the factors that have caused the Hur-al-Azim marsh to dry out slowly will be discussed in this paper. The results show that the severe environmental and social consequences of the drying up of the Hur-al-Azim marsh highlight the need for a comprehensive approach to preserving the heritage of transboundary waters. This approach should not only consider technical perspectives but also behavioral and cultural perspectives which need cooperation among countries.

## **Keywords**

Transboundary, drought, sustainability

# Identifying impacts of landscape pattern and climate changes on streamflow

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Responding to climate change with water, Online, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*Doctoral candidate in the School of Landscape Architecture, Beijing Forestry University, with research interests in hydrological ecological services, landscape pattern optimization, and greenspace carbon sink.*

Identifying the individual and combined hydrological response of land use and climate changes is the key to effectively managing the ecohydrological balance of regions. It is also an important research field to mitigate the global ecological issues from anthropogenic activities and climate change. However, the nonlinearity, effect size, and multiple causalities limit a causal investigation. Therefore, this study established a comprehensive methodology framework to analyze the impact and attribution of landscape pattern and climate changes on streamflow events in five basins in Beijing. Future climate projections were based on three general circulation models (GCMs) under two shared socioeconomic pathways (SSPs). Additionally, the landscape pattern in 2035 under a natural development scenario was simulated by the patch-generating land use simulation (PLUS). The Soil and Water Assessment Tool (SWAT) was applied to evaluate the streamflow spatial and temporal dynamics over the period 2005–2035 with multiple scenarios. A bootstrapping nonlinear regression analysis and boosted regression tree model (BRT) were used to analyze the individual effects and the combined attribution of landscape pattern and climate changes on streamflow, respectively. Results indicated that in the future, the overall streamflow in the Beijing basin would decrease, with a slightly reduced peak streamflow in most basins in the summer and a significant increase in the autumn and winter. The nonlinear quadratic regression more effectively explained the impact of landscape pattern and climate changes on streamflow. The trends in the streamflow change depended on where the relationship curve was in relation to the threshold. In addition, the impacts of landscape pattern and climate changes on streamflow were not isolated but were joint. They presented a nonlinear, non-uniform, and coupling relationship. Except for the YongDing River Basin, the annual streamflow change was influenced more by the landscape pattern. The dominant factors and the critical pair interactions varied from basin to basin. Our findings have implications for landscape planners and managers for optimizing ecohydrological functions and promoting sustainable and resilient planet development.

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## **Keywords**

Streamflow nonlinear response

# Translating Cape Town's mono-functional Stormwater ponds into multi-functional urban space

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<sup>1</sup>University Of Cape Town, Future Water Institute, Cape Town , South Africa

Responding to climate change with water, Online, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*Julia McLachlan is a landscape architect based in Cape Town, South Africa, currently pursuing her PhD with University of Cape Town's Future Water Institute. Interested in the articulation of water systems as part of urban space, her research is exploring how we could find better expression for engineered water systems.*

Since Day Zero's close looming, the city of Cape Town has been looking to diversify their water supply infrastructure. Stormwater ponds – basins engineered solely to provide flood attenuation within the urban landscape - could potentially provide such an opportunity. Almost 300 of these ponds occur across Cape Town's low-lying sandy Cape Flats settlements, below which lies the Cape Flats Aquifer. Instead of draining out to sea, stormwater directed into these ponds could be intercepted to seep naturally into the aquifer as part of a Managed Aquifer Recharge approach. There are numerous challenges though: in global south cities such as Cape Town, governing institutions are burdened by constrained capacities and limited budgets. Many of these stormwater ponds occur in poorly-resourced neighbourhoods that have been impacted by the legacy of apartheid spatial planning and even a form of 'green apartheid'. There are further issues regarding the use of these ponds. Several have been occupied with informal housing, resulting in flooding of the neighbouring areas. Many also show evidence of use as informal rubbish dumps. At a study site on the Cape Flats, a transdisciplinary collaboration between the University of Cape Town's Future Water Institute and the University of Copenhagen, funded by Danida, is studying how these mono-functional, engineered stormwater ponds could be converted to multi-functional blue-green open spaces to improve the city's resilience. The Pathways to Water Resilient South African Cities (PaWS) research team is engaging with local residents, city officials and non-profit organisations to co-produce knowledge systems around these ponds through a variety of hands-on engagement activities. Through these blue-green focussed activities, the research is recognising that the pond landscape is an important catalyst and possesses agency. The perception of the pond is changing from one of empty, vacant land, to that of a valuable space for nature. It is also revealing what were once disconnected people-plant relationships and traditional cultural practices.

The research is changing the way in which we consider engineered systems as urban space and the resource potential of these blue-green spaces in the global south context.

## **Keywords**

stormwater ponds, space,

# Optimization of Habitat Network in the Lower Yellow River Area

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<sup>1</sup>Beijing Forestry University, Haidian District, China

Responding to climate change with water, Online, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*Yifan Feng, PhD Candidate from Beijing Forestry University. My main research field covers regional resilience and ecological restoration, landscape ecology, urban planning and so on. I have Published 5 articles in CSCD or CSSCI journals, which are the top journals in China.*

The rapid development of cities has led to the continuous erosion of large-scale habitats, with increasingly severe dispersion and islanding of landscape patches. Ecological networks can promote biodiversity conservation and improve the quality of ecosystem. This study tried to construct a complete research method for ecological network identification and optimization by MSPA-InVEST model. Based on this method, we constructed the ecological network in the lower Yellow River and proposed optimization suggestions for the more resilient and sustainable space development.

