



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 alobalisation, 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 WFEO, 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-

mething 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)

PAGE 2 PAGE 3



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 professions 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
ASSOCIATION OF KENYA

PAGE 4 PAGE 5

### Acknowledgements

#### Scientific and program committe

L. Arch. Bengt Isling

Arch. Caleb Toroitich

L. Arch. Chero Eliassi

L. Arch. Carolyn Wanza

Dr. Dennis Karanja

Prof. Emily Wade, SLU Alnarp

L. Arch. Emma Lundborg

L. Arch. Göran Lindberg

Dr. Lina Berglund-Snodgrass, SLU Alnarp

L. Arch Karolin Hård

L. Arch. Linus Fredriksson

L. Arch. Ludvig Bratt

L. Arch. Madelaine From Björk

L.Arch. Maria Höök

Dr. Maria Kylin, SLU Alnarp (Chair)

Dr. Micah Makworo, JKUAT, Nairobi

L. Arch. Nupur Prothi, SLU Alnarp

Dr. Stella Kasiva

Dr. Sunday Abuje

### Project lead

Brenda Kamande

Johanna Good

Loice Atieno

Pia Jonsson

Ruth Waniiku

### **Reviewers Abstracts**

Aggrey Thuo, Kenyatta University, Kenya

Anders Larsson, SLU Alnarp, Sweden

Bernard Mugwima, JKUAT, Kenya

Carola Wingren, SLU Alnarp, Sweden

Christina Breed, University of Pretoria, South Africa

Christine Skytt-Larsen, University of Copenhagen, Denmark

Daiga Skujane, University of Life Sciences and Technologies, Latvia

Dennis Karanja, JKUAT, Kenya

Diane Menzies, IFLA, New Zealand

Ebba Högström, BTH, Sweden

Elen Deming, North Carolina State University, USA

Emel Baylan, Trakya University, Dep. Of Landscape Architecture, Turkey

Finzi Saidi, University of Johannesburg, South Africa

IlzeStokmane, University of Agriculture, Latvia

Israel Legwaila, Botswana Agricultural University

Karin Helms, École nationale supérieure de paysage (ENSP), France

Karin Winter, Lund University, Sweden

Krzysztof Rostański, Hortus, Poland

Lei Gao, Norwegian University of Life Sciences, Norway

Luca Fabris, Politecnico Milano, Italy

Madara Markova, Latvia University Of Life Sciences And Technologies, Latvia

Marlies Brinkhuijsen, Wageningen, The Netherlands

Meryem Atik, Akdeniz University, Turkey

Micah Makworo, JKUAT, Kenya

Jörg Rekittke, NBMU, Norway

Simon Colwill, Open Space Studio, Germany

Stella Mbiti, JKUAT, Kenya

Sunday Abuje, JKUAT, Kenya

Trine Agervig Carstensen, University Of Copenhagen, Denmark

Tunji Adejumo, University Of Lagos, Nigeria

#### **Reviewers IFLA 75**

Imke van Hellemondt, Vrije Universiteit Amsterdam, The Netherlands Luca Csepely-Knorr, Chair in Architecture, Liverpool School of Architecture Ulrike Knipper, University of Natural Resources and Life Sciences, Austria

#### **Reviewers Design Projects**

Alessandro Martinelli, Landscape architecture, Chinese Culture University, Taiwan

