



# COMMON GROUND

## BOOK OF ABSTRACTS

OSLO KONGRESSENTER 18-20 SEPT, 2019



COMMON GROUND

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## Programme Committee

Anita Veiseth Karsten Jørgensen	<i>Project Leader IFLA 2019 NMBU (Norwegian University of Life Sciences)</i>
Hanne Johnsrud Luis Callejas	<i>LINK Landskap AS AHO (Oslo School of Architecture and Design)</i>
Taran Aanderaa Tharan Fergus Saji Ahi Emilie Oppedal	<i>Asplan Viak AS Oslo Municipality Rambøll Norge AS NMBU (Norwegian University of Life Sciences)</i>
Solveig Myklebust	<i>NMBU (Norwegian University of Life Sciences)</i>
Mona Vestli	<i>NLA (Norwegian Association of Landscape Architects)</i>

## Reviewers

Adnan Kaplan Alexandra Tisma	<i>Ege University, Izmir, Turkey PBL (Netherlands Environmental Assessment Agency), Netherlands</i>
Alf Haukeland Anders Larsson Anne Margrethe Wagner Attila Tóth	<i>Asplan Viak AS, Norway SLU Alnarp, Sweden University of Copenhagen, Denmark Slovak University of Agriculture, Nitra, Slovakia</i>
Benzion Kotzen Bernadette Blanchon	<i>University of Greenwich, UK Ecole Nationale Supérieure de Paysage (ESNP), Versailles, France</i>
Bin Li	<i>AHO (Oslo School of Architecture and Design), Norway</i>
Carola Wingren Daiga Zigmunde Diane Menzies Dominik Siegrist	<i>SLU Alnarp, Sweden Latvia University of Agriculture, Latvia IFLA, New Zealand HSR (University of Applied Sciences Rapperswil), Switzerland</i>

Elisabeth Ulrika Sjødahl	<i>AHO (Oslo School of Architecture and Design), Norway</i>
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Eva Schwab	<i>Graz University of Technology, Austria</i>
Gareth Doherty	<i>Harvard University Graduate School of Design, USA</i>
Gunilla Lindholm	<i>SLU Alnarp, Sweden</i>
Gökçen Firdevs Yücel Caymaz	<i>Istanbul Aydın University, Turkey</i>
Hanne Bat Finke	<i>AHO (Oslo School of Architecture and Design), Norway</i>
Hannes Zander	<i>AHO (Oslo School of Architecture and Design), Norway</i>
Ilze Stokmane	<i>Latvia University of Agriculture, Latvia</i>
James Hayter	<i>IFLA / University of Adelaide, Australia</i>
Jeroen de Vries	<i>LE:NOTRE Institute, Wageningen, Netherlands</i>
Jorg Sieweke	<i>paradoXcity, Berlin, Germany / NMBU (Norwegian University of Life Sciences), Norway</i>
Jörg Rekittke	<i>NMBU (Norwegian University of Life Sciences), Norway</i>
Karen Foley	<i>University College Dublin, Ireland</i>
Karin Helms	<i>Ecole Nationale Supérieure de Paysage (ESNP), Versailles, France</i>
Kathrine Strøm	<i>NMBU (Norwegian University of Life Sciences), Norway</i>
Krzysztof Rostański	<i>HORTUS, Poland</i>
Lei Gao	<i>NMBU (Norwegian University of Life Sciences), Norway</i>
Leila Tolderlund	<i>University of Colorado Denver, USA</i>
Lilli Lička	<i>University of Natural Resources and Life Sciences BOKU, Vienna, Austria</i>
Luca Maria Francesco Fabris	<i>Politecnico di Milano, Italy</i>
M. Elen Deming	<i>North Carolina State University, USA</i>
Madara Markova	<i>Latvia University of Agriculture, Latvia</i>
Maria-Beatrice Andreucci	<i>Sapienza University of Rome, Italy</i>
Marlies Brinkhuijsen	<i>Wageningen University &amp; Research, Netherlands</i>
Meryem Atik	<i>Akdeniz University, Turkey</i>
Monacella, Rosalea	<i>Harvard University Graduate School of Design, USA</i>

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Natālija Ņitavska	<i>Latvia University of Agriculture, Latvia</i>
Nilgül Karadeniz	<i>Ankara University, Turkey</i>
Robert Holden	<i>University of Greenwich, UK</i>
Sanda Lenzholzer	<i>Wageningen University &amp; Research, Netherlands</i>
Sandra Costa	<i>Birmingham City University, UK</i>
Simon Colwill	<i>Open Space Studio, Berlin, Germany</i>
Steffen Nijhuis	<i>Delft University of Technology, Netherlands</i>
Thorbjörn Andersson	<i>SWECO AS / SLU Alnarp, Sweden</i>
Timothy Waterman	<i>The Bartlett School of Architecture, University College London (UCL), UK</i>
Tong Mahn Ahn	<i>Seoul National University, South Korea</i>



## Welcome Note from NLA

2019 is a great anniversary year for Norwegian landscape architecture. We celebrate that, in 1919, the Department of Garden Art was established at the Norwegian University of Life Sciences (NMBU-Ås) as the first academic education in landscape architecture in Europe. We celebrate this by bringing IFLA's 56<sup>th</sup> World Congress to the Norwegian capital, Oslo.

We are here 1,400 landscape architects from all over the world, twice as many as we had expected. Oslo has just passed the 1-million inhabitants and will double its population within this century. The Norwegian metropole has lately produced several high-quality projects in landscape architecture. Thus, there has been an enormous interest to participate in the IFLA World Congress. Excellent speakers are joining the congress. We are therefore proud and pleased to present the book of almost 300 abstracts as a documentation of this decade's major branch meeting in Scandinavia.



Rainer Stange  
*President of NLA*





## Welcome Note from IFLA

The IFLA 2019 World Congress allows us to reflect on what landscape architecture means to each of us and what our vision is for landscape architecture in an increasingly complex, and at times challenging, world. These insights will, I suspect, be insightful representing many of the values of landscape architecture as it is practised globally.

As a professional discipline, landscape architecture is increasingly leading the way in addressing the complex ecological, social and economic problems confronting rapid urbanization and resource re-allocation in both established and developing countries, particularly those experiencing economic rationalization and profound cultural change.

These global issues affect all countries and all communities. By sharing our practice, research and experience, we will grow as a profession as it becomes even more relevant and important to our daily lives.

On behalf of IFLA, I congratulate all of the participants in this World Congress and thank our hosts, the Norwegian Association of Landscape Architects, for their leadership and contribution to the profession of landscape architecture globally.



A handwritten signature in black ink, which appears to read 'James Hayter'. The signature is fluid and cursive, with the first name 'James' being the most prominent part.

James Hayter  
*President of IFLA*

## Welcome Note from the Project Leader

Learning to live with change is a common experience that all life on earth shares. Making sustainable choices for us and our communities calls for prevailing motivators, inspired researchers and practitioners, intelligent communicators and brave politicians. The global challenge for a sustainable life has many aspects. Sustainability is often critical where there is no democracy. The blue planet is our common ground. Who should have a say on how its landscapes and resources are distributed, developed and designed?



Anita Veiseth  
*Project Leader of the IFLA World  
Congress 2019*



## Welcome Note from the Programme Committee

The preparations for this year's IFLA World Congress 2019 in Oslo have been going on for the last 5 – 6 years. From the minutes of the early meetings, we could see that the main topic – the overall concept of the Congress – was subject to long and hefty debates.

There were many reasons for selecting the main theme COMMON GROUND. Landscape is a common resource. Landscape architects' social mission is to enhance the common sharing of this resource for the benefit of current and future generations. In times of global cultural and political diversity, it is key for landscape architects to seek for common ground. Common ground with colleagues from different parts of the world to promote sustainable development across borders, common ground with other professions and

disciplines to promote common, transdisciplinary understanding, and common ground between opposing worldviews, to promote peace and justice for people all over the world. Similarly, the sub-topics, Sustainable Urban Transformations, Participation and Democracy, Beautiful and Healthy Cities, Green Mobility and Public Mission, are all vital for landscape architecture all over the world. The topics have proved to resonate well in our profession.

When we asked keynote speakers to share their visions, and Organizing Partners to deepen our knowledge of the congress topics through special sessions, they all said 'yes'. And when we invited abstracts from all over the world to contribute, the response was overwhelming. We received more than 600 abstracts, and it was a huge, but inspiring task to make the selection together with the scientific committee, and to compose the Congress programme.

In addition to the keynotes and the breakout session, special groups in the Programme Committee have prepared features like the Student Charrette and Performance, Opening Ceremony, 'Into the Office', Morning Swim and 'Walks and Talks'. The IFLA World Congress 2019 takes place in Oslo European Green Capital, one of our Organizing Partners, and a number of exhibitions and events around the city can add to the experience of Oslo. We all hope that you will have a fabulous time here, enjoying the Oslo Commons as well as the 'COMMON GROUND' you may find in discussions with new colleagues from all over the world!



A handwritten signature in black ink that reads "Karsten Jørgensen". The signature is fluid and cursive, with the first name being more prominent.

Karsten Jørgensen  
*Professor at NMBU (Norwegian  
University of Life Sciences)*

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# Programme Overview

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Wednesday, 18 Sept

14:30-  
16:30

## PLENARY SESSION 1

Jenny B. Osuldsen - *moderator*  
Sir Geoffrey Jellicoe Award 2019 winner  
Anne Whiston Spirn  
Anita Berrizbeitia  
Kurt Johannessen

17:30-  
19:00

## BREAKOUT SESSION 1

- 1.1 A RETROSPECT THROUGH TO OUR FUTURE
- 1.2 DISAPPEARING/REAPPEARING LANDSCAPES
- 1.3 MIGRANTS AND COMMON GROUND:  
How design can accommodate newcomers
- 1.4 EXPLORING THE FUTURE:  
Landscape architects and emerging professionals
- 1.5 LANDSCAPE AND HISTORY
- 1.6 LITERATURE CAFÉ: New Titles
- 1.7 PARTICIPATION IN LANDSCAPE PRACTICES
- 1.8 LANDSCAPE FOR ALL AGES
- 1.9 SUSTAINABLE TRANSFORMATION STRATEGIES
- 1.10 SUSTAINABLE AESTHETICS
- 1.11 BEAUTIFUL AND HEALTHY CITIES
- 1.12 NORDIC PERSPECTIVES: Common New Ground
- 1.13 TRANSFORMATION AND ADAPTATION
- 1.14 OSLO HYDROPOLIS

Thursday, 19 Sept (before lunch)

PLENARY SESSION 2	09:00- 11:00
<p>Kari Bucher - <i>moderator</i>                  Ola Bettum                  Frode Hvattum                  Helena Bjarnegård                  Anne Beate Hovind</p>	
BREAKOUT SESSION 2	11:30- 13:00
PUBLIC MISSION - RETROSPECTIVE	2.1
SUSTAINABLE URBAN TRANSFORMATIONS: Mind the Gap - the Blue Common	2.2
GREEN MOBILITY: Urban Active Modes	2.3
PARTICIPATION: Pain or Gain?	2.4
URBAN ECOLOGY: A Practical Guide Vol. 1	2.5
LITERATURE CAFÉ: What is the future role of Landscape Journals?	2.6
A THEORETICAL FRAMEWORK ON PARTICIPATION	2.7
LANDSCAPE AND MOVEMENT	2.8
LANDSCAPE EXPERIENCES	2.9
FUTURE LANDSCAPES	2.10
BLUE END GREEN SOLUTIONS	2.11
EASTERN PERSPECTIVES: Common Ground in China and Japan	2.12
PARTICIPATION EXPERIENCES	2.13

Thursday, 19 Sept (after lunch)

14:30-  
16:00

### BREAKOUT SESSION 3

- 3.1 PUBLIC MISSION: Three strategic plans for landscape
- 3.2 SUSTAINABLE URBAN TRANSFORMATIONS:  
Local Solutions meeting Global Challenges
- 3.3 GREEN MOBILITY: Transport Infrastructure meets the City
- 3.4 PARTICIPATION: Empowering Communities
- 3.5 URBAN ECOLOGY: A Practical Guide Vol. 2
- 3.6 LITERATURE CAFÉ:  
New Titles in Landscape Architecture 2
- 3.7 LANDSCAPE ADVOCACY
- 3.8 GREEN INFRASTRUCTURE
- 3.9 URBAN NATURE
- 3.10 SUSTAINABLE AESTHETICS
- 3.11 GREEN SPACE AS HABITAT
- 3.12 NLA AWARD AND SPONSOR SESSION:  
Excellence in Design and Materials
- 3.13 STRATEGIES FOR RESILIENCE

16:30-  
18:30

### PLENARY SESSION 3

Marina Cervera - *moderator*

Henry Bava

Eric-Jan Pleijster

Jala Makhzoumi

Zoe Banks Gross

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Plenary Session 1

18 Sept, 14:30-16:30

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## Landscape Architecture and the New Commons

The Commons, as an idea and a practice, precede landscape architecture by centuries, if not millennia. Today, in the face of a catastrophic environmental crisis, landscape architecture continues to expand its scope to address this challenge at every scale. In this presentation I will trace the evolution of landscape architecture through the four spheres of action that all projects in the field share: a purpose (what is it for, its function), a mode of production (who makes it), its reception (who is it for), and its representation (what are the tools we use to design and to communicate). As you will see, the rise of the field, and its continuing expansion, coincides with the onset of the thermo-industrial revolution, the moment historians now identify as the beginning of the Anthropocene.

Given the current challenges of species extinction and resource scarcity, I pose that the landscape will increasingly be the space where the conflicts between the interests of the few versus the need of the many are registered and negotiated. Such mediating function around shared resources is precisely where the idea of the Commons and the idea of landscape intersect today, and it is hinged on collective action and governance. For the Commons to persist—for landscape to persist— purpose, function, reception, and representation must work together toward specific forms of governance that are historically contextual and specific to the place and its culture.



**Anita Berrizbeitia**

*Professor & Chair of the Department of Landscape Architecture, Harvard University Graduate School of Design, Cambridge, United States*

## Reflections on 50 Years in Landscape Architecture

Human survival depends upon adapting ourselves and our landscapes – cities, buildings, and gardens, rivers, fields, and forests – in new, life-sustaining ways, on shaping places that reflect the interconnections of air, earth, water, life, and culture, that help us feel and understand these connections, landscapes that are functional, sustainable, meaningful, and artful. My career in landscape architecture as a teacher, author, and photographer has been dedicated to advancing this goal. In this address to IFLA, I will reflect on my experience in broadening the appreciation for our profession, in pointing to its accomplishments and promise, in expanding the scope of its practice and theory.

**Anne Whiston Spirn**

*Cecil and Ida Green Distinguished Professor of  
Landscape Architecture and Planning,  
Massachusetts Institute of Technology,  
United States*



## 1.1 A RETROSPECT THROUGH TO OUR FUTURE

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# Breakout Session 1

18 Sept, 17:30-19:00

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## 1.1 A RETROSPECT THROUGH TO OUR FUTURE

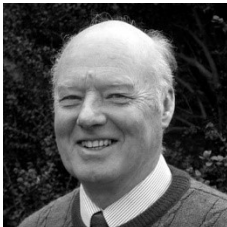
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### The Landscape Institute

On May 23rd, 1929, a British group of landscape architects met at London's Chelsea Flower Show and founded the Landscape Institute. During the next twenty years, the Institute developed gradually, its members largely working on gardens, concerned in miniature with the essentials of landscape design, soils, water, vegetation, ground surface, landform and microclimates, while thinking always about larger scale landscape issues.

On August 14th 1948, the International Federation of Landscape Architects was founded in the Junior Common Room of Jesus College, Cambridge, England at a meeting attended by representatives of Belgium, Canada, Chile, Denmark, Finland, France, Italy, Norway, Poland, Spain, Sweden, Switzerland, United Kingdom and United States of America, absent Netherlands in support. In September 1950, the Constitution of IFLA was signed at the next conference in Madrid, Spain, attended by 172 delegates from 22 countries. The ideals from yesterday upon which IFLA was then founded are still a relevant aspiration for today and tomorrow – “We should think of this planet, Earth, as a single organism, in which humanity is involved.”

“The earth's surface today (is) still capable of renewal through human care”. Landscape architecture must contribute. More people worldwide live in cities which need to be understood as landscape. Contact with nature will be a vital urban component, both to ameliorate climate and to refresh inhabitants. Simultaneously, we can advise on respectful overall use of land and water, being analytical about actual effects and avoiding slogans. Our work is gradual, demanding patience and time as well as present boldness.



**Hal Moggridge**

*Colvin & Moggridge, United Kingdom*

## Humanity's Impact on the Earth

'Humanity's impact on the Earth is now so profound that a new geological epoch – the Anthropocene – needs to be declared', International Geological Congress, 2016. The beginning of this proposed epoch is about 1950. There is a perception that landscape architects are contributing positively to nature and people, however, are we enabling destruction or mitigating it? In a climate crisis that we have triggered, we should question our present and future role in how ethical and professionally sustainable the role of the landscape architect is.

I would like to quote Dr. Patrice Derrington, Professor at Columbia University, New York: 'Urban development is facing a crisis – Communities are protesting, and funders are skittish, we need a better approach to urban development', on ethical development, investors, and community engagement. The language we use, the visual 2D plans we present, can alienate the majority of the population, indeed, even within our own design teams. Communication is paramount. Communities are rapidly seeing the value of green spaces and infrastructure. Their voices need to be part of the design process at all stages. The global urban population is on the increase and the diversity within is growing, putting more pressure on how we need and use public spaces and networks.

Landscape Architecture is especially important; it links development with communities. Collaborating with these communities should be a vital part of the work of the landscape architect. We must reflect on how we work, the processes we follow and the skills we need to facilitate and assist these communities as our clients as equal to our funders to enable ethical and sustainable development. Our work as landscape architects is particularly significant to communities as there is significant body of research linking green spaces, nature, active travel, wealth, with better health and well-being. Two thirds of diseases are caused by lifestyle choices as reported by WHO Andrew Grant, Director of Grant Associates stated, 'Landscape Architects are the GP's of the future', however this presents a challenge for all professions not just landscape architects.

**Sarah Jones-Morris**  
*Landsmith Associates, United Kingdom*



## Landscape Practice for the Future

The world needs landscape architects – not so much for garden design as for solving existential issues connected to endangered landscapes. Where the landscape architect in history had to argue for the position and was primarily considered an artist or gardener for the privileged – the landscape architect of the future possesses essential knowledge for survival of humanity.

The concept of landscape is liquid and adaptable and encompasses today the entire external surface of the earth including anthropogenic features and urban areas – both its physical and cognitive context. Today's consumption of natural landscapes is endless and out of control; from the impact of urbanisation, global climate changes and pollution – to the local destruction of littoral nesting areas for migrating sea birds. The Anthropocene alienation from nature has legitimized the value of a landscape to be equal to its commodity value – opening for exploitation by extensive leisure activities, housing and industry, or extraction of energy and raw materials. Nearly all global landscapes are therefore in a state of deterritorialization, and the urgent need for the future is beyond comparison to save and regenerate natural habitats and complex ecologies.

The most precious skills and deepest knowledge of landscape architects today should therefore to a larger extent be used for the purpose of protecting nature, creating new landscapes and recreating lost ecologies – because landscape architecture is fundamentally a holistic discipline – between theory and practise that is capable of transferring knowledge from different fields and substantiate this into practise.



**Gisle Løkken**

*70°N arkitektur, Tromsø, Norway*

## From Garden Design to Landscape Design

From the beginning of the 1900 century until the 1960s, most of the landscape architects in Norway were employed in park administration and garden design. From the 1960s, landscape planning and spatial planning became important work for us. This was the start of a professional change that has made tremendous steps to widen the understanding of landscape architecture. Both in Norway and internationally, the profession has proven to make an important contribution to the planning and design of our surroundings.

The future of the profession is indeed challenging. The population of the world is growing from day to day. It gives us tremendous tasks in the planning and design of our surroundings. The resources of the earth must be distributed in a better way. According to the 'Global Footprint network', the resources available to us for 2019 were exhausted by August 2nd. The date changes from one year to the next. It is obvious that we cannot continue like this. Resources must be distributed and used in a sustainable way. To utilize the resources of the earth in the best possible way, we need professionals with specific competences in economy, sociology, technology and biology. We also need professionals who understand the link between the different professions. Landscape architecture combines competences in design, technology and biology. This is an extremely important connection, giving us enormous responsibility, but also great possibilities.

Professionally, we must use and develop our competence of biology and biological processes, using the competence in developing durable solutions for the distribution of the resources we have. We must focus on environmental issues, both, when we are working with spatial development and detailed landscape design. Bridging the competences in biology and technology gives our profession a special responsibility.

**Trygve Sundt**

*Sundt & Thomassen AS, Norway*





## 1.2 DISAPPEARING/REAPPEARING LANDSCAPES

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### Biodiversity and Ecological Processes as a Design Tool for Returning Nature into Cities

Urbanisation has resulted in the disappearance of local vegetation. Patches of indigenous plant communities are fragmented or pushed to the city's edges. There is a reality that urban planners and landscape architects are contributing to designing green areas which are strikingly similar in all cities around the globe despite the climate and cultural differences. The goal of this presentation is to show new opportunities of designing with nature in our everyday 'routine' urban landscapes. There will be a discussion of theoretical foundations with case studies from different countries (Sweden, Germany, UK, USA, Australia, and New Zealand) which is aiming to understand the mechanism of functioning of urban biotopes (urban plant communities) as a unique dynamic ecological system and the opportunity to 'design with nature' instead of 'designing nature'.

There is a new landscape architecture approach – biodiversinesque – which I promote as a special design tool for creating sustainable landscape design. The new style is also based on multiscale design with particular emphasis on meso scale (neighbourhood or park and garden) and detailed level where biodiversity and ecological mechanism can be understood and analysed. One of the fundamental differences of this new vision is an appreciation of biodiversity complexity (e. g. it is not only a native vs. exotic plants debate) and dynamic character of urban biotopes. Thus, it would also lead to the introduction of ecological management and maintenance.



**Dr. Maria Ignatieva**

*University of Western Australia, School of Design,  
Australia*

## Pseudo-public Urban Spaces and Conflicting Issues in the Landscape Economy

Pseudo-public space – squares and other open spaces that look public but are owned and managed by private organisations – is silently spreading across cities worldwide. Although these sites – major areas of open land around transportation hubs, busy shopping and dining plazas, and outdoor, open and publicly accessible spaces around iconic attractions – are apparently available to anybody, their use and enjoyment are not normally regulated, but rather controlled through restrictions drawn up by the property owner and typically enforced by private security companies who can remove people for snooping, taking photos, or just because looking unfitting for the place.

At the same time and on the same direction, critical budgetary pressures currently experienced by local authorities have encouraged public administrations to relinquish management and control of urban open spaces at the advantage of proactive wealthy developers. As a result, the majority of on-going major urban redevelopment projects at international level are set to include new pseudo-public space where details of what privileges citizens will enjoy there – or the ways in which they can expect to be supervised – remain unknown.

On-going privatisation of urban areas due to ownership and control by real estate developers and private investors coupled with shrinkage of the public operations and maintenance budget highlights major conflicts in the urban landscape economy. Landscape architects as well as other professionals from related disciplines and decision makers are deemed to contribute to the on-going discussions on this new era of urban enclosure, highlighting socio-economic synergies and trade-offs implied in urban design and real estate development, ultimately helping citizens reclaiming the genuine public realm.

**Maria-Beatrice Andreucci**  
*Sapienza University of Rome, Italy*



## Disappearing-Reappearing Landscapes in Military Buffer Zones

Military conflicts often create buffer zones, which are characterized by enclosures, mines and patrol paths, and where a status quo freezes development. However, the resulting transformations in land use create landscapes where nature reclaims its ground, and where biodiversity can reappear and flourish. These positive evolutions of the landscape can become foundations to create new visions for these in-between and symbolic spaces, be it at rural, urban, community, regional or national scales. This presentation discusses our role as landscape urbanists and planners to anticipate and conceptualise future uses for these biodiversity hotspots.



**Anna Grichting Solder**

*IFLA Advisory Circle, Bordermeetings – Institute  
for Environmental Diplomacy and Security,  
University of Vermont, United States*

## Landscape Rights, Citizenship and Participation in a Globalizing World

Landscape is increasingly serving as the platform for civil activists campaigning against abuse of natural resources, raise awareness of environmental degradation and privatization of the public domain. Underlying these actions is the idea of landscape as agency, coupling landscape with human rights and exploring the potential of landscape to contribute to democracy and citizenships. I would like to open the debate on how these epistemology changes are shifting public perception of landscape architecture, whether and in which ways they expand the professional scope. I would like to suggest a new role for landscape architects, that of facilitators, mediating the needs and aspirations of people with sustainable development and social justice.

**Jala Makhzoumi**

*President, Lebanese Landscape Association,  
Beirut, Lebanon*



## 1.3 MIGRANTS AND COMMON GROUND: How design can accommodate newcomers

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### Landscape Architects without Borders Design and Planning Projects and the Sustainable Development

As landscape architects, we task ourselves with safeguarding the viability of the natural environment and work towards developing and maintaining a humane built environment in cities, towns, and villages. The world though, is a dynamic place. Ecological, socio-political, and cultural processes result in change, whether organized or chaotic, desired or imposed. The impacts on humans and human settlements have transformative consequences for not only place, but also experience. While this has been the narrative of civilisation, we concern ourselves with the now.

Now is the time when the human population is growing exponentially towards unjustly distributed ecological footprints, while common resources such as clean air and water necessary for survival are depleted. Now is when climate change is de-stabilizing both nature and cultures. Now is the contradiction of political borders coming down through free trade of goods and services, while barricaded borders are constructed to prevent migration to safe places.

The UN High Commission on Refugees says around 22.5 million people have been displaced by climate or weather-related events since 2008. Temporary shelter camps quickly constructed away from disaster sites, or on the tenuously safer side of borderlands have often shifted towards permanence. Most refugees want to go home, even when natural disaster has destroyed it.

To return home, resources are needed to restore or re-build with a resilience that respects and adapts to new environmental realities. The IFLA- Landscape Architects Without Borders Working Group is mobilizing landscape architects to offer humanitarian services to people and places around the world. Beyond assisting the basic human needs for shelter, clean air and water, food, education, and justice, LAWB have the skills to help design resilient refugee camps,

children’s playgrounds in impoverished communities, and safe urban streets in marginalized areas. We can transform asphalt into oases, creating shade and shelter that alleviates urban heat islands. We can plan landscapes for their ecological, social, and economic values helping to conserve biodiversity.

**Dr Maria Gabriella Trovato**

*American University of Beirut, Beirut, Lebanon*



**Dr Katherine Dunster**

*Kwantlen Polytechnic University,  
Metro Vancouver, Canada*



## Strategies for the Urban Integration of Refugees: Changing the Emergency Approach to more Permanent Solutions

With the increasing number of people displaced worldwide, the issue of preparedness of the host countries as well as the integration of newcomers into societies is becoming a core issue for all European cities. When it comes to integration of displaced populations and refugees, as professionals from the built environment, we must shift from short term integration models to more permanent solutions, in which the existing systems of the city adapt to the stressor of forced migration. Maintaining an emergency approach enhances the state of exception and contributes to governments and policies that want to keep refugees and immigrants out of our cities.

Therefore, there is a need of integrating refugees in a sustainable way, preventing the conflicts and the perception of them as an economic and social burden. With this perspective, we present an initial research which intends to provide both sustainable spatial and social integration strategies at an urban setting. For the purposes of this study in Barcelona, physical integration is to be understood as the building or urban elements' ability to maintain connectivity to, and a relationship with, the existing urban fabric, while possessing the capacity to adapt to changing conditions. From a physical integration perspective, this approach responds to urban Refugees need to connect to the neighbourhood and create an identity within this new urban place, all which can similarly enhance cultural and economic integration.



**Carmen Mendoza-Arroyo**  
*Universitat Internacional de Catalunya,  
Barcelona, Spain*

## How can Architects contribute to the Integration of our new Citizens?

The local AUG (Arkitekter Uten Grenser) in Stavanger have a project that aims to integrate refugees through participation in the making of our common space. We are creating a space where everyone is welcome, where we display the special skills refugees have, skills that may not be common in Norway such as mosaics and wood carving. Through what we call 'an urban experiment' we are exploring the city's possibilities for interaction with a focus on creating an inclusive meeting place. The process is more important than the result; through planning and working, people meet, get to show their skills and interact with each other and by-passers.

Throughout the process we have arranged several workshops together with enthusiastic refugees with various special skills. First out we had workshops to come up with ideas, and later we have had several workshops on site to build and form a social meeting place. We have arranged happenings along the way, such as vernissage for one of the artists who painted a mural, and we are planning more events for this fall.

As well as bringing to life a former left-over space in the city, this project gives the refugees valuable work experience and is an opportunity to create a network. The work displayed on site is a form of advertising that hopefully will lead to future relevant employment. And the result of the 'urban experiment' is for everyone to enjoy!

**Hilde Stedje**

*AUG Norge / Kap Kontor For Arkitektur og Plan AS,  
Norway*





## 1.4 EXPLORING THE FUTURE: Landscape architects and emerging professionals

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The session 'Exploring the Future' has been designed to engage with landscape architects who are keen on the future of landscape architecture as a profession and the impact this profession has on our daily lives.

It is a first-time collaboration of the Emerging Professionals Advocate of IFLA World (EPA IFLA) with the European Landscape Architecture Student Association (ELASA) and Terra Forma from Norway. The three organisations operating at a global, European and national level have joined forces with the aim to give way to emerging professionals and students to express their views and co-design methods to take their ideas forward. Through the presentation of current student design work, the exploration of current issues in landscape architecture such as climate emergency, internationalization, and design competitions, this session will initiate an active discussion between the participants and come up with short and long term proposals on how landscape architecture can provide solutions for the years to come.

The goal of this collaboration is to exchange knowledge between experts and emerging professionals and give the opportunity to participants to evaluate future steps in landscape architecture that align with the aspirations of younger and seasoned professionals.



**Anastasia Nikologianni**  
*EPA IFLA Chair*

## 1.5 LANDSCAPE AND HISTORY

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### The Application of the Borrowed Scenery Theory in the Baoding Ancient Lotus Pond in the Middle Term of Qing Dynasty

Located in the centre of the old city area in Baoding, Hebei, the Ancient Lotus Pond is known as one of the most ancient gardens existing in China. The Borrowed Scenery Theory is firstly raised by Ji Cheng in Ming Dynasty and has been deeply analysed by Meng Zhaozhen. By Ji and Meng, The Borrowed Scenery Theory is supported by the six aspects of methods: site investigation, determine of meaning, approach to name, layout, the design of details, and lingering charm making. The theory is widely recognized as the traditional methods to build a Chinese Garden.

Based on gardening literature and poems, the restoration of the plants landscape in the middle term of Qing dynasty, the two collections of Chinese traditional garden paintings and poems in the middle term of Qing dynasty, the paper debated and analysed the Borrowed Scenery Theory used in Gardening Art of the Ancient Lotus Pond, which borrowing the scenery of ancient lotus pond and clue the designing by The Book of Changes philosophy. Eight of the twelve sights in the Ancient Lotus is made according to the Eight Diagrams while two of them is made according to the Sixty-four Diagrams. The plan and design of each ten sights reflected the philosophy through the Borrowed Scenery Theory from the six aspects of methods to build a garden on the theme of Chinese traditional lotus culture.

**Xiaosong Ma**

*Beijing Forestry University, Beijing, China*



## Do they Feel as Relaxed as Others? Landscape Preferences for Characteristics of Space by College Students with Different Moods

As indicated by numerous studies, people have inherent preference for the natural environment. However, since people are always in different mood states, is there any connection between the mood state and landscape preference? We investigated what kinds of landscape features optimize relaxation from a college student's point of view. This article attempts to examine the following hypotheses: H1: Subjects in positive and negative state grouped by TMD score have different preferences for landscape naturalness and landscape visual openness; H2: Subjects in different mainstream mood states have different preferences for landscape naturalness and landscape visual openness. 1034 students participated in a survey yielding 1022 valid questionnaires that we analysed using the Profile of Mood States (POMS) to evaluate subjects' mental status.

Study on landscape characteristics proceeds in two steps (four gradients), namely landscape naturalness and landscape visual openness. As indicated by the research results, under landscape naturalness conditions, college students in fatigue state are more willing to stay in the second-gradient (most naturalness) landscape environment in comparison with college students in other states; under landscape visual openness conditions, college students in indignant state have more preference for the second-gradient (relatively privacy) landscape to recover personal physical and psychological health. In addition, it has been proved that landscape preference is non-related to the school entrance duration of college students, but is bound up with their sense of identity for place. This research has meaning not only for exploring the composition of restorative landscape in cities, but also restoring people's physical and mental health through landscape spatial design targeting different social groups.



**Dr. Kankan Li**, Dr. Yang Zhai, Prof. Jianjun Liu  
*College of Landscape Architecture & Art,  
 Northwest A&F University, Xian Yang, China*

## Urban History and Cultural Resources in the Regeneration of Chinese Historic Urban Areas: A Case Study of Old Cultural Precinct Renewal

In recent decades, the trend of urban regeneration has been generally focusing on the role and involvement of local culture and history. The focus on utilising urban history and cultural resources in renewal process of urban area – especially in historic centres – is also a resolution of branding local identity and enhancing competitiveness of the city itself, which are both aiming to response to the sustainable requirements of regeneration among various cities or areas. After the arrival of such modern urban renewal period, the reconstruction has been conducted in most Chinese cities with historic urban centres or districts. Such places with diverse characters and multiple functions in their old time now have been gradually became monochromatic and similar with each other, which is the result of the process of rapid expansion of urban arrangements and growth of economy – tourism industry for example. Besides the loss of original and basic function for people to live in, such distortion even indicates a major problem that there is no leading power to act as the role of driving and supporting proper and sustainable urban planning and designing of public open spaces in the old city centres.

Under such context, this paper aims to explore the role of urban history and cultural resources in Chinese historic urban areas, and to identify essential factors of local historic and cultural aspect as integrating with public open spaces – such as place identity, authenticity, events and sustainability. The research will develop a methodology to identify such factors and examine how they will work in the interacting process through an emblematic case study of cultural-tourism renewal process in the historic urban centre of city Datong, China.

**Hao Lei**

*University of Sheffield, Sheffield, United Kingdom*



## Lhong 1919: Preserving the Legacy at Bangkok Riverside

**Pattamon Selanon**

*Thammasat University, Bangkok, Thailand*

In the past few years, the banks of the Chao Phraya River running through the heart of Bangkok, have been roaring with a number of exciting new breakthroughs, one of which is Lhong, originally built in the mid-nineteenth century to accommodate steamships from Middle Empire (Vanesse, 2018). The pier became a marine trading centre that connected Siam with all oversea merchants such as China, Singapore or Hong Kong. However, the pier was gradually fall apart after being converted into warehouses for the agricultural production in 1919. Attempted to restore its historical legacy, the pier, now officially renamed as Lhong 1919, is transformed into a new promenade of South Bangkok with preservation of its original Sino-Portuguese style packing with modernized leisure activities such as art and craft shops, co-working space, mini-theatre, and learning centre about Thailand's marine trading history. This paper reviews its historical background, current renewal, its connections with Bangkok's contemporary nodes and fabric.

## Historical Interpretation to the Green System of the New Administration Centre of Beijing: Urban Parks as the Public Resource and Infrastructure for Sustainable Development

With a historical reflecting perspective, this paper will investigate the under planning green system of the new administration centre of Beijing city, which is one of the latest and the most important practices on urban transforming in China. Tongzhou, the new administration centre of Beijing, is constructing a green space network as the fundamental structure of the new area of this 1000-years-old town. Such a green space network will forge an interweaved green and water system, in which the existing cultural heritages and the future parks system will be integrated. The urban transforming will shape the characteristic for Tongzhou in terms of landscape architectural and social features.

The reflection to the early history of urban public gardens and parks helps us to understand the significant meaning of China's practice on today. The origin of urban public gardens can be traced back to the ancient Greek times. As growing for more than 2000 years, with social evolution, theoretical reflection and ideology distribution, urban parks turned increasingly open and public and their amount boomed in the 19<sup>th</sup> century. Urban parks have never again been isolated and independent in urban context. It became parks system, green system, green infrastructure or green networks and deeply involved in the process of urban transforming.

In 2018, Chinese central government initiated the policy of developing "beautiful China", in which the contribution of urban park was highlighted. It enriches the historic meaning of urban parks by emphasizing its significance to sustainable development for the entire society. This paper takes the green system of Tongzhou as the case study and conceives a research reflecting the significance of urban public gardens and parks in history. The research tries to give a historical interpretation to China's recent practice on urban green system planning and explain how such practices improve the quality of urban green concerning its sympathies values.

According to the study, the paper will reveal the principles that constructing and operating green systems as the public recourse to achieve the development under the concepts of innovation, cooperation, green, open and sharing, which aims to the final objective of sustainable development.



**Jing Zhao**

*School of Landscape Architecture,  
Beijing Forestry University, Beijing, China*

## The Critical Case Study: Advancing Methods of Design Scholarship through Investigation of Peter Walker's Landscapes

In his 2001 article for *Landscape Journal*, Mark Francis puts forward a compelling argument for developing the case study method in landscape architecture. Francis notes that the case study—be it formally written or anecdotally conveyed through stories—has an extensive history in the discipline that can be traced back to the time of Olmsted. This form of recording and transferring knowledge also has a strong tradition in other fields such as medicine, law, and business. Indeed, Francis states that “the case study method is now the standard method used in most professional education.” But even as certain individual projects within the discipline of landscape architecture are given thorough and repeated treatment, there still is an unsatisfied need for developing more comprehensive and critical studies. Francis breaks down the wide spectrum of case study types into three categories. The first is a basic collection of project details brought together in abstract form. The second category builds upon the first, being more thorough with inclusion of specific details and issues relevant to the studied project. The third and most ambitious form of case study described by Francis is distinct for the way the study contextualizes its subject matter and draws out more specialized insight from these works.

This paper presents means of advancing the case study method through a critical analysis of built works designed by the landscape architect Peter Walker. In-person investigations of more than forty of these landscapes, located in six countries and across four continents, have been combined with interviews and desktop studies to better understand the economic, political, and cultural contexts within which they were created. Analysing these works with particular focus on landscape systems (e.g. topography, vegetation, water) has been conducted to distil specific design strategies embedded within these works. Learning from a singular portfolio such as Walker's is posited as being valuable in better equipping the next generation of designers facing contemporary challenges and seeking to maximize landscape's utility as a public resource.

**Scott Jennings Melbourne**

*University of Hong Kong, 6/F Knowles Building,  
Hong Kong*





## A City Cultural Centre with Crisscross Time and Space: The Concept Planning of Landscape in Fang District of Luoyang in Dui and Tang Dynasties

Cultural sites are the common wealth of human beings, the result of the integration of the struggle between human beings and nature, and the crystallization of human wisdom. In the process of industrialization and urbanization, these cultural heritages are facing unprecedented threats. At the same time, protecting these cultural relics is the inevitable requirement of sustainable development. The great historic relic areas have been integrated with the suburban scenic areas and become the elements of the city's natural system. The plan involves urban land development, protection of historic and cultural cities, sustainable development and urban social policies. It is expected to guide rational urban development through planning, build ecological disaster prevention and tourism centres in urban centres, and integrate historical and cultural exhibition, urban cultural research, regional cultural experience and art trading into urban construction through the construction of cultural areas, so as to activate the modern urban function of large ruins.

As one of the ancient capitals in China, Luoyang is a famous historic and cultural city. In recent decades, with the rapid construction of main districts, the rapid expansion of urban built-up area and urban fringe of a number of ancient remains surrounded by the city, the great sites environment have been suffered unprecedented pressures. Since there is recorded history, Luoyang city has been the political centre. The region is one of the important ancient birthplaces of Chinese civilization, Owns the glorious historical arrangement. Rich cultural heritage, profound cultural accumulation formed a unique history and culture of Luoyang style. Remains of the many monuments, unique human landscape, tourist resources are to be developed. Ancient City Protection Shapes the city's Cultural Characteristics.

Space-Time staggered Central Culture District is to piece together history of Luoyang City and the history of life. It will be built up as a new leisure complex, tourist destinations, Research Centre of the City Culture, Exhibit Centre of Historical Culture, Publicity and Education Centre of Traditional Culture, Centre of contemporary art shopping and Folk Culture-Leisure Centre. This section will exhibit the ancient style of Luoyang as a historical city and the modern Luoyang of the future.

**Zhiguo Su**

*College of Forestry of Henan Agricultural  
University, Zhengzhou, China*



## 1.7 PARTICIPATION IN LANDSCAPE PRACTICES

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### What Future for the Sicilian Landscape between Excess of Resources and Poor Perception of the Resources themselves?

Aiming at the quality of the landscape in Sicily would seem an indispensable option to direct the community towards values of beauty, cultural identity, care of the territory and healthy economic dynamics. Land of myths, mosaic of landscape environments, crossroads of exchanges between peoples, in Sicily's DNA is the connotation as a laboratory of experimentation of landscape policies for raising the quality of life of the settled communities. Is Sicily aware of it at different levels of power and at the level of the community? Despite the most recent national and regional documents, the landscape is by no means a priority on the Sicilian political agenda and is a paradigm that has not yet permeated the collective consciousness.

The European Landscape Convention has tried to bring the notion of landscape into democratic values of participation in the construction of everyday life places, but these perspectives take very different declinations in different European regional contexts. The mechanisms of participation in the protection, promotion and management of the landscape must be elaborated in a creative way in relation to the peculiarities of the social and economic context of Sicily and can only be successful if experienced as the creation of shared landscapes and quality. Some missing links are identified that prevent the community from identifying themselves in the landscapes of their daily lives, feeling part of their construction and care as a common good. The theme of the recognition of the value of the landscape as a fundamental paradigm of every prospect of social and economic improvement constitutes a collective challenge that can no longer be postponed.



**Antonella Bondi**

*Agenzia Siciliana Per Il Paesaggio, Palermo, Italy*

## Letters Hill Park, Beit Shemesh, Israel – a Nature and Archaeology Park in the Heart of a new Neighbourhood for an Orthodox Community

Jewish orthodox “Haredi” culture tends to put little or no value to anything foreign or unrelated to the study of the Torah. Nature is often perceived as wild and uncivilized place that must be cultivated and controlled. Archaeology is a secular field of thought suspected of sacrilege (digging of holy graves). As such, the beautiful 4.7h rocky hilltop designated for preservation as an archaeological park in the heart of the new neighbourhood was in danger of being perceived as wasteland and therefore vulnerable to neglect by the residents. The challenge was to make nature experience accessible and meaningful to the local community by connecting it to their core values.

As ‘People of the Book’, they prioritize exegesis of text and decoding of textual hints and riddles. In response, the park is seeded with encoded Hebrew texts referring to the environment. This makes being in nature a game for children, offering an unmediated experience that the adults can feel deeply good about. The result is a thriving park suffused with value, with wilderness at its centre. Residents now refer to it as “the ecological park,” adopting a vocabulary that would have been foreign to them in the past. The park has become the precious heart of the neighbourhood, cherished and protected by the people who live there, and an attraction for orthodox people from all over Israel.

**Ram Eisenberg**

*REED/Technicon Israel Institute of Technology,  
Israel*



## Research on the Value-based Planning for Visiting Experience: A Case Study of the Three River Source National Park of China

**Assistant Professor Zhicong Zhao**, Post-doc Le Zhong

*Department of Landscape Architecture, School of Architecture, Tsinghua University, China, Beijing, China*

China's national park system is a direct reflection of the implementation of national strategy of ecological civilization. The Three-River-Source National Park is the first national park pilot area of China, which is located in Tibet Plateau, Qinghai Province. It is the source of the Yangtze River, the Yellow River and the Lantsang River. It covers an area of 123,100km<sup>2</sup>. It has extraordinary natural beauty, many unique wild animals, and remarkable ecosystems. There are 16,000 local herders living in the area, who have special cultural tradition. At the same time of the outstanding value, the region is also very vulnerable. It is not only the demand of the Three-River-Source National Park, but also the responsibility of landscape architects to make visitors experience the distinctive charm of the area with high quality, and promote visitors understanding of the value of the national park through experience, and then translate into conservation action. The study used literature surveys, on-site investigation, comparative studies and other methods to sort out the 22 types of 6 major categories of the values in the three-river-source region, which are the basis of visiting experience planning.