Ecological networks were studied in three steps: source extraction, corridor identification, and network construction. We extracted landscape morphological attributes based on MSPA model, evaluated the habitat quality by InVEST. Combining the results of MSPA and InVEST, we screened the habitat patches in the lower Yellow River. Patches with large scale, strong functionality, and high importance were selected as ecological sources. Then the ecological corridors were identified based on circuit theory. This study used Linkage Mapper to simulate the species migration paths and extracted the pinch area and barrier area, which are crucial components of ecological restoration areas. Combined the ecological sources, corridors, pinch area and barrier area, the ecological network was constructed in the lower Yellow River Area. After that, we further identified the conserved priority area and the restored priority area. Ecological sources are the core habitat for species. Pinch point areas are the necessary paths for species migration. The overlapping range of source and pinch point areas served as the conserved priority areas. Urban roads blocked ecological corridors, cutting off landscape connectivity. We treated the overlapping part of the road network and the ecological network as the fracture area. The restored priority areas were identified from the fracture area and the ecological barriers. Finally, this study proposed specific optimization strategies for the conserved priority areas and restored priority areas.

Based on this result, planners and governments can improve the structure and function of ecological space by delimiting ecological red lines, converting farmland to forests, improving the water environment and so on. Through this research, we hope to help protect regional species diversity and promote regional sustainable development.

## **Keywords**

Ecological-network, MSPA-Invest, Yellow-River

## Suggesting methods for urban sustainability

# A Comparative Study of Evaluation Models for Ecological Environment Status

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<sup>1</sup>Southeast University, , China

Suggesting methods for urban sustainability, Online, September 29, 2023, 1:00 PM- 3:00 PM

### **Biography:**

*Tan Fangqi, born in 1994, is a female PhD student majoring in Landscape Architecture at the School of Architecture, Southeast University. Her research direction focuses on digital landscape and its technology.*

This research paper examines the applicability and accuracy of the remote sensing ecological index model and the InVEST habitat quality model in assessing the ecological environment status of Fangshan District, using the evaluation methods and application results from the “Technical Specifications for Ecological Environmental Status Evaluation” issued by China. The models’ performance is compared through correlation analysis, linear simulation, confusion matrix, and independent sample t-test.

The results show that all three models indicate a good ecological status in Fangshan District, with the InVEST habitat quality model demonstrating stronger correlation and higher accuracy at the overall scale. For green land areas, the InVEST habitat quality model exhibits stronger correlation and higher accuracy. In the case of construction land and unused land, the remote sensing ecological index model is more accurate; however, the InVEST habitat quality model presents a stronger correlation with the normative model within unused land areas. Within water bodies, the remote sensing ecological index model has higher correlation and accuracy than the InVEST habitat quality model, but both models show low correlation and accuracy overall.

The InVEST habitat quality model demonstrates stronger correlation and higher accuracy in assessing overall ecological conditions and green spaces, whereas the remote sensing ecological index model performs better in built-up and unused land. The choice of the model depends on the area’s scale, complexity, and land-use types.

### **Keywords**

Model comparison ; Ecological environment

# Urban GreenSpace Network Development for Biodiversity Conservation and GreenSpace Provision

**Ms Lin Jin**<sup>1</sup>, Professor Youngkeun Song<sup>1</sup>

<sup>1</sup>Seoul National University, Seoul, South Korea

Suggesting methods for urban sustainability, Online, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*I am pursuing a doctoral program in Landscape Architecture at Seoul National University. Additionally, I am enrolled in the Integrated Major in Smart City Global Convergence program. My research interests include landscape connectivity, urban green network planning, and ecological restoration.*

## Context

The connectivity provided by urban green spaces offers habitats and corridors that increase the ecological and public benefits. Well-connected urban green spaces promote species interaction and dispersal, and thereby hence urban biodiversity. They also improve urban environments, providing opportunities for people to relax and to engage with nature. Nowadays, researchers and planners have begun using landscape ecology principles to develop urban green space networks, effectively increasing connectivity. However most existing studies have been undertaken on the movement among urban green spaces, with the public's access to a certain urban green space being overlooked.

## Objective

This study aims to establish a methodological framework for developing urban green space networks that prioritizes biodiversity conservation and provision of green spaces.

## Methods

In this paper, we incorporated the protected area status and optimized distance buffer of urban green spaces to create two different resistance surfaces. We then used Linkage Mapper as the primary analytical tool to model habitat connectivity and more accurately quantify the geographic priorities for conservation and restoration in the development of urban green space networks.

## Results

Spatial analysis revealed that the proposed plan decreased fragmentation and increased connectivity. Findings indicate that: (1) 110 core areas, with a total area of 1422.09 hectares, are identified in Suwon City, South Korea. These areas are dis-

tributed in the mountain systems located in the northern and central parts of the city; (2) 67 ecological corridors are identified, with a total length of 926.4 km, with a relatively high density in the central part of the city; (3) Plaza and roadside green spaces are the main types of green space that increased for the green space provision benefits, but they only have a weak effect on improving biodiversity.

## Conclusions

The urban green space network, developed based on Linkage Mapper connectivity analyses, simplifies and systematizes the complex landscape. This study offers fresh ideas for the development of urban green space networks from the standpoint of biodiversity conservation and provision of green spaces, contributing to the achievement of a win-win situation for ecological protection and public health improvement.

