



# Scales of Change

**Book of abstracts**

*Commemorating 50 years of  
Landscape Architecture study programme  
at University of Ljubljana*

University of Ljubljana



**ECLAS**  
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# Scales of Change

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## **Content**

**006 Introduction**

**008 Keynote presentations**

**013 Track 1: Evolution and reflection**

**015** Presentation abstracts of the track 1

**038** Poster abstracts of the track 1

**044 Track 2: Relation between design and planning**

**046** Presentation abstracts of the track 2

**061** Poster abstracts of the track 2

**066 Track 3: Teaching across scales**

**068** Presentation abstracts of the track 3

**093** Poster abstracts of the track 3

**098 Track 4: Context matters**

**101** Presentation abstracts of the track 4

**106** Poster abstracts of the track 4

**107 Track 5: Beyond the field**

**109** Presentation abstracts of the track 5

**134** Poster abstracts of the track 5

**140 Presentation of the Department of Landscape Architecture  
of the Biotechnical faculty, University of Ljubljana**

## Introduction

The ECLAS 2022 conference in Ljubljana, Slovenia, addressed the question of scales, which is not new to landscape architects. But is one that does not have a definite answer; it needs to be asked again and again. The issue addresses the very identity of the profession and the nature of the context in which landscape architects operate and teach.

The theme is inspired by the 50th anniversary of landscape architecture programs being offered at the University of Ljubljana, as well as the fact that 50 years have passed since the pioneering conference on landscape planning was organized in Ljubljana by Dušan Ogrin.

During the intervening half-century, landscape architecture has evolved into a mature discipline, and has developed tools and theories for different scales of operation which are able to address a wide spectrum of challenges.

Another driver for this debate is the possible regulation of the profession within the EU and the need for agreed minimum common standards for study programs. How inclusive should this streamlining process be? How much diversity is needed or wanted within the profession?

The conference in Ljubljana acted as a platform to reflect upon the internal processes that shape the profession and position it in the wider context, as well as upon issues of cohesion and fragmentation. The answers to the following questions were sought in five thematic tracks and its concluding roundtable.

The five tracks are:

**1. Evolution and reflection:** the 50 years since planning became a part of landscape architecture many things have changed – in the profession itself as well as in the world in which it operates. In this period, the nature of the challenges has shifted towards a more global scale; examples include demographic, climate, and technological processes.

How have the different challenges influenced the development of the discipline? What have been the responses and the innovations developed? When and why was landscape architecture able to provide relevant solutions? Where do we stand now? What is the reaction of the profession to contemporary challenges?

**2. Relation between design and planning:** Landscape planning and design are commonly recognized as different activities. Planning answers the questions “what, where and how much” in its attempt to optimally allocate uses to territories, whilst design answers the questions “how” in its attempt to give form to land uses. The choice of scale is one of the distinguishing features in the fuzzy transition between design and planning. Planning usually involves larger areas, whereas design focuses on smaller ones. In practice, however, it is often impossible to answer “where” without also asking “how”, and vice versa; through asking “how” we might condition the answers to “what, where and how much”.

In this session we will explore the relationship that exists between landscape planning and landscape design. How does this distinction affect land-

scape architecture? Is the division (still) justifiable – has it strengthened the identity and focus of landscape architecture, or have they faded away? Have developments in the past 50 years enlarged the gap or have they contiguously interconnected planning and design? How do we approach problem-solving at different scales? Do methods used in landscape architecture depend on scale? What can planners learn from design approaches and scales of operation, and *vice versa*? How do digital tools affect the ways in which we consider different scales when it comes to problem solving? Do we need new methods to address the challenges in a globally and digitally connected world?

**3. Teaching across scales:** The methods for educating landscape architects arise from the growing distinction between landscape planning and design. In teaching, as well as in professional practice, each sub-discipline developed their own methods and tools, based predominantly on the scale in which (a planner or a designer) addressed the problems. Nowadays, the gap between planning and design is closing. Landscape architecture students must learn how to work across scales, which includes adopting methods and tools they use to become operational in various scales. Teaching students the transition between scales and defining problems that can be solved at a certain scale is one of the main challenges in educating landscape architecture students.

How do we teach the transition between these scales? Are there specific problems to be addressed at certain scales, or should each problem be approached using a variety of scales? Do/should we link the methods we teach to specific scales? Or should we rather teach the methods that enable transition between scales? Where are the limits of scales we teach (global plan... micro design...)? Are we, as educators, sufficiently aware of *“digital scaleless-*

*ness”*? What innovative teaching approaches can be used here?

**4. Context matters:** Despite or because of the fact that landscape architecture is a young profession, the contexts of spatial legislation and differences in the evolution of the profession in countries across Europe and beyond have resulted in various definitions of the profession and its profile. An overview of these differences is needed before attempts are made to streamline curricular.

What specific approaches and tools have evolved as a response to this variety of contexts? What processes are behind the division of the wider discipline into distinctive schools of planning and design? How are our study programs embedded within different schools and how big is the influence of other study programs at these schools to landscape architecture curriculum? Can consensus be reached in defining “EU Common Training Framework for Landscape Architecture” and what is the current status of the joint efforts for EU recognition?

**5. Beyond the field:** Contemporary societal problems require cross-system examination and responses. It is unlikely that a single discipline will be able to provide such solutions. Conscious changes in the landscape require collaboration across sciences and humanities, especially as scales of change and uncertainties grow.

What is the role of interdisciplinarity in landscape architecture and how can different disciplines participate with it so as to ensure that no one loses their or professional identity? Is interdisciplinarity dependent on scale and, if so, in what ways? What can landscape architects learn from other disciplines? What is “transdisciplinary” when it comes to landscape architecture?

## Keynote presentations

### Landscape architecture role in climate change mitigation

Prof. Dr. Lučka Kajfež Bogataj  
University of Ljubljana, Biotechnical faculty

Earth's climate has never been static, but the current extent and rate of change is unprecedented in human history. Global climate change is the defining environmental issue of our time. From devastating heat waves and wildfires to historic storms and rising seas, the effects are already being felt and will continue to get worse. Additional impacts include mass human, animal, and plant migrations, and resource wars over dwindling food and water supplies. Climate change is also intensifying the negative impacts of standard development practices and putting people and communities at risk.

We could be on the verge of pushing our entire Earth system – including the climate, natural ecosystems and biodiversity, and air and water quality

– along a one-way track to a 'Hothouse Earth' state not seen in the past three million years. Such a planet is probably not habitable for humankind. While the planet will continue to exist with or without us, our urgent challenge is to find a planetary balance that allows future generations to not only survive but thrive.

Sustained, meaningful commitments and actions to substantially reduce greenhouse gas (GHG) emissions from all sectors of our economy can help avoid the worst of these negative impacts. Landscape architecture can implement actions that drive meaningful change. There are many options to transform the way we design cities, so that future urban development works with nature rather than against it. This means improving air quality and soil health, creating

carbon sinks and circular resource flows, fostering biodiversity, conserving water and enabling wastewater treatment and recycling, identifying ways to design, build, nurture and operate restorative urban systems will be key to whether all living species survive or thrive.

Landscape architects can help to shift us to a carbon neutral future. They plan and design dense, walkable communities that reduce emissions from transportation and sprawl. They make the built environment more energy and carbon efficient with strategies like green and cool roofs, water-efficient design, rain gardens and use of sustainable materials and construction practices like wood-based high-rise constructions. Compact, walkable, transit-oriented development reduces energy use. When designed in concert with natural systems, these “smart growth” communities are also resilient and climate smart. Landscape architects defend and expand carbon-sequestering landscapes such as forests, wetlands, and grasslands, helping to drawdown atmospheric carbon dioxide. Integrating green spaces can provide benefits from capturing and storing CO<sub>2</sub> to reducing urban heat island effect and thus the energy demands associated with cooling. At the same time farmland should not be lost to expanding development and sprawl, especially because agricultural systems are being stressed by the effects of climate change and unsustainable farming practices. Current and future impacts on food production and security, including equitable access to healthy food options, must be addressed.

All of these efforts also enable communities to better adapt to climate change and improve their resilience. The built environment can also improve

biosphere integrity and mitigate further degradation by maximising the quantity and quality of urban habitats; and by planning infrastructure to protect, restore, and connect habitats. Native landscaping is another useful regenerative action that relies on using plants indigenous to the geographic area. As these plants are already adapted to the climate, geography, and hydrology of the area, they require less maintenance.

The threats posed by climate change are immense, and there is no single strategy that will solve the climate crisis on its own. Achieving secure future will only come about through the cumulative effect of countless individual actions. Every one of those individual actions counts. Incorporating environmental and sustainability assessments in projects, bringing diverse stakeholders to the table for project planning and implementation, respecting indigenous knowledge, and taking a systems-based planetary-centric approach can all support climate change mitigation. If projects are re-thought, re-considered, retrofitted, and created to minimise impact on the natural environment, the benefits will be felt for decades and centuries to come. As university teachers, designers, engineers, consultants, and advisors we have a collective responsibility to build a better future: a built environment that helps drive our planet towards regeneration to ensure our species – and all life on Earth – continues to operate within the limits of Earth systems.

## **Size, Scale, Time and Complexity matter**

Prof. Dr. Carl Steinitz  
Harvard University

I was a participant in the very first international conference on landscape planning which was held at the University of Ljubljana 50 years ago and I have spent my academic and professional life mainly in this aspect of landscape architecture. I share the multiple perspectives expressed in the foreword to this ECLAS conference. I also believe that the world will be profoundly changed in the next 50 years and that it will be much different from how it works today. This process of transformation presents an enormously important set of questions for the academic community: How do we need to transform our pedagogic and research strategies so that our current and future students are prepared to organize making the designs that are needed in relation to these expected transformations? What do we have to do differently so that our students will be prepared to design: in multidisciplinary collaboration with others, in a set of problems which increasingly will interact from global to local to global to local in iterative ways, and in an increasingly digital environment? Do we really believe that we will be designing at regional, national, international, and even global scale in the same manner in which we might design a garden? And if we do not adapt our pedagogic and research strategies, are we inevitably limiting the future work of our current and future students to a minor role in these important transformations? My keynote talk will directly address these questions. Size, scale, time, and complexity matter.

## **Research through design in landscape architecture. A personal review and an optimistic outlook.**

Prof. Dr. Martin Prominski  
Leibniz University Hannover

Since the beginning of my academic career, I have been convinced that the core method of our discipline – designing – is far from realizing its potential in landscape architectural research. For two decades now, I have been trying to find out the reasons for this unsatisfactory state of affairs and to develop theoretical and practical contributions to change it. Looking back on this journey, I can identify three key insights that have taken my thinking to new levels.

### **1. Designing as a reflective practice**

During the time I was doing my PhD at Technical University of Berlin in the early 2000s, the common understanding of design among colleagues and students was strongly influenced by a seminal text from Ulrich Eisel, then professor of theory at the TU Berlin. He distinguished between three approaches to landscape architecture - engineering, planning and designing - and concluded that designing is subjective and situation-specific, and thus by definition unscientific (Eisel, 1997). This strict division into three categories, which grants design no role in science or research, seemed too simplistic to me. I worked my way through the history of design theory and eventually came across Donald Schön and his "Reflective Practitioner" (Schön, 1991). Through Schön, I learned that designing is a unique method of knowledge

production that combines subjective and objective elements. It is precisely because of this interplay of intuition and rationality that the reflective practice of design is able to deal with complexity, uncertainty, and conflict, rather than suppressing them as is the case when using conventional scientific methods. From this I could conclude that designing is a special but legitimate and fruitful method in the landscape of science and research.

### **2. The trinity of design research is isolating research through design**

Now that I had clear arguments that design has a potential for research, I read further and attended design theory conferences where I learned about the discussions around Christopher Frayling's "Trinity of Artistic and Design Research." He distinguished between research into/ for/ through art and design (Frayling, 1993), a trinity that has been adopted and modified by many design theorists (e.g. Jonas, 2012; Lenzholzer et al., 2013). The positive effects were a clarification between different types of design research and the definition of research through design, where design practice itself is an essential part of both the research process and the research results (see Borgdorff, 2007). Yet in all of these articles by design theorists, there were few concrete examples

of research through design. Something was wrong, and I concluded in a presentation at the 2016 ECLAS conference in Rapperswil that the three categories should not be isolated from each other (Prominski, 2016). “Pure” research through design is not an ideal, but a misconception and should be replaced by an integrated understanding.

### **3. Research through design is one moment within a non-linear interplay of five moments in design research**

Although understanding the cross-fertilization between the three “traditional” categories of design research was a great step forward for me, their definition and formulation could not fully express what was happening in the design research dissertations I supervised as well as in my own design research projects. Reflecting on several dissertations that involved research through design led me to propose a theory that integrates designing into a “nonlinear interplay of five moments of design research” (Prominski, 2019a). This nonlinear interplay connects the projective moments of “research through design” with four other moments of knowledge production-- original, reflective, empty and transfer moments. At the 2019 ECLAS conference in Oslo, I have already presented the potentials of this theory for a confident and innovative integration of ‘research through design’ in PhDs (Prominski, 2019b, p.225f). Since 2020, I have been able to work with the five moments in the five-year real-world laboratory (RWL) project “Good Coast Lower Saxony” (2020-2024), and the focus of my presentation will be a discussion of the role of ‘research through design’ within such a transdisciplinary research project.

### **4. Outlook**

This personal review of two decades of design research shows that there is a steady increase in the number of PhDs and research projects where designing is an integral part of the work process. And this increase is taking place worldwide: Research through design was the theme of one of the most successful sessions at the 2019 CELA conference, with 37 papers; new PhD programs, e.g., in Scandinavia or the Netherlands, are focusing on research through design; and many real-world laboratories or living labs now involve designers. Increasing research through design PhDs is an important step in preventing an exodus of designers from universities - a trend that has already begun under the umbrella of short-sighted bibliometric assessments and should be reversed as soon as possible. Landscape architecture needs young academics who are strong in design and research, and research through design is the foundation for this! Finally, the increase in transdisciplinary research in Europe and beyond is fortunate, because in the current climate crisis, research should not only provide analytical data, but complex design projections grounded in the social processes of humans and non-humans. Landscape architecture is well equipped to enter this research scene with confidence!

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### Track 1: Evolution and reflection

Chairs: Prof. Em. Richard Stiles,  
Prof. Dr. Mojca Golobič

#### Evolution and reflection – Back in Ljubljana, but where are we now?

Prof. Em. Richard Stiles

After 50 years of evolution are we still hung up on definitions of the profession? 30 year ago, the first Ljubljana ECLAS Conference in September 1992 addressed this problem, and I was lucky enough to be able to make a contribution to the discussion which was subsequently published (Stiles, 1994). The paper argued that landscape theory could provide a unifying bridge between landscape planning and landscape design, but it raised more questions than it provided answers. Viewed from today's perspective it seems that the issue is still far from resolved. Back in Ljubljana 30 years it is perhaps time to reflect whether we have got any closer to clarifying the issue. At the time the paper suggested that worrying about definitions did not get us very far:

*“Defining job titles within the landscape profession/discipline appears to be a pastime of almost endless fascination to its members, but it is one which can only be of limited value, especially at the international level. This is both because of the problems caused by translation between languages and due to the varied way in which professional roles have historically become divided up in different countries.”*

Of course there is a good case for finding and agreeing on an acceptable professional title and sticking to it, on the principle of Shakespeare's *“What's in a name? That which we call a rose by any other name would smell as sweet.”* But it is not even as simple as naming and defining what we do, there is also the question of where we belong. It was also almost half a century ago, in 1975, when Geoffrey and Susan Jellicoe published their monumental work *‘The Landscape of Man’*, in the introduction to which, they ventured the opinion that:

*“The world is moving into a phase when landscape design may well be recognised as the most comprehensive of the arts.”*

If *‘landscape design’* is one of *‘the arts’*, does this make landscape planning one of the sciences, or is landscape design as used here just a synonym for landscape architecture, which also encompasses landscape planning? Certainly, despite the Jellicoe's use of the term landscape design, IFLA, of which Geoffrey Jellicoe was the founding president, adopted the term *‘landscape architecture’*, and despite the opposition to its use as a professional title from architects in some European countries, the name

has become well established internationally and is recognised by the International Labour Organisation.

Nevertheless, matters were complicated further, in 2000 when the European Landscape Convention came along with its definitions of three activities: 'landscape protection', 'landscape management' and, again, 'landscape planning'. So where does this leave the profession today?

Putting aside for a moment the question of to which of C.P. Snow's 'Two Cultures' (the liberal arts or the natural sciences) landscape architecture belongs, it is perhaps timely to pause for a moment in our celebrations of important anniversaries in the development of landscape architecture education<sup>1</sup> to reflect on whether 'the world' has indeed yet recognised the importance of landscape architecture as the Jellicoes predicted, and if not, why not?

If they were right about the level of recognition that should now have been achieved, one might now expect that the 'world' would be beating a path to landscape architecture's door, to ask for the profession's aid in addressing issues such as the climate and biodiversity crises, to which we are clearly ideally fitted to tackle. However, in most places at least, the queue outside the profession's door is, at best, a very modest one and at worst is barely visible at all.

So, while it is to be hoped that the world is, at long last, beginning to wake up to these crises, it has seemingly not yet really become aware that landscape architecture can contribute significantly to ameliorating them. There are many possible rea-

sons for this, but could one of them possibly be that much of the profession has spent the past decades trying to be more architectural than the architects in our treatment of urban open spaces, while spending much less time in taking a strategic view of larger scale landscapes?