The plan proposes 24 visiting experience items based on a survey of potential visitor groups. These 24 items have different requirements for value sensibility, resource accessibility, experience atmosphere quality, visitors time and physical engagement, and comfortable degree. Combined with the characteristics and acceptability of the visitors, and the value information that should be communicated for each experience item, the interpretation planning is formed. The interpretation plan proposes 7 categories, 46 topics, and 277 interpretation points of the interpretation content, as well as the 3 levels of the interpretation, which are recognizing, understanding and mastering. The study also proposes suggestions for visitor management, monitoring and local people participation. The planning for visiting experience of Three-River-Source National Park is the first case in China in the process of the establishment of the China's national park system. The case explores a feasible path to promote the national awareness of the value of national parks through high-quality visiting experience under the premise of strict conservation.

## A Study on Micro-regeneration of Beijing Hutong Space based on the Perspective of Public Participation—Taking Hutong Space around Beijing Temple as an Example

Hutong is one of the few existing types of spaces in Beijing that can retain the old Beijing lifestyle. It shows the regional characteristics of Beijing as an ancient city in the monotonous urban space. The behaviours and lifestyles of people living in hutongs are also observably distinctive because of the particularity of hutong space, architecture and landscape. The narrower and more varied hutong space breeds more collaborative activities and closer neighbourhoods. As Beijing gradually develops into an international metropolis, the lifestyle of people in Hutong and the demand for public space have changed, the open space in Hutong needs to be regenerated and transformed.

In the process of regenerating, public participation will be an effective method in both aspect of analytical research and planning design. In the analytical research stage, public participation is an important means of collecting information. Taking the Hutong space around Beijing Temple as an example, this paper makes a visual analysis of the characteristics—the feature of routine, the feature of sharing, and the feature of unconstrained. Combined with the survey, the spatial characteristics of the hutong and the behavioural characteristics of the residents are summarized. And we provide real-time participation platforms through the Internet to connect designers, city managers and hutong residents more closely.

In terms of planning and design, we tried to put forward the concept of “Participating planning and put forward various ideas on the interface, plant planning, architectural plan, construction, etc., providing choices for residents to participate together. We try to explore the possibility of micro regeneration of Hutong by establishing public planning and optimizing management through public participation.

## 1.7 PARTICIPATION IN LANDSCAPE PRACTICES

At the same time, based on the needs and spatial characteristics of public activities in Hutong, the strategies and development trends of micro regeneration are discussed. We hope that through joint participation in planning, we will promote neighbourhood relations, enhance the quality of space, and stimulate the vitality of the new era of Hutong space.



**Wenxin Liang**

*Beijing Forestry University, Beijing, China*

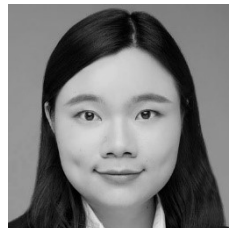
## Research on Community Participation System of National Park: Taking Mount Wuyi as an Example

In the pilot phase of China's national parks development, properly handle the relationship between the ecosystems' protection and the local community development is an important task. To explore the new model of community participation is good for coordinating relationship between communities and national park authority. In Mount Wuyi, relationship between the protected areas and the local communities is close and there exist three community participation models: Joint Protection, Agreement Development and Community Autonomy. The local communities in Mount Wuyi is the typical case represent the ones in the southern collective forest area of China. Based on the current situation of community characteristics and participation models in Mount Wuyi National Park Pilot Area, this study tries to reconstruct the management system of community participation in national parks from a systematic perspective, and suggests that a multi-level community participation system should be established in the pilot area of national parks as a whole, which can provide policy recommendations and case references for the construction of national park system in China.

Combing qualitative and quantitative analysis, the differences and characteristics of the three community participation models in Mount Wuyi are summarized from three aspects of constituent elements, organizational model, guarantee mechanism, participation condition and community cognition. It is found that there is an understructure of community participation in Mount Wuyi, yet the level of participation is rather low with some communities unwilling to participate and the participation mechanism needs to be improved. From the systematic view, the main reason is three models have not yet formed a system. Some strategies are put forward to establish the community participation system of Mount Wuyi National Park under a systematic perspective from three aspects, including the management system reconstruction, local knowledge development and security mechanism.

**Lingyun Liao**

*College of Landscape Architecture, Fujian  
Agriculture and Forestry University,  
Fu Zhou, China*





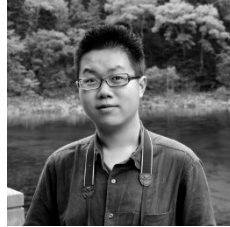
## Impression of Hutong: Research on the Value Recognition of Contemporary Hutong Landscape Based on Community Public Participation Methods

Hutong is another name for the streets of the old community in Beijing, China, which is an important public space for the residents of historical districts. With the rapid development of the city and the transformation of the community's living mode, the residents are transforming the hutong spontaneously to adapt to the great changes in people's lifestyles. The landscape of the Hutong public space has been transformed from simple in history to complex and diverse in contemporary days. However, different people have different sense of worth for these emerging contemporary elements. There are many conflicts between the protection of historical landscapes, the requirements of residents and the needs of government management. The aim of this research is to find the value of contemporary landscape elements in different group of people and how to deal with the problem in urban renewal process.

First, the team conducted image collection on 20 typical hutongs in the Dashila area of Beijing, collected nearly 300 contemporary hutong features of public space landscape elements, flattening and mapping these elements for their emergence and function. Secondly, cooperating with the community renewal organization team and the local government, the team use the international exhibition opportunities such as Beijing International Design Week to conduct public participation chances. We reveal the characteristics and values of contemporary hutong landscapes to local residents, government agencies and tourists through interactive exhibitions. At the same time, we used own magnet collage device that is an interesting visual and interaction way to invite the visitors to participate in the elemental collage of their impression and future expectations of the Hutong, and finally collected a large number of collage images.

Finally, the team conducts statistical analysis on the collage images after the exhibitions, analysing the correlations of the functions, space positions, comprehension fitness, and participants' social identities in order to obtain the contradictions and future opportunities of the public landscape requirements in different groups. The team finally combined the research results, conceived the renewal and development strategy of the local hutong public space, and provided reference plans for local government agencies.

**Li Tan**, Dr. Shiyang Zhang,  
Dr. Danzi Wu, Dr. Liang Li  
*Beijing Forestry University, Beijing, China*



## 1.8 LANDSCAPE FOR ALL AGES

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### The Health Effects Spectrum of Recreation Activities in Urban Parks for the elderly

This study focuses on the elderly, and the question is: How do the types and characteristics of park recreation activities affect health benefits? How to structure the health effects spectrum of recreation activities in urban parks to provide health-oriented park activity guidelines and design recommendations, and to promote the park's health benefits?

The study includes field experiments using GPS locators, accelerator monitor and questionnaire interviews. Literature review, data statistics, and GIS spatial analysis methods are also used. Two parks in different scales (Songhe Park and Huangxing Park) and four most common recreation activities in parks (fast walking and jogging, using fitness facilities, collective setting-up exercise, wandering and relaxation) were selected for the study. A total of 140 seniors were interviewed. The health benefits, including physical health indicators (blood pressure, pulse, activity intensity, energy expenditure), mental health indicators (attention test, BFS mood Scale), and social health indicators, (social contact and social resources, social support, isolation, sense of achievement) were measured through pre-test and post-test before and after their park visit. Related studies have shown that positive emotions, moderate-intensity physical activity, and good social relationships are beneficial for disease prevention, treatment recovery and well-being. The statistical methods mainly used in the research are ANOVA variance analysis and hierarchical regression analysis.

The main findings are as follows:

1. The health effects of different types of activities
2. The health effects of activity characteristics
3. Environment and health promotion suggestions

Larger comprehensive parks promote more physical activity and energy consumption than community parks, but the impact on other health aspects is not significant. In the context of high-density cities with tight land supply, small parks in community scale can also exert positive health benefits through rational design. With the analysis of the behaviour and health benefits spatial

distribution, the site optimization recommendations and interactive health park design strategies were proposed to create appropriate activity site and enhance positive activity characteristics.

**Prof. Chengzhao Wu**  
*Tongji University, Shanghai, China*



## Health-oriented Urban Green Space System Planning

Public health has always been an important issue of human development. In recent years, facing the challenge of deteriorating human settlements brought by urbanization, the interdisciplinary study of landscape architecture and public health has attracted much attention. At present, the research on green space with health goals is mainly focused on the design scale at the micro level, and there are a lot of design practices about recuperative landscape. However, little attention has been paid to how green space affects public health from the macro planning scale. Starting from the scale of urban green space system, this paper guides healthy urban spatial form and functions through the layout of urban green space. Taking Licheng District of Jinan City in Shandong Province as an example, this paper guides the healthy urban spatial form by constructing the ecological security pattern, analysing the value of ecosystem services, optimizing the development pattern of land use layout, and exerts the healthy function by analysing accessibility, crowd demand and constructing 15-minute living circle, finally forming the healthy-oriented urban green space system structure.

After planning, 16 new parks and green spaces have been added, covering 160.38 hectares, and 5 new recreational greenways with different themes have been added to form a green and healthy network by means of land type transformation, vacation of idle and inefficient land. The 15-minute life circle coverage rate reached 96.27% and increased by 19.88%. It provides guidance suggestions for the healthy development of urban space and public in the future.



**Graduate Yutong Liu**, Doctor Fangzheng Li,  
Prof. Xiong Li  
*Beijing Forestry University, Haidian District, China*

## Research on the Strategies for Helping Communities Become More “Aging-friendly” from the Perspective of Aging-friendly City — a Case Study in Shapingba District, Chongqing

It is a consensus that the rapid population ageing has become a global challenge. Over recent years, many countries have adopted various strategies to cope with the growing increase of ageing population, which has intensified the development of ageing-friendly community simultaneously. Based on the physical, psychological and behavioral characteristics of the elderly, this paper analyses their needs for community construction. Then, the paper presents the construction process of ageing-friendly community in the United States, Japan, Germany and the United Kingdom, and summarizes their experience from three aspects: physical environment, social environment and municipal services. Furthermore, surveys (n=63) and semi-structured interviews (n=13) were utilized to analyse the problems for the aged in present communities in Shapingba District, Chongqing. After that, the relationship between “ageing-friendly” for Chinese elderly and environment design and municipal services are further explored, which provides significant information and insights for the development of ageing-friendly communities in China.

**Postgraduate Yu Xiaowen**, Doctor Du Chunlan  
*Chongqing University, Chongqing, China*



## Existing Problems and Optimization Strategies of Shanghai Community Park from the Perspective of Healthy Cities

The community park connects and integrates the city blocks with the green open space system, which not only has important urban ecological service, but also is closer to the daily community life, emphasizing people-centered living equity for all and activity diversity. It is of great significance to the construction and development of healthy cities, especially high-density cities. At present, the researchers mainly focus on the accessibility, safety, environmental justice, activity type features, recreation facility design, special crowd activity site design and so on. The trend of research nowadays is the relationship between the environment of community parks and the health of residents, but the role of community parks in improving the living health of residents has not been specifically discussed in China.

In this study, six typical community parks in Shanghai were surveyed. 600 questionnaires and in-depth interviews were conducted to investigate users' demand preference, landscape perception and the satisfaction. We cross-analysed the data with users of different ages, genders and occupations. The result shows that Shanghai community parks are mainly used by the elderly while young people are less today; The use time is mainly in the morning for exercise, and there are less users in the daytime, which means the residents' participation rate is not high.

The result of correlation analysis by SPSS shows that the landscape perception of different categories users to landscape elements, such as flowers and trees, shade degree of trees, pavilion and sculpture, park lighting, rest seat, etc., has different significance. Different categories users also show some differences in their satisfaction with spaces of running, walking, dancing and boxing, equipment fitness, ball fitness, accompanying children and other activity. The study found that the main reason for the low satisfaction is that the spaces of activities are not enough, and various activities interfere with each other. At the end of the paper, the optimization strategies of Shanghai community park are put forward.

**Dr. Lin Zhang**

*Department of Landscape Architecture,  
College of Architecture and Urban Planning,  
Tongji University, Shanghai, China*



**Dr. Daixin Dai**

*Department of Landscape Architecture,  
College of Architecture and Urban Planning,  
Tongji University, Shanghai, China*





## Building a Children-Friendly Block—A Case Study of Yunjing Block in Beijing

Children who are in an essential period both on physical and mental development with weak skills in resisting damage have been drawing on strong care from family and society. With the booming urbanization there are increasingly challenges which is heavy for children in insecure traffic, high-rise communities, disorderly expansion of cities and social unfairness leading to an unstable and unsuited growth environment for children. In China, there will be more children under the Two-child policy and it's urgent to build a children-friendly environment.

This paper takes Yunjing Block located in Tongzhou District which is known as the subsidiary administrative centre of Beijing as a case to make an investigation lied on children-friendly block for its bright prospect and youth gathering by relatively low house price. According to the actual survey and data acquisition, it's a young block with a large number of children. Moreover, there are wide car road and plenty of roadside spaces occupied by parking, which own greatly potential for children-friendly landscape promotion.

The strategy aims to solve the problems in the insecure traffic, high-rise communities, disorderly expansion of cities and social unfairness as follows:

1. For insecure traffic, set the edge lane into flexible one as transport connections point and temporary gallery for residents to be the soft separation between the roadway and the pedestrian space, so as to provide a safe walking environment for children.
2. For high-rise communities, on the basis of safety from NO.1, create more leisure space by setting the stereoscopic parking and tidal parking idea that parking at different properties own parking permission during different periods to bring them into outdoors out from the high-rise architecture.

3. For disorderly expansion of cities and social unfairness on the basis of safe space from above creates a risk averse block by landscape to achieve freely development which means a place that children can try, explore, discover everything they're interested in and the design concentrates on children's level and the import of nature with green line at the block. Children-friendly block not only means amusement park but also can give a freely development. Building of children-friendly block will assist creating a beautiful and healthy city according to the analysis above.

**Postgraduate Student Chuli Huang**, Postgraduate Student Xinxin Xu, Professor Xiangrong Wang  
*Beijing Forestry University, Beijing, China*



## Research on the Construction of Therapeutic Landscape Community Based on Chinese Traditional Neighbourhood Model – A Case Study of Wenquan Town Community in Haidian District, Beijing

In the process of urban development in contemporary China, health has become a hot topic. Health includes not only the healthy and sustainable development of cities, but also the physical and mental health of human beings. As city dwellers, we spend almost our entire lives in the community. Therefore, the community environment designed and established by landscape architects has a profound impact on people's body and mind, social security and stability, and urban economic development. This article from the streets texture, neighbourhood activities, cultural inheritance, public space model analyses the traditional neighbourhood model of the Chinese JuEr hutong in Beijing, Shanxi Pingyao ancient city, Chongqing Ciqikou ancient town.

This paper aims at tracing the cultural landscape of Chinese traditional neighbourhood space and then extracts the method of community building from Chinese traditional street culture. At the same time, this paper studies and summarizes typical cases of therapeutic communities in South Korea, Japan and other countries, and discusses the application paradigm of therapeutic landscape in contemporary communities. Finally, taking the Wenquan town community in Haidian district of Beijing as an example, this paper applies the traditional Chinese neighbourhood model to build a community by combining the five senses experience, horticultural activities, relaxation meditation, fragrant recuperation, herbal recuperation and other landscape means of therapeutic, as well as the smart community management mechanism such as smart waste treatment, smart going out and smart lighting. This paper studies the method of constructing ideal therapeutic community under the neighbourhood model, in order to give some inspiration and reference to the construction of future community in China.



**Post Graduate Xuerong Sun**, Professor Xiangrong Wang, Doctor Wei He  
*School of Landscape Architecture,  
 Beijing Forestry University, Beijing, China*

## To Explore the Interactive Associations between Emotional Fulfilment and Psychological Health of the Elderly People with Neighbourhood Parks in Social and Perceptual Dimension—A Case Study of Beijing, China

The local environment of urban open spaces around communities contributes to the well-being and healthy of residents, especially the retired. Many barriers surround ageing people: youth-oriented society, physical isolation, shifting social values, sensory losses, diminished power, and retirement, hindering them from affiliation and interaction with others. Open spaces provide exercise and aesthetic needs, social and psychological satisfaction, and emotional fulfilment which comfort them from loneliness, enhance the quality of life and psychological health.

There are two questions: What interactive relationships exist in open spaces? Which elements of the open space principle directly impact the psychological health of the elderly people, restoring an aging friendly environment?

In this paper, the effective relationship has been explored through questionnaire survey and semi-structured interviews with the elderly (N=418) in 5 neighbourhood parks in Chaoyang district Beijing. This research is using Goodman and Kruskal's gamma with indicated good performance to measure the associations in quantitative approach and identify the limitations and drives by qualitative analysis.

The results show that the significantly correlations between features related to social isolation of the elderly and their emotional bonding with environment, which is positive significantly correlated with self-evaluated quality of life and mental health. Furthermore, Loneliness, feeling of useless, and fearless have significantly strong correlations with each other and shows the positively promoting effect of people engaging in group activities approaching to self-esteem and self-identity. These results imply that the data-driven-decision-making processes in this seminal moment show the biggest potential to generalize the changing needs and desires of new aging generations and provide the suggestions on urban open space design and management.



**Youmei Zhou**, Dr Kevin Thwaites  
*University of Sheffield, Sheffield, United Kingdom*

## 1.9 SUSTAINABLE TRANSFORMATION STRATEGIES

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### Aspects of Architectural Composition Design in High-rise Residential Courtyards

The totalitarian times of the 50s-80s of the 20th century have brought the building of high-rise residential blocks in Latvian cities, characterized by an uninteresting solution of standard buildings and the alien scale which does not meet the regional features. During the above period, areas of the residential courtyards have not been addressed. The conclusion of the research is that today the courtyards of the high-rise residential houses have become a stagnant, functionally irrelevant area that forms a depressing nature of the outdoor living space. The uncharted area of courtyards is not being used fully which highlights a wide range of issues that applies to car parks, recreation areas, and the green areas.

With the development of the urban infrastructure, the creation of high-rise parking facilities and separate car parks are insufficiently addressed. Consequently, the implementation of improvements in courtyards of high-rise residential houses is not possible if the above issue on the removal of the carload from courtyards is not solved. Many building districts are characterized by the same compositional, architectural-spatial structure which even more influences and causes discomfort in these areas to stay.

In recent years, the solution to the above issue is sought by the municipal authorities of Latvia to create a new courtyard zoning. It applies to the project development and construction works. In the research, courtyards of the city of Jelgava are analysed and evaluated which from the qualitative point of view demonstrates and is a vivid example where the issues of the research are readable.

The city of Jelgava, located 45 km away from Riga, is an expressed satellite city and serves for the agglomeration of Riga as a huge high-rise residential district. Consequently, the research includes separate courtyards of high-rise residential buildings of the city of Jelgava and their study is carried out from the point of view of the architectural composition and the functional point of view of courtyards.



Dr. arch. Una Īle, Dr. arch. Aija Ziemeļniece,  
**Dr. oec. Ilze Stokmane**  
*Latvia University of Life Sciences and Technologies,  
Jelgava, Latvia*

## Research on the Transformation of Resources Cities Based on Sustainable Development - A Case Study of Taiyuan

Taiyuan, with coal resources as the leading industry, has seriously affected the coordinated development of regional economy due to the problems of resource exhaustion, environmental pollution and ecological decline caused by long-term large-scale and extensive mining.

This paper is from the present situation of Taiyuan, by the sustainable development to analyze the existing problems of coal resources in Taiyuan. On this basis, the quantitative analysis of the transformation of Taiyuan coal resource-based cities is carried out, and the evaluation index system of urban transformation is established. At the same time, the factor analysis method is used to construct the evaluation model of urban transformation factors in Taiyuan, and three main factors affecting enterprise transformation are obtained, namely, economic integrated factor, environmental integrated factor and social integrated factor. On this basis, it explores the necessity, difficulties and advantages of Taiyuan's transformation.

Finally, starting from the actual situation of Taiyuan's transformation and drawing lessons from the transformation experience of resource-based cities at domestic and foreign experience, this paper proposes some suggestions: establishing a multi-input mechanism, adhering to the working ideas of government-led, market operation, company carrying capacity and park building, actively promoting the construction of mine geological environment control projects; focusing on water pollution and atmospheric pollution, implementing water resources conservation and water environment. We should reconstruct and green transform the way of production and living energy use, strengthen the support of science and technology, deepen the innovation reform of system and mechanism, and establish a technological innovation system with enterprises as the main body, market as the guide and deep integration of industry, education and research. Actively take measures such as rational and efficient use of resources, extraction of compensation for resource consumption, development of alternative industries, improvement of people's livelihood and protection of the ecological environment.



We need to explore the appropriate technological route and system solutions, form an operable, replicable and extensible effective model, realize the coordinated development of economy, society, resources, ecological environment and urban functions, and then play a demonstration effect on the transformation and development of resource-based areas in the whole country.



**Shen Qian**

*School of Landscape Architecture, Beijing Forestry University, Beijing, China*

## plazaPOPS – Improving Public Amenity through the Suburban Strip-mall

Our project goal is to activate underutilized POPS (privately-owned public spaces) to become a more integral part of the suburban public realm, and to measure project performance for the future enhancement of similar spaces across the City of Toronto, Canada.

Inspired by principles of tactical urbanism (strategic design interventions) and sticky streets (streets that invite the pedestrian to linger and enjoy the public realm), our project will create a temporary, dynamic and flexible ‘pop up’ gathering place in a strip-mall parking lot in Toronto over the summer of 2019. Our research question is: Can a collaboratively generated design intervention address the need for more public amenity in these strip-mall spaces?

Strip malls are a common form of commercial architecture that line arterial roads in Toronto’s inner suburbs. Originally designed to accommodate the automobile, strip malls and the neighbourhoods surrounding them are increasingly home to low-income and new immigrant populations with low rates of car ownership. With affordable rents, strip malls within walking and transit distance of these communities have become vibrant gathering places, offering business start-up space and consumer items such as culturally familiar foods.

Used by many pedestrians, cyclists and transit riders, the inner suburban arterial streetscapes in Toronto require enhancement to better serve these user groups. The landscapes adjacent to strip-mall storefronts have few amenities for pedestrians (e.g., shade, seating). While POPS amenities are typically associated with new development, our objective is to design and test a model that can be applied in other existing POPS to support the vibrant community life that already characterizes the inner suburban strip mall. Created through an MLA student design-studio and based on community-generated design goals, an installation of movable furniture, integrating public art and community programming will be designed, built and evaluated.

## 1.9 SUSTAINABLE TRANSFORMATION STRATEGIES

The installation will take place over the summer of 2019 during which we will conduct a pre- and post-occupancy evaluation (POE) to understand the intervention effectiveness and the potential for replication. Funding has been provided by Park People, a Toronto-based NGO whose mission is to improve quality of life in cities across Canada.



**Dr. Karen Landman**

*University of Guelph, Guelph, Canada*



**Professor Brendan Stewart**

*University of Guelph, Guelph, Canada*

## Historic Urban Landscape as a Common Ground for Urban Sustainability: A Case Study of Tamsui, Taiwan

The concept of heritage has evolved in scale and scope, from monumental buildings to areas and landscapes, from nationalism to everyday life, and from man-made structures to a combined legacy of human and nature. In order to prosper as individuals and as a community, human society adapts the natural environment by modifying the physical setting, arranging land uses and spaces and ascribing symbolic meaning to landscape features. The process of interaction results in a landscape, which embeds individual and collective identity as well as a sense of continuity crucial to human wellbeing. Hence, in 2011, UNESCO initiated the Historic Urban Landscape approach to emphasize the role of heritage in urban sustainable development.

However, protecting such dynamic Historic Urban Landscapes could be challenging when development pressure causes constant and unsympathetic changes. On the other hand, government authority and elites may still dominate the decision-making regarding conservation, while community and individuals have little say in defining and defending heritage which is close to their heart. As a result, urban landscapes have lost their character at a rapid rate while a homogeneous cityscape is being created. This is particularly problematic in a fast-changing society such as Taiwan, where urban heritage has been a conflicting battlefield rather than a common ground for sustainable development.

This paper explores the concept of Urban Historic Landscapes, their heritage values and conservation planning using Tamsui, Taiwan as an example. Literature review, in-depth interviews and fieldwork were used for data collection and analysis. Tamsui demonstrates that Urban Historic Landscape could be a powerful common ground to reinforce a sense of community and inform sustainable urban development.

## 1.9 SUSTAINABLE TRANSFORMATION STRATEGIES

This example highlights that the protection of Historic Urban Landscapes requires a new method different from traditional top-down and architecture-centered conservation methods, but a democratic and inclusive process of identification, designation and management of landscape-scale heritage.



**Dr. Ally Yueh-E Lu**

*Department of Urban Studies and Planning,  
The University of Sheffield, Sheffield, United  
Kingdom*

## Development Strategies of the Abandoned Industrial Site at the Nepsziget Peninsula in Budapest

The project area is located alongside the Danube in Budapest, and as a peninsula has a significant role in the city ecological level. In my research, I present the historical background of the project area from the industrial revolution until the present days. In my concluding remarks, various design ideas to implement the peninsula and its neighbourhood were demonstrated.

The Nepsziget and its industrial site bares a lot of potential for environmental- and cultural development. When it comes to city planning in Budapest the main issue is the decrease of greenfield territories in the suburban areas while the city area has many different sizes of brownfield sites which have a potential for restoration. The other important aspect of the area is its connection with the river Danube that needs to be taken into account because of the newly emerging effort to create resilient riverbanks in cities.

I identified two strategies (settlement and open space design level) for the development of Nepsziget. On a large-scale transportation development, a 5 km long greenway connection was created with the EuroVELO 6 bicycle route which runs along the riverside within the identified brownfield project area. The greenway accessible for pedestrians and cyclist has both cultural and educational functions and it is digitally connected with the redesigned museum park that replaces the mentioned brownfield site in my plans. A special feature of the program is the infrastructure running on renewable energy and providing information about the priority design area. It also personalizes the space by linking the user's electronic device to the new development area where buildings operate as digital museums. The landmarks and spatial structure of the park revive its former functions, while the new interactive elements and features adapt the place to its new service.

The concept creates a thematic route for active and passive recreation, including a park with cultural and technological innovations. The main positive aspect is the transformation of old, unused and devastated areas and the provision of new functions for the society.



**Dorottya Békési**

*Szent István University - Faculty of Landscape  
Architecture and Urbanism, Budapest, Hungary*

## Regional Brownfield Regeneration Strategies Driven by the International Building Exhibition in the Ruhr

The Ruhr enjoys a high reputation for post-industrial urban transformation, with the International Building Exhibition (IBA) Emscher Park as a far-reaching project for sustainable regional development. For over a century, IBAs have been among the most influential instruments for urban development in Germany. IBAs differ in subject and structure and could be divided into 4 phases, while the IBA Emscher Park represents an iconic project in the second phase, focusing on urban renewal and development.

To revive from the industrial recession, the IBA Emscher Park has been implemented as a stimulus for industry restructuring and regional development, especially in its brownfield regeneration. It seeks a sound integration of both individual flagship projects and comprehensive regional projects, setting the base for Ruhr transformation. However, most literature focus on procedures and processing as Dieter Hassenpflug stated, concepts and approaches as Klaus R. Kunzmann explored, mechanisms and operations, and finances and stakeholders of the IBA Emscher Park while neglecting the role of the regional development concept and implementation strategies. Thus, this paper aims to summarize regional strategies and to analyse their impacts on brownfield regeneration and further impacts on regional transformation.

Through literature review, field investigation and comprehensive analysis of 91 projects, this paper systematically sorts out the guiding principles, organization methods and spatial strategies of the IBA Emscher Park from a regional perspective. It finds out under the cognitive principle of industrial culture and relevance perception guided by unified identification system, the IBA Emscher Park has regionally integrated implementation methods from perspectives of the operational organization, financial management, and stakeholder cooperation.



In addition, it shows synergistic characteristics of individual-regional advancement in terms of spatial strategies, pushing forward the overall transformation and development of the Ruhr. To be specific, individual projects with typical characteristics in culture, art, and nature become flagship projects in brownfield regeneration, leading regional development; on the other side, regional projects of series, industrial culture trails and industrial nature trails, and ecological corridor have strengthened the spatial connection of individual ones, providing a sound environment for development.



**PhD Candidate Quanchuan Fu**, Associate Professor

Xiaodi Zheng

*Tsinghua University, Beijing, China*

## 1.10 SUSTAINABLE AESTHETICS

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### Research on the Ecological Sustainability of Historic Urban Landscape based on the Value of Natural Landscape

On 10 November 2011 UNESCO's General Conference adopted the Recommendation on the Historic Urban Landscape (UNESCO 2011), defined the Historic Urban Landscape as "the urban area understood as the result of a historic layering of cultural and natural values and attributes, extending beyond the notion of 'historic centre' or 'ensemble' to include the broader urban context and its geographical setting". This concept expands the scope of historic area protection from historic buildings and blocks to the whole city, and includes the value of natural landscape and geographical environment into the scope of protection. For research and conservation of cultural landscape value is relatively complete, but a fewer research on the value of the natural landscape and there is a lack of evaluation and protection about it, resulting the appearance of a large concentration of buildings combined with hard squares. Because of the lack of the protection of natural landscape and the geographical environment, it also affects the cities' biodiversity and sustainable development.

This paper mainly studies the value of natural landscape in the historic urban landscape and formulates its value evaluation system according to its impact on the ecological pattern of historical cities. The natural landscape elements are extracted by ArcGIS and AHP, and the ecological sensitivity and natural landscape value map are drawn in combination with the site survey status, so as to superimpose and screen, and the natural landscape in need of protection was graded.

The protection of the natural landscape in the historic urban landscape can not only reduce the damage to the historical environment and city texture, but also increase the biodiversity and green infrastructure of the historical cities, and lead the future of the historical cities to a more ecologically healthy and sustainable development path.



**Junheng Lai, Min Wang**  
*Huazhong Agriculture University, Wuhan, China*

## The Issue of Green Justice in the Sponge City Program in China

Sponge City is considered a specific integrated urban water management strategy, which has been implemented in China since 2013. In the practice of Sponge City program, green space was newly constructed or renovated as green infrastructure to reduce stormwater runoff. Chinese central and local government have invested a large amount of financial allocations for the construction of these green infrastructures, resulting in changes of green space distribution.

This research takes the pilot Sponge Cities as study cases, analyses the construction funds, stakeholders and location of related green spaces compares the spatial distribution of green space before and after the Sponge City program.

It is found that:

- 1) the green space production process in China's Sponge City program combines the multi-interest capital promotion, including the support of central public finance, local financial subsidies, and the participation of private companies. The fundamental force behind this program is the political demand the expansion of capital;
- 2) the process brings not only the reorganization of green space and the improvement of the urban ecological environment, but also the changes the distribution of green space and the social relations of surrounding residents;
- 3) this will lead the imbalance of urban green space resource occupation and distribution, create new social inequality and injustice, which is considered as green justice issue.

**PhD Candidate Pan He**, Professor Weizhen Chen  
*Tongji University, Shanghai, China*



## The Central Scotland Green Network: Tackling Environmental Disadvantage and Inequality at a Strategic Scale

The Central Scotland Green Network (CSGN) is the biggest greenspace project in Europe with the potential to benefit 3.5million people. It is a national development in the Scottish Government's third National Planning Framework and is improving the vitality, health and well-being of around two thirds of Scotland's population. The CSGN is creating an environment which supports sustainable economic growth, encourages healthy lifestyles and good physical and mental well-being, and will help central Scotland to thrive in a changing climate and enable nature to flourish.

The overarching CSGN Vision is that, by 2050, the area will be transformed into a place where the environment adds value to the economy and where people's lives are enriched by its quality.

Priorities include:

- transforming vacant and derelict land into attractive and beneficial places;
- delivering greened active travel networks;
- restoring and improving our rural and urban landscapes;
- connecting the green and blue spaces in towns and cities with the wider countryside and coast;
- reducing and managing the risk of flooding, while improving water quality and creating opportunities to improve or establish new habitats; and
- increasing urban greening and providing quality accessible greenspaces.

As the initiative approaches its tenth year, we will share our learning on the benefits and challenges of multi-agency partnership delivery for strategic projects of this scale and highlight a range of 'CSGN initiatives' from community action through to high profile flagship projects.



**Emilie Wadsworth**  
*Central Scotland Green Network Trust,  
 Shotts, United Kingdom*

## Urban Agricultural Heritage: Exploring Urban Agriculture Transformation in East Asian Rapid Urbanization Areas from the Perspective of Heritage Activation

In contrast to the urban agriculture in developed countries in response to food safety problems in downtowns, the emergence of urban agriculture in the rapid urbanization of East Asia is due to urban expansion caused by rapid urbanization, and rural areas passively becoming part of the city. It has led to rural agriculture becoming urban agriculture that is intermingled with other types of land in urban - rural areas. Due to rapid urbanization, scholars in the rapid urbanization area focuses more to ecological functions of urban agriculture. In addition, as the “second nature” transformed by humans, the farmland system not only has its natural characteristics, but also contains rich cultural connotations. Therefore, it is necessary to find new ideas for the transformation of urban agriculture in fast urbanization areas of East Asia to balance the two dimensions of nature and culture while at the same time meeting the needs of urbanization and maintaining the characteristics of urban agriculture.

This paper focuses on a case study of Wanmu Orchard that is located in the Pearl River Delta of China which is a classic example of rapid urbanization in East Asia. By learning from the Historic Urban Landscape (HUL), a survey of the natural environment, culture and human resources of Wanmu Orchard that need to be inherited are conducted.

Thereafter, the vulnerability of those resources when it comes to socio-economic pressures and climate change are assessed. And it puts forward a new idea for the transformation of Wanmu orchard by incorporating heritage value, characteristics and vulnerability of Wanmu orchard into the development framework of the Pearl River Delta metropolitan. Finally, this paper puts forward a new concept named "urban agricultural heritage". It regards the urban agricultural system with unique value as a heritage system while at the same time excavates its natural and cultural value and consider its role in the process of rapid urbanization. This concept could be explored as a new way of transformation for urban agriculture in the rapid urbanization area of East Asia.



**Mengyun Chen**, Guangsi Lin

*Department of Landscape Architecture, School of Architecture, South China University of Technology, Guangzhou, China*

## Desert, Agricultural Valley, Unsustainable City: How to turn Lima - Peru - into a Greener City?

Urban green areas are essential for the provision of ecosystem services and the adaptation of cities to climate change. Lima, the 9 million inhabitants' Peruvian capital, has faced a historical process of landscape change. The first human settlements converted the coastal fertile desert into a productive agricultural valley by installing a sophisticated irrigating system. Besides the colonizing impact this living structure, mixed with fragmented urbanization, lasted until the '50s of the 20th century and still has marks along the landscape.

As the migration from the rural areas increased and the agrarian reform took place, new urbanizations were installed, usually designed as a pattern of constructed blocks shifted with open spaces - Local Parks – to guarantee a certain quality of life due to the access of green areas for people. Unfortunately, the amount of land converted with this urban morphology was not enough to accommodate all the influx of people that were coming to the city. Therefore, the process of fast urbanization drastically changed the provision of green areas and increased the competition of using scarce water for drinking and irrigating purposes.

Currently, it is common to find open public spaces without vegetation or new irregular land occupation (the *barriadas*), where sanitation is still a challenge and the lack of planning add another layer to the urban challenge. How to turn Lima into a greener city? It certainly will demand to find an integrated solution for the problems of shortage of water, habitation and the demand for green areas accessible to people in a sustainable and comprehensive manner. The article presents an overview of the strategies that have been presented for greening the city in the past years, under the perspectives of Natural, Green, and Ecological Infrastructure concepts, and discusses its objectives and impacts on changing positively the landscape of Lima.

**MSc Taícia Marques**, PhD Victor Peña Guillen  
*Universidad Nacional Agraria La Molina,*  
*Lima, Peru*





## 1.11 BEAUTIFUL AND HEALTHY CITIES

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### Does the Urban Nature and Quality of the Built Environment affect Human Health and Well-being in Local Neighbourhoods in Shanghai?

There has been increasing recognition that the coming century will see a substantial majority of the world's population living in urban areas, the provision of high-quality places in which residents enjoy living now and, in the future, become the most significant causes of built environment professional, landscape planning and policy makers the world over. The World Health Organization and the United Nations have developed policy frameworks and guidance which promote the increased provision of urban green space for human health. While the claimed associations between high-quality neighbourhoods and social cohesion might seem obvious, there is little empirical research that examines them in detail, thus, there is a need to focus on a more diverse range of environmental factors, especially green space conditions and housing standards. However, while there has been a small number of academic studies into the positive and negative impacts on human life that are bound up with the relationship between local greenspace availability and residents' health, which may offer opportunities for health improvement.

This study examines the theorizing nature and everyday life, to offer critical insights into urban political, economic, social and cultural change in Chinese cities. It explores to provide empirical research undertaken in Huangpu, a central urban district of Shanghai, focusing on how the urban nature and quality of the built environment affect human health and well-being in local neighbourhoods. The methodology engaged with the complexity of real-world investigations involving in-depth interviews with key stakeholders and local residents, textual analysis of archival and complimented with participant observation and mapping techniques.

The finding shows a number of significant relationships between features of quality and dimension social cohesion, particularly those which are dependent on residents' perceptions of where they live. The suggests a real need for urban planning, neighbourhood renewal, policy and design practice based on increasing residents' health benefits with, and perceptions of their

neighbourhood, alongside improvements to the physical environment and facilitating social cohesion.

**Dr. Junfang Xie**

*Department of Landscape Architecture, College of  
Architecture and Urban Planning,  
Tongji University, Shanghai, China*



## Reclaiming Groruddalen's Concrete River. Landscape Strategies for Improvement of Urban Ecologies

As cities continue to grow, the search for sites suitable as a foundation for further urban expansion remains ongoing. The clean-up and reactivation come not without struggle and cost. Areas such as Stubberud in Oslo are challenged by their complexity, visible in many forms. Historically focused on traditional agriculture; between 1947 and 1963, the area has served as the main landfill for the city of Oslo. Today the site is dominated by logistics-related industry. Located between two large centres, such as Ikea; bordered with main highway E6; and close distance to the industrial railway, Stubberud is profoundly affected by traffic, poor air quality, and noise pollution. When looked from above, the area brings into mind a vast, grey and impermeable meandering river on the bottom of the valley, dominated by hard surfaces and little vegetation.

Landscape fragmentation, depletion of local biodiversity, contaminated soils, and groundwater levels bring into the question the future of the area, which is yet to be defined. The municipality of Oslo has a desire to transform Stubberud into the urban and high-quality living part of the city. There is a great potential of landscape design to formulate alternative urban futures for the area.

While the capture of existing pollution and decomposition of organic waste will take place on the ground level; the activation of the site will be lifted and incorporated into the green-roof design. Series of gardens, parks, and playgrounds will not only become part of solving pollution strategies but will also add economic value to the plots; allowing for further growth. Innovative thinking in various levels, from under the surface to top of the roofs, will go hand in hand with the use of recyclable and locally obtained materials. Rock from nearby tunnel construction will be incorporated into multifunctional solutions, from the creation of new soils, noise barriers, to become parts of the new infrastructure.

The introduction of urban ecological approach and long-term planning perspective is necessary for Stubberud to become a multifunctional city, and once again reconnected with the city of Oslo.

**Patrycja Perkiewicz**  
*Asplan Viak AS, Norway*



## Spatial-temporal Evolution of Habitat Quality based on Gradient Effects within 5th Ring Road in Beijing

The rapid development of urban built-up areas has led to a decline in habitat quality and a sharp decline in biodiversity, thus preventing green flows. In this paper, habitat quality evaluation is investigated by Habitat-Quality modules in InVEST model on 1990s, 2000s, 2010's within 5th ring road in Beijing and study its Spatial-temporal evolution on gradient effect further green flow law.

The expected results are as follows:

- (1) In terms of time, habitats quality within 5th ring road in Beijing has been reduced first and then increased. The reasons include the negative impact of urban construction and the positive promotion of urban management. Since the 1990s, urban construction land has grown rapidly and green space has decreased, resulting in a decline in habitat quality. At the same time, the promotion of urban events such as the Olympic Games and the introduction of urban management policies such as “whitening and greening” have resulted in local habitat quality getting better.
- (2) In terms of space, habitat quality within 5th ring road in Beijing shows a gradient change with the degree of urbanization, and the changes in habitat quality are analysed according to the degree of urbanization. Due to the influence of the quantity and layout of green space in 3rd ring road, 4th ring road and 5th ring road, different habitat quality changes occur, which will provide a basis for improving the quality of habitats in district construction.



**PhD Candidate Boya Wang**, Professor Zhicheng Liu  
*Beijing Forestry University, Haidian, China*

## Post-war Landscapes: Landscape Architecture as a Mechanism to Preserve Memory

All wars, at all stages, have direct and indirect impacts on the landscape that can be traceable even a long period after their end. Many of the post-war landscapes are results of natural ecological succession, while others – after careful planning – have impressively emerged, presenting tourist interest as well. The target is the pleasure and landscape enjoyment by the visitors, but this cannot be achieved with landscapes connected with wars and loss of human life. These difficulties inevitably lead to a different approach and a special design of the post-war landscape. It is necessary for the users to be informed about the site's history and, through planning, to recall memories and contribute to sustain peace, while learning from the mistakes of the past. It is necessary to create an intelligent local database, in which should be inventoried, analysed the special features of the area and to pre-plan the landscape, regarding the past, the present and the immediate future of the region.

According to many practitioners the real reconstruction is a spiritual renewal of human relationships which, in conjunction with a material rebuilding, would be the only vehicle for undertaking a true reconstruction and creating a lasting peace. Post-war reconstruction commonly refers to the financial rebuilding of a nation and does not immediately denote the rebuilding of the physical environment. The analysis of certain examples of post-war landscape rebuilding has shown that a successful short-term solution for a landscape is not necessarily a successful long-term one and that the effectiveness of reconstruction depends on the coordinating agent's relationship to the problem, and on the type of conflict. The conceptual design of the Old Rail Station of Thessaloniki – as the implementation of this papers' highlight a Sustainable transformation as conclusions – proves that except of the factor "memory", landscape architects should take under consideration the factor "location" as well and the value of the specific area for the urban fabric and obviously Simultaneously, the results of this paper confirm the necessity of creating some "partial oblivion tricks", in order the understudy area to be embodied with the needs of today.

Irini Mouka, **Dr Julia-Nerantzia Tzortzi-Georgi**  
*Politecnico di Milano, Milano, Italy*



## Temporary Art Transforms Public Space: Contour 556 demonstrates how Temporary Art Interventions Contribute to Beautiful and Healthy Cities. Case Study of Canberra Australia

Public art contributes to liveable cities. Public art can transform experience of a place and is integral to the wellbeing of citizens. Art events in the external environment are commonplace, yet few respond to the specific characteristics of carefully designed places. Contour 556, a temporary art exhibition sited in and around Lake Burley Griffin, an artificial lake in Canberra, Australia, differs from the norm.

Canberra is one of only a few designed capital cities in the world. Contour 556 brings together the landscape analysis of a site to the curatorial selection and development of temporary art interventions. Contour 556 demonstrates how temporary art interventions change our attitudes to place, by enhancing citizen participation and contributing to beautiful and healthy cities.

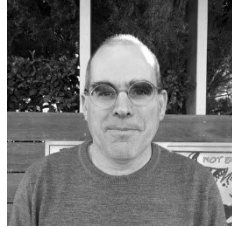
The capital city of Canberra is a little over 100 years old. Lake Burley Griffin was designed in 1911 but was not constructed until 1964. The lake and its three central basins ground the city in the landscape, held below the fringing forested hills but very much a manipulated space through the intersecting axes and the overlay of the road pattern around the central basin.