## Keywords

Urban green spaces



# Human Perceptions to Inform Landscape Design Strategies for Promoting Biking-Friendliness

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Suggesting methods for urban sustainability, Online, September 29, 2023, 1:00 PM- 3:00 PM

## Biography:

*Hongqian Li is a Master of Landscape Architecture Student at Tongji University in China. His research focuses on using interdisciplinary tools like machine learning, computer vision and big data to study urban or landscape issues.*

Bikling represents an ecologically, financially, and physically beneficial means of transportation that has the potential to aid in reducing greenhouse gas emissions and mitigating the negative effects of climate change. To promote bike as a mode of transportation and foster biking-friendly cities, it is critical to understand the connection between biking wellness and the built environment. Unfortunately, most urban landscape design projects are carried out in a top-down manner without prior community involvement, resulting in environmental injustice. Ideally, community feedback in the form of surveys and interviews would be solicited to identify what design factors that prioritize biking-friendliness. However, such a bottom-up method of collecting data can prove to be time-consuming, resource-intensive, and thus impractical to implement on a large scale. (Lin et al., 2010).

To address this challenge, this study focuses on New York as a research site with interdisciplinary tools such as computer vision (CV), machine learning (ML), and big data technologies (Yin et al., 2015). We first gather bicycle traffic volume from the Citi Bike dataset and collect street-view images (SVIs) of the city from Google Maps. We then employ an online survey to elicit the ratings of 200 randomly selected SVI samples from members of the community, with a focus on four dimensions: Imageability, Enclosure, Human Scale, and Safety (Lynch, 1964). These evaluations serve as training labels for an ML model, which accurately predicts perception scores and can be applied to a city-wide scale. Using ordinary least squares (OLS), spatial regression, and geographically weighted regression (GWR) on multiple scales, we explore the correlation between human perception and bicycle traffic volume to see what factors promote bicycle volume.

Based on the multi-level analysis, we provide strategies and suggestions for optimizing urban space to enhance the city's biking friendliness and reduce carbon emissions. This study demonstrates the potential of utilizing ML and big data technologies to obtain community perceptions in a bottom-up manner on a large scale, without requiring a significant workforce. Furthermore, it provides actionable

insights for landscape designers and urban planners to develop biking-friendly environments.

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**Keywords** biking-friendliness; human-perception; machine-learning

# Developing a Multi-Dimensional Vegetation Inventory for Urban Green Spaces

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Suggesting methods for urban sustainability, Online, September 29, 2023, 1:00 PM- 3:00 PM

## **Biography:**

*As a graduate student in the School of Landscape Architecture at Beijing Forestry University, my research interests primarily focus on landscape architecture planning, landscape performance evaluation, urban green space carbon performance evaluation, landscape preference, visual perception, and landscape visual construction.*

Since the Industrial Revolution, excessive emissions of greenhouse gases have led to an increase in global temperatures and extreme climate events, posing an increasing threat to ecosystems, human health, and biodiversity. To achieve carbon neutrality in urban ecosystems, it is necessary to conduct a systematic assessment of the carbon sink capacity of urban green spaces, which requires gathering detailed vegetation data for those spaces. While the vegetation inventory of urban green spaces is typically obtained through manual surveys, conducting artificial community surveys on a large scale can be challenging. Remote sensing data is very suitable for reflecting the vegetation growth status of large-scale research areas, but relying solely on remote sensing data cannot directly determine the necessary vegetation parameters for species level urban green space biomass. Therefore, there is an urgent need to develop a multidimensional data coupling algorithm that integrates urban green space sample data with remote sensing data to extrapolate vegetation inventory information across large research areas.

Lidar technology has found wide-ranging applications in geology, forestry, and ecology due to its advantages of precision, efficiency, and convenience in obtaining tree parameters at the single wood scale. In this study, we propose a method for calculating the carbon sequestration of urban green spaces based on ground-based LiDAR and sequential interpolation. Ground based LiDAR is used to obtain vegetation data of urban green spaces within the sample area, , and then construct a KNN sequential interpolation model. By combining the KNN interpolation method with remote sensing data, we can determine a list of unknown vegetation parameters for large-scale research areas using optical vegetation indices. Finally, we calculate the carbon sequestration of urban green spaces based on these parameters. Our proposed method overcomes the limitations of accessing vegetation characteristic parameter data at the community scale across large areas. It allows us to build a comprehensive vegetation inventory of urban ecosystems at the macro, meso, and

micro scales. This approach presents vegetation characteristic information in the form of multidimensional data, which can assist government agencies in developing a multi-scale green space system carbon neutrality strategy that takes into account multiple spatial dimensions.

## **Keywords**

carbon performance evaluation

## Poster presentations

# Increase the visibility of the “disappeared” urban historical landscape

**Dr Tiantian Zhang**<sup>1</sup>, Ms. Mengling Yan<sup>1</sup>, Mr Xiang Yu<sup>1</sup>

<sup>1</sup>Soochow University, Suzhou, China

Poster presentation 2:2 online, Online, September 29, 2023, 12:00 PM- 1:00 PM

### **Biography:**

*Tiantian Zhang is a lecturer in the department of Landscape Architecture at Soochow University, China.*

*Her research areas include the spatial form of traditional Chinese gardens and urban historical landscape. Dr. Zhang's research has been published in high-impact journals. She's also a reviewer for a number of international journals.*