Is it perhaps time to focus again more closely on the 'landscape planning' parts of landscape architecture – if we can agree what that may mean – especially as the European Landscape Convention reminds us that it "*applies to the entire territory of the parties and covers natural, rural, urban and peri-urban areas*"? Maybe there is still a need to clarify some definitions and make sure that we are all on the same wavelength so that we can move forward together into the next half-century?

Stiles, 1994, Landscape theory: a missing link between landscape planning and landscape design, *Landscape and Urban Planning* 30, 139-149

## Presentation abstracts of track 1

### **ID 68: From (Mega) Regionalism Towards Planetary Scale in Landscape Architecture**

Ms. Samaneh Nickayin

Agricultural University of Iceland (AUI), Reykjavík, Iceland

In the era of globalization, when all planet is urbanized and planners debate “Planetary Urbanization”, economists discuss “Global City”, ecologists describe the planet’s biodiversity hotspots connections, and climate changes warn “global” crisis, it might be necessary to shift the paradigm of the landscape planning scale from local and regional scale to an adequate scale of challenges – Planetary scale. The Planetary scale might be neither planning nor designing. It is an interacting vision in which the integrity and interconnection of the issues are foreseen on a global scale.

Concerning some global landscape connectivity projects, the paper focuses on the importance of “planetary-scale” to properly understand relationships between landscape design, urbanization, and ecology. It has been based upon concepts from theories on Planetary Urbanization and the Planetary Garden, linking Landscape Urbanism, Urban Ecology and Environmental Advocacy to review the variety of scales that Landscape Architecture could address – from local to (mega)regional and global scale. Clément’s Planetary Garden, Richard Weller’s World Parks, and Forman and Wu’s efforts to find the habitable zone for the upcoming population demonstrate the endeavours of most prominent experts in landscape design and planning to open the debate on the new scale of action.

In the 19th and 20th centuries, the conservation of National Parks was the triumph of reflection of pioneers who saw the integrity of biotic and abiotic systems under the sovereign rule of the national scale. In the era of holistic visions, the IUCN’s ever-increasing list of protected areas shows a new organizational scale that goes beyond continents, and it seems humanity is attempting to manage the planet as a garden.

## **ID 151: The Place of Universal Open Space Design within the Contemporary Paradigms of Landscape Architecture**

Gabriella Szaszak<sup>1</sup>, Tibor Kecskes<sup>2</sup>

<sup>1</sup>MATE Hungarian University of Agriculture and Life Sciences, Budapest, Hungary.

<sup>2</sup>Budapest University of Technology and Economics, Budapest, Hungary

The global trend of Universal Open Space Design (UOSD) - applying also special solutions compensating disabilities - is often considered by spatial designers as the blocker of traditional creativity, aesthetics and local identity. The importance of equal access to open spaces is confirmed by the aging society and urbanization, which – by the increasing proportion of people living in cities – increases the need for urban green areas and also the number of inhabitants who require accessible solutions for the equal social participation. The transdisciplinary research - also involving rehabilitation engineering, special education and sociology - is based on literature review, case studies, real-scale experiments via on-site and follow-up consultations with people living with disabilities, and international site visits. The primary goal is to interpret and analyze the theoretical background of UOSD through the assessment of special needs towards open spaces; to discover whether and how the function-orientated, still unaccustomed barrier-free design can be integrated into the contemporary, often conceptual and aesthetic-based paradigms of spatial design; and to find the place of the non-traditional spatial language of UOSD within these actual paradigms. Results show that physical barriers are often rooted in the ignorant social attitude, and so creating equally accessible open spaces for all can also contribute to the social inclusion. In a visibility-dominated culture - and profession - it's particularly challenging to deal with the special needs of visually impaired people. The non-traditional, tactile and visually contrasting design solutions, which should be applied more widely, haven't found their place in our aesthetic canons yet, which can lead to conflicts obstructing equal access and creative inclusive design, and worsen the social reception of UOSD and disability itself. We invite landscape architects to consider our professional and personal responsibility and to challenge ourselves to find creative ways towards the best solutions for all.

**ID 168: Reassembling a leisurescape for all by learning from 50 years of landscape planning**

Prof. Mattias Qviström

Swedish University of Agricultural Sciences, Uppsala, Sweden

This paper explores the dramatic shifts in urban landscape planning for leisure over the past 50 years, and discusses the potentials to learn from, or even reassemble, places, actors and agendas of the past planning. It makes two arguments. First, it argues for a relational geography to unveil the paradigmatic shifts of landscape planning. Such an approach will help us to better understand the different social and environmental challenges that has framed landscape planning over time, but also how the very nature of the planning has shifted. The second argument concerns the need to use past planning as a lens for a critique of contemporary planning, but also as a base to see the possibility to reassemble another future. The arguments will be supported with a synthesis of case studies of Swedish planning committed within the research project "The welfare landscape reassembled: policies for sustainable outdoor recreation in times of urban densification" (2018 – 2023). The cases cover the landscape planning history of the 1960s – 1980s as well as contemporary studies of green space provision, of everyday recreation and of leisure planning. The studies reveal the crucial importance of the material legacy of landscape planning for leisure of the 1960s – 1980s, but also the need to revisit some of its social ambitions to reassemble actors for planning a leisurescape for all. The final part of the paper draws on the empirical conclusions to discuss implications for the practice of landscape architecture and landscape planning, in particular concerning the challenge of a critical and creative use of a heterogeneous historical legacy to find an open future.

**ID 72: Designing “a spectacular, green and social valley”: post-war urbanism, landscape expertise and civil resistance in Brussels (1965-1979)**

Dr. Koenraad Danneels

KU Leuven, Ghent, Belgium

Today, the ecological landscape is increasingly used as a tool for sustainable regional planning in urban areas. This is certainly true in Brussels, where planners and politicians believe that the designing of ecological systems and corridors can spatially unite the region after decades of piecemeal planning. Many critical voices wonder however what the larger socio-political urban project behind the employment of these ‘new’ knowledge frameworks is. As these plans are clearly influenced by the discipline of landscape architecture, one way of dealing with this is to question how the tools and knowledge frameworks of the landscape-urbanist are different from those of classic urban designers, and how these tools exclude or allow for a political project in landscape design.

In this paper, I argue that we should use history to reflect on the interaction between landscape architecture and urbanism. Like today, during the post-war period landscape architects were central in the development of planning methods that incorporated a landscape reading of the Brussels region. Specifically, I will look at the cooperation of landscape architect René Pechère with urban design firm Groupe Alpha in the Regional Plan of Brussels in 1965. This plan was presented as scientifically sound, but it also triggered much opposition from urban movements. I will therefore analyse the tools that Pechère employed in the Alpha Plan, like his use of landscape drawings, his mobilization of the concept of the garden, and botanical know-how used to build an urban green network, as well as the opposition these ideas provoked. By zooming into the history of landscape architecture and urbanism, supplemented with civil resistance, this paper therefore highlights the ways in which socio-political urban questions were tackled -but also sidestepped- through a focus on landscape expertise, and how this debate is extended in present debates on landscape design in Brussels.

**ID 37: Landscape change: A socio-evolutionary approach to landscape dynamics**

Assoc. Prof. Juanjo Galan Vivas

Polytechnic University of Valencia, Valencia, Spain

In the Anthropocene, almost all landscapes on the planet have been influenced or transformed by humans, and their evolution is highly determined by social, political, planning, technical, and economic regimes. This evolution usually takes place gradually, but on some occasions, radical changes in societies produce the appearance of new landscape patterns and processes. These phenomena become even more evident when artificial borders, like some national frontiers, abruptly modify the interactions between people and the environment on adjacent territories. In those cases, the landscape turns into a living laboratory where researchers can compare and register the influence of human factors on its evolution with particular accuracy. By establishing an analogy with evolutionary biology and with island ecology, the landscape becomes a model to explain the generation of sharp divergences in places that used to be similar. The methods to analyze this landscape divergence are multiple and transdisciplinary. Firstly, the comparative analysis of land-use maps and aerial pictures can reveal significant spatial changes before and after disruptions. Secondly, the coupled study of landscape patterns and processes can illustrate the causal connections between form and function. Thirdly, the analysis of social, political, and economic frameworks can explain how they operate as deep and systemic drivers of landscape change. This paper presents the methodological framework developed to investigate this kind of phenomenon in Karelia, an area that, after the Second World War, was divided between Finland and the Soviet Union and whose landscapes experienced the consequences of being exposed during many decades to radically different conditions.

**ID 41: Renewal of large-scaled living heritage in the fast-changing landscape Subtitle:  
New approaches for regeneration of an outstanding Baroque living heritage**

Krisztina Szabó, Judit Doma-Tarcsányi, Anna Mohácsi, Kinga Szilágyi

MATE Institute of Landscape Architecture, Urban Planning and Garden Art, Budapest,  
Hungary

The Széchenyi Linden Allée is an outstanding piece of Baroque garden art at Nagycenk, West-Hungary. The generous linear composition was created by the prominent Széchenyi family, dating back two and a half centuries; it has remained in its magnificent entity on a landscape scale ever since. In 1942 the allée received a nature conservation nomination, and it is part of the listed Nagycenk historic garden. Unfortunately, the once continuous and magnificent tree lines have severely eroded in recent decades. Due to mature trees' subsequent death, inadequate replacement, lack of regular maintenance, and tree care, the allée rapidly loses its distinctive appearance and rhythm. In addition, climate change with severe storms, decreasing precipitation, and neighboring land-use intensification speed up the predetermined natural decline process.

In recent years (2011, 2018), complete analyses, visual and instrumental tree and landscape surveys were performed to help conserve the allée, maintain the trees, restore the landscape and develop the inevitable long-term renewal method and plan. However, tree mortality accelerated within the two site surveys. Therefore, based on the 2018 survey and maintenance plan, an entire tree and allée restoration project were finished in 2019-20.

The study aims to identify the results of tree care, particularly the vitality of mature trees after crown reductions, and then propose a feasible and sustainable regeneration method based on the habitat and maintenance context. Based on the conservation of genetic heritage, our research identified several alternatives, considering partial, staged, or complex single-stage replantation. Reproduction (propagation of about a thousand good, viable, mature trees) started in 2020 and resulted in well-developing grafts for later allée restoration. However, due to the challenges of climate change, the regeneration scale and sections require careful planning taking each still vital and possible remaining mature tree or the well-growing individuals from previous replanting.

**ID 187: Planting Design: Current Practices and Research Trends**

Prof. Cláudia Fernandes<sup>1,2</sup>, Ana Catarina Teixeira<sup>1,2</sup>, Camila Fernandes<sup>1</sup>

<sup>1</sup>University of Porto, Porto, Portugal. <sup>2</sup>Cibio, InBio, Porto, Portugal

Planting design is one of the landscape architect's most complex tasks. For a long time, plants were perceived and manipulated as a static tool valued solely by aesthetics or utility. However, recent climate and urban environmental problems have proven the decisive role of vegetation in solving or mitigating these issues, pushing plant design towards new approaches that go beyond the primary concerns of form and function.

Here we argue that a systematic literature review about Planting Design is relevant to understand how Planting Design has been evolving and adapting to address rapid changes in the urban environment. The main goals were to (1) evaluate the state-of-art about planting design, (2) identify which principles and theories have been guiding planting design proposals, and (3) assess which problems Planting design is mainly being addressing.

The literature search was performed in 2021 in Taylor & Francis Online, Scopus, and ISI Web of Science Core Collection using a pre-tested search term and following the guidelines provided by the CEE (2013). The review process of selected literature implied the analysis according to the year, the publication magazine, the geographical location of the studies, and the thematic focus. Bibliographic maps of the co-occurrence of terms were also produced using VOSviewer software.

Results showed that since 2011 there had been an increase in the number of planting design publications in the Landscape Architecture field. It also confirmed that planting design's main focus has been on issues related to the cities' ecological, social and economic spheres. Concerns with climate change, ecosystem services and disservices, and biodiversity shape the current research trends in planting design. Finally, the new emerging approaches in planting design are discussed in light of aesthetic and landscape visual quality and perception.

**ID 48: Towards a multispecies urbanism. Revealing the urban patterns of sparrows in Brussels.**

Björn Bracke, Prof. Dr. Bruno Notteboom, Dr. Koenraad Danneels

KU Leuven, Brussels, Belgium

Recent scholarship has highlighted the opposition between nature and culture in the Western and Modern thought as one of the destructive drivers of many life forms on our planet. The deeply human-centered ways of engaging with our environment do not acknowledge the imbricated nature of humans and other beings. Cities offer places to rethink human-nature interactions and can no longer be seen as an almost exclusive habitat for humans. In this article we use the house sparrow as an entry point to reflect on a multispecies urbanism in Brussels, Belgium. The habitat of the house sparrow is inextricably linked to human settlements and can be seen as an historic symbol of human-animal interactions. Furthermore, the sparrow populations in European cities are in sharp decline recent decades. Using data from citizen science initiatives, interactions with ecologists and scientific studies we reveal the urban patterns of the Brussels sparrows and the interactions with human practices and infrastructures. We experiment with dynamic cartography and narrative drawings to capture the complexity of spatio-temporal patterns of the sparrows and begin to unravel their urban behavior and interdependent relationships. The exploration focusses on two different scales. The first scale comprises the Brussels Capital Region and the second scale unfolds in two case studies on the neighborhood level. In the case studies the maps are used to develop new urban design strategies that can foster the Brussels sparrows. The design work and maps on the sparrows in Brussels provide an entry point into a wider reflection on the presence of wildlife in the city and the significance of urban biodiversity.

## ID 45: The revival of pocket parks

Prof. Rainer Sachse<sup>1</sup>, Prof. Frank Slegers<sup>2</sup>

<sup>1</sup>Nuertingen Geislingen University, Nürtingen, Germany. <sup>2</sup>University of Massachusetts, Amherst, USA

In 1963, New York landscape architect Robert Zion published the pamphlet *"New Parks for New York"* in which he proposed the introduction of a new type of park, the "pocket park". Zion aims to address the open space deficit that comes with New York's unrestrained growth. As the city expands, the distance one must travel to reach attractive open spaces increases. The "pocket park" concept aims to counter this development with a decentralized strategy. Instead of a few large parks, a network of small western pocket parks is to be created to counteract the lack of attractive public spaces.

Pocket parks, or vest pocket parks, are small-scale urban parks. Because of their little footprint, pocket parks can be placed in the unoccupied spaces of the city structure, the "urban fabric," and in this way they provide open space directly to the local population. A large-scale green space is replaced by a multitude of miniature parks.

In our presentation, we will explore the potential of a new type of Poket Parks for the sustainable renewal of our cities, as they open up ways to address the pressing issues of urbanization: The social drifting apart of urban society, the increasing anonymity and individuality, the decreasing biodiversity and the challenges of climate change. As a decentralized strategy, pocket parks can be used to respond quickly, precisely, and cost-effectively to problems in neighborhoods. The new pocket parks offer a unique opportunity to bring together city and park, nature, and culture in an innovative way.

**ID 61: The Landscape Architect. Statements on landscape architecture education worldwide**

Dr. Laura Cipriani<sup>1</sup>, Dr. Maria A. Villalobos H.<sup>2</sup>

<sup>1</sup>TU Delft, Department of Urbanism, Section of Landscape Architecture, Delft, Netherlands.

<sup>2</sup>Illinois Institute of Technology, Program of Landscape Architecture and Urbanism, Chicago, USA

Today, the definition and role of the landscape architect remain uncertain. The profession encompasses multiple realms of research and practice that seem to contradict each other according to the views held by many countries' professional and educational systems. While some see landscape architects as creative gardeners, others interpret them as rational technicians—not to mention all the intermediate work scales and definitions between the two extremes.

This research aims to gain insight into the definition of the next generation of landscape architects and it is a product of a research undertaken for the 'Landscape Journal.' The work is organized in three parts. The first part discusses the uncertainty regarding who the landscape architect is and the ever-evolving role. The second part identifies the existing educational programs in landscape architecture on the global scale producing a global database and cartographies with population centers, terrestrial ecological regions, and education levels. The third part presents the results of a series of targeted interviews at 10 international universities from all continents to facilitate the understanding of current global educational trends in the master tracks. The list includes: Cornell University & Penn University, USA; TU Delft, Netherlands; University of Pretoria, South Africa; Gottfried Wilhelm Leibniz University of Hanover, Germany; Politecnico di Milano, Italy; University of Technology Sydney, Australia; CEPT University, India; Federal University of Rio, Brazil; Peking University, China.

Finally, the research indicates that today graduate landscape architecture education is mostly a product of Western knowledge, likely resulting in hidden cultural dominance. In a planet dominated by unprecedented climatic, economic, and social uncertainties, this research aspires to a collective landscape architecture consciousness, which goes beyond the singularity of the individual and takes responsibility in today's world.

**ID 158: Re-Visiting the Contemporary Landscape Architecture Theory: Actors, Discourses and Practices**

PhD Candidate Çisem Demirel, Assoc. Prof. Ebru Erbaş Gürler  
Istanbul Technical University Faculty of Architecture, Istanbul, Turkey

Landscape considers the environment it is in as a set of events and phenomena, and the definition of landscape may change according to these various events and phenomena. Thus, the concept of landscape is dynamic. Considering this dynamism, transdisciplinarity and integrity, which domains of influence does landscape architecture theory try to address today? How are these domains shaped when we consider contemporary concepts such as global climate change, capitalism, digital age and anthropocentrism? In 2016, LAF (Landscape Architecture Foundation) released The New Landscape Declaration, brought together a diverse group of world-leading landscape architects to assess the past and hold a mirror to the future. This initiative, which went beyond the manifest rhetoric and quickly reflected on the action, was the first starting point of this research. After The New Declaration, it is unavoidable to wonder how have the dynamics in landscape architecture theory and practice changed in last six years. Based on this concern, the aim of the study is to discuss the current theory and practice relationship of landscape architects by analysing the main universal organizations and platforms such as IFLA (International Federation of Landscape Architects), ASLA (American Society of Landscape Architects), WLA (World Landscape Architecture) and Landazine. It is predicted that Actor Network Theory, suggested by Bruno Latour in 1980's will be a critical method to create the actor-discourse-practice scheme. By analysing these discourses within the discourse-analysis method, it is aimed to initiate a discussion on how this relationship constitute an input to today's landscape architecture theoretical infrastructure. As a final goal, we hope to revisit the theory of landscape architecture by looking at the landscape that emerges from the coincidence of these two methods, and to take a critical look at the relationship between theory and practice we have constructed as contemporary landscape architects.