Agneta Persson, City Of Malmö, Sweden

Anna Flatholm, Umeå Kommun, Sweden

Anders Jönsson, AJ Landskap, Sweden

Anders Kling, LAND Arkitektur, Sweden

Anders Mårsen, Landskapslaget AB, Sweden

Carola Wingren, SLU Alnarp, Sweden

Claire Martin, Oculus, Australia

Gustav Jarlöv, White Arkitekter, Sweden

Gareth Doherty, Landscape Architecture, Harvard University Graduate

School of Design, USA

Karin Sjölin, Lunds kommun, , Sweden

Krzysztof Rostański, Hortus, Poland

Mathias Ahlgren, Sweco AB, Sweden

Monika Gora, GORA art & landscape ab, Sweden

My Lekberg Hellström, O2landskap Arkitektkontor, Sweden

Pål Castell, Vanersborg Municipality, Sweden

Sabina Richter, O2landskap Arkitektkontor, Sweden

Sam Keshavarz, Outer Space arkitekter, Sweden

Torbjörn Suneson, Rossö Medicin & Landskap AB, Sweden

PAGE 6 PAGE 7

INDEX		Strategies for upscaling climate adaptation and mitigation with nature-based solutions	63
STOCKHOLM		Green Space Layout's Impact on Bioaerosol in High-Density Urban Areas	65
28 SEPTEMBER		Designing farms and foodscapes for and with complexity	67
		Carbon-Forward Design: The Ellinikon Metropolitan Park	68
Round table			
Architecture as a Tool for Sustainability	19	Poster Presentations	
Injustice and landscape care: inquiry on displacement in Mediterranean landscapes	20	Econef Children's Center	71
Multiple-Duty Actions for Health and Wellbeing through Climate City Planning	22	Mittpunkten: Historic Significance and Sustainability in Viskans Park, Borås, Sweden	73
		Cattle maze-fusion and symbiosis	75
Considering people and policy		Forbidden Military Base to Inclusive and Resilient Large Park	76
Urban renewal for more sustainable suburbs	25	Flemingsbergsparken, Huddinge - a Folkpark of our time	78
Social Sustainability as a tool towards Sustainable Urban Development	27	Impact of Virtual Reality Forest on Physiological and Psychological Responses	80
Research on landscape design of social housing community in China	29	Timewalk Myeong-dong Shared Garden	82
Reassembling a Welfare landscape: on socio-material legacies and sustainable		Fallow Landscapes	83
landscapes	30	Yoga Pavilion in Vasaparken, located in central Stockholm	84
How to Evaluate Anthropogenic Impacts on Protected Areas and Adjacencies?	31	Tenstadalen	86
Advancing integrated urban development approaches for recovery and reconstruction contexts.	33	The renovation of Paris Park, Seoul, South Korea.	87
Design and theory - New Perspectives		29 SEPTEMBER	
-	25	Round table	
Nature-Culture, Equity & Inclusion: Lessons from Badshahpur Forest Corridor, India	35 37	A all of the latest and the latest a	-00
Rohan Island in Prague: Floodplain Park and River Landscape Development		Aparta 2022 - Aparta is a factor by	89
Making Arguments for Change and the Role of Metaphor	39 41	ARARAT 2023 - a new beginning for mobility	91
Exploration of Aesthetic Cognitive Laws Based on Multimodal Deep Learning	43	In Relation to Nature	
More than stairs: Landscape, agency, and community engagement in HK	43 44		
1:1:100 - An intuitive method for site specific landscape architecture	44	How does equity affect local residents' conservation willingness and behavior?	93
Participatory explorations		Where is the voice of the country?	94
		Agricultural Land Boundaries in Tokyo's Agricultural scenic Area	96
Singapore - Co-creating the City in Nature with communities	46	People's Contribution to Nature in China's National Parks	98
Prototyping a Park: Design of Jubileumsparken, Gothenburg	48	, , , , , , , , , , , , , , , , , , , ,	100
Public Participation and Community Engagement in Kuwait's Park Management	50	Environmental, social benefits, and their coordination in urban wetland parks	102
Children's Found Playspaces in High-rise Gated Communities in Nanjing, China.	52 54	Landscapes of well-being	
'Anyone could be the gap filler':rural residential participation in China		-	
#WHEREARETHEGIRLS	56	Design principles for outdoor rehabilitation garden : a qualitative study	105