Tiger Hill is an urban historical landscape located 3.5km west of Suzhou's ancient city in China, with a history of more than 2500 years. Its main image is composed of a hill and a pagoda. In ancient times, Tiger Hill was a landmark of Suzhou and a place for people to climb and enjoy the view from high up. With the rapid expansion of the city, Tiger Hill has “disappeared” in the urban visual interface. At the same time, looking south and west from the top of Tiger Hill, the skyline of several mountains is also partially obscured by buildings. This study constructed three-dimensional models of the ancient and the modern Suzhou city, respectively, and used ArcGIS to perform a comparative analysis of the cumulative viewshed of Tiger Hill. The results show that currently, only the river connecting Tiger Hill and the ancient city (the Shantang River) still has the condition to construct a visual corridor. The threshold of comfortable distance for viewing Tiger Hill can be determined through the field survey of different distance questionnaires. The result of the cumulative viewshed analysis was overlaid with the urban green space system planning map of Suzhou. The park, square, and road green spaces within a radius of the threshold of comfortable viewing distance for Tiger Hill were selected as the comfortable viewing areas. In addition, using ArcGIS analysis, the skyline viewed from the top of Tiger Hill to the south and the west was analyzed to determine the building height control values while protecting the outline skyline of the mountains. Based on the visual evaluation, this study established an analysis method for the threshold of the comfortable viewing distance of urban historical landscapes. Meanwhile, using the method of building height control, the visual integrity of the urban landscape heritage was protected without affecting urban development.

**Keywords** urban historical landscape

# Beyond DRR: Ecosystem Services and Disservices of Eco-DRR for Stormwater

Dr Daixin Dai<sup>1</sup>, Mr Mingyang Bo<sup>1</sup>

<sup>1</sup>Tongji University, Shanghai, China

Poster presentation 2:2 online, Online, September 29, 2023, 12:00 PM- 1:00 PM

## **Biography:**

*Mingyang Bo is a graduate student of landscape architecture department of Tongji University. He is interested in both landscape architecture and urban planning. His research interest is landscape perception and urban disaster prevention which focuses on application of digital technology and the solution based on nature.*

As global climate change and storm water become more prominent, it is clear that ecosystem-based disaster risk reduction (Eco-DRR) can more sustainably protect people and property from the negative impacts of natural disasters. Eco-DRR refers to protecting, restoring and managing ecosystems to reduce disaster risk, and achieve sustainable and resilient development of communities. Eco-DRR is a nature-based solution (NBs) that reduces disaster risk while providing multiple ecosystem services; In addition, Eco-DRR is not only positive, changes in ecosystems can also have an impact on human well-being or even harm, that is, ecosystem disservices. However, most of the current Eco-DRR assessments focus on the mitigation benefits and implementation costs of ecological infrastructure, while ignoring other ecosystem services and disservices, which may hinder the decision-making and implementation of Eco-DRR. Services and disservices are not isolated from each other, but are provided simultaneously through interactions within the system. In this context, the ecosystem services framework can help to analyze the trade-off and synergies between services and disservices in a cross-environmental context and to better understand how Eco-DRR affects the delivery of ecosystem services. This paper reviews the research and case studies and cases of Eco-DRR in urban areas around the world to define and describe the ecosystem services and disservices of Eco-DRR measures against storm water. Then, we summarize the indicators of these services and disservices, and propose a framework for ecosystem services to assess the Eco-DRR measures. Such a framework can more meaningfully assess the ecological costs and benefits of ecological disaster prevention and mitigation by analyzing the results of the positive and negative interactions of Eco-DRR. This framework can more meaningfully assess the ecological costs and benefits of Eco-DRR by analyzing the results of the positive and negative interactions. At the same time, it can also help us go beyond the concept of disaster risk reduction, and promote the deep integration of urban disaster prevention and ecology.

This can provide a reference for global cities to apply Eco-DRR approaches to storm water disaster decision-making and implementation.

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**Keywords** Eco-DRR, Stormwater, Benefit-cost

# ECOLOGICAL SPACE STUDY & GREEN-BLUE STRUCTURE DESIGN OF THE FPA

**Ms Qi Kong<sup>1</sup>**

<sup>1</sup>Sweco International AB, Beijing, China

Poster presentation 2:2 online, Online, September 29, 2023, 12:00 PM- 1:00 PM

## **Biography:**

*Landscape Architect with 15 years' work experience. MLA of Sheffield University in 2009. Worked mostly with sustainable urban planning & design, especially large scale projects, with special focus on green infrastructure aspects. Co-worked with environment specialists on sustainable solutions such as green infrastructure and Sponge City, water-waste-energy eco-cycle etc.*

Since 2017, Sweco conducted the conceptual spatial planning of The First Practice Area(FPA) in North Jinan and was involved in many important tasks aiming at implementing the sustainable concepts. The ecological space study and the green blue structure design of the FPA's core new urban cluster are two of such tasks that set up the green-blue structure of the new area from regional scale to urban district scale. The ecological space study aimed to define the key issues and strategies related to ecological space, blue and green. The ecological space study aimed to define the key issues and strategies related to ecological space, blue and green structures, and sponge city concepts for the whole FPA area with a cross disciplinary expert team. The work scope includes Ecosystem Service Analysis, Environmental Risk Management, Develop the Green/Blue Structure for Ecosystem Services, and Sponge City Strategy etc. It defined the eco-space framework in a regional level. The design of the green and blue structure focused on a 50 sqkm core urban cluster, with 3 main principles: work with existing, go with the flow, and create network. The design of the green and blue structure focused on a 50 sqkm core urban cluster, with 3 main principles: work with existing, go with the flow, and create network. The project team aims to preserve and connect existing landscape heritage and use existing water and topography to form the base for the future urban system that promotes a climate adapted city. Based on the calculation of the storm water and flooding condition with consideration of topography change after development, a city level open stormwater management system that composed of channels and detention areas of different level was proposed, it will enhance the resilience of the city to cope with storms of 50 year return period.