**ID 85: How can landscape architects, planners and other built environment practitioners best address global-scale challenges at the local scale in our urban public spaces, supported by digital tools, data-driven innovation and technologies? Or would other non-technological changes to policy, practice or systems better address barriers to implementation of 'better' public spaces?**

Ms. Jenny Elliott

University of Edinburgh, Edinburgh, United Kingdom

Global scale, local response. Global scale challenges - from climate change, to public health - influence and change the context within which landscape architects, urban designers, planners and other built environment professionals work, and the ways the public spaces they plan, design and implement are used and experienced by people and nature. Whilst global in scale, these worldwide challenges are experienced at the local level, in the streets or public spaces where people live, whether it be a heat wave worsened by the urban heat island effect and lack of street trees and vegetation, a lack of welcoming walking and cycle infrastructure discouraging more sustainable and active travel choices, or a need for additional outside meeting space for social contact in a pandemic. As a result, we - landscape architects, planners and related disciplines - need to respond to global events in the ways we plan and design at the local scale. By helping to realise better place outcomes locally, we can, cumulatively, start to address these wider environmental, social and public health challenges.

But rather than just responding using our familiar toolbox of skills and methods, can another global shift - that toward data-driven approaches, with rapidly evolving technologies, digital tools and innovation - actually help us address these worldwide challenges? How are built environment professionals adopting (or not) these global technological advances and data-driven innovation - often spearheaded by other industries? How might they add value to localised design, planning or decision-making processes and improve place outcomes? Or are there other less technological, but arguably more pertinent ways to address barriers to realising positive place outcomes from our public spaces that we should reflect on?

I would like to share UK practitioner survey and interview findings from my PhD research at the University of Edinburgh, which takes a design thinking approach to answer these questions.

**ID 155: Landscape Architects Knew...Planning with the aim of “gardening the world”.**

Prof. Rita Occhiuto<sup>1</sup>, Dr. Ludovica Marinaro<sup>2</sup>

<sup>1</sup>University of Lieg, Faculty of Architecture LabVTP, Liege, Belgium. <sup>2</sup>University of Modena And Reggio Emilia, Modena, Italy

The shift towards a more “global scale” is not new for landscape architecture. It is already in nutshell in its earliest forms (XIV century) and in the debates of the XVIII century on the evolution of the concept of Nature and the art to “Take Care of Earth” by “Gardening the World” (H.Repton, G. Clément). From the awareness of the “green revolution” landscape’s approaches were defined as: Gardening, Landscape Gardening, Landscape Architecture, until the contemporary dimensions of Landscape Urbanism and Landscape Planning. This defining discipline’s process, going on for a long time, is the search for ways for the hybridisation required to cope with the complexity of the landscape. The widening of scales or their interscalarity, depends on the change of human capacities: the ability to mentally grasp the space experienced and/or acted upon; to think through space and time; and to understand ‘space in motion’ or ‘space of living conditions’. Therefore, what is new is not the scale of the processes of change, which has always been global, but rather the acceleration of changes that led us to interpret them today as urgent challenges. A ‘global nature of the responses’ is required and concerns the sphere of design, planning and politics. What might seem like a modest shift of emphasis, instead reveals a major shift of approach implying a systemic conception of reality free from the Cartesian dichotomy between Subject and Object. This has profound repercussions on the profession because it calls to greater responsibility for the project and it implies its transcalarity, its interdisciplinarity, its farsightedness and memory and therefore the ability to know how to interact with complexity, without trivializing it, eliminating it or flattening it, but on the contrary knowing how to empathize with it by innovating the processes to create quality landscapes.

## **ID 124: Evolution and Reflection: Landscape Architecture as a Key Player in Historic Urban Landscape Planning 1930-2022**

Yael Sofer

Technion, Haifa, Israel

The eighty years separating the Athens Declaration (1931) and the Paris Recommendation (UNESCO, 2011) on historic urban landscapes reflect the changes in perceptions of conservation and planning during this period while recognizing the importance of historic open spaces as an essential aspect of environmental, cultural, social, and economic sustainability. Their integration into urban planning today has become one of the central goals of global urban planning agendas in tackling the challenges of climate change, population growth, and immigration.

Thus, in the reality of urban density, landscape architecture plays a role not only in planning urban open spaces but also in applying a stratified planning concept capable of connecting the disciplines of conservation, sustainability, and urban planning. This role reflects the expansion and the change in function of landscape architects, from planners of open spaces and parks to essential members of interdisciplinary planning teams.

The article emphasizes the role of landscape architecture in integrating historic open spaces into urban renewal. It examines and compares planning strategies on three different levels:

1. Conservation and integration guidelines for urban green spaces in cities in international documents from 1930 to 2020.
2. Historical urban landscape policy documents in two cities: London, England; and Ramat Gan, Israel.
3. Practical strategies for planning and design in historic open urban areas at King's Cross in London, and at the Museums Campus in Ramat Gan.

The study offers a model for identifying practical landscape architecture strategies for historic urban open spaces undergoing renewal and argues that landscape architecture is a key player in the meeting point between open space conservation and urban planning.

**ID 116: Reassembling a welfare landscape: applying learnings from planning outdoor recreation in the 70s to today's Sweden**

Ms. Amalia Engström, [Dr. Neva Lepoša](#)  
SLU, Uppsala, Sweden

The 1960s and 1970s have been known as the 'golden era' of recreational planning in Sweden. Outdoor recreation was politically recognized as an issue, and leisure infrastructure with extensive green areas and spaces for play and leisure was a central feature for, at that time modernist welfare planning in many Swedish urban landscapes during the 1960-70s. This late modernist planning has been heavily criticized from a multitude of perspectives, including the monotonous and simplistic aesthetics of the housing areas, the lack of public participation, problems of segregation, or a lack of energy efficiency. However, by shifting our focus on planning for outdoor recreation, we can see how the construction of the infrastructure strategically planned and constructed 50 years ago, still supports and inspires well-being for today's different, more globalized society. Yet recreation and leisure planning considering the significance of that 'golden era', as related to the period of the culmination of Sweden as a welfare state attracted little attention within urban and landscape research. At the same time, recreation and leisure planning may fall between the chairs or come in too late, in contemporary planning practices.

By drawing on a case of a suburban municipality in the greater area of Stockholm, constructed in the 70s, we argue, that the material, discursive, and habitual legacies of welfare planning for recreation from the 70s are fundamental for contemporary planning, in particular for outdoor recreation and leisure. Inspirations from relational geography and assemblage thinking, as well as discussions with planners and analyzing plans from the different periods of time, illustrate how welfare leisure landscapes are assembled and reassembled. We conclude that learnings from the 70s should co-exist with today's planning practices in today's globalized societies.

**ID 205: Investigating the association between characteristics of green space and physical activity of young people in Slovenia**

Vita Žlender, Ina Šuklje Erjavec, Jana Kozamernik

Urban Planning Institute of the Republic of Slovenia, Ljubljana, Slovenia

There is growing concern about physical inactivity in adolescents and young adults. Physical inactivity is a consequence of global trends such as increasingly sedentary lifestyles, technological development, (perceived) lack of time, changing patterns of transportation, and urban sprawl. It is also closely related to spatial and environmental quality on local level. Since landscape architects and urban planners deal with physical environment, they have important role to tackle this challenge and capacity to create healthy and for physical activity (PA) stimulating cities and settlements. Accordingly, this study focuses on the role of physical environment in elevating PA. It questions how we can plan outdoor green spaces to create safe and quality environment to sustain and encourage PA among young people. The study aims to provide answers by (1) inspecting needs, wishes and preferences of young people regarding PA and, (2) identifying facilitators and barriers to outdoor PA. Influences of the COVID-19 situation on PA were also explored. A national-wide survey with 165 respondents and two workshops with more than 100 participants were used to collect data from young people in Slovenia. Respondents' main activities were walking, socializing outdoors, and hiking. However, 70% of them did not reach sufficient PA, mainly due to the lack of time and company for PA. Whilst recreational paths network and a space to play ball were the main encouragements for outdoor PA, crowdedness, rain, bad smell and trash were among main barriers. Our results suggest that young people do not necessary need increased choice of green space facilities, but they appreciate green space characteristics such as secure access and use, natural shade, closeness to home, and trees. We conclude that providing large, clean and well-maintained semi-natural or natural-like green spaces close to people's homes may be an effective strategy to improve PA and youth's health.

**ID 195: Assessing the Perceptions, Preferences, and Attitudes of Users of Urban Green Spaces.**

Prof. Cláudia Fernandes<sup>1,2</sup>, Ana Catarina Teixeira<sup>1,2</sup>, Maisa de Sousa<sup>1</sup>

<sup>1</sup>University of Porto, Porto, Portugal. <sup>2</sup>Cibio, InBio, Porto, Portugal

The inclusion of public opinion in the design process of urban green spaces (UGS) has been gaining relevance in recent years. Therefore, there is a growing concern of designers and planners in understanding the perceptions, preferences, and attitudes of users of UGS to develop proposals that accommodate their concerns and desires. Several methods for assessing perceptions, preferences, and attitudes are available, usually involving public participation in questionnaires, interviews, or participatory meetings. However, it is still challenging to identify the most appropriate method for the study's goals or type. This paper aims to analyze the published literature on this topic to fill this gap.

The adopted methodology was a systematic literature review following the guidelines provided by the CEE (2013). The review process of selected literature implied the analysis according to the year, the publication magazine, the geographical location of the studies, and the thematic focus. The literature search was performed in Taylor & Francis Online, Scopus, and ISI Web of Science Core Collection using a pre-tested search term.

A total of 677 references published between 1992 and 2020 were collected. After applying inclusion and exclusion criteria, the final database resulted in 218 records. The review of these records determined that most of the studies carried out are about perception, resorting to questionnaires or combined methods, carried out face-to-face, addressing several types of green spaces, and focusing mainly on the aesthetic and sensory qualities and vegetation. A lack of questionnaires aimed at assessing perceptions, preferences, and attitudes towards parks and gardens with a naturalistic design style, in contrast to more formal ones, was identified. This issue was assessed through a questionnaire to 228 respondents and resulted in a clear preference for more naturalistic styles associated with more sustainable spaces.

**ID 64: Lost in translation - How do „noises” in the landscape architectural communication of public green space projects affect the implementation of the principles of sustainability?**

Andrea Keresztes-Sipos, [Patrícia Szabó](#)

Department of Garden Art and Landscape Design, Institute of Landscape Architecture, Urban Planning and Garden Art, Hungarian University of Agriculture and Life Sciences, Budapest, Hungary

It is in the interest of all stakeholders to have public green spaces that not only function but also grow in the long run, both in terms of social and ecological value. The most important contemporary challenge in landscape architecture is to create sustainable public green spaces which, in our understanding, should meet the following goals:

- Engages and responds to the needs of the local community through the phases of planning/design, implementation and in use (long term management and maintenance) – the social aspect;
- Enriches the green infrastructure of the neighbourhood and adapts to the local impacts of climate change in a meaningful way – the environmental aspect;
- The technical and financial requirements of its management fit the short and long-term plans and budget of the local municipality/council – the economic aspect.

In Hungary, public green space interventions are coordinated and financed by the local municipality, whereas its multiple benefits are enjoyed (or rejected) mostly by the local community. In order to have public green spaces that fulfil their role in every aspect, the mutual understanding of the needs and points of view of the stakeholders is critical. To this end, local authorities occasionally use various methods of public involvement and engagement to develop green spaces according to the needs of the local community. However, practice shows that despite the open communication, the sustainability of the projects often suffers due to various obstacles in the communication process. For example, the visual representations are not clearly understood and therefore implementation will be disappointing; or the technical content is not communicated to the citizens through the right channels during the implementation. Our aim in this article is to identify the potential communication barriers to achieving a sustainable public green space, through presenting a literature review and cases of participative design.

## ID 165: Revealing History for the Landscapes of Today and Future

PhD candidate Fatma Bekar<sup>1</sup>, Assoc. Prof. Dr. Fatma Aycim Turer Baskaya<sup>2</sup>

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

Landscape history readings are primarily reviewed at a garden scale and not considered within the scope of landscape character studies. In contrast, knowledge about the historical landscape character and landscape practices is standing at the cornerstone of resiliency. This study discusses whether vernacular and historical studies be adopted to many of today's resilience approaches, as in the case of green-blue infrastructure. Such cultural readings are relevant in seeking environmental and cultural problem-solving in the 21st century. In cultural readings, qualitative and quantitative data gathering by considering the interrelation between design and planning is vital. This historical study highlights the time and site-specific design elements composing interconnected landscapes.

This study interrogates to what degree cultural landscape knowledge has been lost over the centuries and the role it can play in the future of the landscape. Therefore, it handles a specific series. Ten-Volume "Book of Travels" written by Evliya Çelebi is one of the heritages on the UNESCO Memory of the World List. Evliya Çelebi had visited a vast territory involving 257 cities ranging from Istanbul, Tabriz, Sophia, and Crimea to Belgrade over a long period of the 17th century. This traveler book series is far beyond the other traveler books with its multi-scale details about not only vernacularity but also environmental resiliency, and blue-green infrastructure within a multi-cultural landscape character setting.

This study benefits from the text-mining technique via Voyant tools and classifies landscape-related terms according to 8 major thematic parameters as microclimate, soft landscape elements, hard landscape elements, geographical features, intangible attributes, open spaces, fauna, and water features. In order to capture a statistical way of understanding, correlation analysis is conducted.

Quantitative studies generate a prosperous discussion platform to reveal historical knowledge and multi-scale landscape practices for the benefit of today and the future.

## **ID 103: Novel solutions to Novel challenges: How can Landscape Architecture bridge gaps between science, people, and nature?**

Dr. Catarina Teixeira<sup>1</sup>, Professor Cláudia Fernandes<sup>1</sup>, Professor Jack Ahern<sup>2</sup>

<sup>1</sup>InBIO - Rede de Investigação em Biodiversidade e Biologia Evolutiva, CIBIO. Departamento de Geociências, Ambiente e Ordenamento do Território, Faculdade de Ciências, Universidade do Porto, Porto, Portugal. <sup>2</sup>Department of Landscape Architecture and Regional Planning, University of Massachusetts, Amherst, Amherst, USA

In the wake of the Anthropocene, it has never been more urgent to address environmental challenges (e.g., climate change, land-use change, pollution, natural resources rupture) in a collaborative and interdisciplinary way, bringing together points of view from different areas of knowledge to achieve common goals. For this purpose, we believe that the holistic perspective of the Landscape Architecture profession can help facilitate dialogues between other fields of knowledge. In this communication, we aimed to reflect on the role that the Landscape Architecture profession can play in a particular challenge that will most likely change the way we design, manage, and perceive urban green spaces in the future, thereby probably shaping the discipline's development in the upcoming generations. We are referring to the emergence of novel assemblages of species and environmental conditions in urban areas resulting from human-induced activities (i.e., Novel Urban Ecosystems). We performed literature searches to identify Landscape Architecture projects related to the "Novel Urban Ecosystems" concept to assess how these projects have contributed to the understanding and application of this concept in urban areas. In the last years, a set of Landscape Architecture projects (e.g., Landschaftspark Duisburg Nord, Park am Nordbahnhof, Hongmei Cultural Creative Park, Lago Ex-SNIA, Cultuurpark Westergasfabriek) have been designed with Novel Urban Ecosystems, even though the relationship with the concept is unknown or not acknowledged in many cases. These projects were analyzed in terms of the adopted approaches, giving valuable insights on minimizing existing problems and maximizing opportunities. Additionally, we identified which are the assets and tools of the profession that have helped find innovative solutions in each situation. Based on the collected knowledge and examples, we confirm that Landscape Architecture can actively contribute to the search for responses to emerging environmental challenges society is increasingly facing, bridging gaps between science, people, and nature.

**ID 164: The welfare landscape and densification – where do children play?**

Assoc. Prof. Märit Jansson, Julia Schneider  
SLU, Alnarp, Sweden

Landscape planning is affected by ideals, which are shifting over the decades. The lingering structures of modernist planning in Sweden might be described as a welfare landscape. During particularly the 1960s to 1980s, much attention was given the provision of e.g. large surfaces for outdoor recreation and traffic solutions separating cars from pedestrians. This was leading to child-friendly urban landscapes in many senses with much room for play, while also lacking qualities, such as variation. Today's ideals are often compact built environments with increased car access and smaller outdoor areas, and less attention given child-friendliness. A patchwork of planning styles appear as densification is introduced next to older areas.

Previous studies have shown the importance of a child-friendly landscape planning in order to promote children's play and mobility. The very basis for child-friendliness might be the independent mobility of children and the richness of action (play) possibilities, so called affordances, in the landscape. What lessons can be learnt from studying recent densification planning areas, and areas from the welfare landscape era, through the lens of child-friendliness? In particular, how do parents experience living with children in areas with varying access to outdoor areas?