Contour 556 applies landscape site analysis to draw out the lake basin's key design principles. Geometry and connections of water, land, and sky are key to understanding the lake site. The intersecting land and water axes provide a frame for the landscape and architectural design of Central Canberra. The embedded design creates opportunities for temporary artworks to reinforce or subvert this geometry and symbolism of place. Invited artists engaged with the landscape architect to interact with the physical, cultural, and historic landscape. Public reaction to temporary exhibitions in 2016 and 2018 demonstrated that art has the potential to contribute to healthy cities, by engaging its citizens and embedding a deeper sense of understanding of place.

Taken further, my research goes to urban and city renewal, and the role that temporary art events can play in demonstrating beauty in a city. My presentation will demonstrate that Contour 556 highlighted the beauty of Canberra, Australia's designed capital city, and enhanced its liveability.

**Neil Hobbs**

*Harris Hobbs Landscapes, Deakin, Australia*

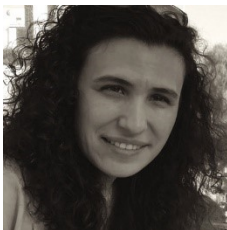




## Green Pathways to a Healthy City supporting Well-being – A Critical Examination of Parameters

Access to nature as a pathway to good health is underpinned by a range of theories, recognised in the concept of Ecosystem Services, and has received considerable attention with a range of health indicators employed to validate findings. The links between greenspace, planning and health are also referenced in policy documents, such as WHO Healthy Cities and through legislation such as England's National Planning Policy Framework (WHO, 1998; DCLG, 2012). Accordingly, access to natural environments is fast becoming a recognised part of health prescribing with the adage The Natural Health Service adopted in the UK as an alternative for the acronym NHS (the National Health Service). There are good indications that supporting well-being is becoming more mainstream in relation to different aspects of city planning and design and related practice and that designed systems are perfectly capable of providing a positive link to well-being.

Based upon recent research (Coles et al., 2013; Coles & Costa, 2018; Costa & Coles, 2018; Coles, Costa & Watson 2018) this presentation aims to identify and critically examine the green pathways to a healthy city supporting well-being, including the parameters to maximise opportunities and increase the potential for urban/landscape experience and underpin successful, positive interaction. The aim is to contribute to develop a fuller understanding of the healthy city by looking at self/socio-spatial relationships and examine the implications for designing spaces considering the increased momentum behind greenspace provision across sectors. The presentation will highlight the critical need to address greenspace provision on parity with economic development movement in the context of the United Nations observations regarding the required goals of society and future city sustainable development. It will include ideas concerning biophilic design, its ideals, associations and resources, and different modes of greenspace interaction in order to provide pathways which underpin the achievement of high levels of personal well-being and support healthier lifestyles across life.



**Dr Sandra Costa**, Professor Richard Coles  
*Birmingham City University, Birmingham,  
United Kingdom*

## 1.12 NORDIC PERSPECTIVES: Common New Ground

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### The Walkway along the Håhammeren

The municipality of Stavanger has, for the last decades, worked hard to improve the city's green infrastructure including establishing footpaths to ensure that the inhabitants have access to green spaces for outdoor activities close to where they live. This is important for the health and well-being of the citizens. One of the goals was to establish a continuous walkway along Stavanger's part of the fjord Hafrsfjord, which plays an important part in the Norwegian history and in the city's green infrastructure.

For several years, there was a missing link along the footpath. The steep rock of Håhammeren was particularly challenging due to both topography and landscape - here the rock plunges straight into the sea. The municipality wanted a solution that considered the natural environment and the terrain while creating accessibility for all. To address these challenges, a diamond-coated wire was used to cut the route along the rocky part of the fjord. A narrow ledge in the rock was used to fix a small bridge. Along the path, light is used to enhance the natural surroundings and its beautiful rock patterns, the patterns are a work of art from nature.

From early on, there was a strong desire to round the steepest part of Håhammeren with a bridge. The final solution is an elegant circular bridge mounted on pillars in the fjord. The bridge has an integrated bench along the entire inner part of the bridge, which is used for rest and meditation.



**Project Leader Ingjerd Bratterud**

*Park and Street Department,  
City of Stavanger, Norway*



**Karen H. Zeiner**

*Multiconsult, Norway*

## Transforming Perspectives – New Opportunities for Recreation and Tourism in the Archipelago of Helsinki

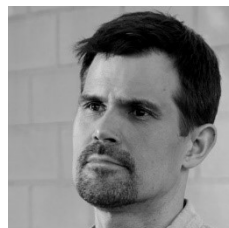
Helsinki's maritime location is part of its fundamental nature and appearance. However, the potential for recreation and tourism in the archipelago has long been underused. Now the city is undergoing rapid growth. A maritime strategy was recently drawn up to find ways to improve the accessibility of maritime areas, develop services in the archipelago and promote seaside events. Landscape architecture has played a major part in the planning and design of maritime Helsinki.

New islands provide recreation. In 2016, the former military islands, Vallisaari and Kuninkaansaari, lying just a 20-minute boat ride from the centre, were opened to the public. When the defence forces left the islands, conservation and maritime recreation were chosen as future focus, but the state-owned enterprise Metsähallitus was also required to generate cash flow for the maintenance on the islands. In the land use planning this has meant finding ways to incorporate new construction in the delicate fortress landscape. A land use master plan proved an invaluable tool in setting common goals. A detailed plan will enable long-term development. Wide co-operation between stakeholders predates the opening of the island and will continue. Vallisaari, now visited by 100 000 people annually, will also host an international public arts biennale, starting in 2020. Vallisaari demonstrates the possibility of sustainable concepts in the unique archipelago.

This summer, the city started promoting a new island, Vasikkasaari, and preparing the next steps in its future planning.

**Jouni Heinänen**

*Helsinki City Planning Department, Finland*



## Soft Protection – ØREHALEN, a Vision for Protective Coastline Development for Copenhagen

ØREHALEN is a vision for protecting Copenhagen from future rising sea levels, combining natural values, cultural heritage and city expansion in one concept. Denmark is a low-lying country, with most of its human settlement concentrated along the coastline. The capital city of Copenhagen has seen an influx of new inhabitants since the early nineties, increasing the demand for development of new housing. This has put an immense pressure on remaining unbuilt sites, some of which are sensitive and preserved natural areas. This has led to development projects using landfill as a way to claim new areas from the inner harbour and the Øresund sea – gradually expanding the city on former seabed.

The method applied is the one of hard edges, steel sheet-piling, followed by draining of seawater and gradual land fill – in recent years using surplus material excavated during the construction of the expanding underground Copenhagen Metro. This method, while fast and familiar, is both expensive and sadly lacking in natural and cultural resistance. In other words, places without context are created. The consequence is the rise of new urban districts, with little or no connection to history or to their local biological, hydrogeological and natural surroundings.

ØREHALEN envisions another approach to the development and protection of coastal cities: an approach that creates nature before city - a slow and deliberate process using the unpredictability of natural forces as a sensual quality in future urban development.



**Jakob Sørensen**  
*Schønherr, Copenhagen, Denmark*

## Anniversary Park in Frihamnen, Gothenburg

There is a time slot between the planning and the implementation of the permanent construction of an area like Frihamnen in Gothenburg. During this time, the site will be studied, examined, and negotiated. This work is often done in rooms where the public does not participate, or which can be difficult to access for those who can't decipher the juridical language surrounding a planning process.

Regarding the work with Jubileumsparken, the City of Gothenburg and landowner Älvstranden Utveckling AB actively used the time slot 2014 - 2021 to study, develop, and establish the park through an active testing program and functions. In the early stages of the Frihamnen development, it has been prototype built, envisaged and planned in an open process with the citizens. The aim is to create a platform in the city that is both physical and relational. We meet in what we develop. The Frihamnen area is thus growing around Jubileumsparken and the people get involved in the process and the area. The park and, by that, the city development grows in a step-by-step development strategy.

In May 2019, the City Council decided on the investment for Jubileumsparken until 2023. The Jubilee Park and its development process have won many awards and are recognized both nationally and internationally. It is developed in close collaboration between Älvstranden Utveckling AB, the City Planning Office and the Administration for Parks and Nature.

**Jessica Segerlund**

*Älvstranden Utveckling AB, Gothenburg, Sweden*



## A Complex Common Ground – Mass Tourism Management and the Nordic Public Right Away

Iceland has gone through an unprecedented increase in the number of tourists since 2010. This has had an enormous impact on the local economy but has also caused massive pressure on the resources and tourist destinations. The Nordic “allemansretten” has been challenged in Iceland by the tsunami of tourists causing pressure on the landscape.

Thingvellir national park is one of the most visited tourist destinations in Iceland and has experienced a rapid increase of visitors since 2010. The management of Thingvellir national park in the recent years has dealt with this increase at different levels, from ad-hoc smaller projects to a holistic review of the management plan.



**Einar A. Sæmundsen**

*Manager of Thingvellir National Park, Iceland*

## 1.13 TRANSFORMATION AND ADAPTATION

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### Transformations of Cultural Landscape Impact on Social & Behavioral Patterns in Jaffna

Cultural landscape is a predominant feature characterized by sense of community and attachment, recognition, continuity and longevity for an atmosphere to live. The historical backbone of Jaffna city and its character as well as the atmosphere has been under threat since 1980, as a result of ethnic conflict, urbanization, and some other intangible factors in Sri Lanka. However, the current situation of Jaffna evident a high extinction of the unique cultural landscape value inside the city precincts inducing changes on native social behavioural patterns. Therefore, Study focuses to understand the transformation of Cultural landscape aspects with their specific impact on modification of social behaviours. Methodology based theoretical framework employed the information processing theory and place identity theory. Further, on site investigations in case study areas equip questionnaires, validations, observations, land use and pictorials.

The study explored of 15 measures with the idea of 40 samples of people is taken into consideration to prove that the transformation of cultural landscape impacts on the social behavioural patterns`. From the analytical result of the all measures, 78.3% of the citizens in Jaffna are not happy with these changes, but they welcome modernization while preserving the character and identity by maintaining the Cultural and social behaviour and maintaining the uniqueness of Jaffna through the social behavioral patterns. On the other hand, 21.7% residences welcome the changes, yet they also want to retain the identity of Jaffna for coming generations. The paper proposes propositions for landscape management to preserve the character of Jaffna and its social identity in order to enhance the future of Jaffna.

**Umakaran Menalanan, D. P. Chandrasekara**  
*University of Moratuwa, Katubedda, Sri Lanka*





## The Traditional Construction of Water System and the Formation of Urban Landscape Pattern – A Case Study of Two Cities in the Pearl River Basin of China

No matter in modern or ancient times, water conservancy is an important factor affecting the survival and development of cities. However, with the rapid urbanization process, the urban water system has been occupied by the urban construction continuously, resulting in the serious destruction of regional characteristics and traditional landscape features. And the occupation of water system also poses a threat to the ecological security of city, resulting in the occurrence of urban waterlogging.

Based on the case study of Huizhou and Zhaoqing, two historic cities in the Pearl River basin of China, this paper discusses the relationship between traditional water conservancy construction and urban landscape pattern. Huizhou and Zhaoqing, which are located in the transition from mountainous areas to the plain of the Pearl River Delta, have become important water transportation hubs and gateway cities when many areas are still undeveloped in ancient China. Under the threat of flood, through the analysis and construction of urban water system, two cities over 200km apart coincidentally form the urban landscape pattern of "mountain -- lake -- city -- river", and both are famous for the beautiful urban lake landscape in China.

This paper analyzes the natural environment, changes of water system, lake development, agricultural construction and urban construction of the two cities in different historical stages. It summarizes the evolution process of urban site selection, water conservancy construction, urban construction and urban landscape development based on the influence of water system, as well as the internal and external landscape pattern of the city formed on this basis and the unique urban public culture formed through urban lake construction. By comparing the similarities and differences in the evolution of water system and the formation of urban landscape pattern in the two cities, the causes of the similarities and differences are discussed.

The paper then sums up the traditional strategies behind the "coincidence" of the two cities. In the context of rapid urbanization, these strategies can guide contemporary cities to build beautiful and healthy cities by combining artificial environment with natural environment through rational planning and utilization of urban water system.

**Xiyao Zhao**, Xinxin Xu  
*Beijing Forestry University, Beijing, China*



## Study on Planning Strategies of Yellow River Beach Area in Xinxiang City from the Perspective of Resilient City

The theory of resilient city emphasizes the resilient process of urban system adapting to a new balance effect after being invaded by accidents. Located in the middle and lower reaches of the Yellow River means to suffer from uncertain river flow and flood threat. Since the operation of Xiaolangdi Reservoir, the flooding probability of the Yellow River beach area has decreased, which makes the area gradually change from the Yellow River channel to a floodplain to some extent. In order to approach the balance between rural development and flood protection, the concept of the resilient city should be introduced into the development plan of the Yellow River beach in Xinxiang, Henan Province.

The study of development along the Yellow River was carried out at the level of infrastructure, ecology, society, and economy under the concept of resilient city. It was found that the area was vast with excellent ecology and abundant cultural resources. However, under the threat of floods, there were mainly problems of low level of infrastructure, backward social development, low-level homogeneous competition of industries. Applying the way of scenario presupposition, we predicted the floodplain range of several typical flood levels. According to the possible influence of floodplain range, on the premise of engineering safety, a strip development layout was proposed in the beach area. Then, we built a series of strategies including the ecological space strategy constructed by redundant structure, the living space strategy with various forms, the local cultural revitalization strategy of expanding cultural identity, and the production space strategy with distinctive characteristics. We hope to provide a reference for the practice of the resilient city concept.



**Professor Chi Li**  
*Beijing Forestry University, Beijing, China*

# Responding to Challenges of Coastal Brownfield Transformation through Nature-based Solution: The Case of Moolap Plan in Australia

**Dr Sareh Moosavi**

*Faculty of Architecture, Building and Planning, University of Melbourne, Parkville, Australia*

Urban transformation of coastal brownfield sites often requires a careful consideration of multiple environmental challenges including contamination, sea level rise, erosion and biodiversity conservation. In parallel, cities often seek to leverage opportunities for urban growth and maximise economic productivity of available land. As a result, renewal and management of these sites pose great challenges to build environment professionals including planners and designers, but also offer opportunities for innovation in building climate-resilient cities. Evidence has shown that in dealing with waterfront sensitive sites, solutions that work with nature rather than against it, and incorporate natural and nature-based features have proven to be more effective in providing environmental, social and economic benefits. Yet the integration and implementation of nature-based solution (NBS) from early stages of decision-making processes require more attention in both literature and praxis of landscape architectural planning and design.

This paper examines the process of developing the Moolap Coastal Strategic Framework Plan (Moolap Plan), a 1200ha brownfield renewal project east of Geelong in Victoria, Australia. Moolap encompasses two key sites located on low-lying waterfront land: the Alcoa Point Henry site previously used for aluminium production and the Cheetham Saltworks site with significant wetlands and natural and man-made shorebird habitat. The project's documents and interviews with multiple stakeholders are analysed against a holistic framework for assessing the integration of co-benefits of NBS across elements of biodiversity, ecosystems, climate change, and socio-economic systems. A seven-stage assessment developed by Raymond et al. (2017) is used to critically examine the integration, implementation and evaluation of NBS co-benefits in the process of developing the Moolap Plan.

The results show that while the Framework Plan recognises and considers NBS for addressing environmental constraints in the early stages of stakeholder engagement and draft plan development, trade-offs are made in the final proposal, mainly driven by prioritising economic gain and pressure from private stakeholders. Assessing co-benefits of NBS across multiple challenge areas in

early stages of brownfield transformation helps integrate diverse systems of knowledge and values (including economic values) for NBS design and implementation to be comprehensible and acceptable to a range of stakeholders with different priorities.

## Experimenting with Atmospheres of Transformation and Adaptation

**MDL PhD Stefan Darlan Boris**

*Landscape Architect, Aarhus School of Architecture, Aarhus, Denmark*

As a physical platform of enquiry this paper explores the Aarhus River Catchment Area (AARCA) as an area of interest undergoing a continued series of adaptations caused by anthropogenic processes and urbanization. The Aarhus River itself is 40 km in length and the catchment area is 354 km<sup>2</sup>. Apart from being the reason why Aarhus, the second largest city in Denmark, is located where it is, 'Aros', the original name of the city, literally meaning 'at the mouth of the river', AARCA is also the territory in which the Aarhus Landscape Laboratory is currently being established.

Aarhus Landscape Laboratory is placed on Eskelund, which is a 20 hectares urban-industrial woodland placed on a former waste deposit but centrally located along the Aarhus River less than a kilometre from the city centre making it an important future destination for the city's growing population. It functions as a cross-disciplinary laboratory for biologists, historians, artists, landscape architects to explore urban nature and anthropogenic processes within the territory of AARCA with the aim to raise awareness of the fact that urban nature can be wild and untamed and at the same time deeply sensual and aesthetic.

Two of the first experiments are of particular interest (established spring 2017 and autumn 2018):

The first experiment consists of a 5.000m<sup>2</sup> transplantation of nutrient poor but biodiversity rich habitats from a donor site further downstream to Eskelund as a nutrient rich but biodiversity poor recipient site. The key goals of the transplantation have been to explore adaptation of the donor site to the site-specific conditions of Eskelund and to investigate if and if so, how this adaptation continues in the future. The second experiment consists of the establishment of 8 10 m wide clearings in a 30-year old planting with an overarching goal to explore the relationship between the spatial atmospheres and potential increase in biodiversity.

## Designing the Co-existence of Communities: Embedding Design Imaginaries in the Context of the Neerpede

BoerenBruxselPaysans is an initiative of the Brussels Capital Region and the Commune of Anderlecht, which install test sites for sustainable food production in the Brussels fringe. One of their recent test sites is the Site de Chaudron, a 'Food Transition Hub', where the organization aims to host different activities related to sustainable food production.

The Site the Chaudron consists out of a field and a to be renovated farm (by 2021). Since 2017, the field is being cultivated by Commune de Racine, an urban agriculture collective that describes itself a "local production and transformation model aiming to build stronger links between citizens and the food cycle".

The ambition of this collective is in line with the vision of BoerenBruxselPaysans, that aims to enlarge citizen interest and participation in sustainable food production. The designers of the renovation of the farm used this ambition to develop a design proposal which makes a typological shift from a classical farm to a site in which a variety of programs can co-exist in an interesting way. Aesthetically, they foreground a 'hybrid' typology which unifies different conceptual categories which are often seen as opposite: the natural and the manmade, the urban and the rural, the utilitarian and the pastoral.

Even though the images, for now, seem to play a role in a rather symbolic, imaginative realm, they are preceding the communities that still have to be built. However, disregarded the communities that will host the site in the future, the design implies a co-existence of current and future communities and their practices around a shared space, covered by a giant pergola, creating a common ground.

Particularly relevant in relation to the conference theme is the way in which the design of this hybrid space, will succeed in hosting the different communities in the future, and anchoring these communities in the local context. One can expect important barriers to the realization of this shared space of the design imaginary. We will investigate these barriers by means of in-depth interviews with involved actors of the project (Brussels Environment, Anderlecht, Le Début des Haricots, Commune de Racine, 51N4E, ...).

**Jolein Bergers**, Bruno Notteboom  
*Catholic University of Leuven, Brussels, Belgium*







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Plenary Session 2  
19 Sept, 09:00-11:00

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## The Sustainable Development Goals (SDGs)

Enhancing people's freedom to move around increases the liveability of cities and a well-organised public transport system would not only increase the feeling of freedom to move in a city, but would also cure many environmental, social and economic problems. The Sustainable Development Goals (SDGs) also charts this sort of path. They are a call for action and act as a blueprint to achieve a better and more sustainable future for all. These goals are very important, especially when they can be used as a compass for us in a time with big change because of expected development of mobility-as-a-service concepts and autonomous vehicles.

Mr. Frode Hvattum has been leading Ruter's strategy practice since 2015 and has focused on developing a new sustainability strategy for Ruter, based on UN's Sustainable Development Goals. This includes Ruter's ambitions of fossil free transport by 2020 and to have a 100% electric fleet of buses and boats by 2028. The goals concern everyone, and we can all make our own contributions towards reaching them. Ruter has pinpointed eight goals where we believe public transportation can be a crucial driving force for positive change. Frode will address how Ruter work towards these goals every day – and how you contribute to that work by choosing public transport.

Ruter plans, coordinates, orders and markets public transport in Oslo and Akershus. All operative service is performed by various operating companies that work by contract for Ruter and by Vy with local trains.



**Frode Hvattum**

*Chief of Strategy, Ruter AS, Oslo, Norway*

## Public Mission Transformed

Introducing landscape architecture as a profession in the young Norwegian democracy in 1919 was surely political. It was all about improving the disastrous life conditions in the fast-growing industrial cities of Europe and America. It had to give response to the fast growing and increasingly self-confident labour movement. It had to face the challenges of the aftermath of the Great War. The answer could only be public. The landscape profession proved to be extremely successful as the key instrument of the Municipal Department for Park and Recreation – headed by a powerful Director with close links to the politicians responsible for the public budgets. This started the golden age of The Public Park Administrations.

The strategy was successful. Most of the poor working-class neighbourhoods are now renewed. The urban growth into the surrounding landscape in high-quality housing suburbs has produced a vast number of high-quality housing units. The old city centres are neatly renewed. Successful gentrification of former industrial sites has boosted the urban economy. New Public Management schemes enable private investments even in high-quality public spaces. The almighty Park Director is more or less replaced by a most successful implementation of market power into the everyday politics of public-private partnership.

Probably a success story, but new challenges must be addressed quickly. The former strategy for greening the city was slow and long-range. Rapid, posh renewal of downtown areas now are nothing but a number of projects. The role of the public bodies responsible for management of parks and public spaces has to be redefined. The day-to day work of staging urban life, maintaining qualities and defending the democratic issues of the public realm needs a new power: There is hardly any profession better suited for this task than the landscape architect. It must take the urgent position as 'Director of Urban Spaces'. Safeguarding all everyday uses and the continuous change and improvement of physical quality and all arrangements illustrates the width and depth of this new, transformed public mission.

### **Ola Bettum**

*Professor at NMBU (Norwegian University of Life Sciences), Ås, Norway/CEO, IN'BY AS, Oslo, Norway*



## Art and Participation as a Driver for Transformation

Art has the capacity to change minds, emotionally connect people, bridge between groups and countries, and create hope and change. The Bjørvika development in Oslo transforms 650,000 square metres of a classical port, moving road and rail tracks to create a community, facilities and public space where the city has built a new Munch museum and public library, and the state has built a new opera house. 40% of the area is designated as common land. The developer commissions art in the public spaces. Initially, they looked for artists who would create something different, something the citizens needed and something that could have an impact on our urban lives.

Today, Bjørvika is hosting two unconventional, ambitious, impactful and collaborative works. They are durational and have both generated long term outcomes, something relevant for our time and future. The reception has been astonishing, both at a national and international level. Losæter (Future Farmers) is a permanent urban farm and a hub of community activity based around art and urban food production. Future Library (Katie Paterson) invites one author every year from 2014 to 2114. Their writings will be held in trust, unread and unpublished in a specially designed room in the new public library Deichman. A forest has been planted, which will supply paper for the anthology of books in 100 years' time.

Art can influence one individual, or even an entire generation, and work as a catalyst for change. Art has the ability to connect you to your senses, body, and mind and make the world 'felt'.



**Anne Beate Hovind**

*Urban Developer, Bjørvikaforeningen,  
Oslo, Norway*

## Architecture and Design – Tools in Tackling Society’s Biggest Challenges

In May 2018, the Swedish government passed a bill for a new national policy for architecture and design, entitled “Policy for Designed Living Environment”. In connection with that, it was also decided that Sweden should, for the first time, appoint a ‘Riksarkitekt’: a national architect. The job is to lead work within the field of architecture nationally, to build up a structure that can support those planning and building in Sweden to create well-designed towns and cities. The national architect is also the chair of the Council for Sustainable Cities, a group that brings together the directors of a unique mix of government authorities whose work is affected by questions of design and environmental sustainability.

The most radical of all of the goals set by government is the idea that architecture and design should be used as tools in tackling society’s biggest challenges. The aim of the new policy framework is to raise standards of design and construction, to tackle the issues of quality and beauty, but the policy also aims to tackle segregation, exclusion and other societal phenomena that are caused by both sociological and environmental factors. Helena Bjarnegård is going to tell you more about the Swedish policy for architecture and how several authorities collaborate to embody the vision to create more sustainable, equal cities, now and in the future.

### **Helena Bjarnegård**

*State Architect, Boverket – National Board of  
Housing, Building, and Planning,  
Stockholm, Sweden*





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Breakout Session 2  
19 Sept, 11:30-13:00

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## 2.1 PUBLIC MISSION – RETROSPECTIVE

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### Landscape Post Stamps as Promoters of the National Identity and Collective Memory. The Case of Lebanon

The presentation provides an account of the imagery portrayed on the post stamps that have been issued in Lebanon for more than a century in parallel with various political transitions. Indeed, postage stamps are not only issued as official documents for administrative, postal, financial, communicative purposes they are used as a very dynamic element of communication between authorities, society and the world. Indeed, postage stamps studies noted their importance in promoting national identity and consider them exemplary tools of what Michael Billig calls “banal nationalism.”

Our examination of all the issued stamps in Lebanon over the years previous the emergence of Greater Lebanon under the French Mandate till the modern Republic of Lebanon shows how the official representation of the Lebanese state, nation and society has evolved over time, along with the country's geopolitical context. The stamps illustrate how the official's focus shifted over the course of the century suggesting that not only the presence but also the absence of a narrative from a visual scene can be strongly meaningful. Indeed, a content analysis of the stamps revealed some significant changes during these political transitions in playing a major role in the building of a national identity and a collective memory for the eighteen religious communities gathered on this territory.



**Dr Salma Samaha**

*Lebanese University. Landscape Department,  
Metn, Lebanon*

## The Green Change Introduces a new Public Mission of the Landscape Architect

The profession of landscape architects is now facing a strange, contradictory situation. The green change has put the historical values of the profession on the weekday political agenda. 'Green' values are counted and calculated in each and every plan and project. This should be beneficial for us as professionals. Our knowledge and experience are on demand, the profession grows, our services are asked for. Simultaneously and astonishingly, our professional values are under pressure. The landscape architect of the green change area must decide if the core values of our efforts are safeguarding the biological diversity, alongside with specialized ecologists, botanists and environmentalists, or ensuring the outdoor spaces for the social qualities of the general public. Solutions of this controversy will most often be compromising – and who will succeed in selling the idea of a bleak compromise politically to ensure its implementation?

### **Ola Bettum**

*Professor at NMBU (Norwegian University of Life Sciences), Ås, Norway/CEO, IN'BY AS, Oslo, Norway*



## To Design Rust Landscapes, Cleveland, Ohio

To design rust landscapes sets out to describe the landscape-order dialog encountered in Cleveland, Ohio. Envisioned to broaden awareness of the range industrial, urban and cultural landscapes, to design rust landscapes documents ways in which the landscape had been created, marked and measured. To design rust landscapes, is a visual analysis of unique patterns expressed at the intersection of the industrial urban landscape and natural landscape.

Industry – Cleveland, Ohio, a moderately sized city in the United States sits on the countries third coast, the Great Lakes. Lake Erie and its watershed, shaped urban development, the abundance of water encouraged settlement and the infill of low-lying wetlands, culverting creeks and the turning away from water as industrialization infilled valley floors and bulk headed edges. In the 1960's industrial pollution caused a series of fires on the Cuyahoga River. The fires contributed to the creation of the Environmental Protection Agency (EPA) and a national stigma of pollution and rust.

Forest City – Dating back to the 1850's Cleveland developed aggressive Tree Canopy Plans that builds upon Cleveland's Forest City history. In 1896 as a part of the celebration of Cleveland's first centennial Philanthropist John D. Rockefeller developed a portion of an infilled Brook for the creation of the Cleveland Cultural Gardens, a series of gardens that embrace the cities immigrant heritage. Tree canopy plans and the Cleveland Cultural Gardens make Cleveland unique whose cultural identity is a hybrid of rust and garden.

To design rust landscapes focuses on three unique Cleveland Landscapes:

- (1) Confluence of Rivers and Lake Erie, the formation of shorelines;
- (2) the Industrial urbanization of Rivers and the Lake; and
- (3) the Cleveland Cultural Gardens.

The dialog begins with, a simple typological framework that describes the landscape-order dialog encountered in Cleveland Ohio:

- (1) Geological Order;
- (2) Entropy DisOrder; and
- (3) Enlightenment Order.

These categories may describe only a modest cross-section of industrial and cultural landscapes—shorelines, waterfronts, waterways, corridors, avenues, belts, gardens, bulkheads, fields, lots, pits, piles and so on. The visual pieces and text describe a layered palimpsest of recognizable, sometimes familiar, often undocumented and frequently unobserved, order.

**Cat Marshall**

*Associate Professor of Landscape Architecture,  
Kent State University, Kent, United States*



## The Balancing Act of Urban Natural Areas

‘The Balancing Act of Urban Natural Areas’ revolves around achieving an equilibrium between the often-clashing concerns of biodiversity and human activity in urban nature. This delicate balancing act is illustrated through two viewpoints: A biocentric perspective, where the emphasis is on the integrity of the environment, and an anthropocentric point of view, which focuses on the human uses and profits of natural areas.

Urban natural areas play a crucial role in today’s society because of their central location. They provide the opportunity for large urban populations to experience nature, also those who do not normally seek out the wilderness. This central location makes them exposed to the friction between man and nature, with regards to both geographical -, political - and social aspects. In a world with increasing environmental problems, where over half of humanity lives in urban areas, they present a link to reconnect urban people with nature.

The balancing act results in the creation of 15 principles of balance for design and management of urban natural areas. These principles are divided into three categories: Facilitation for biodiversity, recreation and transportation. The findings conclude that it is essential to gather and minimize the human interferences. This protects the natural values, which are the fundament for experiences of nature. Urban natural areas should also have clear signs of care, which can be done through highlighting, facilitation, management and communication. The principles can be used to create a holistic management that protects the biodiversity while facilitating for human activity.



**Cecilie Vik**

*Gottlieb Paludan Architects, Copenhagen,  
Denmark*

## Landscape Planning in the Netherlands: Intentions and Consequences

Landscape is considered as an important element in the long history of spatial planning in the Netherlands. It has been seen as a common good, a living, dynamic heritage that needs to be taken into account when the scarce space in this small country comes under the pressure of multiple spatial claims. In the course of time the approaches to landscape planning in the Netherlands were changing from protection and conservation, through government led development approach, to the new forms of network planning with participative initiatives.

Each of the policy styles has left remarkable traces in the landscape, to mention State buffer zones and Green Heart of Randstad as largest and most known examples. In the last ten years landscape planning policy in the Netherlands is decentralised to the provinces and municipalities. This is caused considerable worries about the possible consequences of the large-scale developments caused by energy transition and further urbanisation that extend over the borders of the provinces.

The paper discusses different planning concepts in the Netherlands and the consequences they left in on the country as a whole and on the region of Green Heart. Several landscape planning approaches will be analysed and visualised in the series of maps and other images. The paper also connects to the newest ideas about the integrated landscape planning as the most promising for the future landscape development not only in the Netherlands but also globally. Nowadays the landscape is increasingly considered as the scale where the linked challenges of food and water security, energy production, economic development, nature conservation and climate change converge.

Therefore, a holistic approach is suggested where landscape is considered as an underlying principle, a setting in which the various sectoral actors should become aware of and respect other sectors so to jointly improve the quality of the area.

## 2.1 PUBLIC MISSION – RETROSPECTIVE

As integral projects are inherently complex, government authorities are continually trying to simplify rules and regulations and provide more transparency. This transformation requires the support of municipalities, potentially adding to their already increasing workload and responsibility.



**Dr Alexandra Tisma**

*Netherlands Environmental Assessment Agency,  
The Hague, Netherlands*

## Designing the Blue-green Structure in Oslo – What can we Learn from History

There is a battle for land in Oslo, not least due to large population growth and national policy where the goal is to densify cities within existing urban boundaries. One result is pressure on remaining the green areas another is new housing projects with high density and little green. Thanks to a more than 100-year history of park system/ green structure planning, or planning, Oslo is still a city where the population has public access to parks, nature and river corridors linked together in a blue-green structure from the Oslo fjord to forests that surround the city.

The purpose of this presentation is to reveal and discuss the development of Oslo's blue-green structure from its origin in childhood of modern town planning in the 1800s century till today. This story also gives an insight into how important long-term planning is, but also the necessity of overall visions and, not least, the patient enthusiasts. It is in other words, much to learn from Oslo, even though it has been up and down for blue-green ideas which in turn has also affected the physical structure.

These changes will be presented and discussed according to changes of ideologies in park policy and urban planning. Six important periods are identified: 1) Public Park period. Towards a park policy. 1850 - 1917, 2) Establishment of a park system from 1917 -1945, 3) The park system from 1949 1965, 4) Fragmentation and decay 1965-1990's, 5) Reorientation 1990 - 2009, 6) Today's policy for the blue -green structure.

**Kine Thorén**, Karsten Jørgensen  
*Department of Landscape Architecture,  
Norwegian University of Life Sciences (NMBU), Ås,  
Norway*





## Investigations on the Barrier-free Environment of Neighbourhoods in Beijing Old Town: With Case Study of Baitasi Historic Area

There are many historical and cultural neighbourhoods in the old town in Beijing, which have been listed as “integrated protection” in the city’s overall planning. The relics around these neighbourhoods have become important destinations for experiencing ancient Chinese urban landscape and traditional culture and attract increasing number of tourists. Meanwhile, most of the historical neighbourhoods are still with a high-density population, a lack of modern infrastructures, and a concentration of vulnerable social groups such as aging residents with mobility difficulties. In the past years, the work to make barrier-free environment in the old town neighbourhoods were always with various difficulties, and left these areas lagging far behind the mainstream in achieving urban inclusion, equity, health and sustainable development.

This study selects Baitasi Historic Area in Xicheng District, Beijing to investigate the barrier-free environment of infrastructures, road conditions, historical buildings and renewed courtyards through mapping, questionnaires, interviews, wheelchair using experiences and experiential exhibitions. Based on the comprehensive surveys, this paper reveals the current situation of the lack of barrier-free environment, especially the fault design or improperly use of the existing barrier-free facilities, and furthermore, the absence of the public concerns on building an inclusive diversity society.

All the phenomena reflected in the research originate from the low awareness of universal accessibility. Possible solutions are given on the perspective of multi-agent participation, including:

- (1) strengthen the standardization of barrier-free environment, and emphasize the implementation of post-maintenance management and supervision regulations;
- (2) invite people with limited mobility to participate in extensive consultation and in-depth participation in the design and construction process to improve the continuous and reasonable usage of barrier-free facilities;
- (3) encourage bottom-up concept popularization and experiences of barrier behaviours by social welfare organizations and communities to enable the wider population to understand the importance, rationality and necessity of building an accessible environment.

**Leixi Qian**, Xiangrong Wang, Yun Qian  
*Beijing Forestry University Landscape  
Department, Beijing, China*



## 2.2 SUSTAINABLE URBAN TRANSFORMATIONS: Mind the Gap - The Blue Common

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### Uncovering and Improving the Urban Blue

Globally, marine ecosystems are in change and under threat, losing species and ecosystem functions. At land, many of the World's Harbours are redeveloping into residential and recreational areas, as in the Fjord City. So far, the tendency in Norway is a development based on human interests. What is lost, and what is our responsibility in restoring the disturbed seafloor and shore land to a habitable state for marine life? How can urban foreshore development account for and enhance life below water? In transforming the urban shore front from deserts to diverse viable habitats, we face several challenges. Here we address three essential gaps.

The first gap relates to the blue common as an invisible landscape and ecosystem, including its inhabitants and how the species are impacted by environmental factors. A key to fill this gap is mapping, data analysis, modelling, and data exchange between marine biologists, urban planners and architects. The second gap relates to monotony and lack of variation in the structures that are built into the sea. Testing and developing suitable complexity of the structures and the created habitats are needed to be able to enhance the local marine algae and animals.

The third and most challenging gap to fill is the traditional narrow short-term perspective of urban transformations of the blue common. To achieve a holistic and long-term perspective, we need to build bridges between different disciplines. We need a common language for the sake of arriving at adequate nature-based solutions for the urban blue.

**Eli Rinde**

*Norwegian University of Life Sciences (NMBU),  
Ås, Norway*



**Elin Tanding Sørensen**

*Norwegian Institute for Water Research (NIVA),  
Oslo, Norway*

## Oslo Fjord City – Mind the Gap!

In 2000, the City Parliament of Oslo passed the Fjord City Strategy. Port terminals, highways and railway areas were either to be made more effective or be relocated, and the reclaimed space was to be used for mixed-use urban development. The strategy includes two million square meters of new floorage, accommodating 9 000 new residences and 45 000 jobs. Space is reserved for urban development including public buildings, parks, urban spaces and transportation. Development contracts ensure financing and completion.

Thus far new national infrastructure, motorway tunnels and container terminals have been built, which is crucial for the Fjord City. About 30 % of the urban development potential is realized, providing more than 700 000 m<sup>2</sup> of new floorage, used for 3 000 homes and 23 000 jobs. The 9 km long harbour promenade with temporary installations, parks and urban beaches has been realized. Construction for more homes, jobs, parks, beaches and streets is ongoing, and in 2020 three new cultural institutions will open at the waterfront, in addition to the Opera and the Astrup Fearnley museum.

The complete transformation will take several decades, but we can already reflect on complexities that were difficult to foresee in the 1990's. The four most important are:

- the immense ability for public investments in cultural institutions - all in all approx. 16 billion NOK
- the massive development of bicycling, technological, seasonal and number of bicyclists
- the growing interest in urban farming, urban bees, and the rewilding of the city
- the demand for more public space and access to water for different recreational uses.



**Stein Kolstø**

*Agency for Planning and Building Services,  
City of Oslo, Norway*

## 2.3 GREEN MOBILITY: Urban Active Modes

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### Summer Streets in Malmö

In Malmö, a city in the southernmost parts of Sweden, work is being carried out to improve the urban experience by focusing on green mobility and improving public space. Over the last two summers, 2017 and 2018, the central street of Friisgatan has been transformed into a Summer Street, limiting car traffic and making room for other activities. From April to October, people, greenery, sofas, restaurants and cafés extend out into the street, replacing the cars and parking that occupy it in winter. As of 2019, the project will expand further, adding two more streets in locations nearby.

The Friisgatan project has involved a trans-disciplinary group of professionals from the municipality. The landscape architect project manager has worked together with experts in traffic planning and traffic regulations, as well as experts in public participation and communication. Extensive dialogue work has been carried out, involving the street's existing businesses in the design process and implementation of ideas. After the first assessment period in the summer of 2017, a comprehensive survey was carried out. The results were clear – over nine out of ten wanted to keep making room for pedestrians!

Malmö as a city keeps growing denser as the population increases. This creates an urgency in rethinking the use of public space. The traditional view of streets as routes for mobility must be challenged. Public space is a valuable asset that needs to be used in the most resourceful way possible – some cars might have to move over as streets are remodelled into lush, green, attractive spaces for interaction, relaxation and play. Summer Streets help show people in Malmö a glimpse of the challenges and possibilities the city is facing, starting up a discussion about public space, democracy, mobility and everyday life. Can we remake the city?

**Elin Einarsson**  
*City of Malmö, Sweden*



## Walking in San Francisco: Street Planning and Design based on Walkability

In the process of rapid urbanization, urban transportation emphasizes on the motorized-oriented development which results in the neglecting of the important regulatory role of non-motorized transport system. The effects to urban ecological environment and pedestrian environment brought by car traffic cannot be ignored which not only causes serious air pollution, but also causes the lack of public space in streets.

Before the popularity of automobiles, walking was the most important way for urban residents to travel. The purpose of residents' walking is not only to reach their destination but also to complete economic and social activities in the process. Improvement of walking environment is an effective measure to improve green mobility and it will bring benefits in the economic, social, and other fields.

This paper discusses the importance of walkability in the contemporary urban development, indicating walking city as the new urban development idea for several developed countries. Subsequently, this paper classifies the pedestrian evaluation methods based on the evaluation scope and evaluation tools, and summarizes the evaluation methods of residential streets, public management and public service streets, and commercial service facilities streets.

Then through the methodology of illustration and comparison, taking San Francisco as an example, the article discusses the construction experience of walking city in Europe, the United States and other countries. It proposes urban pedestrian environment renewal strategies in four aspects: guidance intervention strategy, safety protection strategy, landscape comfort strategy and spiritual pleasure strategy, hoping this article could provide ideas for related types of urban research and useful for improving green mobility.



**Xinxin Xu, Chuli Huang**  
*Beijing Forestry University, Haidian District, China*

## Cultural Elements and Walkability in Oslo

How much does the gait tell about which physical and mental space a person is in? What trends in urban development do we look forward to in the next decade and what human characteristics must we make sure that we have, both as an individual and an organization, in order to take full advantage of these changes? What are the qualities of good interaction and change that we can bring into our body and mind today?

**Kyrre Texnæs**

*Creator of Movements, Oslo, Norway*





## Active Mobility is Smart Mobility

Mobility is the glue that holds our daily lives together - we have to go shopping, to work, take our children to day-care or school, go meet friends and family etc. That means that mobility is about people and our daily needs. It's also about what kind of cities we want – do we want cities for people or cities for vehicles.

Sitting has become the new smoking – inactivity is killing us. As humans, we are built to move and active mobility like walking and cycling is therefor also very smart mobility. Not only is it healthy for the individual, it's also sustainable and a way of creating safer streets and more liveable cities for everybody. That means (re-)designing our streets to prioritize active modes.

Danish cities and especially Copenhagen have designed for cycling for 100 years and that has made Copenhagen the World's Capital of Cycling. A network of protected bike lanes, safe routes to school, cycling superhighways for commuters and big cycling bridges as well as small design features, from tilted waste bins to footrests, makes it the easiest and fastest mode to get around the city.



**Marianne Weinreich**

*Rambøll AS, Oslo, Norway*

## Oslo Inner City – Historical Retrospect

**Janne Wilberg**

*Cultural Heritage Office, City of Oslo, Norway*

The old renaissance city from 1624 has undergone a lot of changes over the course of several hundred years, but still constitutes Oslo's historic city centre. Janne takes you through the main developments and defines which aspects constitutes "the soul" of the Quadrature today. This is the story of a small provincial town built as a state-of-the-art fortified town of the period with fruit gardens and also livestock living within the city walls. The next two centuries meant a higher degree of urban living, more densely developed and populated, with receding green qualities as a result and the development as capital city of Norway. In 1814, when Norway and Sweden got into a political union, it was required to establish a number of community-building institutions and buildings. Later depopulation for the benefit of business activities in the 19th century included the demolition of a lot of old buildings which were replaced by taller and bigger buildings; most of the green qualities were no longer there. How to handle new green political ambitions and strong political will to repopulate the historic city centre? Janne will talk briefly about the importance of landscape thinking in the built environment and how the future looks in the crystal ball of the cultural heritage office.

## 2.4 PARTICIPATION: Pain or Gain?

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### To Build you your own Adventure

Children's opportunity to influence their offer (tilbud) for play and outdoor space in the city is not always very big. Often, the involvement lies in the start-up phase of a project and the opportunity to make some changes in the physical environment after it is completed is minimal. This lack of influence is something that is affecting the spirit of many kids and especially older kids/the youth, turning them into a state of indifference or helplessness. To give the younger generation that feeling is very little sustainable if a city wants to create good and healthy places. A lot of research shows that participatory design and real involvement for the kids along all the way is a good deal for the stakeholders but at the same time it is considered as kind of a burden that 'has to be checked off' on the list.

In the project with the playground 'Byen i Skyen', we have worked on this in a slightly different way and the experiences and thoughts from these projects will be elucidated. The children had a big influence on what direction the playground should take all along the process, but we also constructed the whole project in a way, so that it is actually possible (and the true meaning) that it will be reshaped continuously as an ongoing transformation project that will never reach its goal. The kids will be in charge and we, the grown, will serve as their helpers along the way to fulfil their ideas. To give the children this freedom and possibility to change the direction, we give them a feeling that they can actually make a change. This feeling of being able to influence your surrounding is one of the project's main goals and one thing we believe in, is helping to make healthy and sustainable cities.