The work requires close collaboration between Chinese local experts and international experts from different disciplines. The Swedish Symbiocity Approach is applied to lead the process of the cross-disciplinary workshops to deal with cultural differences and to find local solution. The workshops helped to form common vision and sustainable strategies, which were applied and passed on in different The workshops helped to form common vision and sustainable strategies, which were applied and passed on in different hierarchy of plans and design and ensured a healthy and resilient green blue network responding to climate change where multiple eco-system services, resilient storm management system, and quality public green space are inhabited.

## **Keywords**

Green Blue structure

## **Design project**

# Promoting biotope carbon sequestration efficiency by planting design

Miss Xuefei Zhang<sup>1</sup>, Professor Xiaoshan Fang<sup>1</sup>, Mr Jinhui Ai<sup>1</sup>, Miss Yuxin Ouyang<sup>1</sup>

<sup>1</sup>South China University Of Technology, Guangzhou, China

Poster presentation 2:2 online, Online, September 29, 2023, 12:00 PM- 1:00 PM

## **Biography:**

Xuefei Zhang, China, South China University of Technology fayzhang3353@gmail.com, Presenting author,

*She is currently working toward a Ph.D. degree in Landscape architecture with the School of South China University of Technology, Guangzhou, China. Her research interests include ecological planning and design, and wetland park design.*

In the context of global climate change, previous studies have demonstrated that plants play an important role in reducing carbon emissions and increasing carbon sinks. Studies have compared the carbon sequestration efficiency of some plant varieties, but the specific factors affecting plant carbon sequestration efficiency were not clear. When trying to improve sustainable carbon sequestration services of urban green space by means of landscape design in practice, there was often a lack of relevant conclusions or parameters as a scientific basis. Therefore, we analyzed the factors affecting the carbon sequestration of plants and plant communities in biotopes with the goal of enhancing the carbon sequestration efficiency of biotope units.

We surveyed 5 biotopes distributed in 2 spatial types of the college campus, to address two questions: (1) Do plant attributes affect the carbon sequestration efficiency of plants? (2) Do plant communities in different habitats differ in the amount of carbon they sequester?

We measured the net photosynthetic rate and microclimate indicators using site measurements and used statistical analysis to explore the differences in carbon sequestration efficiency of different plants and green space units and the main influencing factors.

We found that the leaf area index, leaf width, tree height, area of the crown cover, and planting density all affected the carbon sequestration efficiency of plants. Additionally, *Ficus benjamina* 'Variegata' showed a highly significant correlation between carbon sequestration capacity and air temperature. We also observed differences in carbon sequestration between plant communities in fully enclosed and semi-enclosed biotopes.

We proposed two plant design recommendations for biotopes in different encl-

tures based on the goal of carbon sink enhancement. These habitat-specific strategies can also be applied to the construction of other urban green spaces in similar climate zones, which can help to improve the carbon sequestration capacity per unit of green space and promote the fine control of urban green space. The enhancement of carbon sequestration capacity per unit of green space is the key to enhancing the urban ecological environment, expanding the carbon-neutral practice path in the natural dimension, and promoting sustainable urban development, which is important for slowing down global warming.

## **Keywords**

carbon sequestration, biotope

# Low-carbon and Economizing Tradeoff in Urban Green Infrastructure Design

**Miss Lian Liu**<sup>1</sup>, Dr. Nan Hu<sup>1</sup>, Prof. Xiong Li<sup>1</sup>

<sup>1</sup>Beijing Forestry University, Beijing, China

Poster presentation 2:2 online, Online, September 29, 2023, 12:00 PM- 1:00 PM

## **Biography:**

*Lian Liu received the B.S. degree in Landscape architecture from Beijing Forestry University, Beijing, China, in 2019. Her research interests include landscape architecture, low-carbon landscape design. She is currently working toward the Ph.D. degree in Landscape Architecture from Beijing Forestry University, Beijing, China.*

Against the background of global climate crisis and the slowdown of global economic development, Urban Green Infrastructure is gradually developing towards Low-carbon and Economizing. This paper aims to establish a carbon footprint-economic cost balance system to achieve the dual goals of low-carbon and cost-saving in the design of Urban Green Infrastructure, provide a technical platform for efficient construction of Urban Green Infrastructure. The study introduces local building material supplier map data, corrects the carbon emission index of various materials based on the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, and constructs a carbon footprint assessment and economic cost calculation method for the entire life cycle of the case study area, forming a dynamic decision-making model. The typical urban mining park(72hectare) construction in the Chinese city of Yantai is used as a case study for verification. The plan builds a park recreation system through 4 aspects (boundary, terrain, experience, and facilities), and uses 13 low-carbon design tools in 3 categories to form a low-carbon and energy-saving method. Against the backdrop of the local post-epidemic economic recovery, a relatively intensive and energy-saving construction plan was provided for the government, while meeting the recreational needs of local residents. The results show that through tradeoff model, the dual goals of low-carbon and cost-saving in the design and construction of Urban Green Infrastructure can be achieved. This method can provide technical support for the design and construction of Urban Green Infrastructure and promote sustainable urban development.