This study is focused on built areas in the city of Uppsala, Sweden, that have a mix of planning styles from the welfare era and the densification era. It builds upon a mixed-methods approach using document studies of planning documents, site visits with observations, and questionnaires to local inhabitants. Overall, the study shows the importance of promoting children's use of outdoor areas in all types of areas, as outdoor play is decreasing. However, also the built-up structures affect child-friendliness, where shifts in planning ideals lead to affecting the conditions for childhood.

**ID 120: Centennial Landscape Architecture Education in Africa: Scale, Success, Setback**

Dr. Joseph Adeniran Adedeji

Federal University of Technology, Akure, Nigeria. University of Applied Sciences,  
Nuertingen-Geislingen, Germany

The aim of this paper is to examine the scale, success, and setback in landscape architecture education in Africa from 1920 to 2020 with a view to formulating a centennial framework that has capacity to serve as a feedback-feedforward mechanism for advancing the discipline in Africa. This is required because there is a dearth of largescale knowledge on the progression of landscape architecture education in the continent that covers the period in scale that can inform insights into the future. Even though Africa is not homogenous, evidence suggests some common fronts on the challenges of the discipline in the continent. Through historiography and using the countries as unit of analysis, the paper critically draws together all peer-reviewed published works, programmes of landscape architecture schools, education policies, debates, and practice related issues on this theme within the 100 years period. The period was subdivided into four quadranscentennial jubilees and associated requiems in a continuum. It accounts for the social, political, cultural, and economic factors that have shaped the scale, success, and setback of the discipline within this period. Landscape architecture education impacts were measured with indices including availability of programme, total enrolment, human resources, etc, among others. Results suggest country-to-country inequalities in the distribution of education opportunities and progression in landscape architecture education in Africa, with the emergence of four major groups; high impact, medium impact, low impact, no impact; in terms of scale, success, and setback. It then proposes a centennial framework for landscape architecture education in Africa based on the results. Through a reflective insight into the proposed framework, it suggests strategies for capacity building for the future of landscape architecture education in Africa in response to its prognosis.

**ID 141: Heritage Practices and Contemporary Landscapes: Reflections after 20 years of the European Landscape Convention.**

Dr. Rodrigo De la O Cabrera, Dr. Francisco Arques, Dr. David Escudero, Dr. Nicolás Mariné  
Universidad Politecnica de Madrid, Madrid, Spain

The approval of the European Landscape Convention (ELC) in 2000 stimulated landscape research. It also encouraged a reorientation of their approaches, redirecting them more towards heritage. Landscape is identified by the ELC as a key component in forming the 'identity' of a community. Based on this, the Convention defends that said community should see their 'aspirations' reflected in their landscape. After 20 years, six research groups have promoted the Spanish Cultural Landscapes Research Network, an initiative within the framework of the 'Plan Estatal de Investigación Científica y Técnica y de Innovación', to analyze in depth this issue in Spain.

During the 2020-2021 academic year, this Network promoted a public dialogue program entitled 'Ensamblajes [Assemblies]: Contemporary Landscape and Heritage Practice'. This forum of 7 dialogues reflects on the challenges for research after the journey travelled. Academics, scientists, technicians, engineers, architects, artists and managers confront critical arguments on contemporary landscape and heritage practice in a context of redefining the relationship between humans and nature. We present here the themes that were debated, whose character was broad and open to a wide range of disciplines. They were the following: Teaching, Landscape models, Communities, Representation, Geoinformation, Project and Anthropocene. In total, there were more than forty participants.

Such meetings have started new avenues for scientific, technological and humanistic research, as well as for creative practices. New approaches are thus opening that connect landscape, as heritage, with the broad challenges of our time, such as global climate and socioeconomic change, territorial imbalances, digital interconnectivity, democratic quality, the loss of significance of urban environments or, more recently, public health.

**Poster abstracts of track 1****ID 38: Problems and Challenges of Valuing Cultural and Natural Heritage in Landscape Studies**

Dora Tomić Reljić<sup>1</sup>, Lara Bogovac<sup>2</sup>, Petra Pereković<sup>1</sup>, Monika Kamenečki<sup>1</sup>, Ines Hrdalo<sup>1</sup>, Višnja Šteko<sup>2</sup>

<sup>1</sup>University of Zagreb, Faculty of Agriculture, Zagreb, Croatia. <sup>2</sup>Green Infrastructure LTD, Zagreb, Croatia

In Croatia, landscape studies have become very important tool within spatial planning. Although not obligatory, they are requested by some (conscientious) local authorities in order to insure protection of valuable landscape qualities in planning process. Landscape studies, which usually include evaluation of natural, cultural and visual qualities, have served as an expert basis for urban development plans or general urbanistic plans. However, the problem arises when these studies are expected to replace and encompass the conservation study of cultural heritage as well as the study of biodiversity protection. Although landscape value is combination of natural, cultural and visual qualities in certain area, man's role in landscape must by no means be left out.

Since, by definition in European Landscape Convention, landscape is an area perceived by people, a human point of view must be included in process of landscape evaluation. This applies not only to the visual qualities of the landscape, but also to the cultural and natural qualities. In doing so, it must be taken into account that cultural or natural heritage protected by law, including historical structures and valuable natural habitats, does not have to be perceived as valuable to people, regardless of their role in that space.

This paper aims to address this problem in the context of City of Dubrovnik, which abounds in cultural and natural heritage, recognized by UNESCO and NATURA2000. Special emphasis is placed on the differences in the valuation of cultural and natural heritage and the way they are perceived. It was carried out in GIS by comparative analysis of evaluation maps obtained within the Landscape Study for City of Dubrovnik. The paper pointed out that differences can be bridged by intertwining all values in landscape while respecting every relevant input.

## **ID 84: The Application Of Ecosystem-Based Disaster Risk Reduction For Urban High Temperature Disasters In China**

Junjun Mao<sup>1</sup>, Mingyang Bo<sup>2</sup>, [Daixin Dai](#)<sup>2</sup>

<sup>1</sup>Shanghai Tongji Urban Planning & Design Institute CO.,LTD, Shanghai, China. <sup>2</sup>Tongji University, Shanghai, China

China is a country with very serious natural disasters, complex environment, a variety of natural disasters. With China move towards the construction of ecological civilization, China's urban comprehensive disaster prevention has undergone a transformation from engineering disaster prevention to "adaptation and coexistence". At present, ECO-DRR, as an emerging concept, is still insufficiently researched in China's ecology, climate change, urban design and other fields. Therefore, this article will introduce two practical cases in solving urban high temperature problems, and analyzes the cases from the perspective of traditional Chinese wisdom and the theory of ECO-DRR. This shall facilitates the international exchange of relevant case researches and provides some helpful experience and reference.

**ID 94: Transforming story of Water in Eastern Anatolia: From potential to threat**

Başak Akarsu, Gülşen Aytaç

Istanbul Technical University, Istanbul, Turkey

Water has carried, settled, raised, fed, and cultured human beings for millennia, and gave identity to societies and settlements. Sometimes, it was water that comforted or destroyed them, and today the inevitable life trigger is also water. Mesopotamian geography, which grew between the Euphrates and Tigris Rivers and fed its topography with water, has witnessed various scales of water cultures. Today's remains are manifested in the lands of Eastern Anatolia, which is the subject of this study. The water, which has made Anatolia "the cradle of civilizations" by shaping the migration and settlement cycle, has brought collectivity and bureaucracy with it while creating the life parameter and social identity. In this context, the *hydraulic society* dimension, in Wittfogel's words, which is considered as one of the various types of society, maintains its place in the historical scene due to its continuation and is an ongoing concern (1967). It is necessary to question what kind of ignorant courage it is that makes human beings, who founded hydraulic civilizations—dynasties—and laid water channels in their houses thousand years and centuries ago in the near orient, in Eastern Anatolia, fight with water, but could not fight, flee, displaced, and made them forget these acculturations. This study investigates the transforming story of water and waterscape scales in Eastern Anatolia, which has continued its manifestation in daily life as a potential for centuries and has been engraved in cultural codes, and that it has become a threat to humanity and human-made cities today.

**ID 97: Designing school environments – changing approaches for the public open spaces around schools in the case of Hungary**

Anita Reith, Dr. Péter István Balogh

Hungarian University of Agriculture and Life Sciences, Budapest, Hungary

Schools are important destinations in the city not only, but especially for children. Beside all the differences, all around the world parents want their kids to be safe at the school – so we fence schools to avoid danger to get in. When we say ‘school environment’ we usually limit our attention within the property lines. But what happens around the schools?

The way how we go to the school and how we learn there have changed a lot in the last decades. With motorization growing incredibly fast, cities are mainly occupied by running and parking cars. Walking to school is a privilege today, not like how it was for our parents. There are some cases when children don’t even go to school anymore – with the pandemic, education turned into online environments. In this paper authors review the fundamental changes to find out how the environment of schools have changed and why. Special attention will be paid for the public spaces around the educational facilities schools so the entrance zones and the immediate streets.

A public survey created by the authors helps to find answers for questions like: How do kids arrive to the school now and before? At what age do parents send their kids to the school alone and why? From what distance do children arrive to the school? How do children think about the school’s entrance zone? As school environments differ around the world, this paper focuses on the Hungarian context.

How can we create safer spaces for arrival and departure by celebrating school entrances? How can education, innovation, safety, identity and playfulness happen outside the property lines of the school? What are the global and local challenges for these public open spaces? Landscape architects should reflect on the current challenges when designing school environments.

**ID 125: Unsettled edges under the urban revolution**

Ms. Alexis Liu

University of Greenwich, London, United Kingdom

Intense urbanization challenges the boundaries of peripheral landscapes. The overlap of London's multiple edges, each that mark the limits of London's planning, transportation, port, and Greenbelt jurisdictions, creates interstitial zones of uncertainty and opportunity. These unsettled edges around London create new landscape forms, unlike the city within or the rural areas beyond. These have become places of intense and uncontrolled urbanization. The development of multiple edges on Greater London's fringe is highlighted as transportation systems define alternative urban boundaries and divide the land - where roads, railways, and river systems create new land patterns and urban forms while expanding London's influence. Furthermore, the delineation of the Greenbelt planned as the last barrier to stop endless urban sprawl, is being increasingly challenged. This research investigates Tilbury in east London, an area where the tidal River Thames intersects with the Green Belt, the M25 motorway, the boundaries of the Greater London Authority, and the jurisdiction of Transport for London. The research examines a fluid and fragmented landscape of urbanization and abandonment, questioning the precarious lives and identities undermined by planning agendas and economic transformations. The approach evidences a unique methodological model that combines mapping, walking observation, interview, and visual work, with the aim to make sense of these unique landscape conditions and the possibilities of peripheral areas under urban development. The research brings into focus marginalised peripheries of global cities from a landscape architecture perspective giving voice to less visible lives and landscapes.

## **ID 189: A systematic review on expert methodologies for landscape visual quality assessment**

Ms. Aline Hessel<sup>1</sup>, [Ms. Ana Medeiros](#)<sup>2,1,3</sup>, Ms. Cláudia Fernandes<sup>2,1,3</sup>

<sup>1</sup>Departamento de Geociências, Ambiente e Ordenamento do Território, Faculdade de Ciências, Universidade do Porto, Porto, Portugal. <sup>2</sup>CIBIO, Centro de Investigação em Biodiversidade e Recursos Genéticos, InBIO Laboratório Associado, Campus de Vairão, Universidade do Porto, Porto, Portugal. <sup>3</sup>BIOPOLIS Program in Genomics, Biodiversity and Land Planning, CIBIO, Campus de Vairão, 4485-661 Vairão, Porto, Portugal

Visual quality assessment has gained greater importance over the years and is a relevant tool to improve people's quality of life. These assessments can be accomplished through several methods or a combination of them. However, it is not clear what are the main expert methodologies available and what are the main trends occurring.

A systematic review was developed to identify the main approaches and methodologies for expert visual assessments. The search was performed in the Scopus and ISI Web of Science databases and followed a 4-step screening process, which resulted in 79 records for analysis. Records were categorized according to the year of publication, geographic location (continent and country), landscape type, the framework adopted, and methods used: photo-survey, 3D analysis, visibility analysis, landscape metrics, grid cell, *in situ* analysis, eye tracking, and mixed.

Records show a considerable increase in recent years (1976 to 2021), observing a notable rise from 2009. Europe and Asia have more records on the issue (44 and 20 records, respectively). Natural areas are the most studied type of landscape (34%) followed by rural areas (24%). Regarding the methodologies applied, most authors developed their own methodologies (85%) using as main methods the photo-survey, and a combination of mixed methods. Although some methodologies still present *in situ* assessments, the main trend is towards the use of mixed methods using software, such as GIS (Geographic Information System) and digital simulations. Photo surveys of online distribution are also widely applied, as they reach a greater number of respondents, and consequently are more robust.

The assessments made by experts continue to be of great importance for authorities and public entities and show great potential for future scientific research. Although this review has identified very positive trends, it is important that research still strives to achieve more valid, objective and reliable assessments.

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## **Track 2: Relation between design and planning**

Chairs: Prof. Dr. Henrik Schultz, Dr. Tadej Bevk

### **Transformative Resilience - a chance to reunite landscape planning and design?**

Prof. Dr. Henrik Schultz  
Osnabrück University of Applied Sciences

The contribution follows the hypothesis that the concept of transformative resilience can be a driver in transdisciplinary processes bringing together landscape planning and landscape design. Combining processes of generating, structuring and spatializing knowledge on landscape functions and designing visions for sustainable landscapes on different scales benefits from the creative use of mappings.

According to Schmidt, Hahne, Kegler and several other authors, resilience describes the capacity and velocity of a system to cope with disturbance (Hahne and Kegler 2016; Schmidt 2020). Many authors emphasize that only analyzing bouncing back effects and aiming at restoring a landscape that had been disturbed, falls short. The notion of transformative resilience describes a process of socio-cultural

change that is characterized through mutual learning and aims at „bouncing forward“ and designing new landscapes (Kegler 2014; Meerow and Stults 2016). The discipline of landscape architecture, with its position at the intersection of natural science, social science, and creative practice, has the great potential to invent this bouncing forward. Global drivers such as climate change and land use change make it impossible to bounce back in many places anyway. It is therefore all the more important that the profession of landscape architecture makes suggestions as to what a bouncing forward can look like. To be able to do this, it is necessary to bring together the competencies of landscape planning and landscape design. It needs both the orderly, strategic of landscape planning and the concrete, tangible, sometimes daring of design.

The fact that Kegler focuses on the transformation process also makes resilience a task of planning culture and process-design. The question "How can the transformation to more climate resilience in cities be shaped?" needs not only fundamentals (What preconditions do we have to be able to respond to change?) but also a definition of goals (Where do we actually want to go?) as well as a process that shows ways in which dealing with disruptions can be cultivated and socially supported (On what paths do we want to walk together?). Transformative planning, which aims to combine insights into spatial characteristics and urban structures with "multi-actor settings" (Balz 2017) emphasizes that it is not so much a matter of setting a binding framework and managing prescribed procedures, but more about shaping a cultural, multi-actor process defined by unpredictability.

The goal of transdisciplinary processes is to combine scientific contributions to problem solving with strategic goals, in that impulses are set for urban society through information, consultation and cooperation. This research approach includes access to relevant actors, for example in administration and politics as well as to landowners, with the aim of implementing and stabilizing results. Thus, transdisciplinary science aims not only at scientific findings, but also at social changes. Therefore, it is necessary to make scientific results accessible for everybody involved.

To stimulate the often-transdisciplinary processes of transformation and to make scientific results accessible, visionary mappings proved to be a helpful tool to help professional designers and actors envision sustainable landscapes. Mappings can be seen as an important tool of translating experiences and mental images into drawings and thus help planners, designers and other involved actors in the dynamic, relational nexus of urban landscapes to determine their position during the design process. New relations in this fabric can be revealed (Langner 2019). These mappings rely on, for example, data and facts about landscape functions. Unlike classic GIS maps, they highlight structures and elements that are relevant for sustainable landscape development from the perspective of the stakeholders involved. These mappings are thus a communication tool that helps actors involved in transdisciplinary processes to imagine and visualize what a bouncing forward might look like. As a map, they are - unlike photo collages or oblique aerial perspectives - compatible with formal plans, for example in urban land use planning.

The role of mappings in working with the notion of transformative resilience, and their capacity in connecting landscape planning and landscape design, could be shown in the transdisciplinary research study “Green fingers for a climate resilient city”, funded by the German Ministry of education and research (BMBF) that implemented a transdisciplinary process aiming at stimulating climate resilient city transformation. To the process of landscape planning with its well-known elements such as inventory and assessment, targets, concepts, and measures, elements of design have been added. The concepts were narrated and visualized on different scales in mappings in a way that addressed people of different backgrounds: The mappings helped to generate new mental images of “the city of green fingers”, understood as a multifunctional, strategically managed network of different green spaces and elements contributing to sustainable city structures with high-quality, biodiversity-rich urban ecosystems.