**Jens Jensen**

*Lala Tøyen AS, Oslo, Norway*

## Beirut Souk, A Renovation Prohibited of Participation and Democracy

Beirut, capital of Lebanon, had an extraordinary boom in construction after the civil war from 1975 to 1990. Lebanese and, above all, internationally renowned landscape architects have contributed to the creation of new landscapes under the control of Solidere, a private company that has appropriated all the historical centre including the Beirut souk. The renovation was done without any participation or democracy. It was forbidden for the local population to keep their property, to give their opinion or to intervene.

Solidere has violated their right and has paid symbolic prices for the appropriation. In this case, how could we talk about sustainability without participation and democracy, without the appropriation of the local population, and without possession of their own property? How could it be sustainable when a private company like Solidere appropriates the historical centre of the capital? How could we talk about common ground in this type of renovation?

Today, the Beirut souk has become a luxurious space, where the most prestigious brands occupy its windows. But it is a place without spirit, and remains artificial and common. The lack of participation erases the Genius of the place. The landscape is masked by a kind of make-up and decoration. To understand this phenomenon, a critical analysis of the landscape before and after the war was considered. Because, we should act with people, we are looking for a better life. With the participation of local people, we could understand their way of living, their needs, and their way of being in space and time. Yes, there is a renovation but prohibited of participation and democracy. Thus, it could not be sustainable!

In our study we elaborated parameters identified by spatial and social approaches. In this way, and thanks to our study, various results could be listed:

- Beirut souk, in the old days, through a narration– Beirut Souk, a renovation prohibited of participation and democracy-
- Beirut souk, nowadays, as a museum
- Participation and democracy, to bring back the genius of the place
- Participation and democracy for a common ground in a rhythm of space and time.



**PhD Marlène Chahine**

*Associate Professor at the Lebanese University,  
Faculty of Fine Arts and Architecture and Faculty of  
Agronomy/Member of the Lebanese Landscape  
Association (LELA), Beirut, Lebanon*

### 3 Proposed Strategies for an Increased Sense of Stewardship towards the Urban Commons – Examples from Out of Office's Work in Copenhagen

Since the start of our practice - Out of Office Architecture - we have been interested in developing the field of citizen involvement within landscape architecture. We see participatory practices in architecture as a very young field - fresh, promising and full of loose threads. Because the idea of deepening democracy by allowing citizens to participate in the making of our common spaces is such an attractive proposal it is now commonly asked for. We believe, however, that now is the time to stop doing participation for participation's sake and start deepening the discussion. In this talk we would like to show three aspects of participation to take into account, paired with three of our projects.

#### 1. The importance of Iteration.

As we can learn from the practice of prototyping, common in design and all but unknown in architecture, better designs can be achieved by trying, evaluating the result and trying again in an iterative workflow. In our project BLVD we took this idea to heart and built a pocket park one layer at a time over several months emphasizing communication and constantly letting the plans evolve as new knowledge was gained from the surrounding community.

#### 2. Participation is not only about design but also about stewardship.

Because landscape is an ongoing project, we believe that the possibilities for participation are every bit as present in management as in design. When building a semi-permanent shelter for beer drinkers at Hulegård's Plats the users became stewards of their own urban space and are still managing the project on a daily basis.

### 3. Using real materials and techniques to qualify ideas

Participatory construction is too often done with poor materials that will at best last a season and with little attention to building methods - all in the name of temporality. Throughout a series of projects with schools we have been analysing sites, designing and building with children in the age span of 6-14. The constructions have been solid and have the capacity to stand for years to come - giving the participants a sense of real impact on their neighbourhood.



**Adam Roigart**, Martin Hedevang  
*Out Of Office Architecture, Copenhagen, Denmark*

## Democratic Public Space in Norwegian Cities

**Dr. Marianne Millstein<sup>1</sup>**, Dr. Gro Sandkjær Hanssen<sup>1</sup>, Dr. Melissa Murphy<sup>2</sup>

<sup>1</sup>NIBR, Oslo Metropolitan University, Oslo, Norway, <sup>2</sup>NMBU, Faculty of Landscape and Society, Ås, Norway

Norwegian cities are undergoing major transformations, and the compact city is the ideal model for sustainable urban development. Critics have nevertheless pointed out that the compact city poses challenges to the availability and quality of urban public space, and it raises questions of unequal access and to citizen participation. Planning authorities, private developers, and urbanists of different kinds are thus increasingly concerned with how to create inclusive 'good' public spaces as a premise for sustainable urban development and for realizing liveable cities.

In the research project DEMOSSPACE (Governing private provision of public space: developing governance models and urban design that ensure inclusive, democratic public space), a multidisciplinary team of landscape architects, political scientists and human geographers explore the design, planning, governance and regulation of urban public space, and the quality and use of such spaces, in a democratic perspective. In this presentation, we will present findings from case studies in three Norwegian cities: Stavanger, Oslo, and Bodø. The case studies combine in-depth research of the design, access and use of public spaces, and institutional analyses of the planning, governance and regulation of public space transformations.

This allow us to unpack and problematize multiple democratic dimensions of (changing) urban public spaces in Norwegian cities, and address broader questions such as: how can we create good democratic urban public spaces, and how do different actors and interests - public authorities, private developers and citizens and citizens' group - shape such spaces? To what extent are inclusive public spaces realized through private provisioning of public space and governing arrangements and tools such as public-private partnerships and developer agreements? In other words, by who and for whom are public spaces constructed, and how can we ensure citizens' right to be present in and use public space? Furthermore, participatory processes are seen as key to achieve inclusive and 'good' public urban spaces, and some level of participation is emphasized in design, planning and governance of public space. But what role does participation actually play in these processes? Who participates, how (much) and on what terms?



## Public Imagination in San Francisco: Commoning in Time of Challenges and Contradictions

In the last few years, the focus of the San Francisco Planning Department has been on growing the presence of temporary public space projects that are citizen-powered and city-sanctioned, providing community organizations and city decision makers with successful models, case studies and tools for making, funding, programming and maintaining the city's public space. The program, called Groundplay, takes many shapes, it is grassroots and mainly tests ideas, projects or actions for the long-term improvement of the city. Its ambition is to allow public imagination to develop new ways of addressing collective needs and aspirations, working and collaborating with community partners, city agencies and funders to operate into the public realm.

This paper addresses the spatial manifestation and aesthetics of these initiatives, with an understanding that new temporary places are sites produced as groups negotiate material and immaterial relations to secure their needs and desires. This acknowledges that temporary projects are as complex as dynamic in changing urban contexts: they have limitations and potentials that would be considered to affect new urban commons and, ultimately, social justice. Indeed, as the city of San Francisco is changing rapidly, today the cultural and physical presence of temporary public space projects that are citizen-powered and city-sanctioned presents some contradictions. The picture of Groundplay program is, therefore, complex, with some situations completely or partly transformed into spaces for the elite and others still functioning as public meeting places organized and managed by a group of individuals.

This paper investigates how temporary urbanism projects are undergoing processes of transformation, becoming contested spaces to which different actors ascribe different meanings. In some cases, we observe signs of alternatives to the processes described; in other cases, the trends of gentrification and elitisation of spaces was a consequence of the urban changes; in others, temporary places have been regarded as a public urban common to be reclaimed as affordable and open. The results of this analysis offer a reflection of both the potentials and limitations of commoning in time of challenges and contradictions, and the intersectionality of power, control, regulation and active citizenship.

**Dr. Sara Caramaschi**  
*Roma Tre University, Rome, Italy*



## 2.5 URBAN ECOLOGY: A Practical Guide Vol. 1

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### One Million Species are Threatened

The world's first global report on the state of nature, written by top international scientists, was launched this spring by IPBES. The report forms the knowledge base for how we can save nature. Sabima believes that nature policies must change course and put nature first.

The report is crystal clear: One million out of eight million species are threatened. Many of them are at risk of being eradicated in the coming decades. It states that Species Extinction Rates are 'Accelerating', current global response insufficient, and transformative changes are needed to restore and protect nature. The report discusses how humans are dependent on the earth's resources, the so-called ecosystem services, and how we consume them. Humans have made significant changes to three quarters of the earth's land surface. The report states that loss of natural diversity is as much a threat to world economy as climate change.

Nature is lost piece by piece. And saving it requires a lot of hard work. Both by acknowledging the value of nature, by avoiding degradation, by restoring important areas left, and by giving nature strong cross-sectoral focus.

Sabima is an environmental organization working to halt the loss of biodiversity. We work by proposing political solutions and spreading knowledge of ecology and biology. We act mainly in Norway. Sabima is an umbrella organization for the natural history societies in Norway.



**Anne Breistein**  
*SABIMA, Oslo, Norway*

## Vega Scene. The Laboratory for Urban Ecology Strategies

**Rune Skeie, Andreas Pay**, Gry Ellen Ringstad, Patrycja Perkiwicz  
*Asplan Viak AS, Oslo, Norway*

According to the report *Klima i Norge 2100* by the Norwegian Climate Service Centre, Norway will experience an increased frequency of extreme precipitation events. As Oslo continues to grow, its urban footprint expands, posing threats to the local ecosystems; which depleting making the city vulnerable to impacts exacerbated by climate change. This brings a need to search for new ways to design the cities. The natural and built environment can no longer be separated. An innovative approach is required to offer space for adaptation and strengthening of the ties between the city and its environment. Up-coming projects provide an opportunity to become test ground.

The Vega scene is a culture house located in the centre of Oslo. The building includes three film rooms, a theatre, and a debate hall, public facilities, and offices. As a movie house, it offers an independent cinema, focusing on current issues. As an architectural space, Vega Scene is a low-cost building, and it is both the first cultural building in Norway is to be classified as BREEAM very good, and the first building constructed accordingly to an urban ecology zoning plan. It is a home for Oslo's first multifunctional green-blue roof design.

The roof is designed to handle 20-years of rainfall, contributing to minimizing the effects of heavy-rain events. Water can be harvested and used in dry periods. Selected plants massively increase the habitats available to birds, bees and insects. Seeds come directly from Oslo's beach zone, as neither seeds nor plants of these species are available to buy. Collected and documented plant material has grown in the nursery Ljono Stauder, specialized in growing native plants. The choice of plant material was driven by its ability to coop with shallow growing conditions; leading to the introduction of the unique lightweight soil. Through reducing the soil layer and overall weight, the design can be replicated in a broader range of projects including development of green roofs on existing buildings. The Vega scene is perhaps small in scale, but an essential contribution to the development of the city's ecosystem and sustainable urban development.

## The Importance of City's Natural Patterns and Marine Ecosystem in Coastal Landscape Design

**Saji Ahi**

*Rambøll AS, Oslo, Norway*

Many cities are located along the coast and their coastal landscape has changed over time. It has changed from natural landscape to industrial quays to urbanized areas. Coastal areas are still facing transformation either from urban revitalization, improvements to unsuccessful design or climate change. These transformations have been driven more by economy than coastal ecosystem and landscape.

The major impacts to the coastal ecosystem are from construction, hazardous substances entering the environment, eutrophication from surface run off and climate change. Coastal landscape is the last functional landscape before surface run off enters the ocean. Before becoming a public place with a promenade or a residential or commercial area, the waterfront should be designed with focus on integration and wellbeing of life above and under water.

Climate change is affecting our cities by increasing the temperature and precipitation that leads to storms and floods. Rising temperatures, heavier rainfall and more runoff from land may also alter circulation patterns in fjords. In addition, CO<sub>2</sub> emissions lead to ocean acidification, which can lead to problems for water species. Oslo Like many other cities on the coast is vulnerable to climate change. Several species along the Norwegian coasts are endangered, and have been placed on the Norwegian Red List, for example sugar kelp forests. In this situation understanding the pattern of natural processes in the city and respecting nature instead of fighting it, not only mitigate the climate change effects but also make a healthy environment.

This article takes a look at Oslo's success and failure of waterfront development. It investigates how coastal design should focus to mitigate climate change effects by studying marine ecosystem, natural patterns in the city and waterfront landscapes. In addition, it emphasizes the role of landscape architects/urbanists, marine biologists and ecologists for a holistic design of the coastline.

## In Searching of Biophilic Resilient City Model in Time of Climate Change. Perth (Western Australia) as a Case Study

This paper will discuss a research platform (goals, objectives and methodologies) of the interdisciplinary collaborative research project “Perth as a Biophilic Resilient City Model” aimed to provide a new vision for a liveable and sustainable neighbourhoods of the City of Perth (Western Australia) in the time of climate change from an integrated spatial, environmental and societal point of view: Western Australia has experienced extreme weather patterns especially in summer-heatwaves in the last decades with temperatures reaching at least 12°C above normal range and, in some locations, reaching as high as 47°C. Urbanisation and climate change trends have resulted in increased urban density, changes in land use, unsustainable use of energy and water and continuous loss of vegetation exacerbating urban warming through the Urban Heat Island (UHI) effect.

Nowadays, urban sustainability relies not only on compactness, public transport and creating comfortable housing but also on a vision of the city as a complex ecosystem where humans can have everyday contact with nature (sense of urban biophilia) and with each other as an engaged social community. Smart density and wise building layouts (intelligent water responses, appropriate ecological building materials, wise energy use and social sustainability) could help to mitigate UHI effect, reduce building dependence on air conditioning and avoid dramatic destruction and loss of unique native ecosystems arising from urban sprawl and disconnected urban systems design. In this sense Perth has a situation and urgency of addressing urban ecology issues (particularly disappearance of unique native ecosystems in a result of sprawl), since the Perth region is one of 35 recognised international biodiversity hotspots.

This project is oriented towards implementation and testing of innovative international and local thinking and technologies at a scale of Perth's neighbourhoods, the foundation for a vision for transformation of Perth as a Biophilic resilient city. The complex character of the project demands close collaboration of specialists and mentors from different disciplines for example urban planners, architects, landscape architects, engineers, geographers, urban designers, hydrologists, ecologists, economists and social scientists as well as industrial partners.



**Dr. Maria Ignatieva**, Dr Rosangela Tenorio  
*University of Western Australia, Perth, Australia*

## 2.7 A THEORETICAL FRAMEWORK ON PARTICIPATION

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### A Democracy of Landscape Common—Taking Karst Rocky Desertification Landscape Restoration of North-eastern Italy and Western China for Comparative Study

Karst rocky desertification (KRD) is a process of land degradation and dynamic evolution resulted from the fragile ecosystem in Karst mountainous regions and improper economic activities of human beings. As a result, the structure and function of karst ecological system were degraded, and it can't support social culture. This phenomenon leads to disharmony between ecological and civilization, and local human can't survive. So, we need science and technology to control rocky desertification. At the same times, democracy and participation can change this phenomenon. This study compares democratic participation methods and effects in the process of KRD restoration in north-eastern Italy and southwestern China.

The research shows that:

- (1) In north-eastern Italy, democratic participation in the early stage of KRD includes legislation and national afforestation. With the development of urbanization in the 1950s, the rapid increase of ecotourism in KRD areas has made changes in the traditional employment field, and population quality has improved significantly.
- (2) The mode of democratic participation in southwestern China mainly relied on returning farmland to develop economical forestry. Around the 1950s, many nature reserves were established which can support ecological reconstruction with economic output value. And ecotourism gradually developed in fluctuation.



- (3) We find that developing karst ecotourism landscape with democratic participation which mainly includes karst geological landscape, karst local cultural landscape and KRD control landscape, is an effective way to build a common landscape.

Why two regions have different development trends? Because Europe has smaller population and economic pressure and higher enthusiasm of public participation. The migration in process of urbanization has promoted natural vegetation restoration in karst mountains, providing space for sustainable development of ecotourism. But China has a special national situation that southwestern area has a large population and the contradiction between people and land is prominent. Therefore, in the process of KRD restoration, planting areas, pastoral areas, forestland, scenic spots, resorts, cities and rural need to be coordinated. In the future, we should actively advocate democratic participation and explore multiple values to form new resource utilization and landscape protection patterns, in order to build a shared nature-society-economy compound ecosystem.



**Kun Li**, Peiyao Hao, Li Dong  
*School of Landscape Architecture,  
Beijing Forestry University, Beijing, China*

## Augmenting Landscape Democracy through Nature-based Solutions and Immersive Practice

Recent trends initiated by the European Landscape Convention that promote landscape democracy and human rights in the urban planning process, has generated a need to define democracy, inclusion, and participation (Knutdson 2018) and created new challenges for implementation in practice across multiple disciplines and for people/communities/publics with various cultural backgrounds. This paper proposes an expanded framework for landscape democracy in the urban planning process through the use of Nature Based Solutions and Immersive Practice, encouraging inclusive, informed, holistic, long-term, and cost-effective solutions.

Nature Based Solutions in the urban planning process offer regenerative solutions (rather than depleting scarce natural resources) and can be set up as circular economies supporting democratic futures (Noring 2016). Nature Based Solutions are climate resilient as they easily adapt to climate and environment; help cities achieve climate and CO2 reduction goals; are low tech and cheaper than grey infrastructure solutions (non-circular economies); encourage collaboration and co-creation for people/communities/publics; increase biodiversity; reduce UHI; clean and slow water runoff; improve human health; provide opportunity for urban agriculture; make places more attractive and accessible for people/communities/publics; and increase market potential revenue.

Immersive Practice in the design and urban planning process aims to better ensure spatial democracy (defined as democratic processes that help people/communities/publics relate to space or help optimize their ability to occupy spaces and place) through an integrated participatory approach and through identification of, and engagement with, those directly affected by a possible urban development change.

This paper aims to highlight how Nature Based Solutions combined with Immersive Practice can augment landscape democracy. Case studies from three cities: 1) Copenhagen, Denmark; 2) Oslo, Norway; and 3) Denver CO, USA, combined with an immersive participatory 16-week semester taught by presenter about green/blue democratic design solutions, will be used. The case studies help define different types and various degrees of democracy, inclusiveness, and participation in the urban design process. Through contrast and comparison, they emphasize how local governments can incentivize communities and citizens to take charge and contribute to solving environmental

and social problems as they use nature-based solutions to augment landscape democracy in the urban planning process.



**Assistant Professor (CTT) Leila Tolderlund**  
*University of Colorado Denver, Denver, United States*

## Participation and Democracy in Sustainable Urban Transformation. Do Neighbours and other Stakeholders succeed in having Impact in Sustainable Urban Transformation Processes? Morphology Study in up to Four Cases and Reading Political Impact

From my experience both as landscape architect and urban planner crossing political lines through Norwegian social liberal party “Venstre”, I will contribute with examples from urban planning processes I’ve been involved in under the heading “urban densification along the new city light rail ‘Bybanen’ in Bergen”: Basically, I will look into the decision-making process to see if neighbours and other stake holders have succeeded in having impact on up to four processes:

- New stations along Bybanen
  - Møllendal –south of city centre in Bergen
  - Paradis (Paradise!) – the “posh” district with resourceful neighbours (said to consist of lawyers, shipping manger holders etc)
- Municipality of Fjell
  - Transformation of shopping centre to urban centre and future light rail hub in the western sprawl of Bergen.
  - Participation processes in Municipal spatial plan of 2007. Did they have any impact at all? What impact, where and to what outcome?

From Oslo, I will bring experience from activism in social liberal party “Venstre” to discuss how political involvement can alter, stop or accelerate urban planning processes. How does politicians work both to protect the interest of their voters and push urban planning processes in their direction? Some possible cases are Smestad, Filipstad and “Fjordbyen”. I will talk to experienced politicians from the city council or government. I will also involve politicians from other parties in a debate or interviews to see different political approaches on same goals.

The line between planning landscape use and politics is thin. Still professionals within urban planning and landscape architecture try to keep distance to not get dirt under their nails. Does participation and democracy make it more difficult to do our work, or can it be valuable resource of knowledge and claims? I will also trace impact or lack of impact through document, interviews and morphology studies, the same way I did in my master thesis (UMB 2005).

How can we use landscape planning to deal with land and house owners who in the future will see their property transformed into densified urban situations in the name of sustainable urban transformation?



**MNLA, Urban Planner Bård Magnus Fauske**

*Link Arkitektur As, Oslo, Norway*

## How Urban Green Space stimulates Social Cohesion: A Conceptual Framework and Case Studies in China

Several studies have shown that social cohesion can promote public health and stimulate urban social sustainability. Research in China has analysed the social benefits of urban green spaces, however, only few studies have focused on the contributions of urban green space to social cohesion, specifically in relation to the subgroups such as the elderly. The present study aims to help fill this gap, building on research from Western countries. Taking a socio-ecological perspective, a conceptual framework is developed based on the literature review of contributing attributes on the personal, physical and social level. This framework is then used to study local parks of three different scales to explore how these stimulate social cohesion among the elderly in today's China.

Observations and semi-structured interviews with 15 elderly park users were carried out in local parks to explore behaviour (e.g. physical activity, gardening) and perceptions. These help reveal how social interaction (bonding and bridging) and place attachment enhance social cohesion among the elderly along two dimensions, from physical environment design to management policy arrangement of local parks. The developed framework and theories from Western countries can be used in China for further research, but differences need to be taken into account related to, for example, cultural aspects and preferences for specific types of park design and vegetation. The majority of the interviewed elderly park users expressed a wish to be more involved in park management. This implies that a range of co-management practices should be explored. Visiting parks can reduce loneliness and enhance cohesion, especially for people undertaking activities as part of a group. Therefore, the conceptual framework developed in this paper can contribute to comparative work between Western countries and China. Studies like the present one may guide future planning, design and management of urban green spaces in China.

Dan Ye<sup>1,2</sup>, Yuxuan Zhu<sup>1</sup>, Qinxing Bao<sup>1,2</sup>,  
Dr. Cecil Konijnendijk<sup>2</sup>

<sup>1</sup>Zhejiang A&F University, Hangzhou, China,  
<sup>2</sup>University of British Columbia,  
Vancouver, Canada



## 2.8 LANDSCAPE AND MOVEMENT

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### Research on Linear Exercise Space Preference and Demand Evaluation Based on Health Management Application Big Data—Taking Haidian District of Beijing as an Example

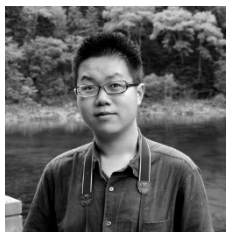
With the rapid development of the city, the outdoor green space of large cities such as Beijing is decreasing. In contemporary times, people's demand for healthy living is getting higher and higher. Running, walking and other sports have become an important way for most people to exercise daily. However, crowded urban spaces often have difficulty providing people with a quality, coherent linear slow-motion environment. How to assess the status of urban slow-moving systems and provide effective promotion strategies is an important area of current urban green mobility research. At present, research in this field is mainly based on traditional research. With the advancement of information technology, China has emerged as a number of mobile phone-assisted applications for guiding, managing and urging individuals' daily exercise like KEEP. The software also provides a large amount of big data that can be used for post-use evaluation.

This paper took Beijing Haidian District as the main research area and used the running route big data of KEEP application as the data source. Based on ArcGIS's spatial statistical analysis platform, we designed an analysis framework for the data characteristics of KEEP big data, which mainly includes three steps. Firstly, the study obtained the classification of sports space by screening the characteristics of the data, including urban roads, parks, communities& units, and ground track field. Secondly, the research used SPSS to analyse the relativity between spatial shape and usage of linear exercise paths and then obtained the preference. Finally, we used the spatial analysis tools of the ArcGIS platform to evaluate the linear exercise space usage and distribution density in Haidian District, including the distribution of different running spaces and the distribution of overall usage.

The research results showed different linear motion, different sports space types of preferences and distribution differences, summed up the recommendations

of future slow-moving environment optimization and important areas with greater potential for improvement.

**Li Tan**, Dr. Liang Li, Dr. Danzi Wu  
*Beijing Forestry University, Beijing, China*





## City without Cars

**Steffan Robel**

*Berlin Senate Department for Economics, Energy and Public Enterprises; German Federal Environmental Agency; European Federation for Transport and Environment; WHO, Berlin, Germany*

How can landscape architects contribute to supporting green mobility? How does green mobility influence public space? The much-hyped 'mobility turn' megatrend in fact stays a metaphor decoupled from real-world performance: The CO<sub>2</sub> emissions of the traffic sector in Berlin, Germany, Europe and worldwide are continuously increasing.<sup>1</sup> With governments unwilling to constrain car use, how can we convince authorities and citizens about the common social, cultural and ecological advantages of cities relieved from the dominant automobile use of street spaces?

Less pollution, less noise, less stress: The design of open space combined with drastic reductions of car traffic and parking can be a tool to shape a new urban mobility. When the mono-functional car use of streets is limited, space is left for a small-scale high-quality public space as well as a more compact, functionally mixed urban structure. In this way, a city of short ways with everything reachable in the neighbourhood can be promoted. On the larger scale, landscape architecture transformations of street space should be part of a citywide network of pedestrian- and bike-friendly connections and recreation spaces. Rather than being goals in themselves, biking and walking are means of creating cities that meet the needs of their inhabitants.

One way of including the public in this process is the use of temporary interventions. Temporary practices can be used to experiment with functions, highlight the viable potential of the existing environment and create a new perception of space. In Berlin, after experiencing critical public reactions to the conversion of the Maaßenstraße, a new, temporary approach was taken to the Begegnungszone Bergmannstraße (Encounter Zone). Part of the Pedestrian Traffic Strategy, the one-year pilot project uses parklets to extend the purpose of the street with multi-functional small public spaces illustrating a possible vital city of tomorrow. The experiment seeks to raise public awareness about the sustainability of an equal distribution of street space as well as quality of a public space with less car traffic.

## Is Less Mobility equal to Green Mobility? Students' Considerations on the Development of the Greater Geneva Area's Rural Parts

One of the School for Architecture master's degree, based in Grenoble, offers a focus on territorial strategy development. In 2018, students, thirteen young men and women, worked on the Greater Geneva Area's territory, and the impact of its growing needs on the countryside. Today, the only way to extend itself, is to cross the French border. But, on the French side, the cities and villages don't want to be "just" a suburb or a "nice" green area to be visited the weekend, and that, despite the fact they all profit from the economic power of their Swiss neighbour and their strong incomes.

The students were missioned, by the smaller Urban Area of Geneva (44,000 inhabitants) to submit them their vision for expansion over the next 30 years. This Urban Area is composed of a small city, Saint-Julien (15,000 habitants) and sixteen other villages. Saint-Julien is located directly on the border and connects to Geneva's city centre through the tram. Villages farthest away from Geneva are about 45km south of the border and without efficient and direct public transport connections.

In their diagnostic, the students have identified that 40% of the workers in these villages, cross each day the border. These families spend regularly 3 hours a day in their car to go to work, get stuck in traffic jams or travel for shopping. The strategy developed by the students has three main goals: save time, favour local consumption and take part in smart mobility. So, the projects developed in these rural areas wish to gain time on mobility, either for family or/and hobbies.

They propose to regenerate the old village centres, reutilizing existing buildings to create a common place incorporating a co-working area, a local grocery store and a bar, making available nearby open places to food trucks as well mobile public services (post, etc.) that can stop weekly. Their purpose isn't simply to develop teleworking, but more to introduce a new form for social living in rural territories. So, for this generation, motility challenges seem to translate into bringing mainstream urban facilities to remote rural countryside towns.



**Teacher Frederic Dellinger**

*Ecole Nationale Supérieure d'Architecture de  
Grenoble, Lyon, France*

## Transportation Infrastructure as Shared Landscape: Take Souterrain Tunnel in Hague as an Example

From 1950 to 2018, the number of cities with underground rail transit increased from 0 to 36 in mainland China. With the large-scale construction of underground rail transit infrastructure, many cities have experienced conflicts between landscape and infrastructure. For example, the urban interface is interrupted, the flow path is blocked, and the isolated subway entrance and exit structures stand in the square and on the street. This paper concentrates on transportation infrastructure landscape which is closely related to urban space and can be shared by the public.

By analysing the Hague Souterrain Tram Tunnel, designed by OMA and opened in 2004, this paper summarizes existing methods of turning separated infrastructures into shared landscape. Through the field investigation and graphical analysis, it analyzes the practice from three individual aspects of activity, context and form. Three methods of architecture-landscape integration, mass fragmentation and formal diversification in the design process are finally proposed, thus making contributions to contemporary infrastructure landscape design.

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**Tingying Lu**, Zhenyu Li  
*Tongji University, Shanghai, China*



## From the Cities to the Sea, through the Countryside and the Wood: A New Way for moving inside Migliarino, San Rossore, Massaciuccoli Regional Park

The aim of the research was to point out the positive effects that a network of paths for slow mobility could have on landscape, on historical heritage, on inhabitants. The context is the Natural Park of Migliarino, San Rossore, Massaciuccoli, extended along the Tuscany coast between Viareggio, Pisa and Livorno. Although it is a natural park, people don't recognize it as such, that's because there are inside several road and railway infrastructures, docks, military bases, as well as disreputable areas. Visitors are not encouraged to explore all the 23.000ha of the park, and they actually use the car for moving to the main places inside it. Because of the shortness of their journey, people are unable to discover all the natural and historical peculiarities.

Studying the history to understand the human processes which had modified the landscape, the road connections already exist and the natural and historic heritage, has been the first way to explore the territory. Then, many bike surveys have been carried out to verify the information collected, to become part of the park, to understand and to breathe it, to identify ourselves with the future users, understanding problems and beauties of the territory. The following step was to find out existing paths which could connect intermodal mobility poles (docks, train and bus stations, park and ride stations) with natural and historical heritage: Medici family house, first Marconi radio station, ancient trees, landscape views.

It was surprising discovering that it was not necessary to build new roads for guaranteeing a complete accessibility for the park. Using trails, roads for wooded safety and country roads (although with some difficulties) it was already possible to visit the territory by bike or on foot. The paths only need maintenance, small seams, and awareness by visitors.

A very efficient tool to develop responsible tourism and to increase quality of life is represented by a slow network that would be also able to guarantee the protection and the supervision of the landscape and of the historical heritage, encouraging the recovering of abandoned buildings and being a disincentive to incorrect behaviours.

**Giovanni Bruschi<sup>1,2</sup>**, Luisa Santini<sup>1</sup>

<sup>1</sup>*Università di Pisa, DESTEC, Pisa, Italy,*

<sup>2</sup>*Politecnico di Torino, DIST, Torino, Italy*



## Research on Visual Preference of High-density Urban Street

Visual quality is an important factor of the urban landscape, and the perception of the urban visual landscape directly affects people's physical and mental health as well as aesthetic activities, especially in high-density urban streets. However, the main methods for evaluating visual landscape quality of urban streets are subjective qualitative evaluation, while objective quantitative evaluation methods are seldom studied. In this paper, eye movement analysis methodology is introduced into the study of visual preference of high-density urban streets to provide an objective quantitative analysis. As one of the most crowded cities in the world, Shanghai, China, was selected as a case study.

The research objects were limited to high-density living streets which below the level of sub-trunk roads and closely related to human activities, such as commercial pedestrian streets, alleys, etc. Firstly, the research investigated elements viewing order and duration time of participants regarding selected streets photos via TOBII eye tracker. Secondly, subjective perception data were collected by image semantic segmentation analysis methodology. In the end, correlation and regression analysis were performed with all the data collected via SPSS. The results showed that there were significant differences in eye movement indicators among different types of street landscape, and objective eye movement indicators such as the area of interest in the image, the duration time and the fixed number of each area of interest were significantly correlated with the landscape visual preferences. The research is believed to contribute to help urban landscape practitioners to better understand residential preferences in high-density urban streets, hence building safe, healthy and vigorous urban street landscape.



**Shuang Li**, Dr. Yuhan Shao  
*Tongji University, Shanghai, China*

## Trails in Greek Landscapes as Ancient Modes of Green Mobility

This paper aims at investigating the trails as moving experiences, a green mobility proposal, through bibliographical research and the study of three trails in Greece: Delphi – Kirra. A prehistoric path, used from the palmers to debark from the seaport in order to get to the oracle of Delphi, (Fontenrose, 1980); Tzia, Stavroudaki – Karthea. An ancient trail on the island of Tzia, connecting two ancient cities of the island; Seriphos, -Aspros Pyrgos – Koutalas, A historical trail on the island of Seriphos, on the tracks of the mining activity of the past.

The benefits of such a mobility choice can be deducted at a range of various levels, focusing on the relationship produced between people and the landscape. Walking through a place consists of a way of getting involved with it and enhances the ties between humans and landscape (Adams, 2001). Additionally, such a transportation mode offers a way of exploring the world, which is also a way of exploring the mind (Solnit, 2001). The actual sense of a specific landscape is affected by the way the body interacts with the ground, through walking (Lund, 2012). The trails, as green mobility components, simultaneously contribute to the search for an aesthetic experience (Aggelou, 2011) as well as for a walking experience that narrates the historical and cultural significance of each place through collective memories (Ribeiro, 2006). Historical paths, a concept that still exists and gains attention over recent years, are of great interest for the investigation of the relationship between the visitor and the landscape in order to enhance green mobility modes of moving on the land and understand the residues of the stories each landscape carries.



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**Dr. Anna-Maria Vissilia**<sup>1</sup>, Christina Andreopoulou<sup>2</sup>  
<sup>1</sup>*North Dakota State University, Fargo, United States*, <sup>2</sup>*Agricultural University of Athens, Greece*

## 2.9 LANDSCAPE EXPERIENCES

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### Therapeutic Landscapes: A Natural Weaving of Culture and Health

The concept of therapeutic landscape encapsulates the notion of landscape with principles of holistic health and has been applied to a wide range of contexts to investigate how physical, individual, social and cultural factors interact. More recently, social tensions have widened the gap between the places of emotional retreat and healing from those of everyday sociability, leading to local cultural practices not being translated into environments that are part of the everyday real. The concept of therapeutic landscape has evolved with research and theory to reflect society's current values, but it lacks everyday therapeutic spaces that are both culturally and socially responsive.

This paper addresses the gap in literature on therapeutic landscapes by understanding how cultural values affect and maintain physical, emotional, mental and spiritual health and wellbeing. It draws on the culturally specific dimensions of place and the relationship between place and health especially with respect to Indigenous practices that promote wellbeing.

This paper identifies a series of case studies from Australasia, Europe, South East Asia and South America, and analyses the role of culture in shaping the landscape architectural response to place and health. The case studies were selected on the basis of their engagement not just with the cultural tradition of landscape architecture but also how the boundaries of these cultural traditions are negotiated within a modern context. The paper first presents the historical, cultural and geological context for each case, before turning to a more detailed analysis of design concepts, construction methods and materials employed in the landscape architecture of each site.

This paper contributes to the knowledge base of landscape architects and academics interested in the role of culture in producing and maintaining therapeutic landscapes by presenting a cross-cultural analysis of material, physical and social responses to specific environmental conditions. Additionally, it identifies both positive and negative strategies for incorporating cultural traditions and customs into modern landscape architectural contexts to promote health and wellbeing in everyday life.



Hayley Webber, **Bruno Marques**, Jacqueline McIntosh  
*Victoria University of Wellington, Wellington, New Zealand*

## Health and Well-being Benefits of viewing Green Facades in a High-density City: A field Experiment in Shanghai

**Dr. Mohamed Elsadek<sup>1,2</sup>**, Prof. Binyi Liu<sup>1</sup>, Zefeng Lian<sup>1</sup>

<sup>1</sup>*Department of Landscape Architecture, College of Architecture and Urban Planning, Tongji University, Shanghai, China,* <sup>2</sup>*Department of Horticulture, Faculty of Agriculture, Suez Canal University, Ismailia, Egypt*

Rapid urbanization and lack of spaces dedicated to green infrastructures threaten the urban dwellers' health. To overcome this problem there is a need to implement innovative urban greening initiatives. The green facades are innovative technology in architecture and have been suggested as a green infrastructure solution and to compensate for the loss of green spaces in dense city areas; however, to the best of our knowledge, no investigations have endeavoured to focus on the influence of green facades on stress relief and relaxation. In this study, we aimed to determine the physiological and psychological impacts of green facades for creating liveable, and healthy environments for urban dwellers.

Participants were 25 female university students (mean age,  $22.4 \pm 1.07$  years). A green facade (with climbing plants) of the building of the College of Architecture and Urban Planning at Tongji University, Shanghai was used as the visual stimuli and a concrete wall was used as a control. Participants viewed each visual stimulus for 5 min, the order of viewing conditions (i.e., green façade stimulation vs. control) was randomized in order to eliminate the order effect. The participants' Alpha waves were measured using Electroencephalography (EEG). Heart rate variability (HRV) was used as an indicator of autonomic nervous activity. Psychological responses were evaluated using the modified semantic differential method (SD) and Profile of Mood States (POMS) subscale scores. Results revealed that the participant's alpha wave mean values increased over time while viewing the green facade. Heart rate variability analysis showed that the green facade significantly increased parasympathetic nervous activity and significantly decreased sympathetic activity of the participants compared with the concrete wall. Moreover, the questionnaire results indicated that, compared with the concrete wall, viewing the green facade increased "comfortable", "relaxed", "natural" and "vigorous" feelings and decreased "tension-anxiety," "depression," "anxiety-hostility," "fatigue" and "confusion". In conclusion, our findings indicate that even a short-term viewing of green facades has physiological and psychological relaxation effects. We recommend striving to mainstream green facades within our environment instead of a concrete wall.

## Urban Infrastructure Cross-sections as Common Ground

In the last decades, humanity benefited a fast and significant evolution in its relationship with technology. For this reason, there has been an evident mutation in everyday spaces, products, and habits. Logically this change of paradigm has also invested architecture, reshaping our way of thinking, designing and living places. This fact is evident in the high level of technologization of contemporary spaces, but also the high performance of buildings. Such evolution has been oriented to improve the sustainability of each construction and produced a mutation in theoretical, methodological and strategical thinking of architecture.

Despite this, the urban body has not been invested by a significant evolution. Humanity produced new types and technologies, inserting them in the traditional space of the city, with its weaknesses and criticalities.

This problem involves urban infrastructures as a field of possibilities for an articulated re-shaping of the landscape of existing cities.

If we examine many urban situations, infrastructures appear as common and shared spaces open to a vast possibility of critical, theoretical, and practical rethinking. Here limits imposed by properties, rights and laws are reduced in favour of renewal. In this direction, urban infrastructures cross-sections could become the core and the medium to rethink urbanity. The current shape of roads, streets, and alleys do not correspond anymore to their original functional intentions; they are obsolete and underused, their potentialities are underestimated, their soul is misunderstood. Infrastructures role is fundamental in connecting spaces and their potential infinite, especially considering the capacity of linking urban and peri-urban open areas of various scales and natures.

This paper assumes the cross-sections of city infrastructures as common ground, a mean to reshape cities from their essence. It is a matter of redefining the traditional types in favour of new ones, able to produce new landscapes. For sure, this process includes reasoning around meaning, sustainability, climate change and water-cycle, as critical demands of the contemporary environment. The paper will combine theoretical investigation and personal, practical research case studies aimed to illustrate a vision for sustainable urban transformations and more beautiful and healthy cities.

**PhD Andrea Oldani**

*Politecnico di Milano - DASTU, Milano, Italy*



## Research on Visual Preference of Community Park based on Eye-tracking Technology—A Case Study of Huangxing Park in Shanghai

Community parks played an important role in terms of providing relaxation and communication space for urban residents. Urban planners and landscape architects commonly use visual preference surveys to gather public opinions on potential designs of such urban landscape. However, few have investigated the natural visual preference on the landscape elements, e.g. the viewing order and length of stay. It was mainly because of the lack of technologies to accurately track human eye movements on the landscape elements. With the development of eye-tracking technology, such a requirement has been made possible.

Taking Huangxing Park in Shanghai as a typical example, this study aims to investigate the visual preference of urban community parks via eye-tracking technology combined with automatic multi-class image segmentation technology. Subjective qualitative analysis and quantitative evaluation of the eye-tracking data on various landscape elements were carried out in the research process, such as trees, path, rocks, artefacts, shrubs, etc.

The paper's finding provides an efficient analysis methodology to rigorously investigate the relationships between human visual preference and community park landscape elements, and confirms that certain elements do have a large effect on urban residents' feelings, such as the openness of sky view, height, and density of the greeneries, etc. The methodology and findings of the paper are believed to contribute to future urban community park design and providing new ways for urban planners and designers to better understand urban residents' preference and needs.



**Salv Huang, Binyi Liu**  
*Tongji University, Shanghai, China*

## Smellscape Design in Chinese Classical Garden: The Case Study on Humble Administrator's Garden

**Abstract:** Smellscape is an essential element in Chinese Classical Garden. In the long-term garden practice, the ancients accumulate rich experience to use scent plants to create smellscapes and form unique olfactory aesthetic ideas which reflect their profound insights of natural beauty. Humble Administrator's Garden is acknowledged to be a masterpiece of Chinese Classical Garden which is listed as a world heritage by UNESCO. The meticulous smellscape designs in Humble Administrator's Garden, such as the scenic spots named "Drifting Fragrance Hall" (Yuan Xiang Tang), "Lotus breeze from Four Sides Pavilion" (He Feng Si Mian Ting) and "Fragrant Mume Pavilion" (Xue Xiang Yun Wei Ting), reflect the smellscape design wisdom of Chinese Classical Garden.

By historical documents and field survey, this paper analyzes smellscape in Humble Administrator's Garden from three aspects. Firstly, the ten scent plants occurred in the garden are mapped, and their florescence and fragrance characteristics are summarized. Secondly, the relationships between scent plants and constructions (or paths) which are built for enjoying smellscape are discussed. Thirdly, the cultural connotation of scent plants and the deep meaning of scenic spots' names are analysed, from which the metaphors of smellscape and the ancients' profound insights of natural beauty are revealed. Through the above analysis, the smellscape design wisdom of Chinese Classical Garden is explicated.

**PhD Yiwei Chen**

*South China Agricultural University, Guangzhou,  
China*





## Arctic Urban Life at Dark Time: How Natural and Artificial Lighting shape our Experiences in the North

Scandinavia lives in an extreme natural lighting condition, that affects every aspect of life. Our long summer days are shaped by midnight suns, while winter is characterized by long blue hours, long shadows and northern lights. While a lot of effort is put into creating the right atmosphere in our indoor spaces of our homes and restaurants much less attention is given to urban lighting, that is way too often just perceived as a functional necessity for cars.

With the green shift that is going on, urban lighting has a huge potential of not only beautifying the city, but also of increasing the residents' comfort and wellbeing and bring together communities. During the dark time period, lighting can enhance the residents' sense of pride and belonging to the place, give a feeling of enclosure, and express a specific dark time identity of the place. In today's rush to change all city lighting to LED, we are facing an unprecedented opportunity. We can make our towns green, more pleasant and focused to the community's needs even during the long extreme dark time months. This is of course not only meant for Nordic cities. With 24-hour economy all cities around the world are challenged to improve their night-time environment.

Over the years I had the privilege of working with many municipalities in the Nordic region and strived to find a way to improve the urban life for the residents and visitors. In my lecture, I intend to touch on all these topics, showing real case studies on how lighting can improve the experience at dark time of any urban environment.



**Kristin Bredal**  
*ZENISK, Oslo, Norway*

## 2.10 FUTURE LANDSCAPES

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### Designing Future-ready Landscapes

The landscapes we design today will have a life span of decades, yet must remain fit for purpose and flexible to respond to significant changes in climate, society, resources and technology.

We know our world is going to be different in the future. For example:

- temperatures are forecast rise to 40°C on a hot day in London by 2080;
- peak rainfall is expected to increase by 20% by 2050, 30% by 2085 compared to today;
- 68% of the world population is projected to live in urban areas by 2050;
- the global population of older persons will grow by over 50% between 2015 and 2030,
- reversing biodiversity loss becomes as important as developing net zero greenhouse gas projects

The landscapes of the future will be transformed as a result. Demand will be different, and how these demands are met will change. It is essential that the landscapes we design today integrate future ready thinking to allow for a rapid and effective response.

The Future Ready initiative is WSP's flagship sustainability program. As WSP Landscape Architects, we strive to address future needs, design responsive, adaptable and sustainable places to support connected and resilient communities that are ready both for today and for tomorrow.

Drawing on our global placemaking experience, our presentation will explore:

- The key trends that landscape architects should anticipate in the urban environment.
- Practical case studies where we (and others) have integrated Future Ready thinking into transformational urban projects around the world. These include Taylor Yard River Park (Los Angeles, USA), Herne Hill Flood Alleviation Scheme (London, UK) and Margaret Mahy Playground (Christchurch, NZ).

- How to include future ready thinking in projects; covering both technical measures and the lessons from across our business.
- The global long-term challenges for us to address in our towns and cities.