PAGE 8 PAGE 9

environmental behaviour

Identification and renewal of urban informal linear fitness network

Students' experience in greenspace, nature connectedness and pro-

106

108

58

61

Vätterstranden, Jönköping

Solutions inspired by nature

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

		The
Intergenerational Integration: Behaviors of "Grand-parents' Looking After" in Communities	110	Sub
A Research-Based Design of Thammasat Inclusive Park, Thailand	111	True
Green Open Space Accessibility Correlation with Socio-economic Status in Jakarta	112	Line
Bredäng Park - Dance and play!	113	City
Breading Fark Barree and play.	115	The
Narratives of territory		NEV TRA
Research on Landscape Justice in Restoration of Historic Rivers, Beijing	115	
A Tale of Two Rivers: A Water-based Memory Mapping	116	NA
RTD and cross-border hybrid territoriality: Anáhuac Farm case study, USA	117	28
Conserving the Sacred; conservation efforts in Loita Naimina Enkiyio Forest	119	
Free the Wai	121	Har
Without Boundaries: "Mile Long Burn" and "Broken Kilometer"	123	The
		Puo
Responding to climate change		She
BIMitigation - visual climate emissions calculation for Landscape Architecture	125	Wat
The European Master in Landscape Architecture a cross-borders curriculum.	126	IFL/
Building Climate Resilience: Conservation Network planning for China's		Harı
National Parks	127	Mod
Co-creating carbon-smartness through transdisciplinarity	129	Nat
Utilizing computer vision for city-wide street tree profiling	131	Nat
Effectiveness of Climate-Responsive Landscape Strategies in Rapidly Transforming		Soil
Urban Neighbourhoods	132	Con
Transforming shorelines		bası
Transforming shorelines		Nati urba
Flood-prone suburbs: residents at the heart of the response	135	uibe
Designing Resilient Coastal Urban Landscapes for Post-disaster Temporary Spaces	137	The
A call for a coastal landscape governance manifesto	139	\/
Artistic design approaches to rising sea levels and climate change	141	YAN
Slussen	143	Rive
Mapping Urban and Landscape Change under Sea Level Rise Scenarios	145	NOF
Donton Dun on the time		Qaa Vict
Poster Presentation		Vist
A New Kind of Landscape Possibility - Automatic Design	148	
Living with Natural Disasters in Tohoku, Japan	150	
The Efficiency Revolution in Landscape Design: AI-Assisted Workflow Tools	151	
Cross-regional Landscape Collaboration Based On 3D Real Scene Technology	153	
Forskarparken i Stora Ursvik	155	
Passing	156	

The wings of Vårberg	157
Substantially green	158
True No Net Loss City	160
Linescapes	161
City In The Forests	162
The Sharing Nature of Pocket Parks under Urban Renewal	163
NEW SPACE: DESIGN GUIDELINE LIVEABILITY OF PUBLIC SPACE	164
TRAPPARKEN - A STAIR TO LONG UP	165
NAIROBI 28 SEPTEMBER	

### Harnessing Indigenous Knowledge & Participatory Planning

The Promoting Effect of Mass Media on Participatory Landscape Revitalization	168
Puqian-town restoration suggestion based on local residential sense of place	170
Shepherdism in revitalisation of Bełchatów coal mine environment and Tale of Two Watersheds: Environmental Justice through Gender Equitable Spaces	173
IFLA 75 cultural landscapes: combined works of nature and humanity	175
Harnessing Collective Power for Sustainable Urban Development: A Collaborative Model from Nairobi	177

### Nature Based Systems

Soil and Water Bioengineering as Natural Based Solutions beyond Frontiers	179
Contributions of Landscape Architecture to metabolic approaches: an evidence- based inquiry	181
Nature-based solutions: Addressing biodiversity and climate challenges in urban areas.	183

### The Land and Water Dance

YANKA Project Ressort:When wellbeing culture is expressed on the landscape	186
River and City Park Design in Dar es Salaam, Tanzania	187
NORTH BAY BOULEVARD LANDSCAPE RESTORATION PROJECT. VERACRUZ, MEXICO	189
Qaammat pavilion	191
Vista Villas River Front Rehabilitation	192