## Presentation abstracts of track 2

### **ID 15: The power of composition**

Dr. Saskia de Wit

Delft University of Technology, Delft, Netherlands

Landscape form is the organisation of perceivable qualities of our living environment: the shape, dimensions and proportions of space, the plasticity of surfaces and volumes, colours, textures, light, and structural relationships. But designed form is not about creating a good appearance, an optional add-on. Nor is it restricted to the small scale. The small scale, however, can be used as a valuable playground and laboratory for large scale landscape designs. When comparing the 150 square kilometre technical, agricultural, pedagogic social reform landscape of the Gartenreich Dessau-Wörlitz (Duke Leopold III of Anhalt-Dessau, 1760-1830), the theatrical urban design for London connecting the government centre with the landscape panorama (John Nash, 1810-1826) and the residential urban landscape of Borneo-Sporenburg in Amsterdam (West8, 1993-2000), in each we can recognize the formal principles of the picturesque garden. Not the style, image, or shape, but the formal (visual-spatial) principles: landscape fragments that are connected by a route as a scenographic succession of composed scenes or tableaux, using the existing topography as base. The timeless compositional principle, a relation between form and space as the initiator and carrier of structure, is versatile enough to accommodate and generate varying uses and processes. These examples illustrate a landscape architectural position that is in its essence not about problem solving but about creating form as condition for different uses, intended and unintended, expected and unexpected, for human and non-human practices and experiences.

## ID 46: The Sparrow and the Elephant (The Garden and the Territory)

Prof. Marc Treib

University of California, Berkeley, USA

The design and transformation of landscape—whether at the larger scale of environmental planning, or the smaller scale of landscape architecture—involves varying degrees of design transformation and maintenance thereafter. Planning concerns management and regulation more than actively reshaping and planting the land; of lesser concern are the aesthetic aspirations characteristic of landscape architecture. Landscape architecture produces changes over a shorter period of time, with more recognizable formal exchanges enacted on smaller sites. Thus the differences between landscape design and planning include not only scale—the measure of surface area, but also the resulting degree of identifiable form, maintenance demands, and the time required for realizing the project.

At each scale appropriate methods, materials, and design vocabularies guide the intervention and degree of transformation. As you cannot simply enlarge the lightness of the sparrow to support the bulk of the elephant, questions of land form and management, as well as economics, guide the process of shaping the terrain and managing its vegetation and natural processes.

Historically relating landscape architecture to the planned landscape (1) gave the most detail and greatest complexity to terrain nearest the building(s). Outer zones were granted less attention to creating apparent forms and spaces—for examples, the estate gardens of Edwardian England. A second model (2) set areas of highly designed landscape against large-scale territory better termed as planning, as well represented by the work of Michel Desvigne. A third model (3) interweaves “islands” of designed landscape with territory planned and managed. With this approach designed terrain is used to articulate larger territories, a manner having parallels with the historical Japanese practice of *shin-gyo-so*, embedding within one another “degrees of formality” to produce formal and spatial richness. The relation of landscape design and planning benefits from their interrelationship—but only if symbiotic.

## ID 21: Scale matters

Merel Enserink, Dr. Ir. MA Rudi Van Etteger  
WUR, Wageningen, Netherlands

One of the contemporary challenges of landscape architecture is to help shape the energy transition. As this involves a major change in the landscape it is sometimes difficult for stakeholders to imagine what possible solutions might look like. In the In My BackYard Please (IMBYP) project several parties cooperated in a research project to explore if it was possible to develop a mode for involving stakeholders in the design of a solar park. Even though traditional approaches are available, like stakeholder meetings and co-design sessions, there are indications that it is quite difficult for non-professional to work easily with maps and photoshopped visualisations and to understand their implications. Our research questions was what additional role could be played by actually building a part of the installation. In particular we wanted to test what role the building of a mock-up of a possible installation would have in the process of imagining what was actually going to happen in the field.

The project involved working in an actual case using action research. In the village of Nauerna in The Netherlands a group of inhabitants was willing to participate in our experiment. In several co-creation sessions a design was developed for a site close to the village. At the end a scale 1:1 mock-up was designed, developed and built on location. Subsequently we explored it with small groups of people, to get their feedback based in actual experience of a part of the park as proposed. The results of our written and oral enquires show that the mock-up helped them to understand the possibilities for what could be built and allowed for critical reflection on the design choices. Most people were pleased about what they were seeing and indicated that their opinion was positively influenced by seeing the 1:1 mock-up.

## **ID 186: Green Infrastructure as a Cross-Scale Strategy at the Interface between Planning and Design**

Assoc. Prof. Dr. Attila Tóth, Ing. Katarína Slobodníková

Slovak University of Agriculture in Nitra, Institute of Landscape Architecture, Nitra, Slovakia

*Green infrastructure* is a contemporary planning and design strategy in landscape architecture that has been researched, planned and implemented for more than two decades by now. It has become an integral part of international, national, regional and local policy documents, strategies, concepts and projects. There have been many different understandings and definitions of green infrastructure globally and regionally. Some of them are closer linked to landscape planning – based on historic conceptions such as *Garden Cities*, *Greenbelts*, *Parkways (the Emerald Necklace)*, *Greenways*, *Ecological networks* and similar. This understanding has strongly influenced among others the way how green infrastructure is understood and defined by the *European Commission* in the *EU Strategy on Green Infrastructure* and related policy documents. However, there are also other definitions across the globe that specializati green infrastructure more as a site-specific nature-based solution, e.g. for storm water management, thus linking green infrastructure rather to design than to planning. In fact, both, the holistic and the site-specific understanding/definition complete a complex and cross-scale picture of green infrastructure in landscape architecture and planning. This paper will review, examine and confront diverse definitions of green infrastructure. Furthermore, it will look at different strategies, policies, concepts, case studies and projects to discover the scales of change through green infrastructure in landscape architecture.

## **ID 112: Urban landscapes: between planning and design**

D.I. Beatrix Gasienica-Wawrytko, [Prof. Richard Stiles](#)

Vienna University of Technology, Vienna, Austria

Both planning and design scales are important in the context of landscape architecture, but instead of 'a fuzzy transition' between the two, there is perhaps a need for a mid-way scale to provide a 'stepping stone' for moving between them. Thus, as urban design can be said to sit between the scales of town planning and architecture, urban open space planning can be said to occupy a similar position between large-scale landscape planning and small-scale landscape design. This paper will focus on this intermediate scale, in the urban context, considering its theoretical and practical implications, and present a case study of how it can be operationalised.

According to the European Landscape Convention, urban landscapes are also areas "... perceived by people, whose character is the result of the action and interaction of natural and/or human factors". Especially in urban areas, whether in terms of visibility or pedestrian mobility human scale can be said to define landscape perception. Recognised planning concepts such as 'five-minutes walking distance', public transport catchment radii or the neighbourhood unit reflect this fact. In this context, the term "quality of life" is related to the morphological structure of this urban fabric which also has an impact on urban ecology in general.

By considering the urban landscape as a mosaic of different landscapes types comprising characteristic combinations of key elements, such as vegetation, ground surfaces, built structure and land use, the study develops a method to divide the urban fabric of Vienna into different types using selected indicators to represent the character of the urban fabric on the basis of a  $\frac{1}{4}$  km<sup>2</sup> 'pixel' size. This provides a pragmatic and practical sampling frame at a sufficiently fine grain to represent the distribution of landscape types within a larger urban area and a basis for investigating how they are perceived.

## **ID 40: Case Study of Urban Public Open Spaces at Multi-scales from the Perspective of New Cultural Infrastructure: A Research in Shanghai**

Yuxian Chen, Daixin Dai

Tongji University, Shanghai, China

Under the theoretical trend of "aestheticization of everyday life", integrating urban public open spaces (POS) into the national territory spatial planning of China as a new cultural infrastructure has become the key approach to responding to the expansion of public cultural services in connotation from elites to popular. And it is also a potential solution to alleviating the inequality of China's cultural infrastructure configuration. Taking the following cases in Shanghai as examples (the Expo Cultural Park at urban scale, Taopu green space at district scale, Baixi Park at community scale, and Chuangzhi Farm at micro-space scale), the theoretical and practical progress of supplementing the cultural service facility system and broadening its supply chains in China by POS planning at multiple scales was introduced.

The research shows that: 1) POS mainly provides five types of cultural services: recreation, aesthetics, social interaction, well-being, and education, presenting the transformation of cultural services from the unilateral display to multilateral cultural experience, production, and identification. 2) The paths from POS to a new cultural infrastructure can be summarized into "6Ns": new participants, new systems, new services, new scenarios, new functions, and new technologies. 3) From the perspective of new cultural infrastructure, the POS planning strategy should be coordinated with existing cultural service facilities at multiple scales. The suggestions of potential POS planning strategies were proposed separately at city, district (county), community (town, village) and micro-spatial scales in the end.

## ID 20: Multiscale approach to biodiversity conservation: Chicago as a case study

Manuela Ronci

Politecnico di Torino, Torino, Italy. Università degli Studi di Torino, Torino, Italy

Biodiversity loss is a major global concern, strictly connected to heterogeneous phenomena occurring at various spatial and temporal levels. A multiscale approach to biodiversity conservation is therefore crucial to better understand and manage ecological dynamics and processes. Scholars agree that a joint effort of decision-makers, planners, and designers is necessary to successfully integrate the conservation of biological diversity into sustainable development strategies from the national to the local scale.

Among the many cities that are worldwide adopting biodiversity-aimed policies and plans, Chicago stands for its forward-looking approach to environmental conservation, whose antecedents can be found at the turn of the 20th century, when the *Forest Preserves of Cook County* were established in the Chicago metropolitan region. The institution of this system of protected sites became the framework for the foundation of the regional alliance *Chicago Wilderness* in 1996, that aimed at bringing together organisations, policy-makers, landowners, and citizens to implement the quality of delicate ecosystems and conservation areas. In 1999 the alliance produced an innovative document for that time: the *Biodiversity Recovery Plan* (BRP) for the greater Chicago region. It was followed in 2004 by its spatial representation, the *Green Infrastructure Vision*, that identified priority areas to be protected, restored, and connected. In order to implement the BRP regional goals at the urban level, in 2006 the City of Chicago developed its first *Nature and Wildlife plan* (updated in 2011) to preserve and restore habitats within the city.

Proposing the experience of Chicago as a best practice, the paper will address the complex system of tools adopted to tackle the loss of biological diversity from regional to municipal level. Through the analysis of a selection of contemporary landscape architecture projects implemented in Chicago, the paper will highlight the productive and mutual influence of landscape planning and design in biodiversity conservation.

## **ID 5: Spatial images as planning tool for bridging scale levels in multifunctional urban landscapes**

Dr. Daniel M<sub>ü</sub>nderlein, Nathalie Pszola

RWTH Aachen University, Aachen, Germany

In addition to traditional planning tools, the use of informal approaches such as spatial images are becoming increasingly significant. Currently, a unified understanding of the content, appearance and methodology for creating spatial images does not exist. A closer examination of the technical terms, "visioning" or "spatial vision", indicates that it is necessary to define and focus the different underlying theoretical approaches, methods and practices. This paper aims to shed light on the development of spatial images as a method for bridging differing spatial scales between region and site, as well as for combining strategic landscape planning with location-based landscape design and architectural blueprints.

The western environs of the Cologne metropolitan area are used as a case study for illustrating the development of spatial images. Facing the energy transition and a strong population growth, the region expects profound transformation processes. Balancing between expanding urban development and declining agricultural land is challenging traditional land use planning, as results are often technical and only understood by professionals.

Spatial images aim to overcome the abstract nature of strategic planning and incorporate classical design related questions about form and 'gestalt' at a regional scale. The resulting spatial concepts are visually engaging and easily understood by a broader audience, including local civil society stakeholders. An experimental planning game approach is used to stimulate creative thinking and to involve different actors in professional dialogue on an even footing.

The resulting spatial images serve as a basis for innovative settlement models, including innovative housing and landscape structures for sustainable agri-urban neighborhoods by balancing requirements of housing, agriculture as well as nature and landscape. The co-produced visions translate, on the one hand, into specific blueprints for housing typologies at the urban fringe and on the other hand into conceptual designs for transitions between city and landscape.

**ID 188: Heritage value-based approaches as a means of planning and designing across scales**

Katalin Takács, Anna Eplényi, Nóra Hubayné Horváth, Ildikó Réka Báthoryné Nagy

MATE – Hungarian University of Agriculture and Life Sciences, Budapest, Hungary

Understanding heritage context at different levels of landscape architecture projects is essential, no matter which scale they are dedicated to. The diverse specialisations of the discipline might be all contributing to protecting and preserving values, such as in case of a garden heritage site, an urban built environment or a historic landscape. In this paper, authors with specialization at different scales, are presenting heritage value based approaches and methods interdependently used in various working scales of LA. Presented knowledge based attitudes are not restricted thematically or methodologically, on the contrary are supposed to be successively implemented during preliminary studies, strategic planning, regulatory issues and/or design concept.

Convinced about the professional necessity of promoting interactions and co-working across scales, time and disciplines, we covers the following topics through case studies at different scales: what are the similarities and differences in the processes of reflection, understanding and interpretation of values, and how it can influence the designing or planning phase; how we benefit from archival studies and fieldwork data use at analytical level; what are the overlapping aspects of the value-based reflections between scales; and how we can best achieve that, during planning and designing processes, the final decisions takes preliminary studies into account. For this aim, we highlight how the near scales are interdependent, and without their exploitation, we can hardly have adequate regulating or protection measures and developing ideas for unique projects.

## **ID 14: A Landscape-informed Approach to Bridging Landscape Planning and Design**

Dr. Bin Li

Central Academy of Fine Arts, Beijing, China

Landscape planning nowadays is often associated with aerial and big-data analysis, with tools such as GIS data sets, remote sensing, and projected imagery. These big-data approaches enable landscape architects and planners to contemplate landscapes from a distance. It provides the opportunities to understand large-scale landscapes as a whole and as a system. Are the distanced approaches enough when the condition and the scale zoom in from landscape planning to landscape design? What about observing the landscapes at a close look as an add-on to the aerial?

Based on contributions and innovations in historical and contemporary perspectives, the author identifies a landscape-informed approach, and it involves: 1) a series of presence and actions around a specific landscape space; 2) a designed in situ fieldwork; 3) an embodied experience; 4) a “sectional” and “thick” description; 5) a “constructivism” knowledge claim. A body of selected geographers, artists, and designers across multiple fields forms a quadrantal spectrum between “the distanced” and “the landscape-informed”, from the 17th century to 2022, including among them the approaches of Ji, Xu, Humboldt, Geddes, Cosgrove, Long, Spirn, Vogt and so forth. This spectrum and its visual illustration aim to frame the discussion on this emerging landscape-informed approach, its role in bridging (or merging) landscape planning and landscape design, and its potential to open up to future landscape-informed ideas.

**ID 196: What, where, how much and how: Landscape-led responses to housing in crisis on iwi land in Porirua, Aotearoa New Zealand**

Dr. Hannah Hopewell

Victoria University of Wellington, Wellington, New Zealand. TOA Architects, Tamaki Makaurau, New Zealand

Porirua city is a young commuter city adjacent to Aotearoa New Zealand's capital Pōneke Wellington. Less a city and more a collection of suburbs with a bulk retail centre, it has significant green space and recreational coastal environments. Yet Porirua also has some of the country's poorest quality housing, lowest household incomes and highest housing rents. The people of Porirua are experiencing severe housing shortage and widespread unaffordability.

In the past 3 years Aotearoa New Zealand's central government has made a number of legislative changes to the regulatory environment easing planning permission challenges in the hope of catalysing private investment and accelerated housing supply. These moves have triggered multiple private green field proposals that may at face-value increase housing supply, yet do nothing to suppress the car-centred, land-hungry single lot development model. As such numerous proposed local council-endorsed developments participate in last century's urban sprawl and the continuation its associated social-spatial-environmental problems. Well intentioned legislative innovations have therefore done little to support the much needed housing regeneration and city-making within Porirua's existing urban fabric.

Ngāti Toa Rangaitira, the iwi, or tribal authority of the area has begun to make assertive land development moves within the existing urban bounds to improve housing conditions and wellbeing of their people. This paper critically draws on several housing projects undertaken for and with Ngāti Toa Rangaitira to illustrate the iwi's participation in the planning and design of the city. I draw on a suite of practices I call landscape-led urbanism to discuss the current interface between landscape architecture and planning in Aotearoa, and reflect on the agency of landscape architecture by way of its capacity for advocacy and technical scope across scale. The current context of settler colonialism, decolonising practices and indigenous narratives are sought to bear on landscape-led planning practice.

## **ID 35: A Location Evaluation Approach for New Green Bridges in Brisbane, Australia: Hybrid Decision Making with GIS and Space Syntax**

MSc student Firat Ali Firat, Dr. Kaan Özgün  
Ozyegin University, Istanbul, Turkey

Brisbane is a river city with 15 bridges, six of which are in and around the city center. Most recently, Brisbane City Council (BCC) announced to build five new green bridges since the bridges in this area are insufficient to spread the pedestrian network throughout the city. Previous research) mainly focused on vehicular traffic and travel behavior. This study aims to demonstrate if the locations of green bridges contribute to the development of the current pedestrian and bicycle network, improve access to the Brisbane River and amenities.

The study applies Space Syntax tools supplemented with Geographical Information Systems (GIS) to generate spatial analyses with qualitative and quantitative outputs. The urban syntactic parameters include integration, depth, connectivity, and choice values. Integration and depth values will be handled segmentally with 1200 and 5000 meters referring to the average pedestrian and bicycle reach radius respectively . Since the results obtained from the space syntax procedures are purely analytical, GIS spatial analyses and their outcome supplement the initial findings. Where the GIS and Space Syntax outputs generally overlap, the latter is helpful to look at the situation from a broader and practical longer-term perspective. Some GIS data used in the study include, but are not limited to, population density, main pedestrian, vehicular, and bicycle axes, residential and commercial areas, areas of interest, topography, flood areas, schools, and hospital areas.