Future Ready encompasses everything we do today, and it is our responsibility to contribute to shaping a built environment that is ready for our common future.



**Ludo Pittie**<sup>1</sup>, Tianyu Zhang<sup>1</sup>, Emelie Arnoldsson<sup>2</sup>,  
David Symons<sup>1</sup>, Matthew Jessop<sup>1</sup>

<sup>1</sup>WSP, London, United Kingdom, <sup>2</sup>WSP, Stockholm,  
Sweden

# Research on the Suitability Analysis and Construction Strategy of the Great Wall Heritage Corridor of Ming Dynasty in Datong City based on MCR Model

**Junming Feng**<sup>1</sup>, Jiaqi Sun<sup>2</sup>, Le Dong<sup>3</sup>, Yunyuan Li<sup>1</sup>

<sup>1</sup>Beijing Forestry University, Beijing, China, <sup>2</sup>Shanxi Agricultural University, Jinzhong, China, <sup>3</sup>Shanghai Tongji Urban Planning & Design Institute, Shanghai, China

As an important military defence facility in ancient China, the Great Wall of Ming dynasty in Datong city played an important role in the historical development of the city. With the era development, the function of the Ming Great Wall in Datong city has changed in many ways, which including of the early construction of military facilities and defence system, the change of function and attribute, and the decline of traditional function, etc. The impacts of these changes are mainly reflected in the following three aspects: the decline of ecological environment quality, the destroy of cultural heritage and the decline of public vitality. As a linear cultural landscape, heritage corridor plays an important role in the process of urban development and regeneration in the new era. Facing with the development environment of urbanization, the protection, transformation and sustainable development of the Great Wall will become an important way to inherit the historical context and enhance the vitality of the area.

This paper takes this as the research direction and combine with the minimum cumulative model (MCR) to propose the suitability analysis method and construction strategy for the heritage corridor. Firstly, it summarizes the status quo of heritage resources and characteristics through field investigation and literature research, putting forward the overall demand for its protection and development. Secondly, combined with the method of MCR model, terrain elevation, slope and land use type were selected as resistance factors, and cultural heritage was used as diffusion source for simulation, so as to obtain the overall suitability distribution of the study area. Finally, the suitability conclusion will be adjusted thoroughly based on the needs of cultural protection, ecological restoration, landscape experience and other aspects to obtain the overall landscape structure and construction strategy of heritage corridor, so as to finally realize the practical application of MCR model in the protection and construction of heritage corridor.

## The Change of the Urban Landscape in Berlin (Germany) through the Influence of Migrant Culture

**Dr. Sigrun Prah**

*University of Applied Science Niederrhein, Krefeld, Germany*

Since decades immigrants mostly from Middle Eastern countries have come to Germany and they have changed the appearance, culture and urban landscape and experience in cities and neighbourhoods in a significant way. There are certain neighbourhoods like Kreuzberg, Wedding and Neukölln in Berlin that have gained a new identity through the mix and interchange of people with different backgrounds intermixed with the local population - visible in the context of urban space.

The built environment provides perhaps the most immediate visual impression of a city. However, not only the physical structures, monuments, residential areas and public spaces shape a city, but also the everyday life of the city residents in the urban landscape. They imprint their own mark on urban spaces through everyday interaction.

There are three main topics that will be analysed within this context: Small family businesses and their influence on their surrounding space; form and use of public space and landscape; and significant architecture types like mosques and their role for urban space.

Small scale family businesses shape many streets, they convey a certain array of goods and services within their neighbourhood. Green areas and parks now experience a certain type of use like picnics places. The public space also serves as a place for small and informal trade. Places of religious worship play an important role. In recent years several mosques were built along the streets, and they have a significant impact on the neighbourhoods.

Migrants have changed the face and the cultural characteristics of places in the living environment in Berlin. They bring with them own cultures, experiences, religions and histories through which they shape the environment in which they settle. New urban patterns are emerging, Islamic heritage is present in everyday life every day. Migration is changing the cityscape making Berlin and other cities a more multicultural and diverse place to live.

## Framing a Landscape Approach for Territorial Development in the Age of the Anthropocene

Processes of urbanization have fundamentally transformed atmospheric, biochemical, and geological characteristics to such an extent that a new epoch of the Anthropocene has been coined to describe the planet's ecological reality. In this context, the discipline of landscape architecture finds itself in an opportune position: Landscape architects have a long legacy of crafting restorative environmental systems and natural experiences within human-dominated mosaics from the scale of the garden, to the city, to urban-rural regions. Regenerative models and processes that work with powerful natural flows and make room for ecology to enrich the natural environment within highly modified landscapes are urgently needed to mitigate the impact of settlements and infrastructures while making them more resilient.

In 2017, a group of landscape architecture students at the Harvard Graduate School of Design founded the independent think-tank International Landscape Collaborative (ILC). The medium of landscape serves the ILC as a common ground to productively interrogate contemporary issues of natural and built environments as a collective effort across disciplines and different geographies. By connecting young experts from around the world who are sharing experiences from diverse contexts, the ILC intends to deepen the understanding of landscapes and the cultures that co-produce and depend on them.

The paper will discuss the ambitions and strategies of the ILC: The international group promotes a landscape approach as a method to tackle today's challenges of environmental as well as socio-economic transformations in a territorial scale. Moreover, the ILC aims to expand this predominantly Western approach to other world regions and seeks to position landscape as a medium for social and political transformation in contexts where planned infrastructural systems are not yet consolidated. In pursuing a global and interdisciplinary model, the ILC aims to implement the landscape approach to mitigate negative environmental impacts while fostering resilient, equitable, and place-specific models of development and conservation.

**MLA Hannes Zander**

*Oslo School of Architecture and Design, Oslo,  
Norway*



## Choice Architecture & Urban Transformation: Creating Sustainable Cities through Behavioural Nudges

This presentation explores how insight from behavioural sciences can be applied to the design of our built environment to make cities more sustainable. Stemming from behavioural economics, choice architecture refers to the influence of people's actions via subtle interventions or 'nudges' which take advantage of predictable patterns in human behaviour to achieve positive outcomes at low costs. For those working to design the built environment, these ideas are crucial to the agenda of transforming cities into places which are healthier for their inhabitants, and the environment at large.

Researchers of behavioural economics have discredited classical views of humans as rational actors that make good choices if provided with the right options. We often behave in irrational ways, or contrary to our own self-interest even when provided with the right information and a variety of good alternatives to choose from. While some of these decisions are intentional, many of the choices we make as individuals, in groups, or through institutions are shaped by subtle inputs from our environment that function on a subconscious level.

Behavioural nudges work to influence these reactions and should have low cost while being relatively simple. For example, some utility companies achieved significant reduction in energy consumption amongst their customers simply by showing their usage compared to neighbourhood averages, taking advantage of predictable reactions to social norms of comparison. It doesn't take much imagination to start thinking about how this approach might be applied to efforts to increase cycling and public transit, or reduce waste and manage pollution.

From small sites to the scale of urban regions, the tactics of choice architecture can be incorporated into our plans and projects to achieve sustainable outcomes without sacrificing quality of life and freedom of choice.

Ultimately, it is not enough to provide information about the consequences of our actions, or to create alternatives without sufficient mechanisms that will make these new options preferable rather than painful. We should use this knowledge in creative ways to move effectively towards sustainable forms of urban transformation that deliver results in reducing environmental impact, and make meaningful changes to the way cities operate.

**Landscape Architect Matthew Poot**  
*Link Arkitektur AS, Oslo, Norway*





## Smart Parks: How is Technology Changing the Way we Design, Use and Manage Urban Greenspace

Landscape architects have been central to the planning and design of urban green space since the earliest days of the profession—the original “common ground”. In the early 21st century, as a profession, we are inevitably engaged in the multitude of ways in which technology is changing how we plan and design these essential spaces. It is more important than ever for decision makers to have reliable evidence to inform the design of urban green space that is based on an understanding of how users interact with urban spaces. Data also provides intelligence for how local authorities can best manage these places.

An example of this change is an interdisciplinary research project called “Smart Social Spaces” funded by the Australian federal government. University researchers, including a landscape architect, are working with a local government council to discover how to best use technology to deliver healthy, green and ‘smart’ public built environments. In the first phase, we are using social media mapping, traditional behaviour mapping, and digital IoT [Internet of Things] sensors installed on street furniture to record real-time use of urban furnishings in public spaces such as parks, plazas and streets. In the second phase, we are designing, producing and testing smart, mobile, open-air ‘community spaces’; multi-functional, fully IT-enabled hubs with smart furniture, solar power, charging points, and environmental sensors to capture data on the area’s urban heat island status. We call these ‘ChillOUT’ hubs and they will be designed to work in a variety of urban spaces—from urban plazas to regional parks—to increase community connectivity, enable knowledge exchange, and provide flexible spaces to meet, work and play. They will be a new type of “third place”, furnishing the common ground of the 21st Century city.

Importantly, the findings from this research will assist Council to improve healthy and connected living for its residents and generate innovative approaches to imagining shared public spaces in increasingly dense and diverse urban environments.



**Professor Linda Corkery**

*University of New South Wales, Sydney, Australia*

## 2.11 BLUE END GREEN SOLUTIONS

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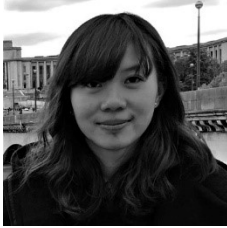
### Taking Hydroponics into a Circular Food System via Urban Agriculture: Is it viable to Recycle the Urban Food Wastes as a Nutrient Source for Organic Hydroponics?

Urban agriculture (UA) in the developed countries plays a minor role in feeding the local inhabitants. In terms of the efficiency in producing food, UA cannot be compared to its counterpart, farming in rural areas. Thus, urban dwellers would engage in UA for its contributions to not only economic but also social and environmental sustainability. Among many different UA practices, hydroponic systems have been employed for the high yield per unit area and water conservation by large-scale producers, as well as small-scale home growers. However, traditional hydroponics using chemical fertilizers cannot help organic wastes to be recycled for crop growth and thus would fail to result in a circular urban food system.

Due to a lack of literature in revealing the Return on Investment (ROI) of the practices of organic hydroponics, this study conducted two field experiments on growing lettuce in the organic hydroponic system from September to November 2018 at the Hsing-Fu Organic Strawberry Farm, in the Chiayi peri-urban area, Taiwan. In the experiments, the liquid nutrient is prepared by fermentation of expired skim milk and soybean milk. The data indicates that lettuce grows in the beginning, yet remains stagnant due to a low level of nutrient concentration. In the second experiment, the nutrient concentration of the liquid fertilizer is adjusted to reach a higher level than the previous experiment. During these experiments, the average temperature of the nutrient solution has gone to a level (27.96°C) much higher than the suggested range between 15 and 25°C. As a result, lettuce grows better but remains stagnant again.

The research findings suggest that the domestic liquid food wastes may not contain high level of nutrient concentration enough for lettuce growth. In conclusion, organic hydroponics is a viable pathway to sustainable UA, and it has shown potential for the development of circular economy.

Nevertheless, using skim milk or soybean milk alone as the main source of liquid fertilizers is not adequate. A well-developed technology of organic hydroponics may be based on the preparation of liquid fertilizers by using commodities of organic wastes with highly concentrated nutrient content.



**Yi-Hsuan Hsieh<sup>1</sup>**, Dr. Ting-i Lee<sup>2</sup>, Hao-Yi Chang<sup>2</sup>,  
Yao-Yang Hsieh<sup>2</sup>

<sup>1</sup>*Comma Company, Chiayi City, West Dist., Taiwan,*

<sup>2</sup>*National Chiayi University, Chiayi City, East Dist.,  
Taiwan*

## Wet City, Dry City: São Paulo, its Linear Infrastructures as a Possibility to Catalyse the Green and Blue in the City

The article presented is part of a PhD research that aims to design a methodology to recover and transform urban sanitized river valleys into multifunctional axes by introducing techniques of Green Infrastructure related with the provision of multiple Ecosystem Services.

The case study, the city of São Paulo, is the wealthier and most populated city of Brazil - 11 million inhabitants in the city and 22 million in the metropolitan area. The surface waters, that once wet each corner of the land, almost disappeared from its urban landscape, closed underground or left deep inside concrete canals. Together, much of the green areas related to the rivers and creeks were suppressed by pavement and buildings. This dramatic shift happened mainly from the '30s of the 20th century, supported by national and local policies focused on the fast economic growth of the country, and the city.

Symbol of this development model is the set formed by linear infrastructures and the sanitation of the river and creeks valleys to install industries and roads. Shortly, a radial road network was created along the alluvial plains and became the most extensive way to move goods and people in the city and out of it. Designed to be "endless", the street network supports a limitless urban expansion that threatens the peri-urban natural conservation areas and highlights the housing problems in the city.

The article points the linear infrastructure network has a potential to be flexible, by receiving the green infrastructure, and should be designed as a catalyser of the green and blue inside the city. Therefore, inverting the current paradigm while promoting multiple ecosystem services and adapt the city to climate change.

The possible benefits and opportunities found will be presented as well as the challenges involving the design solutions, the necessity of a holistic social-environmental perspective and the sectorial fragmentation, which difficult the conception of a comprehensive plan.



**MSc Taícia Helena Negrin Marques, PhD Maria Assunção Ribeiro Franco**  
*Universidade de São Paulo, São Paulo, Brazil*

## Lammasaari Boardwalk – Accessible Trail Structures for the Vanhankaupunginlahti Nature Conservation Area in Helsinki

Vanhankaupunginlahti nature reserve is the largest conservation area in Helsinki. The wetland area is protected under Ramsar convention and it is part of the Natura 2000 network. The site is very central in Helsinki and it has a long history in recreational use. In 2016, the city of Helsinki started an EU funded project to improve the accessibility of urban nature and to promote nature areas as the city's attraction. The existing Lammasaari boardwalk was popular but dilapidated. As a part of this project it was chosen to be replaced with a new, fully accessible boardwalk with accessible bird watching platforms.

Changing sea level, ice, poor soil conditions for foundations and restrictions in working on the protected site were challenges for both design and construction. In this framework, the new, accessible and floating boardwalk was designed in dialogue with the city's own construction unit. The design consists of two different types of boardwalk elements, a straight one and a curved one. The elements were prefabricated on dry land and brought to the site for installation with light vehicles.

The boardwalk and the platforms are made of untreated Siberian larch. The pathway is 1500 mm wide. The width enables assisted walking and passing of wheelchairs or prams. The complete length of the boardwalk is 860 metres. The basic level is very close to sea level meanwhile the surrounding high reeds outline the pathway to a narrow, corridor-like space. Along the boardwalk there are two slightly elevated platforms for birdwatching, to have a view over the reeds. The finale of the pathway is the accessible vantage point elevated to three metres. Viewpoints are provided with glass walls, to enable unimpeded views from a wheelchair and for children.

The structures were completed in spring 2018. After the renewal of the boardwalk, the visits have increased remarkably. During the summer season 2018 there was an average of over a thousand visitors per day. The project fulfilled its objectives both in eased accessibility and in increased attractiveness.



**Varpu Mikola**<sup>1</sup>, Architect Emma Johansson<sup>2</sup>

<sup>1</sup>*Nomaji Landscape Architects Ltd., Helsinki, Finland,* <sup>2</sup>*Studio Puisto Architects Ltd., Helsinki, Finland*

# Safe to Flood: Embracing Change in Urban Landscape Design through Incremental, Transformative and Transdisciplinary Approaches

**Dr Elisa Palazzo**

*University of New South Wales, Sydney, Australia*

Flood management is one of the major global challenges in cities exposed by the effects of climate change. Urban systems will need to be significantly reassessed to suit future uncertainties and increase urban resilience. However, operationalizing the concept of resilience in the urban design practice, to avoid flood risks and prevent flood hazards, entails a significant mindset change. A truly innovative approach is required in order to upgrade traditional design principles to new urban dynamics and go beyond the simple retrofit of cities' physical environment (Palazzo 2018).

Green infrastructures, safe-to-fail approaches and decentralized systems (Ahern 2013, Balsells et al 2013), all envisage effective responses to flooding within the frame of spatial disciplines. Nevertheless, current research on urban climate adaptation suggests that land use planning for flood management has often intensified socio-spatial inequalities (Shi and al 2016, Angueloski and al 2016). Solutions adopted are effective at spatial and ecological levels but usually unable to embrace the social dimension of cities. Post-flooding recovering programs have been often opportunities for the central governments to reshape urban areas with top-down redevelopment plans that do not consider the needs expressed by local communities (Neville and Coats 2009).

Moreover, design thinking itself seems to represent a constraint to the participation of people and to the inclusion of common knowledge in the urban design process (Iskander 2018). This hinders the possibility to innovate and to harness the discipline to face rapid change in urban areas with high degrees of uncertainty (Palazzo 2018).

Truly radical innovation is required, beyond the traditional design scopes and disciplinary constraints. Applications of complex systems thinking, and transdisciplinary approaches are essential in order to face new mutable contexts and cities in transition.



By examining recently implemented case studies, this presentation will describe ways to embrace change in urban areas through adaptive strategies that require active public engagement. They include innovative design thinking, resources co-management and equitable approaches (Palazzo 2018), such as:

1. Transdisciplinary strategies, inclusive processes and “interpretive engagement” (Iskander 2018);
2. Iterative learning, incremental change and adaptive cycles;
3. Transformative strategies, regenerative approaches engaging with change through intentionally undetermined processes.

# Lancet Island, Nature's minimally Invasive Scalpel – The Design of Green Water Storage in Arid Area Inheriting the Engineering Principle of Dujiang Weirs

Yingshuo Lu<sup>1</sup>, Jiening Wang<sup>2</sup>, Tingting Li<sup>3</sup>, Xi Zheng<sup>1</sup>

*<sup>1</sup>School of Landscape Architecture, Beijing Forest University, China, <sup>2</sup>School of Architectural Urban Planning, Shandong Jianzhu University, China, <sup>3</sup>College of Landscape Architecture, Nanjing Forestry University, China*

In this paper, the improved Dujiang Weirs Engineering Principle is used for water storage design at the river confluence of natural mountain area in the water shortage area (Rizhao City, Shandong Province, China). On the basis of meeting the requirements of flood discharge, a universal water storage tool of "lancet island" was designed to guide the collection of upstream rivers. The results of numerical simulation show that this design can not only bring abundant water resources to the city but also improve the ecological environment of the confluence area.

Firstly, FESWMS-2DH numerical model is used to analyse the flow characteristics of the confluence area in dry and flood seasons. On this basis, the conceptual model of " lancet island " is established by using the working principle of diversion nozzle and diversion area of Dujiang Weirs. The slope protection measures of tributary scouring bank and sluice setting of diversion outlet are added. Secondly, the hydrological models of HEC-HMS and HEC-RAS are used to simulate the optimal water retaining facilities of rivers, and the relative shape, size and location of islands and rivers are determined. And the concrete columns with a fixed spacing are built to make the sediment deposit naturally and form " lancet island ". Thirdly, CH3D hydrodynamic model is used to simulate the habitat improvement of new water level and hydraulic cycle after the construction of " lancet island ". Finally, the adaptability simulation of different scenarios of "lancet island" is carried out based on different land properties (city, suburb and farmland) at the river confluence.

This paper focuses on the topic of Green Mobility. The confluence area is a classic node in river network, which is widely distributed all over the world. There are more than 100 countries and regions in the world with different degrees of water shortage. In this paper, the green mitigation design of river confluence area for drought disaster is discussed. A set of universal water storage tools suitable for river confluence area is established, which can increase green space and improve habitat quality for water-deficient cities and confluence areas.

## Soil and Water Bioengineering and its Application in Urban Fluvial Rehabilitation

Soil and Water bioengineering is a technology that solves many of the problems of coexistence between humans and their environment as a real alternative to classical engineering, and is especially relevant in the fluvial restoration in urban areas. The ecological crisis issued from the human activity and its risk pushes us to find solutions that go through the understanding of the laws of nature and its principles, the stop of the ongoing degradation and the mechanisms of restoration. As a society, we are experiencing a period of uncertainty, in which we perceive that the solutions could come from finding a balance within our environment based on the sustainable management of our ecosystems, the restoration of their functionality and services, and the use of nature-based construction systems such as soil- and water-bioengineering techniques. The knowledge of this techniques is very useful for the Landscape architects but for the moment are not well known in our sector. Soil and Water Bioengineering: is a discipline than combines technology with biology, making use of native plants and plant communities as construction material and erosion control in degraded environments. 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 increasing the biodiversity.

Fluvial rehabilitation projects in urban areas require, in addition to hydraulic and landscape solutions, the management of the empathy and enthusiasm of all the professionals involved, a multidisciplinary interaction, an active public participation, the necessary dissemination exercise, as well as an adaptive management, recognizing with humility that the solution is not always unique and absolute, and the responses of the system must be permanently evaluating. As president of During the presentation we will present various examples of urban fluvial rehabilitation performed with Soil and Water Bioengineering techniques in urban areas in several European countries and we will discuss about the role that the landscape architect plays in it.



**Paola Sangalli**

*European Federation of Soil and Water  
Bioengineering, San Sebastian, Spain*

## 2.12 EASTERN PERSPECTIVES: Common Ground in China and Japan

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### Relationships between the System of Drainage from Kabata Spring Water Wells and of the Irrigation for the Arable Land in Harie, a Part of a Cultural Landscape in Shiga Prefecture, Japan

The purpose of this study is to clarify present situation of relationships between the system of drainage from residential area and of irrigation for arable land in a cultural landscape, for the crucial verification of historical relevance to the social structure in the Medieval Period. It was originally inspired by the former study on close relationships between residence of the local landlord and the evolution of irrigation systems in the 14th century. The study revealed that the location of the landlord's residence was carefully designed in complete control of water supply. Taking this achievement, this study focuses on actual relationships in the system of drainage from Kabata spring wells in 2008 and of the drainage for arable land in 1984 in Harie.

Kabata is known as an indigenous archetype of water well with natural spring water supply, recognized as an independent alternative kitchen from the main house. Kabata doesn't need to, but its drainage must connect to irrigation canal networks. Selected as one of the national important cultural landscapes, Harie traditionally accommodates the interactive system of waterfront, consisting of settlement, irrigation canals, rice paddy fields, and reed band at the lakeshore, 'the more used, the better maintained.' It came from association of natural pure water filtered through mountains for millions of years with reincarnation of ancestors to use with most care.

The analysis has mixed method. It starts with the chart of drainage system of Kabata, referring to irrigation structure of rice paddy fields by neighbourhood community sets. A quantitative analysis demonstrated as correlation diagrams of Kabata drainage system in focus of owners' attributes finds conclusion.

In spite of the conclusion from the former study that the social structure of the seignorial regime is reflected in the spatial structure of Medieval landscapes, the social structure derived from actual relationships of village people in

## 2.12 EASTERN PERSPECTIVES: COMMON GROUND IN CHINA AND JAPAN

drainage and irrigation system is very democratic: everyone equally shared the same simple system to plug them into the community. Therefore, the order of the system is key not only to sustainable village landscape maintenance, but also to a sustainable society in the future.



**Hiroe Yoshida**  
*3--lab, Kyoto, Japan*

## Research on the Sustainable Transformation of Urban Waterfront Industrial Zone Based on Place-making—A Case Study of Yangpu Waterfront Public Space Development of Huangpu River in Shanghai, China

The research on place comes from the philosophical discussion at the beginning of the 20th century. The spirit of place exists both in material retention and poetic presentation at the site. Place-making is the concrete practice based on the spirit of place. In the practice of sustainable urban transformation of Yangpu Riverside Public Space, industrial heritage remains as important material retention in the site and has become the starting point of the design. The Yangpu waterfront is located at the eastern end of the Huangpu River coastline in Shanghai, China. It is known as the “East Gate” of the Shanghai waterfront zone. The 15.5km riverside coastline consists of a series of industrial heritage that has been well-known in Shanghai. Although Yangpu riverside is rich in industrial history, the city’s appearance is relatively poor with the decline of traditional industries. It is also called “the only remaining industrial rust belt in the world” by UNESCO experts. The Yangpu Waterfront Public Space Development Project, which was fully opened at the end of 2017, brought life to this “industrial rust belt”.

This paper summarizes the historical situation of Yangpu waterfront area. Taking the Yangpu Waterfront Public Space Development Project as an example, this paper analyzes the methods of place-making from four aspects: industrial heritage recycling, multi-dimensional transportation system renewal, the preservation of native plants based on Low Impact Development and the sponge city theory, and communication with surrounding plots. The development of Yangpu riverside zone can provide a reference for the revival of traditional industrial zones, and new strategies for the sustainable transformation of urban waterfront space.

**Xia Liu**  
*Tongji University, Shanghai, China*



## Theory and Methodology of Adaptive Landscape Microclimate Planning and Design

**Dr. Binyi Liu<sup>1</sup>**, Dr. Hui Liu<sup>2</sup>, D. Zhang<sup>1</sup>, L. Dong<sup>2</sup>, H Jin<sup>3</sup>, L. Zhang<sup>1</sup>, Y. Fan<sup>2</sup>, W. Kuang<sup>1,4</sup>, Y. Sho<sup>1</sup>, D. Wei<sup>1</sup>

<sup>1</sup>Tongji University, Shanghai, China, <sup>2</sup>Xian Architecture University, China, <sup>3</sup>Zhejiang Agriculture and Forestry University, China, <sup>4</sup>Beijing Forestry University, China

Landscape is a subject regarding the feeling of environment. The ultimate goal of landscape research is to create better sensory feeling for landscape users. Climate is not only the fundamental element that restricts landscape feelings, but also acting as the basis for landscape reconstruction. The project took 5 years, investigated Three categories with 9 sub-categories in two kinds of Chinese landscapes----one with seasonal characteristics and one with extremely cold weather.

The testing landscapes were measured, simulated, and concluded by innovating a new "Three factor" research theory. The three-factor model presenting characteristics of landscape --- "three factor interaction"; "three factor dominated dynamic transformation" and "three factor derivation". The theory is based on landscape architecture, interdisciplinary with climatology, environmental thermodynamics, environmental psychology, etc., which includes the "three factor interaction" landscape characteristics representing objective, subjective and their relationships with each other. After multi-level validation the research gradually cleared the systematic process.

During the process, the research goals, methodology and theory were further integrated, reveals the pattern of human feelings on "landscape thermal dynamics", established the theoretical framework of " landscape thermal dynamics", founded the "three factor model" of the scientific research methodology, providing scientific guidance for landscape reconstruction including square, street, waterfront and residential area. It is believed that the research revealed a new realm and path for landscape planning and design for tackling climate change in future. This research is founded by national science foundation.

## Towards a Light Footprint: Rethinking the Urban Transformation of a High Mountain Territory in China

Not in a traditional sense in which urban transformation could result in the expansion of the city, there is the opposite process where the landscape is being urbanized by forces from the city. This paper targets a high mountain territory of China - the Mount Gongga of the Hengduan Mountains, and looks at the urban transformation there as a case study of this opposite process. Historically only explored by caravans and scientists, the mountains are right now under a pressure of the burgeoning travel culture and the massively infrastructure development. The urban middle class has started to explore the mountains extensively in searching for exotic landscape experiences. While heavy urbanization has already happened, one may wonder: how can a landscape informed perspective open for an alternative way of reading and intervening in vulnerable alpine territories?

The paper began with a review of literature and case studies of 'the urban transformation of the landscape' to find vocabularies for the Hengduan case. Then the paper categorizes the transformation - heavy urbanization phenomena and affiliated landscape changes - of Mount Gongga, supported by the author's empirical observations over repeated field trips from 2016 to 2018. Following a discussion on the heavy footprint situations and the light footprint potentials in the high mountain, the author claims four landscape qualities as the guiding principles to resist further heavy urbanization. The paper concludes with a light footprint approach for the future of the high mountain territory, attaching a light footprint map to indicate the claims. Rethinking the transformation of this high mountain may be seen as a response to the sustainable urban transformation in China's mountainous regions.

**Bin Li**

*Oslo School of Architecture and Design (AHO),  
Oslo, Norway*





## Community Participation in Rural Revitalization: A Case Study of Seto Inland Sea Area, Japan

With the urbanization process and population reduction in Japan, rural decline has become a common but serious social phenomenon. Therefore, how to revitalize the countryside is a huge challenge for contemporary landscape architects. Different from other challenges, the recipients of rural revitalization are mostly involving external forces, but its recipients are local residents and fragile rural environments. So, community participation is particularly important. This paper selects the Seto Inland Sea Area of Japan as the research object to analyse the community participation mode and significance in different stages of its revitalization in the past 40 years.

The Seto Inland Sea is located in the Inland Sea between Japan's Kyushu, Shikoku, and Honshu Islands. With its superior natural conditions and excellent port, it became the core distribution area of Japan's heavy industry after World War II, which brought huge economic benefits but also caused serious environmental pollution, leading to the population loss and regional decline in this area.

Therefore, since the 1970s, the Seto Inland Sea Region has sought a path of revitalization which can be summarized into the following three stages: 1.The Art Museum Period: The beginning of tourism development with well-known designer works as the core attraction; 2.The Art Island Period: the exploration of the combination of local culture and art activities in Naoshima; 3.The Art Sea Period: the international art festival which integrated the land, the public and art together. In this process, the main body of participation has changed from single to plural, and the mode of cooperation between them has become more mature and diverse, which successfully promoted the revitalization of the Seto Inland Sea Area from the bottom up.

This paper will combine field research and questionnaire survey to analyse the changes and influences of the three-stage public participation in the revitalization of Seto Inland Sea Area and summarize its experience and significance which may play a guiding role in rural revitalization in other regions.

**Ni Yan**, Doctor Xiang-rong Wang  
*Beijing Forestry University, Beijing, China*



## Research on Shareability of Waterfront Industrial Heritage Transformation: Suzhou Creek as Example

The aim of this paper is to study how waterfront industrial heritage could be shared through the physical form of public spaces in both old and new urban design. Recent post-industrial waterfront transformation practices in Shanghai, such as West Bund Art Centre, Music Valley, etc. have proven a tendency to return the former productive waterfront space to public. The research undertaken represents an inquiry into the nature of publicness of industrial waterfront heritage. The study focused now is the shareability, based on the analysis of urban morphology and architectural typology.

This paper exams the shareability of urban landscape. Combined with the study of industrial waterfront transformation along Soochow Creek, Shanghai, the paper proposed three features as industrial heritage transformation and five typical characteristics as sharable urban landscape. A Heritage Urban Landscape approach has been used to support the theory study, and direct observation, mapping and questionnaires were used in the field work. This paper is supported by NSFC project. (No. 51678412).



**Yichen Zhu**

*Tongji University, Shanghai, China*

## 2.13 PARTICIPATION EXPERIENCES

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### Young Designers' Perceptions and Aspirations for Housing and Indigenous papakāinga

With the overarching theme of “Common Ground” for this conference, there is an opportunity to identify the common ground in which we are connected by the land, which lays the foundation and informs Māori (indigenous people of New Zealand) identity.

In Aotearoa New Zealand, we continue to have discussions about the need for growing papakāinga (Maori-centric housing). The future development of our cities should encourage intergenerational inclusion which is integrated into all processes, plus a seat at the decision-making table. There is a need for young Māori to communicate their understanding, perceptions and aspirations for housing. This needs to be shared with researchers, policymakers, planners and the wider community as this has a significant influence on the future vision and sustainable development of our cities.

This research provides information on how we can mobilize and empower young Māori to contribute to shaping and building better homes, towns, and cities into the future through the development of housing and papakāinga within both an urban and rural context. The study is part of the Māori research being conducted as part of the National Science Challenge: Building better homes, towns and cities. Māori research recognises the dual and complex nature of Māori identities and the many communities we construct our lives in. Simply all Māori by genealogy originate from a specific place, area, meeting place, and ancestral home, but are more likely now to live at their in a city. Many may consider their home in the city now and their second home, their ancestral marae.

When we understand what young Māori want and how they want to live, then we will grasp a better understanding of how we can get them involved. This also means that we can support youth and work alongside them to understand current issues they face and how we might address them from a Māori approach.

This project is led and facilitated by young Māori researchers working collaboratively from cadastral surveying, architecture and landscape architecture disciplines. This is our common ground; bound by the relationship to the land to improve the lives of Maori.



**Jacqueline Paul<sup>1</sup>**, James Berghan<sup>2</sup>, Maia Ratana<sup>3</sup>  
*<sup>1</sup>Auckland University of Technology, Auckland, New Zealand, <sup>2</sup>University of Otago, Dunedin, New Zealand, <sup>3</sup>Unitec Institute of Technology, Auckland, New Zealand*

## (Re)claiming Public Space in Saida-Lebanon: (Re)solving Activists' Contradictions

In Lebanon, planning and the production of space is governed by a 'quasi-democratic' state and local institutions that operate within the confinements of (sectarian) clientelism. While it is very hard for citizens to manoeuvre outside the clientelistic structures, since very often it would mean a compromise on one's own means of subsistence (access to jobs, access to welfare, etc.), nevertheless, since 2005, many have noticed the rise of non-partisan activism. While being critical of the sectarian regime, in many cases activists are contesting problematic spatial ("neo-liberal") projects that are imposed by the patron on the Lebanese landscape.

Many of these activists' initiatives, are using different tools to contest the patrons' projects. They are very often conducting extensive research on the different contested sites and are, moreover, formulating their counter proposals in the form of spatial, social and environmental visions, etc. Such proposals and visions often have recurrent themes of preserving the different endangered public spaces and commons against threats of privatization, pollution, etc. Such a demand for public spaces, contain in itself a major contradiction especially in relation to the position towards the patrons who are governing state and local institutions.

Wouldn't the presence of 'democratic' public spaces necessitate strong democratic institutions for its protection /creation/ management/ etc.? How can the activists call upon the same local and state institutions that they strongly oppose and criticize for being governed by clientelistic and sectarian networks to create and manage public space that they envision in their most democratic sense?

In my quest for answers to this problematic, I will delve into the work of an urban activists' initiative in the secondary city of Saida by the name of LilMadina Initiative that I am personally part of. I will revisit the analysis and the research findings of LilMadina Initiative, especially in relation to the Amleh River and the Ancient Sidon Aqueduct and its related canal systems. Historically speaking: what made such element successful public spaces or commons? And what changed for these spaces to be threatened today? What can we learn from the successful passed traditions to re-construct our new reality?



**Lyne Jabri**

*KU Leuven, Leuven, Belgium/Lil-madina Initiative,  
Saida, Lebanon*

## Urban Planning with Citizen Participation using 3D

**Sara M Sabelstrøm Øen**

*Urban Planner, Sweco Norge AS, Oslo, Norway*

In several projects for Nye Veier (New Roads), Sweco have launched a unique 3D web service engaging citizens to contribute with ideas and suggestions for the development of the highway E39 between Mandal and Lyngdal, in the south part of Norway. Citizens can explore the projects in 3D on the web and interactively contribute with ideas and local knowledge based on the latest gaming technology. This web-based service, "Din E39 (English translation "Your E39"), can be accessed by anyone, anywhere, provided they have access to an internet connection. Users can access existing models made available by project partners. GIS data can be imported to provide spatial context.

Users can easily navigate in the virtual 3D model of the planned highway of E39 and with user friendly tools anyone can describe suggestions in text or by marking directly in the 3D model.

With this web service we aim to increase the dialogue with the citizens and their understanding of urban planning, raise awareness of the opportunities for involvement contributes to the removal of barriers to citizen engagement in the planning process, and thereby allows a more accessible method for the public to potentially shape their neighbourhood's future. Another goal is to reach people that normally do not meet at exhibitions and consultation meetings. On the web, families and other people with busy schedules, are given the chance, 24 hours a day, to raise their voices and contribute to the planning process. Also, we wish to engage children and teenagers who are the actual receiver of the infrastructure that we are shaping in the 10 to 20-year time frame.

This approach has resulted in increased participation, engagement from a more diverse range of citizens, access to important local knowledge on an early stage of the planning process and more constructive feedback.



## Landscape Democracy and Community Resilience: Migration and Inclusive Cities

Mass migration in the face of natural and human-induced disasters has grown into one of the major urban resilience challenges of the 21st century. We examine forced displaced communities and look at migration as a powerful opportunity for building community resilience using two case studies — Beirut, Lebanon and Vancouver, Canada. Both cities offer different approaches and responses to some of the most challenging urban resilience issues: forced displacement from home communities and respect for their cultural needs, mass migration and city response plans (shelter, work, play), acceptance, and assimilation.

In Lebanon the flood of refugees across a shared border has created a displaced and marginalized Syrian community that is surviving through informal coping mechanisms and strategies that sustain livelihoods despite being spatially confined and atypically clustered in informal and temporary living spaces with little sensitivity to cultural customs. In far-distant Vancouver, several thousand Syrian refugees arrived between 2015 and 2018 under a federal government assisted resettlement (GAR) program strongly supported by the Canadian people. Immigration plays a key role in Canadian culture. Upon arrival, most Syrian GAR families desired, and were placed in neighbourhoods of similar ethnic backgrounds and languages with shared cultural customs and experiences.

In both Beirut and Vancouver, the emphasis on place as a cultural resilience mechanism implies that one central component of the experience of migration is the role of the physical environment or landscape. Syrians forced to migrate to both neighbouring and distant countries are building relationships with the new places they live in by shaping new spaces and landscapes that embody both memories and new emotional experiences. There is much to learn from Syrian mass migration that can inform building community resilience for disaster risk reduction – whether human-induced disasters such as economic meltdowns and climate change, or natural disasters of all types.



**Dr Maria Gabriella Trovato<sup>1</sup>**, Dr Kathy Dunster<sup>2</sup>

<sup>1</sup>*American University of Beirut, Beirut, Lebanon,*

<sup>2</sup>*Kwantlen Polytechnic University, Metro Vancouver, Canada*

## Common Vision in Common Spaces – New Visuality in Democratic Landscape Architecture

When landscape architecture is related with vision, the implication is not just a formal, empty construction language with the narrow meaning of representation, but could be associated in a much richer and deeper layer. Contemporary theories in landscape architecture often tend to be relatively dualistic---researchers either focus on the poetic and aesthetic perspective (like Juhani Pallasmaa and Alberto Pérez-Gómez), or the ecological and social opinion (like James Corner and Xi Li). Furthermore, when the discussion is about the latter, the term “vision” becomes a hint of superficial representation which is severely criticized in many situations.

Nevertheless, visibility is still one of the initial characteristics of spatial arts that expresses information by physical space organized by artists, thus the audience could “read” from what they see. Besides, in this science and technology era, since landscape has become a common resource for all citizens, comparing as the private estate hundred years ago, new visibility for the whole social classes in modern landscape architecture has the responsibility to consider how to persuade and guide public cognition through effective physical expression methods, which means, the dualistic perspectives of visibility and processing could actually be combined together, especially in contemporary public spaces.

By tracing the history of visibility from English Garden during 17-18th century to the Landscape Garden Movement in the United States in the 19th century, as well as reviewing relative articles, this paper first makes the proposition that the right of visibility has been transferred from minority classes to the whole citizens. Meanwhile, through the planning of “the Mall” at Washington D.C., also some statements by Andrew Jackson Downing, the paper continues to claim that, the purpose of visual strategy has changed accordingly, from the demonstration of personal social status and taste, to a kind of social communication, education and persuasion.

Then, after analysing three contemporary landscape projects in the United States and Denmark, this paper draws the conclusion that “visual landscape” and “processing landscape” are not privative, but could be considered as an entirety, in which way these two initial factors in landscape architecture will construct an intertextual relationship with each other.



**PhD Candidate Simin Bian**  
*Tsinghua University, Beijing, China*

## The Role of Community Consultation in Successful Urban Transformation: Tøyenløftet

**Ashley Conn**

*Studio Oslo Landskapsarkitekter, Oslo, Norway*

In 2012 the Tøyen Agreement "Tøyenløftet" was launched with the strategic aim of improving living conditions at Tøyen over a 5-year period. While Tøyen is a vibrant inner-city neighbourhood with an exciting mix of nationalities and backgrounds, it is also known for its high proportion of social housing, low education and income as well as the social problems that follow with this. Large low-income families, living in small apartments require good quality public space and safe meeting places, our COMMON GROUND. However, the dark, unmanaged parks throughout Tøyen became the arena for city's idle and marginalized youth, which in turn, denied most of the resident's access to their public spaces.

The Tøyen agreement includes 3 focus areas, one being improving public spaces. SOLA have been involved this work since 2012 through our strategic report "PARKLØFT TØYEN" for Tøyen's public parks and spaces (including built works) which included an intensive community consultation. A series of workshops and street side conversations with over 800 residents, together with a healthy public debate helped form the groundwork for change.

The findings of this report have led to an array of improvements for public spaces including the newly redeveloped Sørli playpark (2018) and our current work with the redevelopment of Rudolf Nilsen's Place – which has already become an example for creating more equal and inclusive urban spaces through improved community consultation processes (ref. Arkitektnytt).

As a part of IFLA World Congress 2019, SOLA would like to contribute to discussions regarding how participation and democracy can help define COMMON GROUND in urban transformation. Using examples from our ongoing work with Tøyenløftet, we would like to illustrate the various roles, methods, successes and challenges of active community consultation throughout the entire planning and design process, as either a talk or breakout session.

SOLA also offer a Walk+Talk tour of Tøyen, together with other responsible project managers and designers, to visit the neighbourhood and see some of the recently realized projects and explain the process behind the transformation. Projects include: Sørli playpark, Tøyen murals, Borgata park, Rudolf Nilsen's Place, K1, Biblio Tøyen, Tøyen Square, Snippen etc.



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Breakout Session 3  
19 Sept, 14:30-16:00

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## 3.1 PUBLIC MISSION: Three strategic plans for landscape

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### Oslo's Car Free Livability Programme: Linking Immediate Measures with Permanent Change

The city centre in Oslo is undergoing change. Public spaces are gradually evolving from being car-centred to becoming more adapted to the needs of pedestrians and cyclists. One of the aims of the Car Free Livability Programme is to catalyse street culture and social interaction. Reducing space for unnecessary private cars is one of many tools.

The work has been met with support and opposition. Some think the changes evolve too fast, others believe they are too slow. An important part of the work has been to use temporary and immediate measures to smoothen the transition from car- to people-based, in tandem with developing plans for the development of the area.

My presentation deals about how the immediate measures help the Car Free Livability Programme in Oslo to cope with uncertainty, both during and after plans have been made. Based on our experience so far, I will provide some examples of our immediate and temporary interventions, why we have done it, and what we have learned so far.

**Sigurd Nedrelid**  
*Oslo Municipality, Norway*





## Life in the City: Quality Parameters for Urban Growth in Copenhagen

**Oliver Schulze**

*Schulze+Grassov, Copenhagen, Denmark*

We urgently need to find new sustainable forms of urban co-existence for people. This is no longer just a subject for discussion in professional circles alone and our future generations are demanding action. We hear this call loud and clear. Oddly enough, this means that we need to delay, for a moment, the idea of drawing a plan. Before we can ask “what shall we build”, we need to understand “how shall we live?” This is big. It means that we will say good-bye to a century-old planning culture of drafting static plans with frozen visions of the future, and instead, we need to go on a journey together to develop a process that is dynamic and inclusive. Our project “Life in the City: Key Parameters for a Good Everyday Life” sets out how we connect the urban governance of the Municipality of Copenhagen with its citizenry to help answer the most important questions of all:

“How shall we live?”

## 3.2 SUSTAINABLE URBAN TRANSFORMATIONS: Local Solutions Meeting Global Challenges

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### *1. Strategies for a common future*

#### Positioning Urban Landscape Economy as a Priority for our Future Global Sustainable Development

Economic growth is a government's priority, but it is becoming increasingly obvious that consumption represents only one of the parameters needed to measure growth, understood as the wellbeing and wealth of a population. This contribution highlights, as far as possible, how green infrastructure have contributed directly to human wellbeing (the ultimate goal of any sustainability policy) even when these benefits - as externalities - do not fall within the values calculated through traditional accounting systems, such as the statistics on the Gross Domestic Product. The use of indicators such as Gross Domestic Product and Value Added, that exclusively measure the market economy, makes it difficult, if not impossible, emphasising the contribution of green infrastructure to economic growth.