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**Keywords** Low-carbon, Climate Crisis

# Biourbanism. A practice example from the subtropical south

**Mr Juan Palop-Casado<sup>1</sup>**

1LPA Studio, Las Palmas GC, España

Poster presentation 2:2 online, Online, September 29, 2023, 12:00 PM- 1:00 PM

## **Biography:**

*Juan Palop-Casado is the founder and director of LPA Studio, a multidisciplinary company specialised in regenerative urbanism optimised for southern latitudes that he likes to call "Bio-urbanism for the sunny side of the planet."*

## 1\_ Motivation/Problem

The concept of biourbanism is part of a theoretical and professional realignment that proposes an alternative to the abstract and extractive character of traditional urbanism by another whose main objective is to regenerate the social and environmental conditions of the contexts in which it operates.

This presentation shows the practical outcome of a Master Plan that results from operating within this framework of principles and methodologies.

## 2\_ Methods, Procedures and Approach

The Project consists of the redevelopment of the Gran Canaria Exhibition Centre in the Canary Islands.

The working methodology includes an intensive participatory process with the neighbouring communities from the initial stages. The project team also incorporated experts in subtropical ecology, local gardening, natural waste treatment of water and renewable energies.

The social and environmental objectives of the project reconfigured the team into a multidisciplinary group, most of them ignoring the details of an Exhibition Centre but experts on social and ecological regeneration.

## 3\_ Results and Findings

The project is currently in the Master Plan phase. As a result of the interaction with the neighbourhood, the project proposes the connection using a pedestrian walkway that connects two vulnerable communities previously separated from the site itself. It also includes innovations such as a car park that the neighbours will operate as a sports field and recreational space on days when there are no fairs and events, which happens to be more than half the year. It also includes a green ring that pro-

vides shade and shelter for residents and another biodiversity during heat events. To this end, a bio-purification system has been proposed that transforms the site's waste into irrigation water and compost.

The master plan has an initial certification of the BREEAM (Communities) sustainable certification.

## 4\_ Conclusions and Implications

The outcome has proved the feasibility of a (bio)urbanism approach that reformulates its principles and objectives and aligns them with the environmental and social regeneration of the contexts and communities in which it intervenes beyond the functional programme briefed.

## **Keywords**

biourbanism global-south regeneration



# Exploring 2100 Delta based on vulnerability assessment and scenario construction

博士 **Nanxi Wang**<sup>1</sup>, Shuoxing Li<sup>1</sup>, Pan Lei<sup>1</sup>

<sup>1</sup>South China University of Technology, Guangzhou, China

Poster presentation 2:2 online, Online, September 29, 2023, 12:00 PM- 1:00 PM

## **Biography:**

*I am an associate professor at SCUT's School of Architecture, specializing in landscape architecture, particularly the delta region. My research includes comparative studies of Chinese and European delta regions, developing new methods for spatial assessment, planning and design, and advancing nature-based solutions."*

Deltas are vital areas for human settlements, supporting over a third of the global population on less than 10% of the Earth's surface. However, these areas are complex and dynamic systems that are vulnerable to flooding caused by rising sea levels and climate change. Managing the risks associated with deltas is critical, and TU Delft's Redesigning Deltas program aims to create long-term visions using natural and technological interventions. The Pearl River Delta (PRD) is a highly vulnerable area due to its long, narrow coastline and rapid urbanization. The study uses GIS technology to develop a composite vulnerability index (CVI) that assesses the potential vulnerability of the Pearl River Delta (PRD) based on ecological, economic, and social variables. Key hazard factors are then identified from the ecological variables of the CVI, and the intervention effects of three policy conditions (natural development, economic development, and ecological protection) are explored for three extreme events (sea level rise, storm surge and precipitation) to create nine scenarios for 2100. The future land-use simulation (FLUS) model is used to predict land-use demand under different policy conditions, and the intensity of extreme events is simulated based on historical monitoring data, past disasters, and the representative concentration pathway (RCPs) under the IPCC. Ultimately, the study identifies the optimal development scenario based on future disaster adaptation and holds workshops with stakeholders to explore possible pathways. The study's results show that the assessment framework can identify areas at high risk of coastal flooding, recognize key hazard factors, and reveal how different development conditions adapt to multiple risks through dynamic scenario building. The study identifies the optimal development scenario according to future adaptation to disasters and organizes workshops with stakeholders to explore possible pathways. The study develops mitigation for climate change adaptation and enhancing coastal inundation resilience for the PRD and other vulnerable deltas worldwide.

**Keywords** scenario-based, flooding-management, PRD

# The relationship between diversity and preference of different groundcovers.

Miss **Jiangnan Liu**<sup>1</sup>, Miss Huiyi Liang<sup>1</sup>, Miss Kedi Jin<sup>1</sup>, Mr. Dongyang Gao<sup>1</sup>, Miss Yuebin Wang<sup>1</sup>, Mr. Denggao Xue<sup>1</sup>, Miss Yingyuan Chen<sup>1</sup>, Mr.

Tian Gao<sup>1</sup>, Ms. Ling Qiu<sup>1</sup>

<sup>1</sup>College of Landscape Architecture and Art, Northwest A&F University, Yangling, Shaanxi, China

Poster presentation 2:2 online, Online, September 29, 2023, 12:00 PM- 1:00 PM

## **Biography:**

*Jiangnan Liu is currently studying in College of Landscape Architecture and Art, Northwest A&F University, under the supervision of Professor Gao Tian, with main research interests in ground cover biodiversity and cognitive preferences.*

Due to rapid urbanization, global biodiversity has declined significantly and biological homogenization across habitats was serious. The ecological contribution of spontaneous ground cover has been recognized and its potential use in urban green spaces has been gradually explored, but these studies were mostly based on Europe and the United States, and direct comparisons based on China, especially between spontaneous vegetation and artificial ground cover, were lacking. Therefore, the relationship between measured biodiversity new perceived biodiversity and preference was explored by taking a typical Chinese Guanzhong area as a research object between spontaneous ground covers and artificial lawns, in order to explore ground covers that can balance ecology and aesthetics. The results of the study showed that: (1) The public can accurately identified the diversity of spontaneous ground covers, but not the diversity of artificial lawns. (2) Perceived biodiversity significantly enhanced public preference regardless of ground cover type. (3) The public could accept spontaneous ground covers with higher plant diversity, but not artificial lawns with high plant diversity, which further indicated that spontaneous groundcovers have broad application prospects for improving plant diversity in urban green spaces. The paper concluded with some suggestions for groundcover improvement in urban green spaces, thus balancing the ecology and aesthetics of urban green spaces in a world of decreasing urban management and maintenance costs.