When the current situation and BCC green bridge objectives were tested syntactically with the same parameters, it was seen that primarily, bicycle transportation was supported in a wider area. However, pedestrian transportation is found to be not sufficient. To address this, we demonstrate possible new pedestrian routes aligning with the growth direction of the city. The economic, environmental, and social benefits of the proposal are also discussed.

## **ID 50: Scale examination of the smellscape on where? To how?**

Dr. Elif Ayan Çeven, Assoc. Dr. Nur Belkayali  
Kastamonu University, Kastamonu, Turkey

Planning and design, which are accepted as different activities of the landscape scale, are mechanisms that work in relation to each other but according to different questions. The scale that separates planning and design from each other has an important place in transforming the question of where to how. Considering the perceptual values that define the character of the landscape, depending on the scale, it is seen that the design phase is still on the agenda. Smell, which is one of the perceptual values, has been an element that remained in the background in the past periods of planning and design processes, and has started to come to the fore more today due to developing and changing spatial setups. The odor, which changes according to the openness of the place and is affected, changes on the urban scales. The aim of this study is to evaluate the development of the concept of smellscape from the past to the present by examining the use of scent value in response to the questions of where and how in the planning and design stages. In this study, starting from the country and regional scale of Turkey, by examining the concept of smellscape from the urban environment to the public space, it will be revealed how the scent landscape changes according to spatial characteristics and usage types at the smallest space scale. In this context, odor maps will be created by determining odor sources based on literature and observations.

As a result of the study, it will be stated how the scent distribution maps, which form the basis in the planning and design processes of the smellscape concept, affect the space at the design scale, and suggestions will be shared to both planners and designers on how to evaluate the smellscape in space design.

## **ID 148: Design as a driving force for planning uncertain futures**

Senior lecturer Caroline Dahl, Prof. Lisa Diedrich, Senior lecturer Gunilla Lindholm

Swedish University of Agricultural Sciences, Dept. of landscape Architecture, Planning, and Management, Alnarp, Sweden

Using the results of a long-standing SLU studio course on master's level in landscape architecture, the authors of this paper – all having been course responsible during different times – discuss how design can support a 'theory of change', currently called for in planning. Recently published research in urban planning testifies that modernist planning protocols are increasingly being challenged, in favor of more loose-fit frameworks for evolutionary and generative change, that aims at transforming the already built-up environments. Such frameworks call into question the widely shared idea that in development processes design actions follows on planning activities. Instead, we call for using an iterative method to link site-born incremental design interventions with policy-born strategic planning protocols, across scales. The master's course main objective is to innovate on such methods through an approach of site-specific transformation, and by using various design-inspired initiatives that in some cases take place outside of conventional urban planning strategies and in some cases are interwoven with them. Unlike 'planning', which is largely based on abstract policy and a strong focus on the future, 'design' work in the here and the now through action-driven approaches. Spatial change is conventionally projected as an imagined future. But how we move from the here and now – tentatively through the management of multiple iterations – to a projected future is seldom communicated or even elaborated on in planning processes. The paper will demonstrate how mindsets from landscape architecture support the explorations into new methods for planning and design to interact. Such mindsets include for example the ability to drive dynamic processes, to use the undeveloped as potential, and to activate site-specific knowledge. This will potentially allow planning to become less about forecasting finite plans and solutions, and rather about facilitating open-ended change as a response to wicked problems and uncertain futures.

## **ID 192: Integrated solutions for reinventing fragmented urbanism? An experimental journey through contested urban laboratories.**

Dr. Haris Piplas

Drees & Sommer - Integrated Urban Solutions, Zürich, Switzerland

Cities are major contributors to climate change, growing inequality and inequity. As the world becomes more urban, many cities and towns face tremendous challenges. At the same time, this concentration of people and economic and social activities provides an opportunity to harness economies of scale and move closer towards sustainable development. SDG 11 recognises the essential function cities play in achieving inclusive, safe, resilient, and sustainable development.

Green and Blue infrastructures possess immense potential for proactively improving the sustainability of cities because of their direct connection to urban natural systems, which would also enhance the socio-cultural and political implications of constructed space. Therefore, urban transformations need to become more flexible and adaptable offering important services for the city which would also enhance the socio-cultural and political implications of constructed space by integrating urbanism, ecology and social sciences.

Therefore, we require a multi-scale, multi-functional and inter-disciplinary approach for designing and planning to adapt to the needs of a peak-oil society. In the sense of the "Landscape Urbanism" movement, sustainable and resilient development for the benefit of all will not be conceived as a mere juxtaposition of these elements, but rather as a common system with an intensive dialogue between the various disciplines involved. These different needs and approaches are to be contrasted and should represent a basis for collaboration between experts and stakeholders. The paper will analyze self-executed experimental approaches conducted in "urban laboratories" in Germany, Switzerland, Balkans and South-east Asia, where these innovative applied research methods were utilized, including:

- Integrative transdisciplinary method analyzing of complex sites that link the planning level with the design of green and public spaces.
- Novel co-creation techniques that respect the complex relationships and hierarchies between urban instruments, processes and stakeholders.
- Rollout of urban strategies through green space and the built environment in a holistic manner.

**Poster abstracts of track 2****ID 170: Concentrating Landscape Value - Planning the Route of Douro Wine Region Recreational Estates.**

Frederico Meireles Rodrigues<sup>1,2</sup>, Viviana Frutuoso<sup>1</sup>, Ângela Silva<sup>1</sup>

<sup>1</sup>UTAD, Universidade de Trás-os-Montes e Alto Douro, Vila Real, Portugal. <sup>2</sup>CITAB, Centre for the Research and Technology of Agro-Environmental and Biological Sciences, Vila Real, Portugal

Demarcated in 1756, the Douro Wine Region is the oldest regulated wine region in the world. Port wine is produced within this boundary, in the landscape of higher river Douro vineyards, which has been honoured UNESCO's World Heritage, since 2001, recognized as cultural, evolving and living landscape. Its integrity and authenticity are well revealed in its landscape pattern, which includes a distinctive mosaic composed of extensive vineyards, Mediterranean forests and groves, green network of corridors, vernacular stone walls, villages, estates and Quintas.

The productive and recreational quality of these Quintas, as "cells" of landscape change, is the object of this study. Since that most of these estates aren't solely associated with wine production, but stand out as places of delight, they are seen as places of recreation, where the testimony of the Portuguese Garden Art can be documented, reflecting a variety of cultures, movements and authors.

Therefore, with this research, the authors aim to plan a landscape route of recreational Quintas, able to reveal their superlative value in the landscape context, to promote the quality of landscape fruition and to deliver a tourism product of excellence.

This research started with a literature review and landscape characterization, followed by an inventory that produced a list of 266 sites, and a case-study selection method, which allowed a collection of 134 sites for a wide-ranging analysis and a final set of 14 recreational Quintas for in-depth study. As a result, a landscape route with three itineraries was designed and documented. This route is seen as a way to value conservation and dissemination of the recreational Quinta.

**ID 11: From grey to green squares. Fighting climate change.**

Sara Đorđević<sup>1</sup>, Viktorija Brndevska Stipanović<sup>2</sup>, Radenka Kolarov<sup>3</sup>, Divna Penchikj<sup>4</sup>, Jelena Čukanović<sup>1</sup>

<sup>1</sup>Faculty of Agriculture, Department of Fruit growing, Viticulture, Horticulture and Landscape architecture, University of Novi Sad, Novi Sad, Serbia. <sup>2</sup>Hans Em Faculty of Forest Sciences, Landscape Architecture and Environmental Engineering, University "SS. Cyril and Methodius", Skopje, Macedonia, the former Yugoslav Republic of. <sup>3</sup>Faculty of Agriculture, Department of Field and Vegetable crops, University of Novi Sad, Novi Sad, Serbia. <sup>4</sup>Faculty of Architecture, University "SS. Cyril and Methodius", Skopje, Macedonia, the former Yugoslav Republic of

Due to urbanization cities are constantly expanding, often at the expense of green areas. This reduction of greenery can be seen on the examples of six historical squares in two countries: The Square of liberty, Trifković square and Gallery square in Novi Sad, Serbia and Macedonia square, Karposh uprising square, and Old train station square in Skopje, North Macedonia. Since they are under the urban heat island effect, in order to improve the microclimate and mitigate the effects of climate change, this paper proposes a green design model applicable to similar squares that deal with the lack of greenery. This paper deals with the past, present, and future state of the appearance and function of the mentioned squares and their grey/green values. After collecting historical data, field observation was conducted with the implementation of checklists on spatial features, user activity, and vegetation which yielded data on the quality of the analyzed area. The results showed that these squares are "grey" – have a high share of impermeable paved surfaces and a low amount of greenery. As these locations are on important city points, implementing a green design would increase their eligibility for the city's greenery system and improve their ecological role. The creation of a design model that is universal and applicable to other "grey" squares is our main goal. This model will have in common features such as usage of water and heat permeable surfaces, planting resistant trees in sunlit areas which increase shade and planting grass areas that allow unhindered wind movement through the square. The model is widely applied because transforming "grey" to green squares improves the local microclimate and including green squares into the cities greenery system creates a wider effect on a large scale by mitigating climate change effects such as urban heat island.

## **ID 184: A Multimethod Approach to Improving Walking Landscape Experience of the Green Urban Park.**

Frederico Meireles Rodrigues<sup>1,2</sup>, Maria Helena Moreira<sup>1,2</sup>, Nádía Parreira<sup>1</sup>

<sup>1</sup>UTAD, Universidade de Trás-os-Montes e Alto Douro, Vila Real, Portugal. <sup>2</sup>CITAB, Centre for the Research and Technology of Agro-Environmental and Biological Sciences, Vila Real, Portugal

With this research, the authors aim to study the connection between people and nature when walking outdoors, and to understand its impact on people's wellbeing. As a result, this study provides the source of knowledge for the planning and design of the walking and running course of a green urban park in Portugal.

The methodology combines the theoretical literature review, about landscape qualities and health benefits, with the applied methods, to learn about the landscape character, people's perception and preferences, namely: the park landscape characterization by Line-mapping (Thompson, 2012; Southwell et al., 2013); the landscape visual quality assessment, by the Participant-generated Image method (Wilhelm & Schneider, 2005); the assessment of individual connection with the natural environment, by the Connectedness to Nature Scale (Mayer & Frantz, 2004); the assessment of individual emotional state, by the scale of Profile of Mood States (Gauvin & Spence, 1998; Viana, Almeida & Santos, 2001); and the assessment of the physical effort while walking through the park, by the Rating of Perceived Exertion (Borg, 2000; Robertson, 2001).

In line with other comparable studies, the connection with the more natural areas of the park as proved to improve mood and activity, and to decrease stress, melancholy, anger, fatigue and confusion, which generally benefits the participants wellbeing. It was also notorious the preference for open views and quality of park composition, as opposed to the lack of care with vegetation and degradation of materials and buildings.

As synthesis it was developed a strategical planning approach, that led to the design programme. The design was completed at different scales and, along the pathway, prioritized the enhancing of views and overall changes of the vegetation structure, improving pavement sections, creating refuge and stay spots and adding artwork.

## **ID 194: Strategy, Planning and Large-scale Design Challenges of a Linear River Greenway Trail**

Frederico Meireles Rodrigues<sup>1,2</sup>, Ângela Silva<sup>3</sup>, Sara Terroso<sup>3</sup>, Carlos Ribeiro<sup>3</sup>

<sup>1</sup>UTAD, Universidade de Trás-os-Montes e Alto Douro, Vila Real, Portugal. <sup>2</sup>CITAB, Centre for the Research and Technology of Agro-Environmental and Biological Sciences, Vila Real, Portugal. <sup>3</sup>Landscape Laboratory of Guimarães, Guimarães, Portugal

The river greenways are landscape corridors of high ecological, aesthetical and social value, which have been the target of a variety of planning strategies and design approaches. Design projects such as linear or riverside parks, river landscapes reclamation, naturalization and rewilding, cycling and walking ways are amongst the most common. Many are large-scale designs, which cover substantial areas of river system, and provide people's extensive access to these landscapes.

This paper emphasises why cities invest in large-scale greenway parks and what are the resulting design challenges. Furthermore, the authors present and discuss the case study of a greenway trail design, through the blue infrastructure of Guimarães, in Portugal. With approximately 60Km the network of trails is an alternative the typical urban scenery, a channel to walk through the city, the repository of rural ethnography, and a linear approach to meandrization, connectivity and access to green space. Therefore, the design objectives were set to value blue and green infrastructure, river landscapes and heritage; and to promote access to nature, learning about biodiversity, and a salutogenic lifestyle.

The design process started with extensive data collection, the landscape character assessment, creating a geographic information system and preparing field work; Field maps were used to register and analyse the most relevant issues and critical path of design decisions; Next was the synthesis of the design programme, with large-scale layout and classification into levels of intervention (from most to least intrusive); Stakeholders and public consultation took place, according to a cocreation approach; Last stage was specifications design, presented across scales, reviewed several times, taking into account the different inputs.

The most important challenges were related with managing ecosystems' impacts, establishing links to the urban settings and the existing cultural heritage, managing public opinion, balancing the intervention across parishes and construction cost control.

## **ID 114: How we forgot about residents in the residential areas**

Ing. Arch. Adéla Chmelová

Faculty of Architecture of the Czech Technical University in Prague, Prague, Czech Republic

The research focuses on the peri-urban area of the City of Prague. There was built 14 450 new flats in the 2020, 15% of those flats were built in the outer ring of the city (Němec 2020). Predictions warn against dispersed urbanization - Forman calls this „urban tsunami“ (Forman 2008). According to the expected final approval dates, it can be assumed that up to 6 000 flats per year will be completed by 2022.

On one hand we like to follow the numbers from these statistics, but on the other hand we turn away from the landscape solutions around these residential complexes. What can be observed in the peri-urban area is that we are unable to plan for basic human needs.

Based on the Kevin Lynch recognition of spatial elements – district, edge, path, node, and landmark (Lynch 1960) we can see interruptions in the matrix in which those areas are located. People need to fill this unfinished matrix by themselves.

One of the solutions to avoid these matrix failures is to consider implementation of the plan of the area in phases – first step is to prepare the green network, then to complete the matrix with connections and as last to fill the areas in the matrix. Unfortunately, nowadays we still forget that man is a living creature with the need to use the surroundings of his place of residence.

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### Track 3: Teaching across scales

Chairs: Prof. Dr. Udo Weilacher,  
Assist. Prof. Dr. Nadja Penko Seidl

### Teaching across Scales – Learning from Research

Prof. Dr. Udo Weilacher  
Technical University of Munich

If you want to solve complex problems, you have to have the courage to leave your comfort zone and cross several borders: borders of scale, of disciplines, of nations, of culture, borders of belief and theories etcetera. Cross border action can be extremely tiring and in some cases cause friction, slowing down the progress of complex projects. However, it also leads to the development of new ideas and to a much more founded view of complex problems, characterized by non-linearity, emergence and surprise. This insight was confirmed in an advanced research and teaching project between 2007 and 2020, a collaboration between regional planners, landscape architects, architects, urban designers, planning theorist and experts from many other neighbouring disciplines: the International Doctoral College (IDK) “Spatial Research Lab”.

When dealing with difficult spatial development tasks, it turned out that it is virtually impossible, to separate questions of scale from all other relevant questions in complex planning and design projects. Therefore, the IDK professors pursued an interdisciplinary understanding of planning, not differentiating any longer between categories like “landscape architecture” and “landscape planning”. The research approach was open to a variety of theories and methods as well as to alternative planning and design methods. The practical application of these methods was intended to solve concrete spatial problems and to generating knowledge – a new understanding of the space, of the actors in this space and the need for change. Methods beyond the applicable standardized, economized norms, such as of a creative-experimental nature, were to be developed and applied in order to grasp complex spatial phenomena that elude established academic approach methods. The IDK faced concrete planning tasks through interdisciplinary design and dialogue by holding discussions about spatial planning, city planning, architecture, regional development, landscape architecture and environmental planning, in addition to initiating cooperative, solution-oriented approaches.

The research lab was focused on the interrelations of science, society, technology and space, acknowledging that the spatial and social are inextricably intertwined. The ways the IDK worked, are also valid for teaching across scales:

- **empirical:** Whether the topic is urban restructuring, new forms of spatial appropriation, urban mobility, or energy transition—IDK researched empirically and also based its di-

alogue on empirical research. IDK pursued a broad concept of empiricism: statistics and space-related models as well as qualitative analyses of documents or observations, all play a part. What is crucial is that theoretically formulated assumptions lead to the systematic assessment, explanation, and examination of the research object. IDK was also open to inductive research strategies, gaining new theoretical knowledge from observations made in case studies.

- **inter- and transdisciplinary:** Whether planners, designers or researchers— IDK had an inter- and transdisciplinary approach that was based on empirical research and direct experiences from planning practice. The researchers were aware of the opportunities and challenges of collaborative research, publishing, and communicating together. A closer cooperation between architecture, landscape architecture, urban development, spatial planning, social sciences, and engineering, as well as scientists and practitioners, is of central importance for the solution of spatial and urban problems.
- **reflexive:** Whether the questions concern sustainable water management, landscape transformation or the effects of controversial technical knowledge—every object is of interest in both directions: What are the expected positive or negative consequences of this development? And what are the social conditions (e.g., cultural habits or political target conflicts) that contribute to shaping it? How do these transform space?