PAGE 10 PAGE 11

29 SEPTEMBER		Philosophical and interdisciplinary approaches of landscape architecture	e
Shaping the Urban Fabric		Evolving Perspectives on Ideologies of Alternate Ecological Living Renewing mapping tools in light of the more-than-human turn	236 237
Scales of Emergent Realities	194	Large-scale afforestation to compensate for the loss of climate connectivity	239
VIDA Sessions: Handdrawing Habitats	195	Resilient future cities through landscape urbanism in Tehran, Iran	241
Manufacturing Metabolism - Fair Trade Zone in Akuse, Ghana	196	(Re)searching landscape cartography:	243
Saving large trees in urban redensification projects	197	Cartography sources for better understanding contemporary challenges	243
Growing landscape architecture: worldly engagement for a young, rural program.	199	g,	
Influence of road infrastructure projects on urban land use changes	201	Place identity and transformation	
Park health examination evaluation system to guide high-quality urban renewal	203	Performance of Art-based Spectacle in Busan's Urban Landscape	245
Saving Nature with Science Fiction: Digital Innovation and Biodiversity Restoration	204	Evaluating the Restorative Effects of Extraordinary Natural in VR Interventions	245
Sustainable & Inclusive Open Space		Euljiro Shutter Art: A Part-time landscape project in Seoul	248
		From abandonment to hotspot: a Community Transformed by Art Field	250
Sustainable Open Space Planning through Citizen Science in Nakuru, Kenya	207	Dynamics of human-nature interaction at Rameswaram-Dhanushkodi	
Linking attitudes with space use: framework for sustainable park design	209	sand spit, India	251
Users' perception towards urban wilderness and its implication for design	210		
Accessibility of Public Spaces - Inclusion or Separation?	212	Planning for healthy everyday life	
HerCity HerStreets: A gender-lensed approach for inclusive public spaces	214	Is green open space's walking accessibility declining in mountainous city?	253
Kiminini Minipark and Placemaking Guide	216	Putrajaya steps as environmental healing instruments for sustainable urban living	254
Hidden yet Visible	217	The relationship between airborne pollen concentration and vegetation spatial structure	256
African Landscapes & Collaboration		Species and Planting Configuration on Microclimate for Urban Trees	257
The African Landscape Network – A platform for transdisciplinary collaboration	219	Determining the priority of green healthy space in Ordos, China	258
African Landscape Futures	221	Outdoor Thermal Comfort in Taksim Square and Gezi Park, Istanbul	259
, wheat Earlascape Fatares		Natural solutions for health: the improvement of allergy in green-space	261
VIRTUAL 28 SEPTEMBER		Resilient heritage - learning from the past	
20 SEF TEMBER			204
Landscapes, memory and tradition		Theory and Methods for Livable, Resilient Ecological Landscape Planning Resilience and Heritage Impact Assessments of Cultural Heritage Region	264 265
Reconnecting the Urban Landscape and National Park	225	Research on resilience protection and activation of traditional villages	267
Aesthetic Perspectives on Eastern Landscapes: a San Yuan Painting Philosophy	227	Eco-resilience of Geo-Disaster Relic Site through Landscape: Case of Huangtup	268
Sustainable renewal's post-industrial landscapes' coherence and legibility		Construction of Rural Landscape Resilience Measurement System	270
perception research	229		
Modeling multi-scale relationships between wilderness area changes and		Striving for equity in urban areas	
potential drivers	231	Age-friendly Co-Building Communities: Old Town Renewal Practices	272
A Cross-Boundary Landscape: Ankara Tumuli Beyond Ankara	232	Collective urban gardens: Exploring the concept of participatory governance	274
Integrated language and liberation war memorial	234	Green gentrification research and green space planning guidelines for mega-cities	
		Managing the Community Open Space in North-Western Nigeria	278