## **Keywords**

Preference; Biodiversity; Balance

# Generative Design of Outdoor Green Space Based on GAN

Xueqi Yao<sup>1</sup>, 博士 Ran Chen<sup>1</sup>, Xiao Ling<sup>1</sup>, Dr Jing Zhao<sup>1</sup>, Xi Zheng<sup>1</sup>  
<sup>1</sup>Beijing forestry university, , China

Poster presentation 2:2 online, Online, September 29, 2023, 12:00 PM- 1:00 PM

## Biography:

Currently studying in Beijing Forestry University, majoring in Landscape Architecture in her junior year. She is interested in big data analysis, machine learning, generative design, and ecosystem services. She has published one article in SSCI as the third author.

Over the past decades, although artificial intelligence has rapidly developed in computer science, there has been little exploration of urban green space, which is the essential components of the human living environment. In recent years, with the construction of the ecological environment, the green space system has become an extremely complex planning system. Most of the functional areas that provide services to most urban residents can be found in urban parks. Therefore, the rational layout of various elements of park design is of great significance in enhancing the comprehensive service function of urban green space and improving the health and well-being of the people.

The Generative Adversarial Network (GAN) technology proposed by Ian Goodfellow [1] in 2014 has brought a turning point to integrating artificial intelligence and planning and design with its excellent image generation ability. Previous research has gradually shown that GANs have unique generative design capabilities with the potential to achieve an automatic park layout design.

Therefore, we propose a novel intelligent generation system for park layout based on GANs algorithms, which realizes the 'construction, optimization, and validation' of complex outdoor space generation design. By using this system, landscape architects can develop site-specific solutions about greenspace design issues. In the meantime, every green space design in the world can be adapted to this system.

Our experiment is conducted as follows: (1) data preparation and collection; (2) pre-training two neural network (3) realize the data augmentation and enhanced hundred level dataset to thousand level dataset; (4) optimized training; (5) test the optimized training model. Experimental results show that (1) the machine learning model can acquire specific park layout patterns, quickly generate well-laid-out plan

layout plans, and create innovative designs that differ from the human designer's style within reasonable limits; (2) GAN-driven data augmentation methods can significantly improve the generative ability of algorithms, reduce generative pressure, and achieve better generative results; (3) pix2pix is prone to mode collapse, and CycleGAN has fixed rule errors in expressing certain design elements; and (4) GAN has the ability to mine design rules in the same way as humans.

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## Keywords

Generative Design

# Årstafältet

**Angelica Bierfeldt Liptak**<sup>1</sup>, Mrs Paula Mackenzie<sup>1</sup>

<sup>1</sup>White Arkitekter, Stockholm, Sweden

Poster presentation 2:2 online, Online, September 29, 2023, 12:00 PM- 1:00 PM

## **Biography:**

*Paula is a senior landscape architect that has worked with the design of public places in Sweden and abroad. Through her work with Årstafältet and Slussen she is used to work with large complex projects. Paula is passionate about ensuring that early design ideas live through to the built project.*

**Årstafältet** is an up-and-coming district in Stockholm that will feature more than 7000 new residential homes, schools, commercial establishments, public parks, and open spaces. Water plays a significant role in the district's design, which has been crafted to endure the effects of climate change and extreme weather. To address drainage needs, a series of large stormwater ponds will be constructed at the boundary between the city blocks and the open field. These ponds will not only ensure the district's future drainage needs, but they will also become a noteworthy attraction for visitors. In the first phase, rainwater from the streets and public areas will be directed through plant beds in the streets and the stormwater channel integrated into the new district square and park before flowing into the stormwater ponds. The district square, rainwater channel, and ponds have been designed to turn a technical challenge into an attractive feature of the district.

Aside from handling stormwater, the ponds will also serve to delay and purify significant amounts of water from surrounding areas. This process involves filtration through coal plant beds and sedimentation in the ponds, which are then cleaned from the bottom. Floating aggregates will ensure that the water is properly oxygenated and circulated. The ponds will have a general depth of 1.8 meters, but the deepest part will be 3.30 meters. The total area of the ponds will be 17,930 square meters.