- **dialogical:** Whether in test planning, parametric design, or digital information transmission—IDK researchers engaged in dialogue in a suitable manner with the [doctoral] students as well as with the public, local experts, politicians, or companies, and employed dialogue to work through research-based potential solutions and strategies. The researchers made use of the whole variety of communication media.
- **multilocal:** Whether in Zurich or Berlin, Copenhagen or Munich, Vienna, Dortmund, or Karlsruhe— IDK researchers were aware of the diversity of social, economic, and ecological contexts and perceived the problems in their local specificity. However, they were also seeking patterns to be able to derive the general from individual cases (an inductive method). Knowledge gained in this way about rules of spatial development is intended to ensure the concrete ability to act in other locations and in different contexts.
- **space-related:** Whether the problems are on a large or small scale— what is crucial for the IDK research approach is the relevance for the development of concrete spatial systems and associated living environments. The material components play just as an important role as the subject-related and social components of a space.

Teaching across scales should follow the same set of approaches and give students a chance to grasp the essence of complex research beyond standardized procedures.

## Presentation abstracts of track 3

### **ID 83: From Courtyards to Coastlines: The Diversity of Scale and Breadth of Impact of Ian McHarg in Scotland**

Dr. Amber Roberts

Manchester School of Architecture, Manchester, United Kingdom

Ian McHarg's approach is known for his large-scale approach to landscape architecture exemplified in his seminal book *Design with Nature*. In contrast to this scale, we present lesser-known aspects of McHarg's multi-scalar interests through his influence on his Scottish graduates.

Very little research has been undertaken on McHarg's influence through the work of his graduates, yet through these individuals we can chart the nuance and continued development of his ideas. McHarg's scale of influence was Trans-Atlantic prior to *Design With Nature*, from 1955 he actively encouraged many of his graduates from Scotland to follow him onto his new course in Philadelphia, helping to arrange Thouron and Fulbright scholarships for these applicants. For the first UPenn MA cohort 1955-57, 7/8 students hailed from Scotland.

The diversity and breadth of McHarg's influence through this lens is incredible, charting ideas from *The Court House Concept*, a single-dwelling scale later honed by Morris & Steedman (grad. 1957), introductory landscape design through the work of Michael Laurie (grad, 1962), large scale landscape appraisal of the Scottish Coastline through the work of David Skinner (grad. 1958) and the foundations of GIS through Mark Turnbull (grad,1968). Each of these designers went on to enjoy great success in architecture, landscape, education, and geography respectively, exemplifying the range of influence McHarg had over landscape architecture and its associated disciplines.

In this paper we analyse the scale and approach of McHarg's curricular design tasks and the resulting student projects against McHarg's (un- and) published writings of the period. Through the post-graduation designs of these individuals we explore how McHarg's ideas were exported and adapted to the scale, context and issues of Scotland. The subsequent careers of these graduates shed light on McHarg's lesser-known approaches during the years prior to *Design With Nature*.

**ID 77: Benefits regarding collaboration across subject, department and university boundaries – the master program Sustainable Urban Development as example**

Dr. senior lecturer Anders Larsson<sup>1</sup>, Dr, senior lecturer Peter Parker<sup>2</sup>, Dr. lecturer Helena Mellqvist<sup>1</sup>, lecturer Matilda Alfengård<sup>1</sup>, lecturer Linnéa Fridell<sup>1</sup>

<sup>1</sup>Dept. of Landscape architecture, planning and management, SLU, Alnarp, Sweden. <sup>2</sup>Dpt. of urban studies at Malmö University, Malmö, Sweden

SLU Alnarp, Department of Landscape Architecture, Planning and Management, has for 10 years collaborated with Malmö University (MAU) on a two-year master's program in sustainable urban development (HSU). The program is open to students from various bachelor's backgrounds and the two universities hold half of the courses each, dealing with planning-relevant issues of several different kinds with a focus on sustainable development of cities and regions. HSU students have not yet created an identity as strong in the labor market as e.g. landscape architects, but it is clear that they have easy access to jobs as planners at consulting companies, municipalities and other authorities, which were previously often reserved for students from five-year professional programs such as architecture, landscape architecture and spatial planning. To some extent, HSU students displace planning-oriented landscape architects in parts of the labor market. One reason for this might be that HSU students, despite different bachelor's backgrounds, receive more solid training in planning-relevant subjects. Landscape architects cannot specialize to the same degree within the landscape architect program. The second might be that collaboration between different competencies regarding sustainable development is of great importance both in terms of the ability to problematize sustainability from different perspectives and in active collaboration across different disciplines. The fact that the education is carried out in Swedish can also be an advantage when students enter a Swedish labor market. In our presentation, we will show some of the HSU program's degree projects and some examples of what HSU-students work with after graduation, as well as discuss some of the benefits of collaboration across subject, department and university boundaries.

**ID 203: Systems thinking and transdisciplinary practice in Landscape Architecture Education. Case studies from Birmingham School of Architecture and Design.**

Dawn Parke, Dr. Sandra Costa

Birmingham School of Architecture and Design, Birmingham City University, Birmingham, United Kingdom

This paper aims to demonstrate how through interdisciplinary collaboration and the application of systems thinking, landscape architecture (LA) students can be better placed to deal with the challenges of an uncertain tomorrow. The paper discusses how experimental studio models, underpinned by pedagogy for collaboration and systems thinking, can be used to explore the climate and biodiversity crisis, and the housing emergency, issues central to the LA and at the core of LA education. The approach supports the need for 'Multi-stakeholder partnerships' as outlined in UNSDG's targets for goal 17 'Partnership for the goals' and encourages the position of the landscape architect as mediator, translator and connector between the range of disciplines and sectors, to create and maintain the partnerships required to tackle these systemic issues.

The findings are drawn from live and on-going case studies, from curricular and extra-curricular studios, within school of architecture and design in the UK suggest that both transdisciplinary education and the application of systems thinking are essential to address future sustainability challenges. They can be applied across different spatial scales to engage with dynamic city systems both 'horizontally and vertically'. They encourage creative collaborative environments by the sharing of ideas generated from a variety of perspectives of experience and in doing so engage students with a more complex set of skills and knowledge, towards higher order thinking systems thinking.

Additionally, the findings suggest that these experimental studios have served as catalysts for behavioural change and have contributed to the creation of 'climate active' and 'climate literate' graduates, supporting the Higher Education Academy's (2014) Graduate learning outcomes for education for sustainable development. It is suggested that these models could be adapted and applied beyond the disciplines of the design of the built environment to support education for sustainable development more broadly.

## **ID 92: Multi-scale drawings. From virtual into the real.**

Dr. Tomaž Pipan, Nejc Florjanc

Department of Landscape Architecture, Biotechnical Faculty, University of Ljubljana, Ljubljana, Slovenia

In the contemporary times when our work resides ever more in the digital space, we will be discussing the scale-less quality of the computer drawing and how it can inform the understanding of the physical (printed) drawing and representation of the contemporary landscape.

With the torrent of information produced in the wake of digital transition, the question arises how to draw these digital measurements of landscapes. Here the question is not merely how to represent dynamics that are captured, but how to create synthesis and meaningful interpretation of such spatial information. As a departure point, we argue that it is exactly the scale-less dimension of the computer (its ability to zoom in, to the detail, and zoom out, to the whole) that enables representation and meaningful revealing of these new densely described landscapes. How can the quality of the scale-less be translated into a physical representation?

This presentation wishes to put forward student work at the Department of landscape architecture at the University of Ljubljana within the study course of Visual Communication. We will be discussing final results of the course, showing drawings of time-based processes on different scales where the drawing canvass and the detail of the drawing creates a dynamic representation revealing different meanings dependent on the distance / scale at which the drawing is viewed. We will critically assess how and to what extent such drawings reveals new understanding of the landscapes represented and if the multi-scalarity is an actual quality that benefits or detracts the drawing.

## **ID 60: Student design competitions for large scale projects**

DI Roland Wüch, DI Julia Backhausen-Nikolić, DI. Dr. Roland Tusch  
University of Natural Resources and Life Sciences, Vienna, Austria

One of the teaching objectives in design studios in landscape architecture is to grasp the different qualities that specific scales offer. For students it is a challenge to develop innovative design ideas. Especially on large scales it is difficult for them to realize the design relevance of decisions made. Competitions in landscape architecture are seen as a driving force for innovation. Student design competitions can be used as a means to address the design specifics that large scales provide. The focus of our research is on exploring the possibilities of large scales and the transition between scales within student's design competitions.

The research is based on two design studios dealing with large scales held in summer 2022. One project is located in a suburban area south of Vienna the other in a rural area in Carinthia. Both projects are conducted as student's design competitions including local stakeholders. One competition is held as design studio within the master program, the other is an extraordinary offer for design experienced students and young graduates in addition to their master program. The two different settings are accompanied by action research using participant observation and surveys to evaluate both settings.

In our paper we will discuss the following questions:

- What is the benefit by using student competitions for large scale design projects?
- Which qualities can different settings of competitions provide?
- Can competitions motivate students to think out of the box and to promote creativity when shifting between scales?

**ID 109: Using ArcGIS Story Maps in a first year Landscape planning projects**

Dr. Kristine Vugule, Dr. Daiga Skujane

Latvia University of Life Sciences and Technologies, Jelgava, Latvia

Geographic Information Systems are widely used in landscape analyses and planning. ArcGIS Story Maps is a less known GIS application. It combines maps with text, images, and other multimedia content in order to explain map information. It is easy to navigate between scales, as maps are interactive. Story maps help to illustrate spatial information and tell the narrative in an easy and interactive way. It is easy to publish and share information. Story Maps can increase the accessibility and understandability of landscape character descriptions and landscape plans (Schroth, Mertelmeyer 2020). The application can be used both, for educational purposes and project presentation not only in landscape architecture and planning but in other disciplines, for example, cultural geography (Falguni 2019), and is recommended as both a generative and critical tool for organizing complex ideas and reaching diverse audiences (Malkowski, Klenke 2020). Research by Egiebor and Foster shows that students perceive Story Maps as engaging in four qualitatively different ways: generating inquiry, visualizing information, mapping interactively, and cycling (Egiebor, Foster 2019). The aim of the paper is to introduce the use of ArcGIS Story map application in a Natural landscape design course by first-year landscape architecture students at Latvia University of Life Sciences and Technologies. Students learn the basics of GIS in parallel. They carry out analyses of the project area, and present the first research results and development ideas in a Story Map at different scales, starting from an overview of the area and afterward zooming in to specific places. This approach has been used and tested for 2 years. The content of the course and methodology of application use is described. Our experience shows that the ArcGIS story map is an alternative way of project presentation, especially for the first-year students and in cases when the project has to be demonstrated and should stay available to the public, like the local community. Disadvantages of design idea presentation are discussed as well.

**ID 93: Global, local, and everything in between: understanding drivers of change through scenario design**

Prof. Dr. Mojca Golobič, Prof. Dr. Davorin Gazvoda, Assist. Prof. Dr. Nadja Penko Seidl, Nejc Florjanc, [Dr. Tadej Bevk](#)

University of Ljubljana, Ljubljana, Slovenia

The world faces a critical and contentious challenge in fundamentally uncertain conditions: how to organize and conduct strategic stages of designing for long-term changes within complex systems? This question is in focus of the International Geodesign Collaboration (IGC), a group of planning and other schools exploring scenario-driven designs responding to driving forces across scales. We present University of Ljubljana's four-year experience of participation in IGC. The studio within which the course is taught is divided in two semesters, first focusses on small-scale, large area planning and approaches, and second focuses on larger-scale, small area design and approaches. The work begins analytically, through exploration of past social, environmental, and economic changes, thorough inventory of situation and forecast of exogenous driving forces that will shape future conditions. The planning phase consists of designing scenarios with differing level of response to these driving forces: non-adopter (business as usual), late adopter and early adopter. The scenarios are evaluated through UN's sustainable development and locally defined goals to understand global and local performance. This key exercise exposes various conflicts in different strategies of achieving global and local goals (e.g., global reforestation effort vs. national food-security) and offers a unique perspective to optimize scenarios. The solutions to conflicts in planning scale can often be found in detailed design, which is done in the next phase. Here students identify key problem areas based on best-evaluated scenario and develop detailed designs, by working across scales and applying different methods. In the course students learn to deal with complex problems, by understanding rather than "just" learning to respond to the driving forces and produce flexible proposals (rather than fixed solutions) to these problems.

**ID 102: Teaching on Large Parks: Changes in Scale and Conception**

Assoc. Prof. Luca Maria Francesco Fabris<sup>1,2</sup>, Assoc. Prof. Mengyixin Li<sup>2</sup>

<sup>1</sup>Politecnico di Milano, Milan, Italy. <sup>2</sup>Beijing University of Civil Engineering and Architecture, Beijing, China

This contribution argues and reflects the teaching in landscape architecture in the newest LA Master in Italy (established five years ago) at Politecnico di Milano and the LA Master at BUCEA (Beijing, China – established ten years ago).

As a common theme, we have chosen the Large Park studies at different scales for adapting to the urban social transformation and addressing global climate change and regional ecological problems, as the term “large parks” (Czerniak, Hargreaves (ed.), 2007) has emerged since the 1990s is deemed as green infrastructure. They reflect the expanded scale in different regional contexts and the park landscape characteristics of complexity, resilience, diversity and identity in landscape planning and design with their cultural interpretations. As indicated by the improved understanding of large parks, the contemporary park conception of “a more organic and fluid urbanism” (Waldheim (ed.), 2006) is the critical, professional reformulation of urban landscapes. At Politecnico di Milano, all the courses must have a solid interdisciplinary accent, which gives students a vision where sustainability in design is an essential tool to face global challenges arising from climate and urban ecological environment. Most adapted courses at the Beijing University of Civil Engineering and Architecture explore sustainable planning and design dimensions and ways through an interdisciplinary and critical perspective.

By introducing examples in Europe and China, we aim to demonstrate that large parks can transcend spatial and subject boundaries to be laboratories. Specifically, we believe that reclaimed industrial sites’ transformation and regeneration goes beyond overall socioeconomic structure, embracing the contemporary understanding of nature and ecology. From this perspective, rather than being considered a single, limited site, large parks can be regarded as a large-thinking paradigm for urban regions through a conceptual framework constructed between built fabric, dynamic environmental processes, and urban daily life.

**ID 54: Community Scales. Toward a socially transformative pedagogy in design and planning. A critical reflection.**

Dr. Ellen Fetzer<sup>1</sup>, Dr. Deni Ruggeri<sup>2</sup>, Jeroen de Vries<sup>3</sup>

<sup>1</sup>Nürtingen-Geislingen University, Nürtingen, Germany. <sup>2</sup>University of Maryland, Maryland, USA. <sup>3</sup>LE:NOTRE Institute, Wageningen, Netherlands

Everyone has the right to access, belong to and participate in decisions about the landscape of their communities. Design and planning professionals play a vital role in making cities sustainable and promote greater environmental justice, yet they often see participation as an obstacle to their creativity or are unaware of its benefits. To change these perceptions, students and young professionals should be offered opportunities to learn about their agency in shaping democratic, supportive communities and practice participation. Referring to the question of scales raised by this years' ECLAS conference, we aim to discuss the challenges related to the community scale.

The Erasmus+ Landscape Education for Democracy (LED/LEAD2LEAP) projects aim at educating design and planning students about the theories, methods, and practices of landscape democracy. Students from many institutions can access the course online. In 2016, a series of online seminars started which until 2021 included around 300 students worldwide. They collaborate on a strategic vision for resolving a landscape democracy challenge within their local communities.

The performance of the seminar to reach its goals and ambitions was tested through pre and post engagement surveys of both teachers and students. The participatory action research includes the transformative action of teachers, students and the agents in the community on a personal, professional and systemic/political level. Results revealed that while the students valued the opportunity to learn about participation and landscape democracy in a multidisciplinary and cross-cultural context, the discontinuous commitment of some group members and the operationalization of landscape democracy proved challenging. Nonetheless, they called for more opportunities within their university's curricula to refine their social agency skills. They also expressed doubts that they would be able to pursue this type of work in private practice. The paper ends with lessons for educators interested in democratic design and planning education.

**ID 47: Scaling Up, Scaling Deep: Negotiating scales for productive urban landscapes**

Prof. Chandrani Chakrabarti, Prof. Mansi Shah  
CEPT University, Ahmedabad, India

A study was conducted around the Sabarmati, a seasonal and severely engineered river that passes through Ahmedabad – Gandhinagar area in western India. A stretch of the river in Gandhinagar was chosen as a site to be developed as a public space, sorely needed in the growing cities. The site comprised a riverbed disturbed by illegal sand mining, and an edge infested with invasive *Prosopis juliflora*. Urban villages are tucked in between remnants of natural ravines – all of which are in the face of destruction from urban pressure. For a productive solution, it was necessary to devise a methodology that grants understanding of landscape operations at different scales and link design processes from macro to micro.

Hence, a module-based pedagogy framework was developed that transcends various spatial scales aiding in sustainable transformations at the site level and further at human scale. The modules moved from large to small - XL, L, M, and S, and in each, a specific set of questions were raised pertaining to that scale. In the first module, students had to look at the river as a system and understand its relationship to the built fabric. This resulted in a vision plan at XL scale. The second module or the L/M scale involved developing a resolved design that is aligned with the vision plan. Whereas in the S scale, site specific design solutions were tested for its performance across scenarios.

From the outcomes of exercises, the authors argue that this approach enables weaving sensitive connections across scales from socio-urban fabric to the landscape system. The authors found that system-based XL plans were more successful in translating ideas across L/M/S scales. This pedagogy with scaling-up system thinking can be applied to support realistic and productive landscape designs.