In advanced economies, the human factor is central for several reasons. Human creativity guides scientific and technological advancement, its diffusion and its impact in terms of economic activities. There are creative sectors with high value added, in which the qualitative differentiation of the product is fundamental. The quality of leadership, management, teamwork is critical to the success or failure of any business in today's markets. These factors translate into the fact that human wellbeing - which can be increased through green infrastructure - is the real critical success factor and the engine of economic development.

It is consequently important to identify some logical connections that incorporate both some indicators that are based on economic variables deriving from market transactions (such as income, the number of jobs, etc.) together with cost parameters (expected savings) and other non-market data, related to human wellbeing and health, and environmental damage.

### 3.2 SUSTAINABLE URBAN TRANSFORMATIONS: LOCAL SOLUTIONS MEETING GLOBAL CHALLENGES

The proposed contribution is targeted at providing evidence through literature and case studies of the economic activities, consumption, and jobs generated by urban green infrastructure at international level. Progressing urban green blue infrastructure implies broaden the traditional focus of the ecosystem services literature on biophysical measurement and monetary values, and exploring a range of value domains in a multi-stakeholder perspective, including tangible and intangible values, i.e., biophysical, economic, socio-cultural, health, and insurance values, while advancing frameworks and tools through which they may be measured, understood and communicated.



**Dr. Maria-Beatrice Andreucci**  
*Sapienza University of Rome, Italy*

## Sustainable Urban Transformation through Planning and Implementing Green Infrastructure: Case Studies from Germany and Austria

**Dr. Attila Tóth<sup>1</sup>**, Dr. Axel Timpe<sup>2</sup>, Dr. Doris Damyhanovic<sup>3</sup>, Prof. Dr. Frank Lohrberg<sup>2</sup>  
*<sup>1</sup>Slovak University of Agriculture, Nitra, Slovakia, <sup>2</sup>RWTH Aachen University, Aachen, Germany, <sup>3</sup>University of Natural Resources and Life Sciences (BOKU), Vienna, Austria*

Green infrastructure as a sustainable urban-transformation strategy and a landscape-planning concept has been implemented in many cities across Europe and beyond. It has proven to be a useful concept to improve the urban landscape at the city-region and municipality level and to implement nature-based solutions at the urban district and site level. Green infrastructure, being a holistic planning approach, provides landscape architects with an effective planning approach for transforming cities into sustainable systems. Urban green infrastructure projects are effective solutions for regulation of micro-climates, flood prevention, water treatment, food provision, biodiversity enhancement, social inclusion and others. The implementation of green infrastructure concepts and strategies leads to resilient, sustainable and healthy urban environments. This paper will present existing strategies, master plans and concepts from selected German and Austrian cities and city regions.

In Germany, a particular focus will be laid on the federal state of North Rhine-Westphalia, while showing informal and formal planning approaches at the regional level (5 case studies: Innovationsregion Rheinisches Revier, Regionalverband Ruhr, Region Köln-Bonn, Euregio Maas-Rhein, Bezirksregierung Köln) and at the city or inter-city level (5 case studies: Stadt Aachen; Bergisches Städtedreieck - Stadt Wuppertal + Stadt Remscheid + Stadt Solingen; Stadt Köln, Stadt Dortmund, Stadt Bonn).

From Austria, approaches in the five largest cities (Vienna, Graz, Linz, Salzburg, and Innsbruck) will be presented. The aim is to show diverse approaches and best practices, in order to discuss the effectiveness and efficiency of different green infrastructure planning concepts. The paper will discuss outcomes of two research projects on planning and implementation of green infrastructure conducted in Germany and Austria. The research methodology consisted mainly in 1) qualitative narrative interviews with planning specialists working at the regional or city level of planning administration; and 2) analysis and evaluation of existing strategic documents, master plans and planning concepts.

## Can Sustainable Renovation of the 21st Century Measure up to the Founding Utopia of a Neighbourhood Elaborated in the 70s?

Grenoble, the biggest city located in the French Alps, has seen high expansion up to the 60s. Between 1970 and 1984, l'Atelier d'Urbanisme et d'Architecture (AUA), with, among others, French architects Jacques Allégret and Henri Ciriani, and landscape architect Michel Corajoud, has created a new living suburb centred on a large public park (20 ha) around which 6000 flats were constructed. This "small city" was developed according to the urban utopia of its time, raising questions about the place of culture, the place of the car, children's education, etc. The neighbourhood was planned with large peripheral multi-levelled parking facilities, schools inserted in the park, a local TV station, a swimming pool, shops, etc. and lots of trees and greenery.

Then, slowly, the social context deteriorated. In 2010, following a social tragedy and demonstrations, the city decided to develop an ambitious strategy for a sustainable renovation of the neighbourhood, with the hope, of solving some of the social issues. This strategy, from city planner and architect, Yves Lyon, questioned some of the original urban utopia's main goals. The response from inhabitants was large opposition. After certain compromises, the public space renovations and first building constructions finally started in 2015.

Apart from a few demolitions, the architects' main concerns were to renovate the aging flats (45-year-old bathrooms, walls, etc.), their halls and lifts and to improve the general building isolation; added to this, a technical goal of saving energy. For the public spaces, the strategy was more diverse, from mobility questions, to stormwater management and the improvement of local biodiversity. The parking was reorganized, a new pedestrian and bicycle pathway (a zone 20 shared road) introduced and, at a minimal, the daily rain is collected in rain gardens/green spaces, adding bushes and trees to improve flora diversity, making the area more attractive to regional fauna.

This project made us specifically question intervention/renovation in living areas built on utopian concepts and more generally our generation's own utopias set for the next 40 years.

**Teacher Frederic Dellinger**  
*Ecole Nationale Supérieure d'Architecture de  
Grenoble, Lyon, France*



## 3.2 SUSTAINABLE URBAN TRANSFORMATIONS: Local Solutions Meeting Global Challenges

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### *2. Strategies for a common future*

#### Designing Photovoltaics in Urban Open Space: A Landscape Architectural Approach

The current promotion of renewable energies leads to an increased consumption of landscape for energy production. In terms of a responsible-minded approach to landscape and the efficient supply of energy, it makes sense to produce energy where it is mostly needed: close to the city. The production of energy is a new task for urban open space design. Our research focuses on photovoltaics (PV) because, in the field of renewable energy, PV is considered the most relevant primary power source within the urban context.

We pose the following questions: What types of urban open spaces are generally suitable for energy production, taking into account the ongoing struggle about the use of space? How can urban open space the city and its citizens profit from the integration of photovoltaics? Stressing the importance of innovative design solutions, this paper focuses on the “where” and “how” of photovoltaics in urban open space.

Research methods include the elaboration of a typology of urban open spaces suitable for PV, a good-practice catalogue to describe the state of the art of PV in urban open space and case studies as a “design as research” strategy. In contrast to PV in architecture where PV is often integrated into buildings, in landscape architecture many PV implementations are still “landscape-added” solutions. We propose the concept of “landscape-architecture-integrated photovoltaics” with two main design tasks:

- (1) PVs have to be seen as an integral part of the urban landscape. Therefore, designs have to focus not only at the PV itself but also on the interrelationship with the social, natural and built environment.
- (2) The additional use of urban open space for energy production should generate as many synergies as possible. Synergies can be created with regard to usability, acceptance, the cityscape as well as costs and

efficiency. To enhance the quality of urban open space and to achieve added value for the city, landscape-architecture-integrated PV needs more attention and opens up a new field of expertise for landscape architects.

**Dr Roland Tusch**, Dr Dagmar Grimm-Pretner, DI  
Georg Bautz  
*University of Natural Resources and Life Sciences,  
Vienna (BOKU), Institute of Landscape  
Architecture, Vienna, Austria*





## Autonomous Urbanism as a New Planning Paradigm

**Ronnie Tan<sup>1</sup>**, Emilie Jinyi Li<sup>2</sup>, Daniel Guangzhao Yang<sup>3</sup>

*<sup>1</sup>Temasek Polytechnic, Singapore, Singapore, <sup>2</sup>Fosters & Partners, London, United Kingdom, <sup>3</sup>The Bartlett School of Architecture, UCL, London, United Kingdom*

The conventional urban landscape is preoccupied with the priority for mobility that largely defines the patterns and operations of cities. The road infrastructure systems providing the transportation conduit for mobility as well as a set of rules of the road for us - human drivers. The associated technologies of autonomous mobility - computer vision and machine learning will enable us to sense our environment in ways beyond our own human comprehension and understand the intricate relationship between us and nature, allowing us to adapt our urban spaces based on that breadth and depth of data.

As a trajectory of autonomous mobility technology, with humans out of the equation, speculation is that there will be no necessity for physical roads but rather virtual ones that are established by the digitally sensed scape and algorithms. It will emancipate functions from fixed geographical locations and our pre-existing knowledge of space, mobility and form, signalling a major change to the design of our future urban fabric. With this diminishing importance of the structured circulation infrastructure required by autonomous mobility platforms, an alternative design approach is offered where cities can then be dynamically and adaptively co-created with its nature capital and blue-green infrastructure as priorities, redefining the relationship into an integrated, symbiotic system and not as two ends of a dichotomy.

## Digital Methods for Mapping Spatio-visual Characteristics of Landscape Space

Distinctions are always made between landscape design practice and landscape research. These two important discourses indicate the fundamental gap of different landscape communication ways. In practice, designers predominantly concentrate on the more subjective understanding tend to personal description of spaces using design vocabulary. Landscape researchers focus on the measurement of parameters which are not used for designers to make the description more objective. Although both are concerned with the architecture of landscape, until now there is no comprehensive framework for understanding and representing landscape spaces. Therefore, developing common ground between design vocabulary and landscape indicators, exploiting the capabilities of modern technology, to describe and interpret spatial and visual properties could be treated as an important building stone for the integration. It can help landscape architects achieve better understanding of landscape compositions and enhance effective communication.

In order to fill the gap, this paper provides an inter-subjective overview of mapping approaches for describing landscape spaces from a design perspective. Six potential mapping methods (i.e. compartment analysis, 3d landscapes, grid cell analysis, visibility analysis, landscape metrics, and eye-tracking analysis) are identified and applied to map four design vocabulary which are sequence, orientation, continuity, and complexity. The Vondelpark, a well-known urban park, serves as a case study for applications and experiments.

Summing up, this research puts forward multi-disciplinary approaches for responsible and knowledge-based interventions in the future landscape design, which involves a branch of disciplines including landscape architecture, urban design, morphology study, environmental psychology, geography, and landscape ecology etc.

Also, it extends the awareness of architectonic landscape design through:

- (1) supplementing the body of knowledge and gain new insights of landscape spaces;
- (2) developing a toolbox for the interpretation of landscape spaces;
- (3) providing possibilities of describing landscape spaces inter-subjectively;
- (4) adapting existing theories and techniques to investigate new perspectives for landscape design.



**PhD Candidate Mei Liu**, Dr. Steffen Nijhuis  
*Section Landscape Architecture, Department of  
Urbanism, Delft University of Technology, Delft,  
Netherlands*

## 3.2 SUSTAINABLE URBAN TRANSFORMATIONS: Local Solutions Meeting Global Challenges

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### *4. Evoking the past to meet present challenges*

#### Sustaining the Landscape of Cemeteries: Enhancing Religious Institutions' Contribution to Sustainable Cities and Communities in Beirut

While religion has influences on several of the Lebanese community's social, political and economic activities, little is known about religion institutions' impacts on the environmental conditions of our cities. This study will shed light on the potential of religion, and more specifically religious institutions, in promoting and advancing sustainable cities and communities, through the management of the sacred landscapes of urban cemeteries in Beirut. While cemeteries' primary function may be that of a burial ground, their value as cultural and ecological green spaces have a long history which is strongly tied to people's attitudes towards death and the expectation that appropriate burial sites should provide beautiful and comforting spaces that venerate the dead and provide soothing spaces for bereavement through garden-like settings.

This study will investigate how religious institutions (Christian, Muslim and other) view their cemeteries and their approach to the management, design and planning of these sites in general. It will also look into how these efforts and attitudes align with the concept of sustainability in urban landscapes.

### 3.2 SUSTAINABLE URBAN TRANSFORMATIONS: LOCAL SOLUTIONS MEETING GLOBAL CHALLENGES

By conducting in-depth interviews with the different religious institutions and leaders who own/manage cemeteries in Beirut, as well as through site observations, it aims to

- (1) present new empirical insights from the Lebanese multi-religious context in relation to how religious institutions influence the protection and safeguard of natural and cultural heritage sites such as cemeteries, as well as affect the availability, accessibility and sustainability of such green spaces in the city and
- (2) present design and management recommendations that could enhance their contribution to the Sustainability Development Goals especially SDG11, Sustainable Cities and Communities.



**Nayla Al-Akl**

*Assistant Professor, American University of Beirut,  
Beirut, Lebanon*

## A Preliminary Study on the Enlightenment of the Chinese Garden Concept Chengshishanlin (Urban Landscape) to the Contemporary Urban Transformation: Taking Suzhou Shizi Lin (the Lion Forest Garden), Zhuozheng Yuan (the Garden of the Unsuccessful Politician), Yi Yuan (the Garden of Pleasure) as Clues

As an important historical and theoretical concept in the context of Chinese gardens, chengshishanlin (urban landscape), a compound with chengshi (urban) and shanlin (landscape), is considered as a key word to understand the phenomenon of urban gardening in ancient China. In particular, since the Southern Song Dynasty in China, the concept chengshishanlin has gradually become a dominant idea as well as an aesthetic criterion of Chinese literati in constructing and evaluating gardens. In modern scholarship on Chinese gardens, due to its significant intension like the idea of harmony between human and nature, poetic dwelling etc, the concept chengshishanlin has also received extensive attention and particularly become a very useful theoretical tool to explain some vital issues of Chinese gardens, such as the understanding of Chinese garden art, interactions between gardens and urban cultural life and so on.

Thus, in view of the close relationship between chengshishanlin and urban transformation (one of the congress themes), this paper focuses on ancient gardens in Suzhou, a Chinese city deeply affected by the concept chengshishanlin, and deals specially with Shizi Lin (the Lion Forest Garden), Zhuozheng Yuan (the Garden of the Unsuccessful Politician) and Yi Yuan (the Garden of Pleasure).

Two aims are pursued in this study: first, based on meticulous reading of historical documents, this paper analyzes the hidden effects of the concept chengshishanlin in the transformation of gardens' connotation, the inheritance of famous gardens and the design idea of new gardens.

3.2 SUSTAINABLE URBAN TRANSFORMATIONS: LOCAL SOLUTIONS MEETING  
GLOBAL CHALLENGES

Second, through the analysis on living activities in above-mentioned three gardens, this paper elucidates the contribution of chengshishanlin' s social attributes in the formation of prevailing custom of tourism in gardens and garden city. Ultimately, this paper attempts to summarize the theoretical guiding significance of the concept chengshishanlin in today's urban transformation.



**Qian Bian**, Yufei Liu  
*Beijing Forestry University, Beijing, Haidian District,  
China*

## Sustainable Transformation of Urban Living Culture – Conception of Beijing Second Ring Public Space System Based on Old City Temples

Just like Europe's urban daily life cannot be separated from the square, the traditional Beijing city life cannot be separated from religious sites. In the full picture of the capital during the Qianlong period of the Qing Dynasty, there were as many as 1207 temples in the inner and outer city, and almost every street and Hutong had one or two temples, which were important places to spread folk culture and meet the Daily leisure, recreation and assembly of the citizens. However, with the development of the times, the rapid changes in the way of leisure and entertainment, the rich and varied cultural life, the function of the temple in Beijing has been gradually replaced, the temple as the centre of the urban life culture increasingly grim. Today, there are only 327 temples in Beijing's Old city, and they continue to disappear and be replaced, many temples have been abandoned.

This paper attempts to analyse the characteristics of traditional temple-centred public life in Beijing, including the analysis of the spatial and temporal distribution characteristics of traditional temples, temple fairs in the old city and traditional urban life characteristics, and analyse the characteristics of public life with green space as the carrier in modern Beijing, including the current situation analysis of spatial distribution characteristics of old city temples in Beijing, present situation analysis of spatial distribution characteristics of public space in old city and spatial and temporal characteristics of urban living demand, thinking about whether a temple-based public space system can be constructed in Beijing's Second Ring to meet the needs of modern or future urban life, and explore the possibility of sustainable transformation of Beijing's temple-centric urban life culture.

**Graduate student Binming Huang,** Professor  
Xiong Li  
*Beijing Forestry University, Beijing, China*





## 3.2 SUSTAINABLE URBAN TRANSFORMATIONS: Local Solutions Meeting Global Challenges

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### *5. Reworking polluted landscapes*

#### Undone – The Return to Earth

In an epoch defined by massive ecological, geological and climatic changes, the role of landscape architects and allied disciplines becomes increasingly important. Not only do these realities re-frame the way that we conceive and design projects to deal with increasingly uncertain times, but they challenge us to find other means to have a positive impact. What comes of our projects as they age and evolve?

This research is concerned with the end-of-life phase of construction projects, and through various design research methods, defines, analyses and contrasts the ways in which the material world landscape architects conceive, craft and construct becomes reduced to its essential elements, returning to the earth. In so doing, this research proposes alternative approaches to consider the inevitable in the design process. Fundamental to this line of inquiry is the acknowledgment that every project we work on is situated within a much larger, open system that extends far beyond the limits of a property or limit of work boundary. Within this open-system, boundaries are continuously negotiated through dynamics of practice and regulation, as well as concrete place-specific contexts.

It is through this paper that we re-establish the capacity of these processes to impact landscapes of disposal, reconstruction, decay and regeneration. Setting landscape dynamics firmly within this process, we argue for the need for continued interaction and conversation about the lifespan of projects. This research seeks to highlight where responsibility lies within our current realm of practice, and what practice-based precedents in end-of life-management might offer us in our understanding of how the design disciplines might be realistically brought in.

What do we offer as practitioners and systems thinkers that might allow us to intervene at this stage? In inserting ourselves at the beginning of the end, this research investigates the potential of landscape architecture in regard to the practical realities of the end-to-beginning stage of a range of landscape-related projects.

**Emilia Hurd**<sup>1</sup>, Julia Smachylo<sup>2</sup>

*<sup>1</sup>University of Toronto, Toronto, Canada, <sup>2</sup>Harvard University, Cambridge, United States*



## Urban Wilderness in High-intensity Development: The Post-industrial Landscape Design of Beijing 2022 Headquarters in Shougang Industrial Park

The headquarters of the Beijing Organizing Committee for the 2022 Olympic & Paralympic Winter Games (BOCOG) is situated at the north end of Shougang Industrial Park. Before its redevelopment, this site was the headquarters of Shougang Group, China's third-largest steel manufacturer, founded in Beijing in 1919. As the city gradually grew, the Chinese steel giant relocated all of its steel-related ventures out of the city, making the need for site redevelopment clear. The BOCOG headquarters, forthcoming, provide a unique opportunity to transform the site into an environmental-friendly industrial park.

The design focuses on how to deal with a post-industrial landscape in the face of enormous complexity and the special rapid development needs of China. The designer built an on-site database to facilitate the adaptive reuse of discarded construction materials. A palette of low-maintenance native plants was brought in to restore lost ecology to the site, a strong gesture given this location's industrial past. Socially, the new campus will offer diverse open spaces that encourage outdoor activity, forging a sense of community amongst employees. This project is to serve as a catalytic model, transforming a site in the background of high-intensity development into a unified landscape of ecology, history, and community, in line with the "Green, Sharing, Open and Clean" motto of the 2022 Beijing Winter Olympic Games.

The project's landscape design was conducted in parallel with both the architectural design and the municipal planning process; the landscape architect worked closely with the architects, municipal planning department, and the construction team to continuously uncover the beauty of existing structures on the site. The iterative design process, featuring an interaction between the BOCOG and former factory workers, greatly enhanced the project. The new campus provides inviting spaces for everyday use as well as flexible spaces for larger events.

Additionally, certain industrial relics have been salvaged and featured prominently in the new site design. A large overhead crane has been transformed into a passage between buildings, used by employees daily. The preserved railway is strategically planted to create intimate spaces where one can meditate, rest, and engage socially with colleagues.

**Student Xiangqi Chang**

*Department of Landscape Architecture, School  
of Architecture, Tsinghua University, Beijing,  
China*



## Research on Urban Ecological Landscape Planning Strategy Based on Industrial Structure Adjustment: Case on the Dakuai Town of Xinxiang City

In the process of rapid urbanization, some traditional industrial towns have caused great threats to the natural environment due to the blind development of industry and the lack of effective pollution control. It is necessary to conduct in-depth research and discussion on these towns and put forward corresponding ecological landscape planning strategies.

Taking the Dakuai town of Xinxiang City as an example, the paper first analyzes the regional culture, industrial foundation and current environmental pollution problems of the town. Secondly, according to characteristics of the site, the docking regional resources and the market demand, the paper proposes the goal of building a new type of ecological town of “idyllic town with quiet forest and calm river”. And it promotes the transformation of the town into a green ecological reserve base in Xinxiang City as well as a sharing community with ecotourism.

Finally, four ecological development strategies are proposed around the three aspects of ecological system construction, economic industrial upgrading and residential livelihood promotion:

1. Eco-industrial strategy: taking forestry industry, seedling and flower cultivation and leisure tourism as the leading industries, minimizing the impact of the original polluting industry on the environment;
2. Ecological restoration strategy: taking water purification and soil pollution prevention and restoration as the main content to enhance the quality of natural resources and ecological environment;
3. Ecological planning strategy: constructing a green ecological corridor system in which forest nets and water networks are intertwined, and laying out a composite land structure for seedling cultivation, forest production, scientific research and development, ecological education, as well as sightseeing and leisure;

4. Ecological life strategy: Focusing on the construction of landscape corridors, traditional culture, parks and courtyards, and creating harmonious and liveable town with regional characteristics.

**Yue Li**, Professor Chi Li  
*Beijing Forestry University, Beijing, China*



## 3.2 SUSTAINABLE URBAN TRANSFORMATIONS: Local Solutions Meeting Global Challenges

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### *6. Landscape architects adapting to climate change*

#### Hydraulic Masterplans can Ensure Climate Adaptation as a Well-integrated Part of the Existing City Planning

Implementing the experiences from a decade of cloudburst management, Copenhagen is now using hydraulic masterplans to ensure a more efficient and sustainable climate adaptation when working with the rapidly increasing water masses.

The 2013 Cloudburst Management Plan for the City of Copenhagen divides the city into hydrological catchments, each catchment consisting of a number of surface-based projects to retain and transport the rainfall. The general plan has shown itself to be robust in most aspects. However, our experiences with executing the plan presented new challenges that need to be addressed in future implementations:

- Meeting hydraulic demands without compromising the quality of the public city spaces.
- Addressing how even minor changes in a single project, can affect all the linked hydraulic projects, as well as the entire plan for cloudburst management in the catchment.
- Establishing a platform for corporation between the many interests as well as a way to asses them in relation to each other (e.g. cloudburst management, space for parking lots, securing accessibility and conservation of city parks).

The above-mentioned challenges presented a clear need to work with the connected hydraulic projects in a smaller scale with greater detail than the catchments.

Since the beginning of 2018, Copenhagen has worked with the method of using so-called hydraulic masterplans to address these issues. A hydraulic masterplan covers the area of a sub-catchment also called a “cloudburst-branch” consisting of 5-15 interconnected projects. A multidisciplinary project group works together on a single cloudburst-branch assessing all the projects from both a technical point of view (civil engineering) as well as a landscape architectural one. With ongoing analyses of the area’s vulnerability, existing values and potentials for improvement, it was possible to continuously improve the existing projects while still securing the needed hydraulic capacity of the cloudburst infrastructure. The first masterplans were completed in December 2018 with a series of well-described projects defined by a wide range of practitioners. In February 2019 the key contributors will evaluate the process and results.

**Maria Louise Boe-Whitehorn**

*Landscape Architect, Greater Copenhagen Utility,  
Copenhagen, Denmark*





## Learning from Disaster: What Two Hurricanes Reveal About Designing Public Space as Flood Infrastructure

Over the past ten years there has been increasing support for the development of double duty infrastructure projects. Projects that promise green infrastructure with conventional grey infrastructure in addition to public space are increasingly being built in urban areas. In the U.S., a combination of public budget shortfalls impacting public space, infrastructure spending, and climate change risk awareness are forces that have contributed to this trend. After Hurricane Sandy in the Northeast in 2012 and Hurricane Harvey in the South in 2017, the promise of this functional and social coupling was tested. Sites in both the Hudson-Raritan Estuary and the Galveston Bay Estuary were severely impacted due to rainfall, stormwater, storm surge, and coastal flooding.

In a future where these events could become more common and/or more extreme, landscape, urban design, and planning firm SWA and SWA/Balsley, wanted to find out what worked and what didn't in these public realm spaces. Against a backdrop of three years of post-occupancy analysis on 29 of the firm's built projects, XL Lab, SWA's research and innovation Lab, set out to gather metrics about resilience at the site level. Two case studies provide lessons on resilience in terms of coastal flooding and stormwater: one study done in part with the Landscape Architecture Foundation (LAF) and university researchers on phase one of Hunter's Point South Park in New York City, and another study following up post-hurricane on a previously completed LAF study with university researchers at Buffalo Bayou Park in Houston, Texas. Lessons on what worked in the field during and after the hurricane events will be shared as well as a discussion of methods and data collection type and challenges, and the context of practice-based research and non-profit partnership. The talk ultimately asks how we can best learn about how these hybrid infrastructure-park projects perform during extreme events and employ that information to design better, more resilient places.



**Anya Domlesky**

*Co-lead, XL Research and Innovation Lab, SWA Group, San Francisco, United States*

## Resettlement Strategies of Yellow River Beach Area from the Perspective of Community Resilience: Case on Xinxiang City

River beach areas are vulnerable because of conflict between growing development pressure toward riverbanks, and insufficient protection from high risks of uncertain river flow and flood threat. Meanwhile there are many beach-area residents suffering from poverty due to low-level industrial development under such risks. To approach the balance between flood protection and economic development, resettlement of local residents is the radical way out. However, implementation obstacles are obvious on the ground despite of much research and policy design on beach-area resettlement. Taking Xinxiang city in the Yellow River Beach Area as the case, field evidence suggests little willingness to relocate and weak risk awareness of local residents, indicating deep challenges in adapting to changes of producing and living modes for them.

This paper examines the adaptive capacity building of inhabitants who were planned to be resettled from the floodplain of Yellow River in Xinxiang city, in the light of the concept of community resilience. First, it analyzes the essential factors of a resilient community facing flood risks from environment, system, individual and society aspects. Then, following the framework of resilience building, the paper discusses the causes of low initiatives based on site investigation and interviews and puts forward the resettlement strategy to transform isolated individual households into ten-family units on the old site and in their new home. The proposed structure is applied to the whole set of development strategies including land rehabilitation, eco-cultural industry cultivation, public participation mechanism design, social inclusion, skill enhancement, as well as flood risk management and education.

In this study, social bonds are taken as the core in adapting to changes. The potential contribution is to guide stakeholders in beach-area resettlement contexts to develop more effective strategies of building community resilience.

**Dr. Bo Bi**, Prof. Chi Li, Xinyu Ma  
*Beijing Forestry University, Haidian District, China*



## 3.2 SUSTAINABLE URBAN TRANSFORMATIONS: Local Solutions Meeting Global Challenges

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### *7. Can nature save us?*

#### Small-scale Interventions – Getting Green into the Common Ground

**Dr. Katrin Hagen**, Dipl.-Ing. Beatrix Gasienica-Wawrytko  
*Vienna University of Technology, Vienna, Austria*

The need for sustainable urban transformation and the aim for beautiful and healthy cities are - without doubt - common sense. Green infrastructure is a key factor on this way. Architects have discovered the importance of urban climate and the value of vegetation in this regard. But while they tend to focus on visionary single projects such as the Asia Hotel in Singapore or completely new city structures like Masdar City “for the few” it is the existing dense urban fabric that needs most attention. In 2030 77,4% of the European population will live in cities, worldwide it will exceed 67%. Talking about health and justice it is the city structure per se where action has to take place. How do we effectively enter the green into the living environment “of the many”?

Huge potential is to be laid in the streetscape: it is a system throughout the whole city area for everyone, it is publicly owned and available for implementing measures and studies prove the climatic and social efficiency of measures especially within the streetscape. Although widely recognized the implementation takes slow progress due to a variety of reasons such as physical, legislative and coordinative obstacles. To overcome these obstacles, it is essential to follow an interdisciplinary approach where landscape architecture takes up the original role of mediation.

The paper will present insights and potentials drawn from several current research projects elaborated at the Department of Landscape Architecture at the TU Wien complementing each other towards the implementation of microclimatic design measures in the City of Vienna: “Open space and microclimate” (Haus der Zukunft) with focus on the interplay of urban open space and microclimate and testing the efficiency of design variants, “Urban

Fabric” (ACRP) locating hot-spots by defining the climate-sensitivity in regard to the urban structure; and “LiLa4Green” (Smart Cities Demo) focusing on the social aspects such as awareness for and acceptance of measures. A further project is in submission focusing on the existing obstacles hindering the implementation of measures and aiming at their overcoming through a co-creative process with the involvement of stakeholders and planners.

## Beijing Urban Forest: From Abandoned Area to Tree Shaded Park

On September 29, "Beijing Urban Master Plan 2016-2035" was released and "two reductions, one increase and one control" of the core area was proposed, which means gradually reducing the population and the construction density, increasing the green space and water area, and strengthening the building height control, "Urban Forest" thus came into being. Beijing plans to build an urban forest park in each district by 2018, Guangyang Valley Urban Forest Park of Xicheng District became the first pilot project opened to the public. Guangyang Valley takes an area of 3.3 hectares, makes full use of the basic principles and methods of forest ecology, and draws on the mature experience of afforestation, landscape ecology and other related disciplines.

The location of Guangyang Valley used to be an open space that has been idle for more than 10 years. Due to the rapid development of Beijing's urban area and the dismantling of illegal construction, a large amount of similar abandoned space was found in the core area. Guangyang Valley has made the effective conversion of an abandoned land in Beijing core area to enhance the urban ecological quality and citizen's green experience.

Different from ordinary urban green space, urban forest focuses on native species and natural plant community, gave full consideration to other creatures such as animals and colonies. The ecological benefits of the Guangyang Valley may take time to manifest, but its forestry atmosphere has already attracted thousands of neighbours and passers-by in a year of openness. In combination with the sponge city theory, most squares and roads adopt permeable paving materials to deal with the storm water issue, the shallow furrows and pebbles could largely reduce the surface water runoff. Rainwater harvesting pool has been designed to collect rainwater, which provides drinking water for small animals and forms a growing environment for wetland plants.

Given by the current high-density living environment of Beijing city, the urban forest is a sustainable approach for urban transformation. The urban forest park that combines new construction technologies and design theories arises as a trend in the construction of Beijing's green space structure.

**Guangzi Li**, Dr Jun Cai  
*Beijing Forestry University, Beijing, China*



## Emergent Vertical Urban Gardens: Derelict Structures as a Potentially Sustainable Paradigm

The bipolar construct 'Nature vs. Culture' has been often criticized, mostly during the past decade. At present, the possible meanings embedded and/or invested in the notion of 'Nature' is being put into question by philosophers, sociologists, and anthropologists, including Bruno Latour and Philippe Descola; the term 'Natureculture' initiated by Haraway, brings about a less anthropocentric track for thought and action. In this contemporary context, the act of focusing on those among manmade structures which have been reclaimed by natural processes, may lead to a physical epistemological paradigm and thus a new common ground.

Our reading revisits the derelict urban building structures, where a succession of natural dynamics has brought about the emergence of self-sewn gardens. Could these thriving structures instead of being perceived as signs of a deteriorated urban tissue, be understood as the base for the flourishing of public vertical gardens? Thriving derelict buildings indeed can render obvious the reclaiming forces of 'Nature' in the very heart of urbanity. Instead of the monotonous reading of manmade interventions on the pre-existent 'natural' substrata, we aim at the strengthening of the common understanding of the synergy between these processes when and where they are given the space and time for entangling.

The natural dynamics are 're-territorialised' into the urban terrain, we can enounce using a term by Deleuze and Guattari which exposes territorial processes-; this theoretical aspect is yet quite abstract, whilst the immersion of physical examples of these processes –as the one we propose- can open-up this understanding to common knowledge. The theoretical aspects are complemented by characteristic case studies, investigating the ways of developing specialized infrastructure supportive to the new role of the flourishing derelict building structures as vertical garden structures.

The structural elements of these buildings are proposed to be reinforced in ways that do not promote their restoration into their initial condition, but that rather embrace their transformation and open them up as botanical vertical parks. Thus, the materiality of the derelict buildings can get transformed into a more or less monumental infrastructure, which supports thriving parks: enriching any historic city's public spaces with vertical palimpsest structures.

**Dr Julia-Nerantzia Tzortzi-Georgi**, Dr Aspaso  
Kouzoupi  
*Politecnico di Milano, Milano, Italy*





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### *8. Into the blue*

#### Vibrant Urban Greencore: Public Landscape Renovation of Sanjiaochi District, Haikou, China

Sanjiaochi District, located in the centre of Haikou, is one of the earliest built-up area of Hainan province. Used to be a representative area of Haikou, with delightful environment, cultural diversity and popularity, it has become a marginal area that people are unwilling to approach now. With abundant rainfall, all the pollutants in the city flows into the lake, making the water feculent and smelly. Thick shrubs obstruct the views towards the lake, and the hard revetment keeps back hydrophilic activities. Messy municipal facilities, which occupy the public space, and poor-quality street furniture make the spaces negative, and have potential safety problems. As the urban constructions are homogenous, we can't see any cultural specialties and memories here that used to belong to the local residents.

#### Renovation Strategies:

(1) Resilience & Habitats

Diversion of rain and sewage water is the first step to reduce the pollution of the lake. We also transform the hard revetment to grass slope and subsurface wetland. The wetland helps purifying the water and both increase the diversity of habitats at the waterside. The more diverse environment will become more resilient to urban pollution.

(2) Vegetation & Waterscape

To connect the green space and urban space, we concentrate on the transitional space between them, which means the waterfront space. Part of the vegetation are thinned to make the view corridors towards the lake more unobstructed. A series of wood deck are set in the wetland along waterside, which provide sufficient place for hydrophilic activities.

(3) Activities & Communities

At the beginning, we visited the residents to find out their needs. Considering the requirement of different groups in different time periods, we differentiate spaces by scale, pavement and vegetation in respond to different functional needs.

(4) Memories & Characters

We explore the historical memories of the area and express it through landscape elements. We reserve the symbolic trees, use the local materials and set up a sign system designed with local characteristics.

After construction, Sanjiaochi districts transformed to be one of the most vibrant and popular area both in neighbourhood and in the whole city.

**Ruomei Ge**, Haoran Ma  
*China Academy of Urban Planning and Design,  
Beijing, China*



## Linear Parks: Productive Use of Ikorodu Metropolis Natural Drainage Landscapes

**Dr Tunji Adejumo**, Dr Mokolade Johnson  
*University of Lagos, Akoka, Lagos, Nigeria*

Great public spaces system positively impacts the economy, education, health and social life of cities. This is resonated by 2015 Sustainable Development Goals and 2016 New Urban Agenda. But there is dearth of planned and furnished open spaces in most Nigerian cities including Ikorodu metropolis in northern fringe of Lagos State. Previous studies on public spaces in the country focus on public open spaces challenges, absence of public lands in highly built up metropolis and users' perception of overstretched few public parks. Strategic approach to meeting public spaces deficit is often omitted.

This paper explores framing tertiary drainage channels, river flood plains and canal setbacks as productive linear parks. The study is underpinned by related principles of productive landscapes, urban river restoration and public open space model. These land areas are degraded urban wilds threatened by land speculators. The recent Lagos State Parks and Garden Agency 5 Year Strategic Plan advocated for a pro-poor developmental scheme that make plots of public land available for urban farming. A two-level methodology was adopted. First was desktop study and focus group discussion to comprehend desired activities along the four major drainage corridors. Second is drone assisted mapping, analysis and planning. Eco sensitive recreational facilities linear park model was adopted. It explored harmonious relationship between restored drainage corridors and poverty alleviation driven cooperative urban farming schemes and aquaculture centres; active nodal and linear activities; and preserved wetland nature reserve. The four-number generated linear parks was conscious of different communities along the drainage corridors providing 12 neighbourhood scale public parks; six communal farm plots and two nature reserves. These hubs were linked by 20 kilometres off road bicycle routes and nature trails as active linear facilities.

## Qanat as Historic Landscape Element and Future Green Infrastructure of Cities in the Arid Region of Iran

As a living landscape element, Qanat has formed settlements far from rivers and has become the most common characteristics of historical cities in the central plateau of Iran. Accordingly, the Iranian civilization, called “Kariz civilization” (Papoli, 2000), was connected by the Qanats (Kariz) geographically and culturally.

Qanat is a human-made structure of tapping alluvial aquifers at the heads of valleys and conducting the water along underground tunnels by the gravity over long distances. As the most vital nature-based resource and environmentally harmonic system, Qanat was (and often still is) one of the main infrastructures for the sustainability of outlasting historical city form in hot and dry regions of Iran. On the other side, a lack of appropriate management and maintenance system and practices, caused by functional loss or carelessness, reflects a failure of sustainable urban development.

In my project, the landscape form of Qanat and a multi-functional design management approach will be investigated on three scales, the regional scale of units of nature (Macro Landscape), cultural landscape (Middle Landscape) and urban or site scale (Micro Landscape). The method contrasts and analyzes historical maps, aerial photos, and current plans, searching for traces, testimonies, and permanent structures in the ‘palimpsest’ of the landscape in a case study in Yazd city, where the historical urban texture has currently registered in the UNESCO world heritage list.

The form of Yazd city has been evolved from the common hierarchy of Qanat settlements pattern, a core zone with Bazar and social spaces surrounded by central-yard houses and gardens in the next layer and farmlands at the outer layer which count on water organization, every piece of land has had its own Qanat. In fact, a village with one Qanat has been a model for all the settlements of Iran central region and cities were a developed landscape puzzle of this model.

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GLOBAL CHALLENGES

This model will be introduced as a “trigger” of landscape form in this kind of regions, to be a pattern for review the form of historical cities built by Qanat and making a platform for green infrastructure plan and design policies of arid region cities in Iran.



**Malihah Chamani<sup>1,2</sup>**, Dr.-Ing Sören Schöbel-Rutschmann<sup>1</sup>

*<sup>1</sup>Professorship of Landscape Architecture and Regional Open Space (LAREG), Faculty of Architecture, Technical University of Munich, Munich, Germany, <sup>2</sup>Gerda Henkel Foundation, Düsseldorf, Germany*

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### *9. Into the blue*

#### Low Impact Development Practice: The Construction of Exogenous-rainwater Harvesting Park

Low impact development is one of the most important ways of sustainable urban transformation. Taking the rainwater harvesting greenbelt on the east side of Binhu East Road in Qian'an city, China as an example, this paper systematically expounds the practice of building a LID park to cope with seasonal rainstorms and droughts. This project covers an area of 26.7 hectares, which takes up the road's runoff on the west side of the field and other 252 hectares of urban runoff. The site was once a derelict land in the central urban district with a high-density residential estate on the east. Stormwater around the site is the essential problem that the project has to face. A lack of non-motorized lane and recreational open space has also made this area less attractive.

Besides being well designed with resilient infrastructure, the project was combined with landscaping plans, low impact development facilities as well as construction materials which preserved the natural area of the site and thus an outstanding urban open space emerged. Through the interweaving of the blue rain harvesting belt, the red dynamic line and the blue recreation areas, the three-color system has generated various uses as well as created several elastic multi-functional spaces. The value of the project is not only for solving the problem of stormwater runoff around the site of 252ha, but also for solving the problem of lacking the municipal road system and lacking vitality of the site.

As the first completed greenspace project in Qian'an, which has become the first batch of pilot sponge cities in China, this is an exceptional project that has responded well to managing the storm water runoff in the surrounding area.

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More than 80% of annual runoff has been reduced by the rainwater management measures, while more than 85% contaminants of runoff have been purified. Rainwater has become a part of the landscape and clean resource instead being a threat. In the context of rapid urbanization, the project has created a place that balances the relationship between green space, people and urban flood disaster prevention, making it an excellent demonstration.



**Yunyu Ge**, Professor Xiong Li  
*Beijing Forestry University, Beijing, China*

## 10,000 Raingardens for Scotland

UK Met Office records show that since 1910 there have been 17 record breaking rainfall months or seasons, with nine of them since 2000. This increase in rainfall leads to problems of urban flooding and issues with water quality when combined sewer outlets overflow into rivers and waterways. To counter this, the City of London has commissioned a Super Sewer and the City of Glasgow has opened the Shieldhall Tunnel sewer, tackling these problems with an engineered approach: but could there be a softer way, and what is the public response towards such interventions? Think the 10,000 raingardens project!

Raingardens are areas of vegetation designed to absorb water, reducing the likelihood or severity of flooding and helping to protect waterways, capturing rainwater which runs off hard surfaces and slowly releasing it back into drains. These can be many different shapes and sizes, from planter boxes next to a roof down pipe, to a green roof or wall, or a swale system feeding into a retention pond.

The 10,000 Raingardens project aims to raise the profile of existing raingardens within Scotland and make the case for a shift towards retrofitting and valuing of sustainable drainage systems, bringing the visibility of rainwater management to the surface. This presentation will focus on the pilot project in Glasgow, which worked with residents of two tower blocks to better understand attitudes towards sustainable drainage, and install community co-designed features on site.

To support the project, and build a knowledge base for future phases, we visited existing examples of sustainable drainage schemes, building up a bigger picture which has also fed into an online resource, disseminating knowledge further. We will share the strengths, weaknesses, opportunities and threats of the 10,000 Raingardens project, providing lessons learned which will help to inform future initiatives.

**Rachel Howlett**

*Central Scotland Green Network Trust, Shotts,  
United Kingdom*





## The Imaginary of an Oslo Hydropolis

We need imaginaries to create futures for our present urgencies of environmental challenges. The possibility to join forces between practice, university and municipal administration is of great value, as they are complementary in the elaboration of future visions. In the working process of projects, practice and administration are bound to present laws, economy and politics. There is a balance to be found between today's needs and problem-solving in relation to the imaginary that permits to cast ahead and envision a desirable future. Ian H. Thompson comments: "If we could not imagine, we would be stuck in the real". Academia has an important role in the elaboration of imaginaries.

This work presents proposals of transformation from current Oslo with its sunken water infrastructure, and flooded streets from heavy rains to an envisioned "Oslo Hydropolis" that cultivates its special qualities from its waters. Case studies and elaborated projects reveal the specificity of each of Oslo's rivers and watersheds, defined by its context of opportunities and challenges.

The university has taken a role as a laboratory of scenarios where visions and strategies are developed by master students of landscape architecture and architecture. Common ground is created around cases studies, in which university, and administration together with researchers from hydrology, sociology to art have participated.

This work shows how working modes of mapping, interviews, analysis, scenarios development and written narratives can establish a constant dialogue scales and between reality and imaginary. Sharing a common territory permits a comparative reading of each river's characteristics and places the individual work on a river into the greater whole of an imagined socially and environmentally firm Hydropolis.

The designs traduce the issues of water quantity and quality into site-specific stories, visions and finally into a broad bandwidth of projects ranging from local retentions baths, to filtered urban river pools, to rainwater fed apple valleys and salmon ladder parks to the territorial scale of the regulating forest - and became inspiration for some of the future municipal works.

Thompson, I., 2019. Imaginaries in landscape architecture, p. 279.

**Elisabeth Sjødahl**, Sabine Müller  
*Oslo School of Architecture and Design (AHO),  
Oslo, Norway*



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### *10. Landscape laboratory*

#### Plaza Life Revisited: An Urbanological Study 40 Years after William Whyte

Nearly 50 years ago, sociologist William Whyte set off with a small group of research assistants to better understand how people respond to different urban conditions. Carrying clipboards, cameras and tripods, the research crew climbed onto rooftops, strolled through plazas, and sat along streets. Their goal was simple: to make urban life visible. The study, called “Street Life Project”, sought to answer fundamental questions about the intersection of human behaviour and small city spaces – namely, what works, what doesn’t work, and why? A decade later, the findings from this seminal project were packaged into a book and companion video, both written and narrated by the witty, folksy voice of Whyte himself.