## **Keywords**

New-development, water-management, public-space

## **Design project**

# Trees to the Sky, Valleys to the Sea

**Xin Ai**<sup>1</sup>, DR Xi Zheng<sup>1</sup>, DR Shuyi Yan<sup>1</sup>

<sup>1</sup>Beijing Forestry University, Haidian, China

Poster presentation 2:2 online, Online, September 29, 2023, 12:00 PM- 1:00 PM

## **Biography:**

*Xin Ai is a Ph.D. candidate studying landscape architecture at Beijing Forestry University, with research interests in green space planning, urban ecosystem service assessment, and landscape architecture planning and design.*

Due to global climate change over the past 100 years, global precipitation (rain, snow) has increased sharply, and snow cover time has shortened. Floods in the city of Oslo have become an urgent problem, which includes snowmelt floods in spring, summer, and fall storm floods. • From the perspective of ecology and society's common ground, the work focuses on the common sustainable base of humans and the common space of neighboring communities in urban grounds. • Ecological : The work attempts to explore a low-sensitivity urban green land model that undertakes climate change through the simulation of local surface runoff scenarios for three terrain models. A terrain model is obtained and applied in the site that can alleviate urban surface runoff and replenish groundwater. At the same time, snow, act activities are designed in places with low light radiation to enrich the local ski culture. • Social : Using the base of the Oslo fjord formed by glacial erosion, our work provides different activities for children of different ages in combination with various terrains. • We add an "Aurora" facility to provide longer outdoor time to people. The aurora-colored fluorescent track passes through the venue and integrates with the local bicycle transportation system.

The project explores a paradigm of urban green space based on the common needs of neighboring communities to mitigate climate impacts and provide sustainable ecological value GUIDELINES. It is so significant, a Nordic city surrounded by mountains and precipitation on three sides.

## **Keywords**

Climate; Green; Simulation

## **Design project**

# Mapping of community's landscape perception in Jianfeng-Town, Hainan-Rainforest-National-Park

**Shuwen Li**<sup>1</sup>, Huaiyue Liang<sup>2</sup>, Biao Huang<sup>3</sup>

<sup>1</sup>Hainan University, Haikou, China, <sup>2</sup>Hainan University, Haikou, China, <sup>3</sup>Key Laboratory of National Forestry and Grassland Administration/

Beijing for Bamboo & Rattan Science and Technology, Beijing, China

Poster presentation 2:2 online, Online, September 29, 2023, 12:00 PM- 1:00 PM

## **Biography:**

*Li Shuwen is a second-year postgraduate majoring in Landscape architecture at the College of Forestry, Hainan University.*

At present, the planning and development of towns and villages in the region of national parks in China is mainly initiated by local governments, which can be considered as “top-down” management and construction, while the participation of local community is relatively low. In the planning process, residents’ demands for the use of public space are often ignored, which brings inconvenience to individuals’ daily use and lost of cultural context. [Objective] In view of these problems, to better promote the development of Jianfeng Town, an important entrance community in the west of Hainan Tropical Rainforest National Park, which locates in the middle of Hainan island, China, to effectively recognize the public participation in the planning and decision-making of Jianfeng Town, the study use PPGIS technology illustrating the local people’s perspective on the map, and propose suggestion for public space improvement of Jianfeng Town accordingly. [Methods] Participatory mapping combined with semi-structured interview is used to investigate residents’ perception of the landscape value of Jianfeng Town. The data of 200 valid questionnaires were collated and processed using NVivo12 and Arc GIS kernel density analysis. [Results] (1) There is clear pattern of the distribution of local citizens’ landscape value perception. The concerning areas are mainly centering residential districts, activity squares, scenic spots with good ecological environment and other places closely related to the daily activities of Jianfeng Town residents; (2) The residents’ perception of landscape value in Jianfeng Town is appeared mainly in the categories of life security value and leisure and entertainment value; (3) There is obvious spatial correlation between the area with life security value, leisure and entertainment value and other landscape values. [Conclusion] Based on the above results, the author puts forward several suggestions for future landscape construction in Jianfeng Town, Hainan Province: (1) Bring out the characteristic charm of indigenous Li minority group; (2) Improve public infrastructure ; (3) Encourage their participation in the process of construction of Janfeng town and Hainan Rainforest National Park.

This research can serve as an example for leaving no one behind in the further construction and preservation of national parks in China.

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## **Keywords**

PPGIS; Jianfeng town

# The Ancient China Port City Planning under Maritime Silk Road

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Poster presentation 2:2 online, Online, September 29, 2023, 12:00 PM- 1:00 PM

## **Biography:**

*Shuhu Liu, Ph.D, is an associate professor in the College of Architecture and Urban and Rural Planning, Fuzhou University. His research focuses on spatial design wisdom of traditional villages.*

The wisdom of Quanzhou's local human settlements show the experience of ancient China in dealing with multicultural exchange and natural change. As the starting point of China's ancient Maritime Silk Road, influences by overseas trade and foreign cultures, Ancient Quanzhou experiences the transformation from "north" to "south", "regular" to "irregular", "traditional function" to "multiple function", and "local belief" to "both domestic and foreign"; In this drastic transformation, the city still maintains a good spatial structure, social order and landscape artistic conception through orderly landscape planning, presenting the spatial characteristics of "one water in series, two parallel axes", which contain the planning tradition of the ancients ingeniously integrating humanity and nature. In addition, ancient Quanzhou sets Pujing system and foreigner residential regions in order to harmonize multiculturalism and enhance cultural inclusiveness, which make ancient Quanzhou an important carrier to inherit regional wisdom. Firstly, this study takes the process of ancient Quanzhou's participation in Maritime Silk Road as the main line, to explain the cultural background and historical status; Secondly, it summarizes the dominant characteristics of the evolution of Quanzhou's urban pattern under the influence of multi culture, through the transformation of urban form, urban function, the port-city relationship, and the special pattern of religious and cultural sites; Finally, this study puts forward the strategy of multicultural inclusion, spatial order construction, landscape architecture, and dynamic adjustment, so as to share experience globally.

## **Keywords**

MaritimeSilkRoadCulture; AncientQuanzhou; CultureExchange



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