PAGE 12 PAGE 13

Cooperating With Residents to Construct Green-healthy City in Multi-ethnic Areas	279	29 SEPTEMBER	
Reactivating Spaces of Urban Resettlement Community through Participatory Landscape Design	280	Round table	
Double Edged Sward: Parks in Tel Aviv-Jaffa as Gentrification Mediators	282	Advancing Democratic Landscape Transformation: Co-Creating the Open Landscape Academy	324
Utopian thinking on landscape architecture		Conscious lifestyles	
Design Impact Through Inner Growth - Merging Landscape and Coaching Sihai yifang Manor: an exemplary application of landscape performance Research on Sky Sharing Landscape in Singapore's High-rise Communities Landscape Architecture Roles in Mitigating Air Pollution Beyond Undefined Boundaries Landscapes of our shared futures: Cohabitation South Essex Estuary Park: A Resilient Infrastructure The Biennale of Urban Landscape, a Laboratory for Collaborative Futures	285 287 289 290 292 293 295	Joint Participation Nature Education Curriculum in K-12 Schools The Productive Fringe - Exploring Self-Sufficiency in the Intermediate City A Carbon Neutrality Design Method of the Country Parks Structure Can Ecodistricts Help Cities Act Locally: Analysis of Case Studies Strategies for engaging public with community-based approaches to climate action Circular economy and a renewable energy park	326 328 330 331 333 335
	233	IFLA 75 Anniversary	
Future productivity of landscape architecture: an all-AI automatic design system A Comprehensive Model for Pedestrian-Scale Evaluation of Linear Greenery Visibility  Examine an Intelligence Education Framework of Landscape Architecture (EFLA) Evidence-based design of greenways to improve acoustic and thermal comfort Effect evaluation and design strategies of site modifications  Study on Grassland settlement Evolution and Human Settlement Environment From local to global: the Landscape Laboratory approach as inspiration Resilience Assessment of Social-Ecological Systems using Landscape character Units  Emergent interaction: Guangzhou's sustainable landscape planning practice focusing on biodiversity  Improvement of water front in Shannah Oman  Experiences and enlightenment of public participation in creating "Scenes" Comprehensive Public Participation Reflected Everyone's Voice and Needs Landscape planning as a means of achieving social justice	298 300 302 304 306 308 310 312 314 316 317 319 321	A Persuasive Network: IFLA and The Men of the Trees The first IFLA's permanent delegation (1965-68): contributions to IFLA's historiography IFLA's Contribution to the Development of Landscape Architecture in China Archiving IFLA's history  Landscapes of well-being Cultivating the spaces that hold us: postpartum, nature and design. Community Gardens for Lower Depression Rates? Cases in Shenzhen, China Impact of Urban Evolution on Carbon Sink of Green Space Assessing Carbon-neutral Computational Tools for Green-spaces: Tool Accessibility and Applicability Relationship between Residents' Plant Landscape Perception and Protection Behavior Willingness Impact of Campus Lockdown on Landscape Justice and Emotional Well-Being Planning tools for climate resilience	338 341 342 344 345 346 348 350 351
		Multifunctional green infrastructure planning based on ecosystem service bundles identification  Urban Digital Twin as a key ecosystem service estimation tool  Linking Ecosystem Services and Circuit Theory to Optimize Ecological Networks  Identifying the carbon-biodiversity co-benefits using a climate change adaptation lens	354 356 357 359

PAGE 14 PAGE 15

CP + T ( ) - T   P	-
Climate Infrastructure Toolkit 36	_
A comprehensive framework for assessing and planning park cooling services 36:	3
Responding to climate change with water	
Desert flash floods call for action 360	6
Important resilience lessons from Cape Town's Open Space Working Group 368	8
Exploring the factors impacting transboundary water heritage for sustainable development 370	0
Identifying impacts of landscape pattern and climate changes on streamflow 373	2
Translating Cape Town's mono-functional Stormwater ponds into multi-functional urban space 374	<b>'</b> 4
Optimization of Habitat Network in the Lower Yellow River Area 370	6
Suggesting methods for urban sustainability	
A Comparative Study of Evaluation Models for Ecological Environment Status 379	9
Urban GreenSpace Network Development for Biodiversity Conservation and GreenSpace Provision 380	0
Human Perceptions to Inform Landscape Design Strategies for Promoting Biking-Friendliness 383	2
Developing a Multi-Dimensional Vegetation Inventory for Urban Green Spaces 384	4
Poster presentations	
Increase the visibility of the "disappeared" urban historical landscape 38	37
Beyond DRR: Ecosystem Services and Disservices of Eco-DRR for Stormwater 386	8
ECOLOGICAL SPACE STUDY & GREEN-BLUE STRUCTURE DESIGN OF THE FPA 390	0
Promoting biotope carbon sequestration efficiency by planting design 393	2
Low-carbon and Economizing Tradeoff in Urban Green Infrastructure Design 394	4
Biourbanism. A practice example from the subtropical south 390	6
Exploring 2100 Delta based on vulnerability assessment and scenario construction 396	8
The relationship between diversity and preference of different groundcovers. 399	9
Generative Design of Outdoor Green Space Based on GAN 400	0
Årstafältet 403	_
Trees to the Sky, Valleys to the Sea 403	3
Mapping of community's landscape perception in Jianfeng-Town, Hainan-Rainforest-National-Park  40-	4
The Ancient China Port City Planning under Maritime Silk Road  400	-

# **STOCKHOLM**

\*Session times stated in CET time

PAGE 16 PAGE 17 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 Moosavi1,2, Prof Daniela Perrotti1

1Louvain Research Institute for Landscape, Architecture, Built environment, UCLouvain, Brussels, Belgium, 2National 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: Wonderwoud 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 Ogoti1, Ms Saba Fazel1

1Un 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

PAGE 182 PAGE 183



## IFLA WORLD CONGRESS 2023





Architects Sweden