Since William Whyte released his work on small city spaces, there have been significant shifts in how urban public space is designed, occupied, and even observed. This presentation unpacks a new study that revisits Whyte’s work to identify new patterns of social life in cities by providing glimpses into how public space is used today. What are the new rhythms and rituals that are in plain sight but are not always recognizable, even to the most seasoned of urbanists? And how can we, as urbanists, learn from these overlooked social patterns to create more vibrant public space in our cities?

Using New York City as a laboratory, the study focuses on 10 recently constructed sites. The selected cross-section of small urban spaces has strong pedestrian flows, are located close to public transportation, have significant street frontage, and represent a range of designers and a range of open space typologies. Premised on the notion that people vote with their feet, the research methodology for the study focuses on recording urban life.

The project started with a list of behavioral hypotheses which were then tested across the 10 selected sites. To do this, the research team used many of Whyte's original data collection tools – photography, video, interviews, and direct observation through hand tabulation and mapping – while also experimenting with novel data collection technologies such as object detection and tracking through machine learning.

**Emily Schlickman**

*Assistant Professor, Department of Human Ecology, University of California, Davis, United States*



## A Vertical Landscape – Reconfiguring Human-Nature Relations

In the perspective of the Anthropocene, sustainable urban transformation is much conflated with the distribution of rural resources sustaining the cities in a broad sense. Rural and urban can no longer be seen as separated worlds but must be seen as interconnected spaces with different atmospheres. The contention here is, that we need to learn and reconfigure human-nature relations through a more conscious interaction with landscapes. This dogma has been the guideline for a large-scale landscape and art project, the vertical landscape - situated in a gravel pit in the middle of a manor landscape in a Danish urban fringe. Much triggered by the global disorder in terms of the degradation and disrespect for the ecosystems and loss of natural resources, Bramstrup manor has been transformed into an active Centre for Art and Leadership as the core activities alongside with the transformation of the landscape into an artistic statement underpinning the necessity for a responsible and common grounded respect for the use of landscapes.

In a close collaboration between the private owner, landscape architect and artist, a new type of landscape has been developed into a public accessible space with The human fence as an artistic intervention, and with the plantation of trees belonging to past climate epochs in order to challenge the changes we experience over time. The landscape and art project, supported by the Danish Art Fund, will be open to the public as an example of a shared ownership.



**Hanne Bat Finke**

*Oslo School of Architecture and Design (AHO),  
Oslo, Norway*

### 3.3 GREEN MOBILITY: Transport infrastructure meets the city

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#### The InterCity Project – Connecting People

Karin Holen Coon, a Landscape Architect and coordinator of transit-oriented development (TOD) in the InterCity-project, shares the strategic approach to planning new stations and encouraging transit-oriented development in the InterCity-project.

The InterCity project is Norway's largest transport project and a key project to achieve goals in the National Transport Plan. Combining increased transport demands with an environmentally friendly transport system; a modern railway serving as the backbone to an efficient public transport system.

The project promises reduced travelling time, increased frequencies and a more robust system with fewer delays by modernizing the railway system, replacing single curvy tracks with a double track designed for higher speed. The project creates a seamless city of nearly 2 million inhabitants and expands the residential and labour market, promoting growth in the cities around Oslo. The InterCity-project is combined with local sustainable land-use and transport planning: centrally located stations, transit-oriented developments and improving conditions for local public transport, cycling and walking.

**Karin Holen Coon**  
*Bane NOR, Oslo, Norway*



## How to achieve Green Mobility in a Car-dependent Society

Arnevik's Master thesis (2017) explored how to achieve green mobility in a situation where urban sprawl and car-based society are challenges. This thesis is based on Norway's national goal to reduce the requirement of travels, especially by car, in all urban areas with environmental and capacity challenges.

Arnevik argues that to achieve a wide-spread change in personal transport choices, it is not possible to use a "one-size-fits-all" strategy. She investigates which physical, functional and socio-cultural factors contribute to each person's choice of transport and how. The study also explores how our travel behaviour relates to the places we choose to live and how this information is valuable for the decision makers implementing the appropriate mobility measures in the right place. Based on this knowledge, Arnevik suggests general principles for achieving green mobility, shows how to apply them and adapt specific strategies to achieve a sustainable change in different suburbs.

The findings conclude that it is necessary, first, to plan around the requirements of people and use the existing resources and structures to create flexible and seamless travel solutions.

This thesis available here: <http://hdl.handle.net/11250/2454282>



**Inger Beate Arnevik**  
*In Situ AS, Oslo, Norway*

## People-friendly Development of Railway Stations

**Christian Wesenberg**

*Bane NOR, Oslo, Norway*

Christian Wesenberg works as a landscape architect at Bane NOR. Bane NOR is a state-owned company that develops, builds, operates and manages the national railway network in Norway. Christian is employed by the Planning Department in the Infrastructure Division where he is professionally responsible for stations and architecture. The Infrastructure Division has responsibility for all existing railway infrastructure including stations in Bane NOR.

His master thesis on historical station parks and environments laid the foundation for his strong passion for people friendly design at stations, and for his work for the national railway company. For nearly 30 years, Christian has worked with stations strategically and in projects in different contexts. He has a strong focus on the function of stations in terms of form to make stations attractive to travellers. He is also a strong advocate for the master plan – seeing and planning the station in the context of its surroundings for a perfect fit. Christian lectures on station design at the Norwegian Railway Academy and Norwegian University of Science and Technology – NTNU and will share some of his knowledge on how to achieve user-friendly stations and happy travellers.



## Transport-oriented Developments – The Human Touch

Landscape architects Elise Rustad Fosses and Pernille Steen Fjeldhus have achieved critical acclaim and media coverage with their master thesis on how the urban fabric affects social life in an area. They analysed different districts in Oslo and identified which structural factors are the most essential to achieve vibrant areas. They found that a combination of qualities in older developments and structures are most successful in creating life than more newly developed areas.

Elise and Pernille have fractured and defined the building bricks of the city and studied them in different city development contexts. They have discovered how the different building bricks contribute to a vibrant city life. They have also looked at how different combinations and compositions of the building bricks affect the city life in varying degrees.

Sales arguments such as high utilization and ground floor cafes are frequently used in new development projects with promises of vibrant areas. But achieving vibrant cities is a much more complicated task than that. Fossnes and Fjeldhus give planners a tool that will make it easier for them to assess whether or not their plans will generate city life. In their presentation, they will dive into some of today's issues related to urban development that prevents city life.



**Elise Rustad Fossnes**

*Planning Department, Norconsult, Oslo, Norway,*



**Pernille Fjeldhus**

*Landscape Architect and Urban Planner, Pir II, Oslo, Norway*

## Can the Motorway approach the City sustainably?

**Einar Lillebye**

*Norwegian Public Roads Administration, Oslo, Norway/Norwegian University of Life Sciences (NMBU), Ås, Norway*

Einar Lillebye, an architect and a professor with over 30 years of experience in street- and urban planning from The Norwegian Public Roads Administration and Norwegian University of Life Sciences, takes us on a journey on different approaches how the motorway has approached our cities. Prior to modernism, the art of city making comprised the symbiotic relationship between the building and the urban realm or as Leon Krier so illustratively put it: "The building block is either an instrument to create streets and squares or a result of a pattern of streets and squares".

During modernism, the urban planning ideology divorced itself from this historical approach to urbanism. Le Corbusier concluded that: "We do not longer need streets; they are an obsolete notion". This resulted in the invention of the urban motorway, segregated both physically and idealistically from the historical city. City planning and transport planning became two separate disciplines. This planning strategy is still prevailing in many cities worldwide.

Today, the notion "urban transport" has been replaced by "urban mobility", "place and movement" have become the key premises for urban mobility design and the growth in private mobility is substituted by walking, cycling and by public transport. Thus, future sustainable mobility involves railway, walking and cycling, but also trams, low emission cars and buses. How can the urban motorway, with heavy traffic, be successfully integrated in the attractive and sustainable city? Or should it?

## The Influence of the Fourth Building Phase of Light Rail Bergen on the City and its Surroundings

**Karl-Magnus Forberg Eikeland<sup>1</sup>, Ingrid Haukeland<sup>2</sup>**

*<sup>1</sup>Sweco Norge AS, Bergen, Norge, <sup>2</sup>Bybanen Utbygging, Bergen, Norway*

This presentation will show how the Light Rail Project from the City Centre to Fyllingsdalen suburb in Bergen will impact its surroundings, as a consequence of 10 years' experience with city development after new Light Rail line in Bergen. The light rail development project started as an infrastructure project, but has changed into a broad urban development project encompassing a variety of urban transformations.

The Light Rail has had a positive impact on the cityscape and on the movement pattern in the city. The expectations from the public for this has been exceeded in the years following the first Line opening. As the developing company together with consultant now designs the fourth building step, it is with a background of both political, public and commercial interests expecting the new line to be as great a success as the three previous. The project includes adaptations for a new city beach, underground stop, public transport nodes, the longest urban rain infiltration zone in Norway, a new trout friendly canal in the middle of a transformation area, a 3.5 km long bike tunnel and numerous parks and plazas.

The presentation will address the impact the Light Rail will have on the City Landscape, and on how high expectations for sustainable, liveable and effective cities sometimes collide and provides tough challenges for the design.

### 3.4 PARTICIPATION: Empowering Communities

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#### The Bristol Approach – A Co-design Methodology to Empower Communities and Citizens

We are living in a world where we have access to more information than ever before. Some manual labour has now been sourced out to robots. In many ways, we should be in a position where we can connect more easily with our friends and neighbours, with abundant leisure time. Instead, people are more socially isolated and suffering from loneliness. Public space is on the decline, the communal spaces which people have congregated in the past (public houses, libraries, and churches) are also at risk of being closed, and in some cities, if you don't have a car, it can be quite difficult to connect with other communities or even reach the centre of the city (e.g. Bristol).

Digital connectivity is on the increase, but this doesn't always mean that people are happier, less lonely or isolated. The overlap between the analogue commons and the digital commons is the space in which we engage with communities to tackle social and health inequalities. One without the other does not work – we need to use technology and data to amplify the voices of the less heard. Additionally, in our city most of the public consultations happen in the digital realm – making sure that everyone can participate in democracy, digital or otherwise, is key to making our cities equitable places.

We use the Bristol Approach, our co-design methodology, to address the issues that citizens identify. The Approach is non-hierarchical and can be implemented in a variety of areas. Recent examples of collaborative projects include the co-creation of air quality sensing tools, developing communication toolkit on physical activity, and how we perceive and use blue spaces in our cities.

**Zoe Banks Gross**

*Community Engagement Manager, Knowle West  
Media Centre, Bristol, United Kingdom*



## Growing a New Normal

Eleven years ago, in Todmorden, West Yorkshire, Incredible Edible was born. A food fuelled revolution. A grassroots experiment to build a kinder more caring future using the power of local food. Where once there were unloved grass verges, herb gardens popped up. Station platforms sprouted herbs and vegetables and the local Health Centre had their inedible landscapes replaced by berries, apple trees and rhubarb.

None of this was because people were bored. None of this was done by experts. And none of this resulted from a consultation that resulted in a report which was placed on a shelf and forgotten. It was just time to stop talking about better futures and do something about it. The wicked issues of climate change, health inequalities, poverty, were and still are all huge issues that the ordinary person could do little about. Or could they?

A simple model of three spinning plates was invented to allow us all to stop being victims and start to build something better in our hometown. The plates were Community meets Learning meets Business. The creation of edible plots all over town; the sharing of the lost arts of what to do with the produce; the support for 'sticky money' local economies by buying from local producers. The basic ingredients of how we live our lives, but with a food twist.

The Trojan Horse of food helped people, irrespective of age, income, culture or ability, change the spaces of their lives and how they felt about themselves. Redefining prosperity through the power of small actions. We went from one town to over a hundred. We were visited by people from all over the world, from Christchurch to Tokyo, who had the same concerns. We learned a heck of a lot about how we could change things if we had the will to do so, but also what the institutions around us need to change if we are to live happily and healthily within our means.



**Pam Warhurst**

*Incredible Edible, Todmorden, United Kingdom*

## 3.5 URBAN ECOLOGY: A Practical Guide Vol. 2

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### Nature-based Solutions, without Services, without Apologies

Green area points/blue-green factor/biotope factor systems—or green points systems—are increasingly common regulatory or incentive systems designed to promote blue-green qualities in urban housing development projects. In this study, we explore the differences and parallels of green points systems from Oslo, Stockholm and Berlin: systems that vary in complexity, age and goals for green and blue structures. We illustrate our comparisons with example developments from these cities.

Green points systems in European cities have generally been implemented without the explicit use of an ecosystem services assessment framework to determine preference weighting/relative valuation of green and blue structures. This means that, despite the recent focus on urban ecosystem services and benefits, nature-based solutions in urban development projects can be planned, designed and implemented without using an ecosystem services framework - without apologies. This resonates with studies of urban planning that have found the ecosystem services framework to be at odds with a rights-based planning approach. However, utilizing an ecosystem services framework would offer a consistent approach to adapting green points systems from one city to another, and could promote more consistent and transparent updating of existing systems. The talk's title is a reference to a seminal paper on monetary valuation which argued that environmental policy choices could be made efficiently without monetary valuation, without apologies:

Vatn, A., Bromley, D.W., 1994. Choices without Prices without Apologies. *J. Environ. Econ. Manage.* <https://doi.org/10.1006/jeem.1994.1008>

**Erik Stange**

*Norwegian Institute for Nature Research – NINA,  
Oslo, Norway*



## Farming the City!

The rooftop farm ØsterGRO has existed for five years. How and why was the initiative 'ØsterGRO' started? There are a number of reasons for growing vegetables in the city. Why is it necessary to grow and show food in the city? Food waste, local food, organic vs. conventional and the understanding and connection to agriculture are some of the reasons for having a garden on a rooftop in Copenhagen.

This presentation will show how ØsterGRO was built and designed, from lightweight soil, to buildings necessary facilities and construction. Making a green rooftop farm is not always easy and several challenges had to be overcome throughout the past five years. Some of the issues are site specific, however, many learnings can be useful in future projects. Currently, they are working on creating more rooftop farms.



**Kristian Skaarup**  
*ØsterGRO, Copenhagen, Denmark*

## The Governance of Nature at two Swedish Cemeteries – Contemplating Cemetery Design, Planning and Management from a Nature Perspective, Approaching the Value of Symbolic Framework and Urban Biotope

When society is occupied by integrating natural processes in city planning and urban design, the governance/management of natural processes in the urban cemetery landscapes still seems orientated towards cleanliness and order. Raked gravel, cut hedges, well-maintained grass fields dominates over free growing vegetation, shrubberies or meadows that can invite biodiversity in a better way. Although such areas seem to be more common lately, the process is slow in comparison with other urban parks and gardens (cf. Rugg J. 2006).

In a project two Swedish cemeteries chosen for their multi-cultural setting and a landscape design secured by the architecture competition, were investigated; Östra kyrkogården in Malmö designed by Sigurd Lewerentz between 1917-1969; Järva cemetery in Stockholm, existing as design proposal by Kristine Jensen and Poul Ingemann from 2010. The focus was on place making, meaning making and normative notions, and the interdisciplinary research team insured a broad disciplinary approach. One of the underlying interests dealt with how the designers, the managerial staff and the users looked upon a wilder and less controlled nature as part of the cemetery design and management, with questions such as; How are natural processes dealt with and taken care of? How is nature spoken of in oral conversations and planning/design documents?

Through qualitative interviews with grave right holders and management staff at Östra kyrkogården and through document studies of competition program, proposals and jury evaluation for the forthcoming Järva cemetery, these aspects of nature have been addressed. Dualities such as structure/non-structure, materiality/ephemerality, processual/static, and the role of nature both as symbolic framework and as urban biotope has been discussed in a broader context of contemporary memorial culture, cemetery design, urban parks and landscape aesthetics in the 20th century (e.g. Nassauer, 1997; Whiston Spirn, 1998; Hunt, 2001; Lintott, 2006; Brady, 2010).



Important questions have been: What acceptance is there for introducing natural processes to take place in the cemetery? and What meaning or role could nature have as a sacred platform or symbolic framework in the cemetery environment?



**Professor Carola Wingren**  
*SLU, Alnarp, Sweden*

## Bumblebee Plan for Moss Municipality

**Mari Frydenlund Grimstad**, Cecilie Kildahl

*Moss Municipality, Moss, Norway*

Moss City Council has its very own plan for bumblebees. The aim of the Bumblebee Plan is to preserve areas with flora which is important for bumblebees and other pollinators. We are now planting bumblebee friendly flowers, letting flowers blossom in green spaces and parks before we cut the grass. We minimize the use of insecticides and communicate with private garden owners to teach and inspire them to develop bumblebee friendly gardens. We have also undertaken a screening of the municipality to find the areas that are particularly suited to bumblebees.

## 3.7 LANDSCAPE ADVOCACY

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### Landscape and Democracy: Towards Promoting a Democratic Framework for Public Work

“Everyone has the right to live in a great place. more importantly, everyone has the right to contribute to making the place where they already live great”, Fred Kent.

The relationship between the environment and the people occupying those spaces has been the subject of much research and is well understood in academic circles. Substantive evidence has shown that the environment, landscape and urban spaces around us has a direct and considerable influence on people’s lives (Samuelsson et al., 2018; Støen et al.,2015). These spaces, designed by landscape architects and urban designers, can easily change people’s habits, attitudes and emotional states. As such, over time, they can change the culture and the collective behaviour of a society. With such broad impact on people’s lives, it is important to understand who designs these public works, from what perspective, with what motivations and which factors ultimately contribute the most during the process.

With many competing priorities and project stakeholders involved in any project or public work, it is difficult to determine whose perspectives get priority in the design. Experts naturally have their own point of view—often based on working knowledge and professional experiences—while citizens consuming those spaces may have differing but otherwise valid opinions about the design and public works around them. Beyond designers and citizens, there are a plethora of other stakeholders that play a part in the design process; from the funding clients and their vision, to bureaucracies of internal corporate structures, environmental or regulatory challenges as well as timelines, resources and budget constraints.

As a result, the primary challenge is if designers are the only ones with positional power to make decisions, then they are solely responsible and susceptible to externalities and influences such as governments, local and global politics and religion. These aspects are more powerful than designers’ analysis. They are such as pharaonic powers in a public works.

We set to explore, by examining multitude of public works around the world, on the potential factors and design outcomes and consequently the related forces that may have influenced those decisions.

**Yasaman Hosseini**, Assistant Professor  
Mohammadreza Mehrabanigolzar  
*Shahid Rajaie University of Teheran, Tehran, Iran*



## Landscape Architecture Fieldwork

This paper will address a surprisingly large gap in the literature by demonstrating how fieldwork inspires and informs landscape architecture innovations. Using case studies to describe forms of fieldwork especially pertinent for landscape architecture and borrowing from anthropology and other disciplines, the paper will demonstrate that fieldwork is more than a method: it has the potential to unearth novel design challenges, illuminate robust design solutions, and generate new knowledge and theories of site.

In recent years, landscape architecture has been rediscovering its long roots in fieldwork—extending back to the origins of the profession. The teaching of fieldwork was particularly strong at the University of Pennsylvania under Ian McHarg’s leadership in the 1970s and 1980s, but this period is not well-documented because scholars have generally preferred to foreground McHarg’s environmental credentials over his anthropological interests. This paper will begin by exploring this historical ground with the intention of centring fieldwork, in practice and education, within a larger disciplinary context.

Fieldwork means different things to different professions. Anthropologists, for example, will typically spend at least a year in the field, living among a community, building trust, learning language and codes and patterns of behaviour, and carefully and methodically noting details not only of peoples’ daily lives but also aspects of their objects and environment. Usually the goal is to understand various phenomena through their study in situ. Through fieldwork, anthropologists begin to understand patterns and unearth relationships that might have gone unnoticed before. Such in-depth analysis is what has come to be understood as “thick description,” a term coined by Gilbert Ryle and popularized by Clifford Geertz in his seminal book, *The Interpretation of Cultures* (1973).

For landscape architecture, a profession fundamentally concerned with the interactions between people and the land they inhabit, a faster form of fieldwork is required. The world moves much more rapidly than anthropological fieldwork can follow. In contrast with anthropological fieldwork, landscape architects are also concerned with the design and the changing of the land, considering the needs of the inhabitants. Landscape fieldwork implies a projective nature that moves beyond description to action and prescription.

**Dr Gareth Doherty**

*Harvard University Graduate School of Design,  
Cambridge, United States*



## Chinese Rural-urban Migrant Integration and Urban Public Space: A Theoretical Framework

**Chen Qu**

*University of Cambridge, Cambridge, United Kingdom*

In the context of globally urban sprawl and mobility, Chinese internal rural-urban migration has caught scholars' attention, with these migrants' integration, linked with their settlements and urban life, as a core in migrant studies and political discourse.

This paper firstly reviews the research on this migrant integration, which shows the migrants usually face various challenges in cities, but primarily elucidates the integration sociologically, lacking an exploration of the role of urban environment, especially urban public space, although such space is of importance to residents' democratic life and cities' cultural diversity as a type of infrastructure and spatial resources. Thus, the features of urban public space and its connections with social cohesion/integration are subsequently presented, according to which integration is argued to be redefined, described and interpreted from a perspective of human-place nexus, and understood by focusing on migrant everyday life and urban experience.

Finally, a theoretical framework is provided based on urban experience theory in different (mainly western) traditions to understand the influence of built environment and post-human components on dwellers' behaviour and affections as well as to guide future research that might connect, in addition to social and structural factors (e.g., Chinese household registration system), material components and spatial characteristics in urban public space to migrant everyday urban experience and then migrants' multi-dimensional integration, particularly the place-based integration. This research may make a contribution to a new approach to addressing migrant integration issues, and political debates surrounding migrant access to urban public space and rights to the city.

## Public Space Transformations: A Participatory Process with an Urban Intelligent Project in Florence (Italy)

Paper accounts for a process of Urban Collaborative Regeneration in some parts of the Municipality of Florence (first outskirts and Oltrarno Historical Centre). The process of revitalization concerns various "tracks" of the city, in particular the Peripheral District "Le Piagge" and is part of a possible Vision for the future of the city of Florence within the Regional Reference Framework called Tuscany 4.0. Principal Stakeholders: Region, Municipality FI, University, Citizens, Artisans. We have used inclusive and co-design methodologies like Design Thinking and normal hackathon.

The 21st century Urban Agenda requires a substantial updating of the practices of transformation, government and land landscape-planning. The digital innovation of cycle 4.0 modifies the complex relationship between fixity and movement, intact infrastructures and meta-utilities, realizes the real time and invites you to look at the city more as a mental device than a physical-functional. There are cities (and city networks, such as iCity, to which FI belongs that try to respond in an innovative way these processes with experiences that interpret concrete problems (differences, inequalities, rights, participatory and commoning issues) and that with project practices build and experiment, new Conceptual Apparatus for Projects.

Adapting and improving how cities are shared, will undoubtedly be a critical need in the coming years and decades. The SDGs have a specific goal, to make cities and human settlements inclusive, safe, resilient and sustainable. Under this goal, sub target 11.7 states that by 2030 we should provide universal access to safe, inclusive and accessible, green and public spaces. Public and shared spaces are emphasized because they are integral to any urban development process that aims to be inclusive, equitable, and sustainable.

Public spaces are publicly/privately owned land designated for public use, and are accessible by all citizens without restrictions. Well-designed and maintained streets and public infrastructure help lower violence, and make spaces available for formal and informal social, cultural, and tourism/economic activities that strengthen a community's identity.



Public spaces also promote inclusion, and combat discrimination. Investments in street and public space infrastructure improve livelihoods, and allow for better access to job opportunities, information. Public spaces are also critical for environmental/green services sustainability.



**Arch. PhD Landscape Chiara Odolini**

*University of Pisa, Pisa, Italy / University of  
Florence UR PPCP School of Architecture, Florence,  
Italy*

## Developing Transdisciplinary Understandings of Landscape in Disaster Risk Reduction Research. The Mediatorial Role and Potential of the Landscape Architect

This presentation will reflect on the role of a Landscape Architect (the author) working to promote a transdisciplinary understanding of landscape in the context of Disaster Risk Reduction (DRR) in the South American Volcanic Arc. The research sets out to influence policy formation in Volcanic Landscapes by re-centring the relationship between citizens and their landscape.

Since 2016 the author has worked with a Volcanologist and a Human Geographer to address the use and usability of Hazard Maps in Volcanic landscapes. The author will open with reflections upon her own knowledge discoveries in the disciplinary area of volcanic risk and focus her assertions upon the necessity of working to mediate between social and environmental research and indeed between social and environmental researchers. The author situates Landscape Architects as holding a unique 'mediatorial' skill set in defining new territories of common ground where individuals abandon their inclination to 'defend' their field and explore the limitations of their own expertise.

The paper will outline current activities in DRR where landscape can be understood as a powerful mediatorial genre. The author will present her most current research, focusing upon the production, siting and dissemination of a documentary film. The film was made by a local filmmaker as part of funded work in which she was involved was shot before and after the devastating eruption on Volcan Fuego (Guatemala) in June 2018. The film's capacity to bear witness in the landscape will be examined along with its potential to illicit other (and alternative) representative forms, contesting the current and often dominating authority of the hazard map in DRR today.

**Lisa Mackenzie**

*University of Edinburgh, Edinburgh, United Kingdom*



## Beijing Old Enterprises Community Open Space Restoration with Participation Design—Case of Shougang Gucheng Dwelling District

Enterprise community was the typical urban social space during the 1950th to 1990th in China. However, with the post industry city development and old enterprises breaking up, the open space in old communities meet the challenges from new living style, social value, age structure even technologies. How to regenerate these common spaces with landscape approach and how to rebuild up the health relationship between people and nature on these common grounds that has become our landscape architects' mission. In the case of Shougang Gucheng dwelling district, the participation design method was introduced to help the regeneration for both the space and relationships.

At the beginning, local residents have enthusiasm but limited trust with designer and the participation program. Through the unofficial survey, conversation and meeting, with official questionnaire and schematic design conversazione, it shows that, people pay more attention to the security, privacy, noise, sanitations and insect disturbance. Designers with meticulous communication and work can solve the distrust, then the residents are willing to join the renovation activities. Moreover, as most of the participants are senior-aged people, the voice from not only the young but also the middle-aged people could not be considered directly. Therefore, both the weekend community activity and the father-mother-children environment education activity can improve some good effects. Nevertheless, old enterprise community residents are used to the top to bottom social management inertia, and keep the passive position to avoid pay more money and time than their neighbours. The new governance system needs to be established in these common grounds to motivate the indigenes' potential for health and sustainable future.



**Dr. Fei XUE<sup>1</sup>**, Yiyun ZHANG<sup>3</sup>, Jing ZHAO<sup>2</sup>, Yue HU<sup>2</sup>,  
Tongsheng BAI<sup>1</sup>, Moheng MA<sup>1</sup>, Hancong MA<sup>1</sup>

<sup>1</sup>Beijing University of Technology, Beijing, China,

<sup>2</sup>Beijing Gardening and Greening Bureau, Beijing,

China, <sup>3</sup>School of Architecture, Tsinghua University,  
Beijing, China

## Landscape Advocacy

While green and blue landscapes are recognised by many communities throughout the world as part of their culture, there is often complacency about protection of landscape values, because the landscapes are so familiar. Like an artwork on our wall they are seen frequently and after a while become unnoticed. Slow changes, which may be to the detriment of healthy ecosystems may not be observed. While wide concerns have been raised about many environmental issues, most notably the effects of climate change, many of our countries and decision-making communities remain complacent about the assumed resilience of our environments and landscapes, including wildlife and seascapes.

The New Zealand Landscape Foundation has grappled with this complacency and lack of apparent interest in landscape change, trying websites, articles, speakers and events to try to stimulate and encourage understanding, passion even, about local landscapes. Some of our ideas have been picked up by others which is encouraging, but this is also an incentive to move to other ways to engage people. A country-wide landscape research strategy is now our focus. We hope that by acting as a knowledge hub: encouraging and advocating for research on key landscape issues, better understanding and more urgency to address environmental pollution, and other landscape degradation issues will result. Our stimulus was Professor Richard Wellers' web-based work, Atlas for the End of the World, through which he identifies conflict zones between urban growth and endangered species. We hope the Landscape Foundation's research strategy, to be launched at the end of 2019, will contribute to this work as well as call for action to address impacts. The aim is a broader commitment to protection of the landscapes which nurture communities.

The work underway and those contributing to it are part of this advocacy story. The first chapter of our strategy is Māori landscape research. Our approach is that to recognise diversity we need to start with an indigenous view. Other cultural interests will follow.

**Dr Diane Menzies**

*Landscape Foundation, Auckland, New Zealand*



## 3.8 GREEN INFRASTRUCTURE

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### The Railway Path as Tool for Landscape Renovation of Barreira in Guapimirim

The railway during the late nineteenth century had a great magnitude in connecting cities, consolidating territories and promoting modernization in many places all over the world. However, during the late 1950's, the railway network was replaced by highways. The communities of Guapimirim, and Barreira specifically, flourished because of the presence of the railway, also due to the bucolic atmosphere attracted a population of artists, travellers and explores. Since the railway was decommissioned in 1957, these communities were soon incorporated to the commuter towns of the metropolitan area of Rio de Janeiro. The social impact of the railroad's closure had a direct impact on Guapimirim's economy, leading to a recession, and making it dependent on Rio de Janeiro and neighbouring cities. Moreover, due to the vast majority of its territory considered a natural conservation reserve, Guapimirim has long faced limited economic possibilities.

The main objective of this project is to promote community-based tourism by developing a heritage path towards the existing route of the old railway, using this path as a connection line through the local history, and the important historical and natural sites. This path could also connect the Serra dos Orgãos National Park to Guapimirim city centre and promote more consciousness about the importance of the local history, strengthening their local identity and social cohesion. Making these communities more sustainable and aware about the importance of its surrounding nature and their local traditions.



**Daniel Athias de Almeida**

*Federal University of Rio De Janeiro - UFRJ, Rio De Janeiro, Brazil*

## Study on Greenway Network Planning Based on Big Data Social Behaviour and Urban Potential Space Framework

Chinese cities are facing urban transformation, and urban greenway should be high ranked in the future urban construction. While the selection of urban greenway is influenced by complicated factors, such as the existing urban land use layout, the network structure and the usage demand. At present, China greenway route selection is mainly based on suitability analysis of the value and potential of urban land use, but rarely related to the daily use demand of citizens. In particular, there is a lack of consideration of the two key factors: the conversion potential of urban land and the usage demand of urban residents. Under the new big data environment, this paper uses big data to explore a greenway network planning model, which consists of GIS spatial analysis (evaluation of potential space of urban greenway) and social behaviour analysis of big data (evaluation of use demand of urban residents).

From the perspective of urban greenway potential space evaluation, including: 1) high frequency use space, evaluated through urban public space vitality and urban green space landscape vitality. 2) Unutilized space that can be transformed, namely river channel, railway and protective greenbelt. From the perspective of social behaviour analysis of big data, including: 1) usage demand analysis of existing park and built greenway based on big data of Web review. 2) bicycle's usage demand analysis of greenway node space and linear space by shared bicycle OD data and trajectory data.

Linear space and point space can be drawn from the above analysis. The linear space is used to establish the cost grid of greenway suitability, while the point space is used to establish an evaluation index system and select greenway nodes. Then use minimum cost path algorithm to generate the preliminary scheme of greenway selection by connecting nodes and cost grid in ArcGIS.

Finally, combined with big data analysis of greenway usage demand, the structure and function of the greenway planning is optimized to form an overall urban greenway network system. Under the background of new technology development, a controllable and quantitative data model of urban greenway selection is explored.



**Xixi Chen**, Liang Li  
*Beijing Forestry University, Beijing, China*

## Car-free Oslo: A Delicate Exercise

Oslo municipality wants to change the city centre of Oslo into a better place to live, a place with less dominance by cars. Green mobility is supposed to form the backbone of the desired development. This means for example more people walking and biking in the city centre, increased use of public transport and less cars. The main challenge is how to fit clear strategic objectives and functional requirements on street design into the same puzzle. Among the dilemmas are:

- Who should be prioritized in the liveable car free city, and to what cost?
- Is it best to integrate or separate road users to create an even more liveable city?
- Will an extensive pedestrian zone benefit cyclists or inner-city commerce?
- Does Oslo's (green) urban landscape benefit from the potential transforming of parking-areas?
- Does shared space form the solution on lack of space, or does it introduce new conflicts by influencing the competitiveness between public transport and cars?

By using design elements from Oslo and other car free areas, as well as by taking geographic areas in the centre which have been central areas in the car free design process by Oslo municipality as examples, these dilemmas will be introduced and discussed in the presentation. By taking different user perspectives into consideration it will be clear that a solution best for one not necessarily is best for one other.

By using design elements from international working experience from Norway and the Netherlands in the fields of sustainable city planning and mobility planning, along with experiences as a consultant for Oslo municipality on several car free and green mobility projects through the last years the dilemmas will be actualised and illustrated in the presentation.



References:

Bilfritt Byliv Samlerapport 2018 – Midtveisevaluering (project by Sweco for PBE)

Bilfritt Byliv – evaluering av trafikale effekter (project by Sweco for BYM)

Områderegulering for gater og byrom i Oslo sentrum – trafikkrådgivning og konsekvensutredning (project by Sweco for PBE)



**Sara Polle**

*Leader Mobility, Sweco, Oslo, Norway*

# Integrated Green Transportation Infrastructure as Impetus for Sustainable Urban Transformation: Three Context-Based Case Studies on Xining

Xining is typical of cities under rapid urbanization in China. The old town occupied by high-density roads and buildings accounts for insufficient green open spaces. Meanwhile, the speedy development of new urban districts led to the transformation from natural to constructed land where tremendous newly built transport infrastructure puts threats on the ecosystem. This phenomenon prompts the strategy of green infrastructure into the regeneration of grey infrastructure. This paper elaborates three typical built landscape projects involving transport infrastructure that promotes the green transformation of Xining.

## 1.Green window at crossroads

The Wuyi crossroad renewed simultaneously with civil engineering projects such as road upgrade and building removal. Taking the residents' physical activity demand, traffic accident prevention, and water-saving into consideration, we improved the quality of the declining streets, optimized the traffic diversion, and integrated resilient stormwater infrastructure into the green space. The project demonstrates sustainable transformation in the old town where the construction of high-rise buildings was dominating way of development.

## 2.Blue-green corridor under the highway

The Liberation Canal was a cemented irrigation channel abandoned under the highway that separates natural metabolism between the new district and the hillside. We tackled the transportation hinder by careful gradings, reconnected the greenways and turned the canal into a natural river with partial conservation of its structure as heritage. This project serves as a multifunctional corridor generated from extremely complicated field conditions.

## 3.Dynamic green centre between abandoned railways

The Sea Bridge Park in the new district is another site surrounded by viaducts, abandoned and in-service railways. We conducted LID design according to complex terrain and discovered the old railways as space context. The vital transformation from vacant land exhilarates the new district with more open space and a lift in land value.

By summarizing the design strategies of the projects and quantitative assessments on their performance in sustainability, the paper shows that the acupuncture of landscape into transport infrastructure not only increase the resilience towards environmental changes but also enhance the connectivity of urban ecological system and the provision of various services, therefore, a critical impetus to sustainability in urban renewal with limited space and resource.



**Xiaoyang OU**, Xi ZHENG, Jing WANG, Yongwei NI  
*Beijing Forestry University, Beijing, China*

## Urban Public Space Design under AR Transformation

**Luyao Dong**

*Chongqing University, Chongqing, China*

Cities play an increasing role as our daily habitat, and smart cities has gradually begun to change our lives. In information technology, especially mobile Internet technology to our lives bring infinite convenience. In 2018, China decided to accelerate the development of China's virtual reality industry and promote the application of virtual reality innovation. At the same time, the progress of science and technology in recent years has brought about great changes in people's living habits and lifestyles. The commercialization of virtual reality technology is experiencing rapid growth. The pursuit of science and technology by people, especially young people, will lead to a great revolution in the combination of the real world and the virtual world.

Among these many changes, the problem of the material attributes represented by the functionality of the city will gradually improve with the development of the times, the progress of science and technology, and the transformation of ideas. But the design of urban public space is worth thinking about in this transformation. In this revolution, AR transformation will enhance the attractiveness and vitality of public space, affect the overall competitiveness of the city and the satisfaction of the public, and directly affect the overall quality of public space construction.

The design of public space is bound to progress with the times and consider the transformation of the design methods and design ideas of urban public space under this transformation. This paper first analyzes the problem of urban public space in China, introduces the possibility and practice of urban public space AR transformation, and puts forward three changes that urban common space AR transformation will bring to urban public space: experience, participation, and leisure enhancement. Finally, three design strategies of urban public space under the perspective of AR transformation are obtained: narrative, interactive, and active leisure.

## From Grey to Green – A new Traveller Experience at Railway Stations

Designers Ginette Blom and Jacqueline Moors will speak about their ongoing passion for railway stations as places where people spend precious time, day after day. According to Blom&Moors, these windy places where grey steel dominates the atmosphere, are in need for a better quality of stay. By designing comfortable furniture of sustainable materials, adding living green and by creating a less technical appearance by applying friendly-looking shapes and natural colours, they want to improve the passenger experience and offer a pleasant stay.

Recently a completely new line of furniture has been introduced at a significant number of Dutch railway stations. The series is based on the 'Design concept for station furnishings' developed by Blom&Moors, in cooperation with ProRail, NS Stations and Bureau Spoorbouwmeester. Blom&Moors set up 'layout principles' for the arrangement of objects in station halls and at platforms, as well as 'design principles' to define the shape, size, material and colour of the furniture.

At this moment Blom&Moors is involved in the design process for a new waiting room and seating system commissioned by Deutsche Bahn. The studio also works on the concept for station Hamburg Harburg (Germany) by reinterpreting the former 'Bahnhofsgarten' by stimulation of the growth of wildflowers. Public transport needs strong new impulses to keep people travelling green. Blom&Moors sees platforms as urban landscapes where greenery is essential to offer a pleasant place to stay and connect stations to their surroundings.



**Ginette Blom, Jacqueline Moors**

*Blom&Moors - design for public space, Tilburg, Netherlands*

## How Common are Streetscapes?

Common spaces can be defined as entities of the city which are open for public use. Urbanists and sociologists like Richard Sennett call for an open city which contains places of encounter and exchange. Increasing densification results in a lack of such open spaces. As transformation and distribution of space are an important basis for environmental improvement and social equality, this shortage has to be overcome. As streets occupy the lion's share of public space it is worth examining their potential.

In Western Europe measures to initiate a variety of street uses beyond traffic have been claimed for by initiatives and non-governmental organisations for the last six decades. They have now in a time of rapid densification to some extent made their way into development plans and guidelines in many cities. They announce that streets are public open spaces for everyone and every use and can be seen as a compensation of lacking open spaces in general.

The Institute of Landscape Architecture at the University of Natural Resources and Life Sciences Vienna conducted a comparative study of four growing cities: Vienna, Munich, Rotterdam and Copenhagen. The real uses as shown in the street's sections were explored. Furthermore, the development plans were compared, revealing a similarly strong affinity to the interpretation of the street as a common. In this presentation the material used for the studies will be revisited in order to extract these definitions of streets as a truly public open space in a communal sense and how different stakeholders are acting, be it private initiatives or municipal actors.

In the presentation the communalities and differences in the physical streetscape will be elaborated. In order to verify the postulations and goals in the plans we will also present the experts involved in the production of those documents and their possible interests. We will discuss how much space is dedicated to which activities of different speeds and show how these uses are supported by design measures beyond basic furnishing. The results give an idea of how streetscapes are produced as public open spaces and what role landscape architecture can take.



**DI Jürgen Furchtlehner**

*Institute of Landscape Architecture, University of  
Natural Resources and Life Sciences (BOKU),  
Vienna, Austria*



**Professor DI Lilli Lička**

*Institute of Landscape Architecture, University of  
Natural Resources and Life Sciences (BOKU),  
Vienna, Austria*

## 3.9 URBAN NATURE

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### Green Spaces as a Solution to Reduce the Fine Particle Pollution in Beijing, China

Since 2013, fine particle has become the main air pollutant in Beijing and caused adverse effect on citizens' lives and health. Though the government has made plenty of efforts to reduce the pollutant, it is still high, at annual average concentration of 58  $\mu\text{g}/\text{m}^3$  in 2017 according to a government air quality report, which is nearly 6 times of the suggested standard by the World Health Organization. Researches show green spaces can reduce fine particle pollution in cities by direct ways or indirect ways. The former includes dry deposition and isolation diffusion of fine particles, the latter includes mitigation of urban heat island effect so as to lower temperature which fine particle combination needs and to improve local air circulation which can accelerate diffusion, and reduction of building energy consumption so as to reduce the emission of fine particles.

Therefore, a well proposed urban green space system will help Beijing to reduce fine particle pollution. However, the problems of current urban green space system in Beijing are:

- 1) there are not enough green spaces in built areas, so the heat island effects are significant and cause secondary pollutants of fine particles;
- 2) different scaled green spaces are unbalanced located in Beijing, so that different scaled heat islands are unbalanced located and the diffusion of fine particles is abated;
- 3) the existing green spaces are not for reducing fine particle pollution, so they don't work well to obstruct the sources of fine particles or to help diffusion of fine particles.

In order to solve the problems above and to reduce fine particle pollution in Beijing, green spaces need to be planned to improve the existing green space system.



This research focuses on the issues of fine particle pollution, and attempts to reduce the pollution by implementing green spaces in Beijing. Through investigation on site, remote sensing image analysis and climate simulation, this research proposes an optimized greenway strategy for reducing fine particle pollution in Beijing.



**Prof Fan Fu**<sup>1</sup>, Associate Prof Caijun Zhao<sup>2</sup>,  
Prof Fei Dai<sup>3</sup>

<sup>1</sup>*Beijing University of Civil Engineering and  
Architecture, Beijing, China,* <sup>2</sup>*Huazhong University  
of Science and Technology, Wuhan, China,*

<sup>3</sup>*Huaqiao University, Xiamen, China*

## Military Defence, Art & Environment: Creating New Habitat and Increased Biodiversity for Fågelriket (the Avian Kingdom) in Sweden through Mediated Ecological Disturbance

The Avian Kingdom is located in Skåne in Southern Sweden. If you stand at the ridge in the town of Harlösa and look south, you can clearly see the old riverbed that is punctuated by Vomb, a large lake that feeds the river snaking through the glacial till. This sandy, fertile soil is ideal for agriculture and is shared by the military in Revingehed.

In the past, the Swedish Army would periodically practice manoeuvres over the fragile layer of soil and lay waste to the land. This ecological disturbance actually contributed to the biological diversity of the valley, and a consequence, the area has the richest biodiversity in Sweden. The freshly exposed sand banks foster the growth of rare plant species as well as a corresponding influx of rare insects and birds at the margins of the disturbances. The seemingly incompatible operations of the military and agricultural production have actually created an ecosystem that teams with biodiversity.

In the past few years, with a decline in resources for the Swedish Military, the operations have decreased and there have been fewer ecological disturbances. The author will present his land-art work "Broken Kilometre" with both photographs and video and discuss the collaborative process for this land-art work, which was created in conjunction with ARNA (Art and Nature), the Swedish Military and The County Administrative Board's Nature Management. "Broken Kilometre" is comprised of a segmented, kilometre-long cut in the earth that draws on, and celebrates the tradition of land-art while simultaneously fostering increased biodiversity.

The project, completed last spring through the efforts of The Swedish Military, The County Administrative Board's Nature Management, and the artist residency program, ARNA (Art and Nature) created new relationships between seemingly incongruent entities.



**Kevin Benham**

*Robert Reich School of Landscape Architecture,  
Louisiana State University, Baton Rouge, United  
States*

## Creating Biophilic Green Space—The Research on Spatial Layout Patterns of Habitat Units and Human Disturbance Control in Urban Parks

Green spaces, especially urban parks, provide habitats for urban wildlife. Birds are extremely valuable in terms of ecology and ornament, thus becoming the indicative species of urban biodiversity and frequently contacted wildlife of urban dwellers. The layout of space greatly affects the quality of the overall park habitats due to the process of micro-habitats distribution and visitors' disturbance intensity control. This paper attempts to explore how the park layout organizes the spatial relationship between bird habitats and visitor activities, thus affecting the diversity and quantity of bird populations.

In the first section of this research, based on biotope maps of 24 parks in Beijing and avian population data from field investigations and U-Birds, an embedded app designed by us to record bird photos and locations for tourists, we used the Self-Organizing Map to perform multivariate analysis and dimensionality reduction on complex habitat factors such as terrain and vegetation canopy. In order to encode the SOM result with a systematically designed colour scheme, we introduce the CIELAB colour table and use colour channels as the parameter coordinate of environmental factors to represent node values. Through visualization processes, we get the gradient map of habitat units' quality within each park, so as to define the distribution of the core habitats.

In the following section, by grabbing specific coordinate positions of visitors in parks on the social media website, we obtained the visitor density distribution of each park and use these data as the substitute for the intensity of human disturbance in parks. Through overlapping the disturbance distribution with the habitat quality map, we abstract the spatial relationship between park's core habitats and high intensity disturbance areas into basic layout patterns of encircling, parallel, isolating, dispersing and splitting. Based on the correlation analysis between these patterns and bird richness, we discuss the application scenarios, advantages and disadvantages of each patterns.

Finally, taking the Yexing Park as an example, we demonstrate how to choose the appropriate layout mode of habitat units and human disturbance in construction of a biophilic park based on the existing bird resource, site condition and needs of public activities and ornaments.



**Ying Zhang,** Tingting Huang, Jiaoying Deng  
*Beijing Forestry University, Beijing, China*

## Ecological Function Zoning Planning of Beijing under the Dynamic Evolution of Space-time

It is a hot issue that how to coordinate the relationship between urban development and ecological security in the process of urbanization. In addition, the ecological function zoning planning at the city level is an important basis for realizing the urban ecological security pattern. Therefore, the paper selects Beijing as the research object, after identifying and protecting its ecological land, constructed a reasonable urban ecological function partition, in order to provide reference for optimizing the spatial pattern of Beijing.

Firstly, based on GIS, this study built a regional ecological suitability planning from the perspectives of biodiversity conservation, early warning of hazard and human disturbance. On this basis, the CA-Markov model was used to summarize the landscape pattern changes in Beijing from 1999 to 2017, and the simulation of the landscape pattern changes in Beijing in 2035 was carried out. Finally, combined above research results with the Beijing Municipal Master Plan (2016-2035), the ecological function zoning plan of Beijing in 2035 was obtained. The results show that:

- (1) In the GIS platform, the habitat quality, vegetation coverage, land use, geological type, elevation, slope, population density and night-time illumination were overlaid to obtain the ecological suitability evaluation of the study area, dividing the study area into strictly protected areas and controlled protected areas;
- (2) Through the CA-Markov model, it can be seen that the landscape pattern of Beijing changed significantly, showing that the area of construction land continued to increase, and there were obvious temporal differences in the changes of cultivated land, forest land and grassland during 1999-2017;
- (3) The CA-Markov model was used to simulate the landscape pattern of the study area 2035. The Kappa index of the model reached 0.88.

Combining the prediction results of the landscape pattern in the study area in 2035 with the new urban planning in Beijing, the six major ecological functional divisions in the study area were obtained, namely ecological control area, ecological coordination area, ecological restoration area, agricultural protection area, forest conservation area and water conservation area, proposing the corresponding regional control measures and recommendations for the six areas.



**Chaonan Cheng**, Ming Zhao  
*Beijing Forestry University, Beijing, China*

## Bringing Leopards Back to Beijing: GIS-based Wilderness Network Planning for Leopards Conservation and Healthy Cities in Taihang Mountains Region, China

Wilderness landscapes are our common resources. They have rich biodiversity and provide important ecosystem services for healthy cities and sustainable society. In wilderness areas, ecosystem is still intact and large carnivores exist. Historically, North Chinese Leopards were widely distributed along the Taihang Mountains in north China, including mountain areas in Beijing which is one of the biggest cities in China with more than 20 million residents.

However, due to hunting and habitat destruction in the last decades, North Chinese Leopards have not been found in recent years in the mountains surrounding Beijing. In April 2017, Chinese Felid Conservation Alliance (CFCA) launched a project named "Bring Leopards Home", aiming at rewilding the leopard habitats along the Taihang Mountains. The long-term goal of this project is to reintroduce leopards along the Taihang mountains, and eventually to suburban Beijing. This requires a wildland network planning at regional scale to support the multiple goals including leopard conservation, ecological corridor construction, biodiversity conservation, ecosystem service supply and healthy cities.

Our study aims to use Geographic Information system (GIS) based Multi-Criteria Evaluation method to evaluate leopard habitat suitability, and to apply the theory of landscape connectivity and GIS based Least Cost Model to simulate potential ecological corridors between the important habitat patches. Based on this spatial analysis, landscape planning for north China leopard conservation in Taihang mountains is carried out. The study area is about 58,400 square kilometres in total, including 32 districts and counties in Beijing, Hebei and Shanxi provinces.



Our spatial analysis identified high suitable habitat of 15,800 square kilometres (27.1% of the total study area), which is similar to the area of Beijing (16,000 square kilometres). Besides, three possible regional ecological corridors of the north China leopard were identified. Finally, we put forward some suggestions on wilderness conservation network planning and healthy cities, and discusses the necessity and feasibility of establishing a North China Leopard National Park in Taihang mountains.



**Yue Cao**, Professor Rui Yang  
*Department of Landscape Architecture, Tsinghua  
University, Beijing, China*

## 3.10 SUSTAINABLE AESTHETICS

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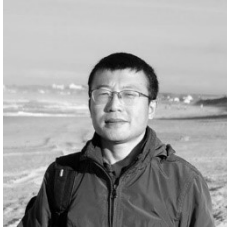
### Effects of Urban 'Blue' Infrastructural Landscapes on Urban Health

The urban 'blue' infrastructural landscapes, e.g. urban lakes, urban wetlands, et al., can serve for environmental adjustment and ecological benefits on the regional environment with their enormous heat capacity and strong evaporation. The project focus on improving urban health in a 500-m buffer surrounding the urban 'blue' infrastructural landscapes, in Wuhan city, China, which is well known for its hundreds of lakes and wetlands.

Urban areas are rapidly growing in size, which results in increasingly significant air warming and pollutant anomalies. Therefore, it is important to determine the air temperature-humidity and air quality to protect public health. The urban 'blue' infrastructural landscapes can bring lower temperature, higher humidity and impact on air particulate matter surroundings. Therefore, it will be a new way to improve air conditions to optimize urban health by utilizing a natural regulation system through urban lakes and wetlands.

In the project, the air temperature, relative humidity and particulate matters (PM<sub>10,2.5</sub>) were taken as the indicators on environmental health in a 500-m buffer surrounding lake wetlands. The results indicated that the effects of urban 'blue' infrastructural landscapes on urban health were significantly correlated with the surrounding traffics and non-built-up proportion around 500-m of lake, lake area, location in reference to a defined city centre, landscape shape index of lake. Also, the optimizing strategies for a significant and stable effect in surroundings were varied from various lake wetlands. The project will be conclusive to regulate land use surrounding the lake wetlands and beneficial for urban health.

Optimizing the distribution of green space and traffic roads in a 500-m buffer surrounding lake wetlands and other land use variables can enhance significantly the effect of lake wetlands on urban environmental benefits. Effectively utilizing these benefits through appropriate landscape planning is becoming increasingly critical considering the rising concerns of global air warming and pollution and continued rapid urbanization.



**Chunyang Zhu**, Yuyang Chen, Yuanzi Zeng, Tingting Li, Mengjie Ruan, Lingyan Zhao  
*Huazhong Agricultural University, Wuhan, China*

## Research on Visual Preference and Psychological Restoration of Urban Waterfront Space based on Eye-tracking Technology – A Case Study of Yangpu Riverside in Shanghai

Waterfront space has been proved to be one of the best places to relieve pressure and relax in urban cities. With its physical appearance and sensory, it provides a natural and long-lasting attraction to urban residents. Therefore, the demand for waterfront design has become a worldwide trend. However, only a few studies focused on finding out the visual preference of waterfront spaces in relation to the psychological restoration effects.

This paper takes Yangpu Riverside, Shanghai, China as an example, combined with eye-tracking technology, to carry out a rigorous investigation into such a relationship. Firstly, the research investigated elements viewing order and duration time of 35 graduate students regarding 40 waterside photos through Tobii Eye Tracker; POMS questionnaire was performed at the same time to collect participants' preference data. Secondly, GIMP image semantic segmentation was performed to analyse the image contents, collecting data of the distribution of landscape elements such as water, road and plants in the study area. Thirdly, all data collected were analysed through SPSS based on Kruskal-Wallis Test, Dunn's Test and Mann-Whitney's U Test. Finally, by combining Kaplans' Attention Restoration Theory (ART) and other psychological health evaluation, the relationships between visual preference of studied waterfront and psychological restoration effects were obtained. The paper findings contribute to the future of urban waterfront space landscape design, which promotes better and healthier urban city.

**Jing Liang**, Dr. Binyi Liu  
*Tongji University, Shanghai, China*



## Planning and Design of Qinglong Lake Forest Park in Beijing Based on Rainfall Management and Water Conservation Forest Construction

Qinglong Lake Forest Park is located in the hilly area of the shallow mountain area in the west of Beijing. It is located on the west side of Chongqing Reservoir in Qinglonghu Town, Fangshan District, covering an area of 487.7hm<sup>2</sup>. The extreme rainfall occurred in Fangshan District during the heavy rainstorm in Beijing in 2012, reaching 460 mm, causing heavy losses.

At the same time, based on the requirements of Fangshan District for ecological conservation, ecological restoration and ecological construction in hilly areas, this design is based on the construction of rainwater management and water conservation forest system, and plans the “blue-green” base of the forest park. The rainfall in the site is collected and utilized to reduce the damage caused by heavy rain, and based on the principle of land suitability, water conservation forests with different functions are constructed.

On the basis of analysing the surface runoff and dividing the catchment areas, the water area and depth in the site are determined based on the landscape demand, and the water storage and artificial water supply in each catchment area is calculated according to the annual rainfall and evaporation. To conduct a study on the establishment of the ‘blue’ base, a key catchment area with potential threat to downstream villages and towns is selected, and the low-impact development design of this catchment area is carried out.

SWMM software is used to simulate the change of catchment discharge before and after the design of low-impact development under a specific rainfall condition, and to evaluate the effectiveness of low-impact development. Based on the study of typical community of water conservation forest in Beijing, the “green” forest base of this park is established based on land suitability evaluation of three functional water conservation forests: soil and water conservation, runoff reduction and water quality improvement.

The construction of forest parks with rainwater management and water conservation forests as the “blue-green” base is the basis of the green infrastructure in the city to provide ecosystem adjustment services, aiming to provide residents with a healthy, safe and beautiful urban environment.

**Yiran Cai**, Shuyu Liang, Xi Zheng  
*Beijing Forestry University, Beijing, China*



## Healthy Construction of Beautiful Landscape: Beautiful Villages Planning in Licheng District, Jinan City

The countryside is a regional complex with natural, social and economic characteristics with multiple functions of production, ecology, life and culture. It promotes mutual progress with the cities and together constitutes the main space for human activities. In order to effectively promote the sustainable development of the countryside, and at the same time continue to improve the coordinated development of urban and rural areas, it is imperative to create a beautiful village with efficient production space, beautiful ecological space and suitable living space. At the same time, the countryside has the unique advantages of developing the health and recreation industry in terms of ecology, climate and environment. In particular, many rural cultures with unique local cultural characteristics have low cost and have a good foundation for the development of the health care industry. Therefore, promoting the integration and development of the health industry and the beautiful villages construction is the key idea for the rural landscape upgrading plan of Licheng District, Jinan City, Shandong Province, China.

Through on-the-spot investigation of many beautiful villages in Licheng District of Jinan City, it is determined that the characteristic construction of beautiful villages can be combined with the development of mountain water resources, historical humanities and the development of green health industry, and enhance the level of beautiful rural construction. At the same time, with the rural characteristics of agricultural production as a clue, the five villages were selected for coordinated development, forming a beautiful village planning model. Implementing healthy agriculture and rural tourism projects, integrating rural industrial structure and ecological cultural resources, transforming rural production and living materials into health tourism products with sightseeing, experience and leisure value, and building them in a certain area. Forming a beautiful villages boutique route, guiding the beautiful villages construction in the Licheng District towards a characteristic and diversified development.



**Kehui Li**

*Beijing Forestry University, Beijing, China*

## ‘Taphe’: Common Burial Grounds to Come

This presentation focuses on sustainable balance between grounds for the living and grounds for the dead. Human burial variously expresses equilibrium between spatial entities designed for the living and those organised as open fields not to be dwelled.

Upon this equilibrium, between inhabited and uninhabited territories, various inventions have been formed, witnessing profound spatial values and subtle urban qualities. From sophisticated enclosures to exalted clearings, natural ringers or openings, burial grounds variously manifest the architectural stigma of mortality. Niches, paths, streets, courtyards, squares, gardens and parks (for the dead) trace concrete lines of thought and diverse intentions. Different urban/societal needs and forthcoming technological/scientific advances are affecting such balances, rapidly, towards promising and/or uncertain futures. On one level, different cases explore different associations and intendancies between built space and open space, urban figures and grounds, levels of artificiality, oppositions and diverse encounters. On another level, there are findings and arguments on formality and informality, levels of certainty and abstraction, environmentalism and interaction to confront commonness as potential balance.

Designing beyond living needs may turn into an architectural field that highlights change, by imploding spatial fluidity and sampling urban delegations. Various speculations unleash a great potential upon this threshold. Ways of designing, evolving or visualising burial space becomes evident of profound displacements and multifaceted reliance between urban and burial space. Historic inventions, contemporary infrastructure and future designations reflect a continuum for functional and defunct open space in the city and beyond. This presentation steps upon combined references from fields of architecture and landscape to discuss mortal and immortal confinements. Setting off the term 'taphe' (conveying the profound meaning of burial, from Greek word 'ταφή'), it explores oppositions between past, present and future cases of open space designed for the living and space designed for the dead.

**Ms Despoina Zavraka**

*East Macedonia & Thrace Institute of Technology,  
Kavala, Greece*





## 3.11 GREEN SPACE AS HABITAT

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### Landscape Laboratory 2.0 – Exploring Eskelund as a Critical Zone Observatory in the Anthropocene

**MDL PhD Stefan Darlan Boris**

*Landscape Architect, Aarhus School of Architecture, Aarhus, Denmark*

How to maintain a minimum of decent common institutions if we have no land in common, literally no common ground (Latour, 2016)? Since its initiation in the early 1990s, the landscape laboratory in Alnarp, Sweden, has inspired the creation of a series of related experimental sites in Scandinavia where researchers and practitioners can collaborate on design experiments in 1:1. While this has led to new insights into how urban woodlands can be planned, established and managed in order to make room for recreational experiences the aim of this paper is to broaden the scope of landscape laboratories by bridging the concept of landscape laboratory with the understanding of ‘Critical Zones Observatories’ (Brantley, 2017, Arenes, Latour & Gaillardet, 2018).

Recent multi-disciplinary research describes the Critical Zone (CZ) as the thin, porous and permeable layer between the top of the canopy and the ground (Latour, 2016). CZO’s points to well-instrumented field sites, ranging from a few hectares to large watersheds, where multi-disciplinary research is carried out with the aim to share instruments, data, and models to provide a close description of the complex dynamics of highly heterogeneous regions of the Earth in a time when human activity is radically transforming them.

Through a discussion of the latest landscape laboratory currently under development on Eskelund, a 30-hectare urban-industrial woodland placed in the Aarhus River Watershed in Aarhus, Denmark, the aim of this paper is twofold: On the one hand, it aims to explore if and is so how the concept of Critical Zone Observatory (CZO) can help broaden our understanding of landscape laboratories in order for them to meet the demands and challenges we face in the Anthropocene. On the other hand, it aims to bring spatial and sensory-aesthetic aspects into the discussion about CZO’s. One of the problems researchers currently face in picturing Critical Zones (CZ) is precisely to give it a shape (Arenes, Latour & Gaillardet, 2018). Compared with the immensity of the geophysical globe, the intricacies of the CZ vanish from view, illustrating very well the limit of what could be called the ‘planetary view’ of the Earth.

## Exploring Contextual Factors Affecting Potential Users' Attitudes towards the Transformation of Edible Plazas

Edible landscape (EL) as a type of green infrastructure (GI) can provide ecosystem services, and contribute socially, economically, and environmentally to urban sustainability and food security. Given the multiple benefits, initiatives in developed countries have transformed traditional green or open spaces into productive ones by using edible crops. Among them, growing edible plants in movable containers on paved open spaces is a cost-effective way. However, previous research pays attention to green spaces instead of the paved open space. Furthermore, some conflicts and issues with regard to vandalism, crop harvest or unpleasant odour derived from the EL may affect the support of users. Only a few studies address users' perceptions on the transformation of paved open spaces. Most importantly, the literature may overlook important variables, the contextual conditions in relation to the location and user background.

To address the knowledge gap, this study conducted on-site surveys on examining the causal effect between contextual conditions of public plazas and user perceptions of the four campuses at the National Chiayi University, Taiwan. The four campuses are each differently located in a more urban or rural location with a larger or smaller size, as well as consist of users with different backgrounds in age, status, levels of education.

By analysing 406 data collected from the four campuses proportionately, this research reveals that, in spite of a general supportive attitude towards the hypothetical transformation, the users of different campuses tend to view differently on EL in certain aspects and thus results in different level of support for edible plaza. In comparison, the Linsen campus users, with a higher proportion of salariate class, tend to disagree with the idea that hypothetical transformation is more beautiful than the existing landscape while other campus users hold opposite perception.

Other than that, the Linsen campus users tend to agree with the idea that harvest activities shall be open to the public while other campus users disagree with it. In conclusion, the contextual condition of each campus could result in different level of support of campus users for the hypothetical transformation of library plaza into EL individually.



**Dr. Ting-i Lee**, Yu-Hsuan Chou, Tzu-No Huang  
*Department of Horticultural Science, National  
Chiayi University, Chiayi City, East Dist., Taiwan*

## Potentials of the Hidden Blue-green Passages: Connecting Knowledge from the Past-present- future to inform Landscape-based Strategies for creating Climate Adaptation as Urban Commons

Climate change also means changes in the hydrological cycle, thus influencing the precipitation patterns. The implications of climate change are further stressed by increasing urbanisation, meaning that more people have to share the same land and fresh water in urban areas. In northern Europe, climate change means more water, thus challenging how to manage surface water in urban landscapes; an 'unwanted' resource sharing which is not accommodated by contemporary practices of urban development and planning often disconnected from considerations on landscape properties.

As surface water requires designated land-use related to landscape properties, this can be opportune to urban commons too. In the context of climate adaptation, this might be the time to re-introduce the concept of Commons with regard to water in urban landscapes.

This presentation departs in a PhD-research (Waterscapes of Value) based on three case studies in Aarhus Municipality, Denmark. The case studies provided examples of how landscape architectural methods and landscape-based strategies can inform contemporary urban development and planning concerning the above mentioned. The landscape architectural methods used in the case studies were based on field trips and mappings, combining knowledge from the past, the present and the future. Through these, potentials for adapting to more surface water while also providing for the urban commons of water, recreation, biodiversity, social cohesion, sensory sensations and so forth were revealed.

The research findings showed a hidden correlation between the 'historical' blue-green passages and the projected, primary flow paths. Furthermore, the mappings showed an unrecognised correlation between the blue-green passages and the location of public and semi-public buildings and their outdoor areas.

Altogether, these landscape-based insights unfolded a considerable potential for providing climate adaptation as room for the water within the existing urban fabric, while also specifically addressing multiple benefits for the common good attached to land-use; potential commons.



**Cand. arch., PhD, MDL Katrina Wiberg**  
*Aarhus School of Architecture, Aarhus, Denmark*

## Ecological and Habitat Restoration of the New Urban Areas: Case Study of Lingang New Town in Shanghai, China

The ecological problems of the new urban areas in China are critical challenges in the process of urbanization. Recent years, China has developed many new cities and towns around major metropolitan areas. They are built on a natural or rural base, which directly disrupts the local ecology and habitat environment. Deteriorating urban habitats and loss of biodiversity have become key factors threatening the balance of urban ecosystems. Lingang New Town is one of the cases in this situation.

This paper studies the biodiversity planning status within new urban areas in China. China's urban biodiversity planning is lacking in the following three aspects: habitat ecological compensation, habitat spatial planning and biodiversity action planning.

Through case analysis, current ecological data analysis and ecological compensation methods research, the paper proposes sustainable strategies of planning and design based on the case study of Lingang New Town in Shanghai, China:

- 1) ecological compensation strategies by evaluating the ecological impact of the overall construction, guiding the development of green communities.
- 2) spatial strategies by coordinating the "volumes" of human and habitat requirements for different function spaces. The corresponding spatial space distribution ratios are determined, and the proposed spatial pattern is obtained in different urban matrix according to the requirements of different function spaces.
- 3) community bio-toolbox: by promoting community work and community activities, enhance residents' ecological and habitat awareness and increase residents' initiative to participate in ecological protection.
- 4) economy strategies by re-directing the development path of the new town and using ecology as the driving force for regional development.

The paper draws a conclusion that the ecological problems of the new urban areas can not only be solved by ecological planning methods, but also by forming a benign ecological economic cycle and raising the awareness of residents' ecological protection. The social and economic system's feedback on the ecosystem is the ecological development path that should be adopted in the development of new towns in China.



**Suri<sup>1,2</sup>**, Prof. Daixin Dai<sup>1</sup>

<sup>1</sup>*Tongji University, Shanghai, China*, <sup>2</sup>*Ruhr University Bochum, Bochum, Germany*

## Cityscape's Transformation through Urban Landscape Developments in Malaysia: From Plan to Ground in Reinventing Functional and Vibrant Green Spaces

**Rotina Mohd Daik**

*National Landscape Department Malaysia, Kuala Lumpur, Malaysia*

In line with the strategies outlined in the Malaysia's National Landscape Policy (2011) which reflects the significant relationship between place and social structure in creating conducive, organized, vibrant and fully functioning green space, National Landscape Department has launched Urban Landscape Development in 2013, incorporating comprehensive urban landscape planning and design intended to address urban space segregation, climate and identity issues; also to create seamless, functional green urban spaces for recreational purposes and place-making. The program commenced with an additional approach; to recognize and engage the members of public in the initial process of the urban revitalization development; granting them as the main user - a certain degree of involvement; to voice out their needs and feedback, and in some cases are allowed to engage and negotiate in the decision making.

This paper aims to illustrate the implementation of Urban Landscape Program; which utilizes the inventories, proposals and guidelines derived from the Landscape Master Plans prepared for municipals and local authorities all throughout Malaysia. Comprehensive urban design proposals are then transpired on the ground to create functional open space network accessible to the entire community. On top of that, this paper shall also emphasize on how incorporating nature elements using biophilic concept shows a remarkable transformation within the cityscapes under the urban landscape development program. Cities' main parades, promenades, plazas and underpass are deliberately designed to make sure the people are well connected and assimilated with nature; highlighting how landscape significantly helps to benefit the wellbeing of people as well as the ecosystems through forging connections between people and nature, people and people, and people and place; simultaneously enhancing the economic activities in the area.



## The Diffused Botanical Garden as Strategy to Colonize Urban Lost Spaces

In 2014, the Architecture Department of Roma Tre conducted a research of introducing a new typology of public space in the Valco San Paolo area in Rome: the diffused botanical garden would link all the open spaces of the faculties to the already existing system of urban space and “lost” spaces; it was a perfect case to understand how a developing sector faces the interstices created in its planning process together with its existing anomalous spaces, bending traces, fluxes and users, attempting to give continuity to the “ground level project” through an intermediate scale of landscape that connects the different public areas that have been generated.

The classical botanical garden is here revisited and adapted to the diffused character of the area. It is not a well-defined a close structure anymore but a methodology knitting together all the puzzle pieces, in a scale that does not understand extensions but links to the territory and its surroundings, whether they are temporal, spatial, environmental or social. Starting in the university’s parking lots, the new system will rapidly extend to other parking lots and will carefully colonize the nearby lost and forgotten spaces.

In the mid ’90s, the first urban project of Rome was developed aiming to restructure the Ostiense-Marconi area and the Roma Tre university was the main actor as stablishing most of its faculties (a cultural infrastructure) in Valco San Paolo and Via Ostiense. Very little of that was done but the ideas are still latent. Nowadays, the area presents a disintegrated urban fabric that has been colonized by a series of parking lots (official and spontaneous), often in strategic locations implementing asphalted surfaces which are difficult to blend with their surroundings. Everything in the area seems to be diffused: diffused industrial area, diffused university, diffused cultural services are linked through vegetation and urban ecology to the territorial systems crossing the area in a delicate exercise of urban acupuncture



**Marta Rabazo**, Maria Grazia Cianci  
*Universidad Politecnica de Madrid, ETSAM,  
 Madrid, Spain, <sup>2</sup>Università degli Studi Roma Tre,  
 Rome, Italy*

## Research on Urban Park Reconstruction based on Bird Habitat Adaptability Evaluation: A Case Study of the Longquan Lake Urban Park in Shijiazhuang

**Jialun Yan**, Prof. Xiong Li

*Beijing Forestry University, Haidian, China*

Birds are an important part of biodiversity and an indicator of the ecological environment. At present, researches on bird habitat construction are mostly concentrated in the original environment or nature reserves, but few in urban parks and green spaces. Shijiazhuang Longquan Lake park is located in the East Asia-Australia migratory bird migration route which has good bird habitat construction conditions. Based on the investigation of the bird population in Shijiazhuang area, 14 species of waterfowl and 10 species of non-waterfowl were identified. The index model method was used to select habitat adaptability evaluation factors, and a model evaluation system with two dimensions of horizontal suitability and vertical suitability was constructed. The evaluation system of horizontal adaptability index includes water area, water connectivity, water vegetation coverage, bank meander, bank vegetation buffer zone width, human activity intensity and so on. Vertical adaptability evaluation system index includes water depth, habitat complexity, plant height, terrain slope and other indicators.

Through superposition of habitat preferences and suitability index model analysis results we got following conclusions: The construction area that is suitable for waterfowl in park is about 38 hectares, the construction area that is suitable for non-waterfowl in park is about 57 hectares, the appropriate water depth is between 0.1 to 2 meters, the surface of the water plant coverage which is suitable for waterfowl is between 55% and 75%, etc. A suitability evaluation system for guiding the range selection and construction methods of bird habitats will be established to provide theoretical guidance and practical basis for the habitat construction and plant community selection of bird habitats in urban parks.

## 3.13 STRATEGIES FOR RESILIENCE

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### Study on the Spatial Transformation of Port Cities under the Guidance of Overseas Trade: A Case Study of Quanzhou Area

In 2013, Chinese President Xi Jinping proposed the strategic conception of “One Belt, One Road”, covering many countries in Asia, Europe and Africa. Quanzhou Port was called “Erythrina Port” in ancient times, which is the starting point of both the ancient Chinese Maritime Silk Road and the “21st Century Maritime Silk Road”. Therefore, the research on the relationship between spatial transformation of port cities and overseas trade is of great significance to the construction of the Maritime Silk Road, and also plays a demonstration and leading role in other regions. Since ancient times, the space construction in Quanzhou has been closely related to the development of the port. Its experience still has some reference for the construction of the port cities today.

This paper takes the Quanzhou Plain and the settlements on it as the research object. Through the inductive analysis of the ancient books and modern research materials of Quanzhou Plain and Quanzhou, Jinjiang and other cities, this paper starts from researching the development of the settlements on Quanzhou Plain and overseas trade, and then discusses the transformation strategy of the characteristic landscape system of the port city from the perspective of landscape architecture by means of field investigation and graphic analysis.

Quanzhou Plain is located at the mouth of Jinjiang River in Fujian Province. Jinjiang River is known as “Three Bays and Twelve Ports” because of its winding coastline and numerous ports. From the construction of the ancient city, the relationship between the port and the city has experienced the process of interdependence, separation and collaborative development. Quanzhou city has gradually formed the “landscape - settlement - temple tower” characteristic space system. However, in recent years, because of the disorderly expansion of the city, the unique space system formed under the influence of overseas trade has gradually disintegrated.

Therefore, this study proposes strategies to strengthen the characteristics of landscapes, continue the pattern of settlements, reshape the harbour space system, and retain the memory of marine culture, and finally promote the construction of the spatial characteristic system of port cities.

**Shaocong Xu**, Wei Guo, Qing Lin  
*Beijing Forestry University, Beijing, China*



## Urban Water System Landscape Planning Based on the Perspective of Eco-vulnerability—A Case Study of Urban Water System Planning in Tibet Lhasa City

The system of river and lake within the city is an important part of urban ecological environment. Located in the world's highest plateau -- Qinghai-Tibet Plateau, Lhasa's water environment has typical characteristics of alpine region with fragile ecological situations. Besides, as the core of Tibetan culture, Lhasa's water system plays a role as important carrier of local culture and customs since a lot of religious activities and the rites are confined to be held at waterfront. However, under the dual impacts of climatic fluctuations and human activities, the water environment in Lhasa is confronted with a series of problems such as water pollution, flow cut-off and weak interaction between urban and water, etc. Using Lhasa's first systematic urban water system planning practice as an example, according to Lhasa's different waterfront environments, the specific and practical methods of urban water system landscape planning oriented by eco-vulnerability were proposed: constructing water-based natural landscape ecological corridors, developing ecological bank and topography of water front with art ,and enhancing flood control capacity.

Considering the requirements of city development , the planning structure “two rivers-three corridors-multi lakes-dense water network ”was put forward, the value and basic way of landscape architecture construction in low cost were further clarified which integrated with Lhasa's comprehensive historical hydrological information, in order to construct a sustainable water system round Lhasa and reappear the style and character of water system in ancient Lhasa. The planning established foundation for the correlation of nature and ecology in recreational and Tibetan cultural activities of waterfront and has a certain significance for water landscape planning and designing in alpine regions.



**Danxiu Chen<sup>1</sup>**, Chengjiang Hu<sup>2</sup>

<sup>1</sup>*Beijing Forestry University, Haidian District, China,*

<sup>2</sup>*China Architecture Design Group, Xicheng District, China*

## Lost Common Grounds: Reflections on Ankara's Landscape

Ankara, being the capital of Turkish Republic, has coped with dramatic landscape changes in various contexts and scales. Conflicting with the high per capita green space declared by the municipalities, Ankara has lost its characteristic landscape fabric. Both the natural and urban landscape of the city have been destroyed caused by the rapid urbanization after 1960s and recently progressed spatial interventions.

Considering landscape as a milieu for cultural and natural interaction, change in landscape fabric is inevitable as a usual outcome of urbanization. However, in the case of Ankara, nature and landscape have been extremely undervalued in urban development strategies and implementations. Valleys and waterlines, which shaped the distinctive topography of the city, and the fertile lands, which identified the continuous greenery at the east -vineyards, truck gardens and orchards- manifested the landscape fabric of the city by the mid-20th century. Some of these natural resource spaces also presented the renowned common ground of Ankara where urbanites met, and enjoyed the landscape in the first half of the 20th century.

Unfortunately, after that time, nature-culture interaction has dramatically changed. Certain valleys in the city and continuous greenery along the Hatip Creek at the east were absorbed by squatter houses; and later, became favourable housing construction plots in the city. Furthermore, streams and creeks, causing sanitary problems or flooding, were partially covered or canalized, leaving insignificant traces in the city. Apart from the natural assets, designed and planned landscape of the city has been also undervalued. Certain urban parks of the early republican period and Atatürk Forest Farm (AFF) -the agricultural and recreational modern landscape of the 1930s and 1940s- have been partially deformed with impulsive decisions and spatial implementations.

Thus, this study intends to trace the lost landscape fabric of the city, and also point out the still ongoing landscape destruction process by arguing on several patterns of changes: razed urban nature, undervalued heritage landscape and deformed urban parks. Emphasizing different aspects of change, each pattern exposes not only the demolished landscape fabric, but also the lost common grounds of Ankara.



**Dr. Funda Bař Bütüner**

*Middle East Technical University, Ankara, Turkey*

## Renewal of Urban Coastal Saline-alkali Land – A Case Study of Central Park on the West Coast of Qingdao

The vast coastal saline-alkali land often extends from the coast to the inland, connecting with the city. Most coastal saline-alkali lands in cities are idle because of the adverse ecological environment conditions. On the other hand, due to the unreasonable utilization, the saline-alkali land is intensified and has become the barren fringe of the city.

The landscape reconstruction of the urban coastal saline-alkali land provides an opportunity for the integration of the coast and the city. With realizing the ecological benefits, to improve the land value, share landscape resources with the public, and then a beautiful and healthy city image will be formed in return.

This paper focus on studies about the origin, the movement of water with salt and evolution mechanism of urban coastal saline-alkali land. Based on the experience of water control and soil improvement in agroforestry, the ecological wisdom can be achieved through landscape reconstructions. Moreover, it discusses the hierarchical network model of waterscape that combined the traditional drainage and irrigation system , the efficiency of salinity control under different topographic reconstruction methods, the adaptability of different salt-tolerant and green fertilizer plant planting structure to salinization degree, and the irrigation management of slightly salty water.

Qingdao has a large number of such lands along its 800-kilometer coastline. In Qingdao, western coast central park is adjacent to the western coast expo and to business centre. It will show a beautiful city image during the expo and become the city living room and coastal forest park in the later stage.

Considering the unique site conditions of urban coastal saline-alkali land, the designers create the landscape structure of the park combining the aspects of water network system, salt-tolerant vegetation, ecological protection, slow traffic system and crowd activities.



And they retain moisture-proof dykes, set sluices and tidal flat protection areas at the estuary, combine the water system with topographic reconstruction, and create a good habitat for salt-tolerant plant communities. At the same time, the design let's dense canopy reduce the evaporation of soil moisture to make a good circulation system.



**Postgraduate Hang Zhuang**, Professor Xiangrong Wang, Postgraduate Ersi Hu  
*School of Landscape Architecture, Beijing Forestry University, Beijing, China*

## Sustainable Landscape Developments at an Urban and Strategic Scale

This paper forms part of a wider research looking at pioneer landscape strategies across Europe, examining the extent to which low carbon, sustainability and spatial quality can be delivered effectively on urban and strategic scale. The focus here is to put landscape at the core of development considering major environmental, economic and social challenges and find key quality elements that will impact to urban transformation, landscape quality and sustainability.

The proposal presents the outcomes of two major landscape infrastructure projects that use the idea of design to offer sustainable approaches on urban and regional scale. Both projects aim to transform the landscape in a way that will result in a major change to residents' way of living and understanding of the landscape value. An investigation on climate adaptation issues through the 'Room for the River' (the Netherlands) national programme demonstrates the potential and significance of introducing the idea of landscape design, low carbon and aesthetics as vital aspects of urban infrastructure. In addition, the HS2/HS2LV (UK) major infrastructure project played a significant role at looking how a sophisticated process in design and effective visuals are able to convey a sustainable vision and the impact this might have had to the cities and regions for revealing their real potential.

The case studies have shown that successful delivery requires the development of a vision and the understanding of the low carbon and spatial quality concepts through design in order to be implemented on the infrastructure. What this research concludes is that not only one action is needed in order to change the way of thinking in urban landscape transition projects and instil low carbon and spatial quality elements in their design and implementation.

The establishment of a solid project framework supported by policies and legislation make a real difference in the way professional practice and politics deal with this from now on. This proposal suggests that we need to make design secure throughout the landscape process in order to be able to express the significance of a visual at large scale strategic schemes.



**Anastasia Nikologianni**, Professor Kathryn Moore,  
Professor Peter Larkham  
*Birmingham City University, School of Architecture  
and Design, Birmingham, United Kingdom*

## Transitioning Cities: Mediating Change for Uncertain Futures

Regional Centres in Australia were historically developed as a network of productive hubs of industry and agriculture in service of the Metropolitan Centre. As such, these Regional Centres dominated by singular economies are in a state of massive change that is most often manifest as decline giving rise to social, economic, and ecological issues.

Change has been driven by a range of factors, for example Globalisation as a process of international integration that has undermined the productive integrity of these centres primarily through shifts in the commodities and labour markets, and the privatization of traditionally Government operated industries and infrastructure significant to each Regional Centre. The result is that the relationship between the metropolis and the regional city has become disconnected, leaving Regional areas to become stranded assets. At the regional and urban scales, the productive heart as we knew it no longer contributes to the urban and social fabric as it once did, and simultaneously the Metropolis is no longer so dependent on the Regional Centres and has in many ways cut them adrift.

Through the careful dissemination of our own work, the paper explores how a landscape design approach is utilised to catalyse and enable change through transition in the urban fabric to inform long-term strategic urban regeneration. This includes a change in design approach affecting policy, planning and identity that moves beyond the efficient and reduced risk of top-down urban design policy, and instead engages with the regional as a place for community with an inherent capacity for change.

This work considers how cities as complex systems in a constant state of disequilibrium resist conventional modes of planning and design. The paper develops ideas of how productive social, economic and environmental dimensions can emerge from a combination of bottom-up and top-down approaches, and how a multiplicity of design actions across a range of physical and temporal scales in collaboration with numerous assorted agents, stakeholders and disciplines is an approach for stabilisation and reconnection whilst accepting the unpredictability of future scenarios.

Key Reference:

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**Dr Rosalea Monacella**, Craig Douglas  
*Harvard Graduate School of Design, Cambridge,  
United States*

## Bioregional Urbanism: Adaptive Resilience Framework for Cities, Regions & Planet

**Executive Director Sarah Howard<sup>1</sup>, President and Principal Philip Loheed<sup>2</sup>,  
Director Patricia Loheed<sup>3</sup>**

*<sup>1</sup>Earthos Institute, Somerville, United States, <sup>2</sup>Design Partnership Plus, Somerville, United States, <sup>3</sup>Boston Architectural College, Boston, United States*

Despite our technological advances, information systems, and interconnectedness, we are using more resources – both human and ecosystem – than our planet's systems can sustain for current populations as well as for future generations. The result is climate change, poverty, and environmental degradation. We are in an important moment of transition. We need methods that help us generate systems solutions together with communities and researchers, at multiple scales simultaneously, using advanced technology to measure and track the health of bioregional and planet systems as we implement new design solutions.

This presentation session will introduce Bioregional Urbanism, a collaborative interdisciplinary practice methodology that enables practitioners and scientists to work together to measurably improve bioregional systems as nested scales, from site to neighbourhood to city to region to planet. Bioregional Urbanism as a methodology focuses on rigorously translating systems sciences—including land suitability, resource, climate, environmental and human well-being— into design practice and decision making within the urban environment and regional context. This methodology is being developed by a cross-disciplinary team of designers, scientists, policy practitioners, and community partners in the Boston area, and is being applied in cities and their regions around the world. The session will introduce the underlying research, theoretical framework, practice methods and applications of Bioregional Urbanism. It will also contextualize Bioregional Urbanism within the fields of landscape architecture and urbanism. After 10 years of developing and testing this methodology, the team is authoring the book *Bioregional Urbanism 1.0: Adaptive Resilience Framework for Cities, Regions & Planet*, to be published in 2019 and made available to conference attendees.

The Bioregional Urbanism development team includes Patricia Loheed, FASLA (Founding Board Member Earthos; Distinguished Faculty and Past Head of Boston Architecture C School of Landscape Architecture); Philip Loheed, AIA, NCARB, Associate ASLA (Principal Design Partnership+ Architects, Co-Founder Earthos Institute); Sarah Howard, LEED AP (Earthos Institute Co-Founder and Executive Director, Adjunct Faculty Boston Architectural College); Antje Danielson, PhD (Director of Education, MIT Energy Initiative; Zip-Car Co-founder; Earthos Institute Board Member; Former Director, Tufts University Institute of the Environment); and Ninian Stein, PhD (Tufts University, Environmental Science and Policy).

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Plenary Session 3  
19 Sept, 16:30-18:30

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## Landscape Design as if People Mattered. Stories from the Middle East

Shared planetary resources are uncontestedly the ‘common ground’ for our continued survival. Caring for them, however, is a highly contested matter. Depending on who you are, a developed country or underdeveloped one, and where you are, the global north or global south, saving the blue planet is not always a priority.

In the Arab Middle East, where I live, practice, and teach, the national priority is for ‘development’ regardless of environmental repercussions. Political instability, a post-colonial legacy, is, to a great part, the result of contrived national borders that defy geographic continuities and divide communities. Nor are governments democratic, or human rights respected. Social and economic disparities have increased as neoliberal politics have replaced the welfare state, transforming homelands and people into ‘resources’ for the global economy.

I reflect on the role of landscape architects in the context of the developing world, specifically in the Arab Middle East. The focus of my presentation is landscape and human agency, ways in which landscape architects engage local communities, enable and empower them to have a decisive say in matters that affect their lives. ‘Community participation’, the term used to refer to the process, is sometimes explicit, dictated by the client/donor. More often, concern for people, and environment is implicit, tacit to the ethics of everyday design practice. I explore both of these approaches to community engagement through commissioned projects from Lebanon and Iraq and civil activism stepping in to safeguard environmental resources and uphold public rights. I argue that community-centred design expands the scope of landscape architecture and enables professionals to act as mediators in the processes of creating places that are meaningful, socially inclusive and that contribute to geographical and cultural continuities in the region.



**Jala Makhzoumi**

*President, Lebanese Landscape Association,  
Beirut, Lebanon*

## Optimistic Futurism in the Age of Climate Change

The rapid decline of biodiversity is the result of the immense growth of the human population in combination with numerous sudden effects on the climate. While Landscape Architects in tradition, education and profession have got essential assets to make a positive change, the profession depends on projects and clients. Even while the client might have other goals in mind, it is the responsibility of the Landscape Architect to invent, design and construct climate-proof and nature-inclusive urban landscapes. LOLA Landscape Architects is a Dutch office for Landscape Architecture since 2006. Located in a man-made country and for most part below sea level, the effects of climate change in The Netherlands are omnipresent and possibly threatening the future existence of the nation.

This context defines the ways and works of LOLA. Their projects focus on the both the optimization of existing cultural landscapes, as well as strategic masterplans into the far future. Being self-described landscape inventors, they approach the office as their laboratory and the projects as its experiments. Discoveries or inventions made in one landscape design might offer solutions for another design or strategy. Their nature-inclusive approach for urban landscapes is the result of a continuous research and design over the past 14 years. It consists of strategies on an urban scale as well as small scaled interventions to increase biodiversity and to re-connect urban dwellers to nature. What the future of The Netherlands concerns, LOLA researches into the deep uncertainty of 2200. The Dutch might have to move their country.

**Eric-Jan Pleijster**

*Landscape Architect & Partner, LOLA Landscape Architects, Rotterdam, Netherlands*



## The Bristol Approach and the Commons – Co-Design for Urban Environments of the Future

We need to address issues like air pollution and climate change collectively. Just implementing top down measures will not give people ownership and agency. Our Citizen Sensing project is a good example of this. Together with technologists, we co-created air quality sensing tools and, using open source data, amplify the voices of those who aren't usually heard. Using the Bristol Approach, we've carried out workshops allowing participants to rapidly prototype tools to drive behaviour change. Data visualization artists have created air quality postcards which, literally, put the data into people's hands. Empowering people to use data and information can change day-to-day lives as well as change the design of our cities by involving citizens in planning them.

The Bristol Approach was developed with Bristol City Council and Ideas for Change, and is a co-design framework for running inclusive, community-driven digital projects that involve IoT technologies. It is non-hierarchical and can be implemented in a variety of areas. Cities are growing. Population density is increasing. The way we share the commons of our urban environments—public space, greenspaces, access to education, culture, and opportunities for play—is changing. How should urban spaces be used? Digital technology, and how it is used and by whom, plays an important role in this conversation. There are serious challenges in some communities in Bristol, e.g. poverty, poor health and educational inequalities. We are going to extra lengths to include people who may need more support to be part of the digital commons.



**Zoe Banks Gross**

*Community Engagement Manager, Knowle West  
Media Centre, Bristol, United Kingdom*

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