**ID 79: From Landscape to Interior: a design studio experience in Monesteroli, Italy**

Prof. Julia Nerantzia Tzortzi<sup>1</sup>, Prof. Jacopo Leveratto<sup>2</sup>, [Maria Stella Lux](#)<sup>1</sup>

<sup>1</sup>Department of Architecture, Built Environment and Construction Engineering - Politecnico di Milano, Milan, Italy. <sup>2</sup>Department of Architecture and Urban Studies - Politecnico di Milano, Milan, Italy

Monesteroli is a small semi-abandoned village situated on a cliff on the coast of Liguria, Italy. The challenges of the site cut across all project scales, from infrastructural (the village can only be reached on foot) to landscape (the steep terrain has been modelled over the centuries by human labour, which has carved out cultivable terraces) to interior design (there are several abandoned traditional stone houses). In addition, there are collateral themes such as tourism enhancement, strategic planning and economic management of the project. In the MSc of Architecture, Built Environment and Interiors of the Politecnico di Milan, we proposed a classroom organized as a unique research and innovation design unit, where the students faced the case study without simplifying the complexity of the problems. The adopted approach is that of 'Design by Research' (DbR). This formula inverts the traditional relation between the two terms, turning design into the purpose and research into the method. We acknowledge that particularly complex or urgent design issues cannot be simply solved by applying a set of predetermined strategies. On the contrary, they require a tactical form of investigation that can individuate the most effective and locally relevant solutions by means of innovation. Therefore, DbR also indicates a format that looks after real and actual design issues, by focusing on the renewal and hybridization of design processes, elements and imaginaries: in particular, the case study bring the attention on the possible ways of living the wilderness without domesticating it and conceiving architectural design for post human scenarios. The theoretical contributions included in the course provided several inputs ranging from the philosophical to the practical/technical field. The experience of the studio opens to a wider reflection about introducing multi-scale approach in the teaching practice and provide a successful example of managing complexity.

**ID 96: Making molehills and mountains: Teaching soils, topography and construction**

Ms. Kamni Gill

University of Manitoba, Winnipeg, Canada

I explore alternative pedagogies of topographic design and construction from the scale of a single person moving through a landscape to wider regional considerations; from topographic surveys and sections to the design proposition. Digital fabrication, engagement with actual soil, and the interplay of social and physical considerations become a means of restoring a relationship between the student's "thinking hand" and their understanding of the different scales and potentials of construction and topographic intervention. Conceptualizing earthworks as cultural interventions that combine surface morphologies and a dynamic thickness of soil heightens students' realization of how earthworks integrate water, vegetation and human movement.

Shaping the ground is one of the most powerful tools of landscape architecture and planning. However, an understanding of ground beneath our feet is critical to the ways we conceive and realize our built environment. Soil is not simply material to be moved as cut and fill, but a dynamic, living medium. Topography is not simply forming a surface, but also modulates human and ecological experience. A preliminary review of English textbooks in topography seemingly reduces earthworks to a series of small-scale technical problems. Contour plans are abstract and express little of the raw materiality of soil and the power of earthworks to shape space, human movement and create new ecologies across scales. A design curriculum in topography, water and construction is informed by theorists in craft such as Juhani Pallasmaa and Rowena Reed Kostellow; by urbanist Bernardo Secchi, and the artist Richard Serra as well as a range of landscape architects. It is supported by exemplars from undergraduate and graduate student workshops conducted over eight years. Future directions for teaching topographic design through an understanding of both the surface form and the thickness of soil composition is outlined.

## **ID 86: The liquid nature of the landscape. From metaphor to a method of teaching**

Dr. Angelica Stan

Ion Mincu University of Architecture and Urban Planning, Bucharest, Romania

In a deep understanding of a landscape, you are never fixed on a certain scale. It is always a move from macro to micro, and vice versa, a slide from a global view to details, and an ascent from the grass to the map of the world. We can distinguish a series of scalar levels of a site context, but these remain purely indicative, with a moving between them, of an infinite variety of spatial and environmental instances. Also liquid is the relationship between direct and mediated landscape perception, between what I saw with my own, and what digital eyes saw, providing us impressions and knowledge. Then there is a permanent slip between the spatial, geographical and architectural-urbanistic input data and the social, economic, anthropological ones, that permanently extend the field of the landscape research, and confirm its pluri-inter-transdisciplinary character. This makes impossible to have a unique methodology that responds to all the "shapes" in which the landscape acts. But in the same time, the scale is the umbilical element of the landscape, the one that connects it to humanity; within this paradox, a disruptive approach is needed.

The paper presents the key elements of understanding the liquid nature of the landscape, moving from the metaphor which operates in the concept area, to the methodology of teaching the landscape as a discipline, or rather as a "bouquet" of disciplines to integrate into a distinct thematic body. The method comprises of the 4 "states" of the liquid-landscape - cohesion, adhesion, viscosity, volatility - each of them representing an intimate stage of knowledge, trans-scalar and trans-disciplinary. The result of applying this poetic-relational method has the advantage of disconnecting students from the stereotype of zoom-in-zoom-out framing, and allows them to correlate the conceptual level of landscape with the sensitive one.

## **ID 126: Teaching time - working across scales in the Aarhus River Valley**

Assis. Prof. Rune Christian Bach, Assoc. Prof. Stefan Darlan Boris

Aarhus School of Architecture, Aarhus, Denmark

This paper uses two project-based semester assignments from Studio Urban Design|Landscape Architecture (UD|LA) and the Aarhus School of Architecture to argue for a cross-scalar approach that enables landscape architecture students to grasp the complexity and urgency in dealing with current challenges of urbanisation in the Anthropocene.

Through two different situations, one urban, another suburban, the two semester assignments use the Aarhus River Valley as a shared common ground. In this context, the paper investigates how urbanisation can be informed by landscape contextual understandings across scales in the river valley.

The semester assignments are driven by both research-based teaching and research-by-design driven explorations in multiple scales with the goal to explore how this can inform and qualify design proposals for the two given urban situations.

The explorations span from 1:1 hands-on experiments to the testing of software based on machine learning for spatial volume studies to well-known and often used tools and formats like mappings, plans, sections, models, etc.

While the hands-on experiments include implementing several small-scale, 1:1 transformations of i.e. urban forest landscapes based on the students' (1) physical engagement, (2) careful site readings and (3) considerations about future spatial conditions, the machine learning software is used as a digital tool through which different scenarios of urban settings are explored. Central for this is the question of how a cross-scalar approach can facilitate the ability to translate findings from one scale into design proposals in another, and vice versa.

This is important, as it teaches students to reveal the rich complexity of sites and situations across scales as well as the context in which these are situated. Here context is also to be understood through its active Latin root 'contexere' denoting an act of weaving rather than its more static common meaning.

**ID 73: Research through design for health and wellbeing**

Dr. Ir. Agnès Patuano

Wageningen University, Wageningen, Netherlands

There is now a large body of research exploring the health benefits provided by green spaces. However, the evidence still needs to be translated into design knowledge which can be of use to landscape practitioners. Recently, a useful approach to bridge the gap between theory and practice has emerged under the name of Research by/through design.

This study is based on an analysis of 15 Landscape Architecture BSc theses carried out as Research through design projects between 2019 and 2021. Each bachelor student had to propose a design for the same site: the hospital Gelderse Vallei in Ede, Netherlands. As they approached designing for a healthcare environment, students were asked to choose health-related concepts, issues and theories in which to anchor their design. The outputs of these theses consists of design principles and guidelines issued from the literature to support the decisions underlying the design, several sets of design criteria to test the design alternatives which students proposed, and actual designs proposals (site scale and design scale) embodying the knowledge thus created.

Research through design for health and wellbeing is a particularly challenging task. Health studies are deeply rooted in positivism and post-positivism where quantitative approaches are preferred. Additionally, the salutogenic effects of green spaces are wide-ranging, complex and interrelated, which makes their translation into usable guidelines and criteria difficult. However, this endeavor is critical, particularly as we are dealing with a global health crisis which highlight the importance of outdoor spaces. By looking at the exploratory work of these BSc students, we can sketch out different approaches and theories with the most potential to create scientifically valid design knowledge to guide the design process of landscape architects willing to increase the health benefits offered by the spaces they conceive.

**ID 163: Uncertainty of scales. The scale of uncertainty. In a trace of the flow.**

Zita Szabó, Dr. Ágnes Sallay

Hungarian University of Agriculture and Life Sciences, Budapest, Hungary

At the end of the design or planning process as a result we have a plan that contains blueprints, visual design, and description. However, it only shows one moment in time, our imagination how we changed one piece of landscape with exact borders. This sounds quite simple. The reality is complex: that one piece of landscape changes second by second, and exchanges energy and material not only inside between its elements but also with the surroundings.

The main goal of this research is to give a perspective that planning and design should not only represent an image of one moment in time, but also the processes that change at different levels. How does a new design affect the natural processes? How do different planning scales reflect on each other in time and scape aspects?

Firstly we apply system theory in landscape architecture, as it makes it simple to identify the processes between elements and scales. Secondly, we specify the different exchange processes between systems using physics and environmental sciences. As the exchange processes are recursive we call them flows. Any kind of change in the landscape change also the flows. Lastly, we show design examples of how the design steps out of its scale and how the design changes the flows in different scales.

The time and scape aspect of landscape means that there is no design without transition between scales. There are flows of energy and material which are changed by the design. As the flows always step out of the scale, there is always an uncertain result of the design. Identifying these flows would help to understand how to work effectively between different scales.

## **ID 87: Teaching in one-to-one scale in the Norwegian Landscape Laboratory NMBU**

Assoc. Prof. Ingrid Merete Ødegård, Dosent Ellen Husaas  
Norwegian University of Life Sciences, Ås, Norway

Scale is a challenge for the Landscape Architect students of today. It seems to have increased over the last years after the digital age when digital drawing programs has evolved and been established. Zooming in and out at the computer without any known scale makes it difficult for the students to know if their design is good or not. We have also observed that the students have less practical experience with outdoor proportions even if they are fond of being in nature. Few students have used practical tools or done different kind of landscaping when they start studying Landscape Architecture.

The aim of this presentation is to introduce a method of teaching where you use a full-scale landscape laboratory.

At the Norwegian Landscape Laboratory NMBU, we use the whole University Campus area as a one-to-one scale outdoor experimental lab. We work with three dimensions: 1) understand dimensions in scale, slopes, space and proportions, 2) urban agriculture experiences, 3) practical landscaping.

The entire campus area, including the large University Park with its variable topography provides the opportunity to do different workshops and practical courses in the field. The students use their own body as a scale together with different practical equipment and tools in the existing landscape. The task can be to measure slopes, identify space and be familiar to different proportions. They might add something in the existing landscape and be aware of what it does to the surroundings or get experience in growing their own vegetables and flowers as well as paving and constructing. The goal is to acquire realistic references as well as full scale practical experience in designing better proportioned and scaled landscape architecture in the future. This is why the use of the full-scale Landscape Laboratory is so important in teaching scale for Landscape Architecture students.

## **ID 91: 4x1: 4 km<sup>2</sup> over 1 century**

Dr. Gianni Lobosco

Architecture Department - University of Ferrara, Ferrara, Italy

"4x1" is a semester-long exercise developed this year by students of the Landscape Architecture master degree studio at the University of Ferrara (Italy). We asked them to select and frame an area of 4 square kilometres (2 per 2 kilometres wide) from anywhere in the world. Two 1:2500 plans were required, representing the landscape context today and in a century from now. There were a few restrictions on the drawings: no raster images, use of greyscale only, no text. Moreover, the selected areas had to meet a building coverage ratio of less than 20%. The main request was to take into account documented forecasts on climate change effects, as well as concurrent social trends (tourism, depopulation, etc.) or actual plans for urban and infrastructure development. In contrast, they have been free to speculate about future configurations according to different attitudes (policies) towards the forces at play: ranging from strong anthropic responses to "do nothing" answers.

One purpose of the assignment was to challenge students' tendency to "overminig" design or analysis tasks: that is to take into account too general or generic topics, overestimating them, in the belief they can be transferred linearly from one scale to another. Throughout the research, they had to, and learnt to, continuously change the scale of their investigation, even in order to decide how to frame the chosen context. The final illustrations are a distilled outcome of a wider survey - on data and processes - which for the most part almost disappears during the journey. In the long run, the landscape we try to depict is always something that "withdraws" from our knowledge, perception or any attempt at fully describing it. But this is its fascination.

**ID 130: Merging landscapes scales: A journey through pedagogical approaches in Landscape Architecture Studios**

Prof. Swati Sahasrabudhe  
BNCA, Pune, India

Landscape Architecture as a discipline in India is over five decades old. The scope of a landscape architect's work is broadly limited to urban contexts and focuses more on designed landscapes and it poses a great constraint in terms of availability of opportunities in the practice to work across scales of landscapes. These landscape settings at design scale are limited within a boundary of tangible things. Curating and conducting Landscape Architecture studios at post graduate level in India is becoming an increasingly challenging task in the times of political, social, ecological and economic flux. The paper takes an overview of themes selected for the academic studios at Masters level program at BNCA, Pune (State of Maharashtra, India). The paper demonstrates the methodological challenges and opportunities occurring through the journey of 13 to 14 years. The study also reveals how the pedagogical approaches have undergone changes responding to the student-centric and program centric parameters such as the availability of digital tools, exposure to international academia, internal and external contexts, and prevailing issues specific to the place. The study employs interview method and content analysis method to analyse the data from the past and present studio works. The findings reveal the increasing significance of merging the landscape scales, deriving simultaneous and context-specific responses to various scales and evolving the pedagogical approaches to accommodate not only the scales of change but also the changes in the landscape surrounding us. The dynamics of landscape architecture, the physio-cultural context of State of Maharashtra, India and the challenges of design pedagogy are highlighted in this paper through graphical and textual representation.

## ID 12: Abjuring Scales

Prof. Andrea Oldani

DASTU - Politecnico di Milano - DASTU, Milan, Italy

The contribution provocatively contemplates modifying the traditional way of considering the concept of scale in landscape pedagogy.

Dealing with this issue implies starting thinking of landscape merely as a complex system of relationships. This point is decisive concerning the understatement and implementation of a series of actions capable of re-directing the continuous reformulation of the complex, dynamic, and profoundly unstable interactions existing between humankind, territory, and environment (landscape). It, therefore, becomes fundamental to frame an 'ontology of relationships' that can clarify the complexity beyond their identification and multidimensional value. The process involves a plurality of factors beyond the correlation subject and object, or object and object, extending it to the organizations of objects and the complex links that exceed the most immediate possibilities of description.

Focusing on relationships diminishes the significance of scales because it forces us to think about the variety, multidimensionality, interrelation, and systematicity of components (of different extension, size, and shape). Those constitute the landscape and become operable through design. Consequently, it emerges the need to go beyond the scales, abjure this term, and think of possible alternatives.

Living digitally, we can, for instance, speak of different 'resolutions'. This concept describes collecting data on several levels with varying degrees of detail, allowing variable reading, from extensive considerations to samplings on otherness and smallness. The result is dissecting the specific characteristics of each situation, ascribing them to differentiated relational dimensions. To exemplify: the value of patterns and structures in the vast configuration can be associated with their density, quality, and aesthetic in any milieu part of a mosaic. Not less important, this perspective allows re-including some values sometimes forgotten in contemporary practice, such as establishing the human factor as central in design thinking.

The conference will be an excellent forum to present these considerations and applications in education.

**ID 181: The generalist becomes the specialist of the Anthropocene!**

Dr. Jorg Sieweke

NMBU, OsloFjord, Norway. paradoXcity, Berlin, Germany

Landscape is an often contradictory term, manifesting culture in its past, presence, while hinting at its future. Wylie[1] introduces a set of dichotomies: *Involvement vs. Distance, Observation vs. Inhabitation, Iconography vs. Materiality, Cultural sphere vs. natural sphere*. Most landscape represents such tensions, complexity and contradictions which should not be rejected or glossed over - but embraced. In the Anthropocene such conventional dualism begin to fold into each other.

In a typical project, Landscape architects traverse any number of the above tensions and dialectics, design therefore offers a tool for navigating past such binaries. Identifying and calling out paradoxical conditions becomes a crucial prerequisite to begin lifting them and opens up possibilities for interpretation and translation towards a thirdspace[2].

Managing disciplinary depth and width: our discipline faces an increasing scope of challenges, which require careful choices regarding limited time and resources. While predominant collaboration is serving needs of architects and urban designers, more recent complex tasks for landscape architects suggest seeking collaboration with other specialists. Landscape architects should grow the respective disciplinary expertise taking advantage of the proximity to engineers and environmental scientists. This includes bridging between ecology and technology for developing and testing hybrid design prototypes. E.g. resilient shoreline, remediation practices, groundwater flow, nutrient and salinity regimes.

The default concerns of air, water and soil prevail, but are now scaled to planetary relevance. Hence, we need to adjust our disciplinary knowledge base and scientific foundations of urban ecology, geology, geomorphology, hydrology, soil genesis, drainage engaging experts from practice and science. In such project scope landscape architects may assume leadership for multidisciplinary teams and will find funding opportunities, when developing alternatives quick-fix GeoEngineering practices.

**ID 132: Interconnecting scales through the flows of water**

Assoc. Prof. Elisabeth Sjødahl, Prof. Sabine Müller

Urbanisme and Landscape, Oslo, Norway

Despite significant achievements in conceptualizing cross-scalarity, planning and design are still treated as different fields of expertise in everyday practice and teaching. When accepting climate change with risks of flooding and drought, landscape-based perspectives gain momentum changing design order and its hierarchy, putting the landscape elements and physical forces at the base for urbanism. When working with watersheds and flows, the oppositions of large-scale planning and small-scale design inevitably collapse. Within the watershed's 4-dimensional context, any point or place performs as a part inseparable from its whole.

This is the investigation setting of Oslo Hydropolis, a series of master courses at the Oslo School of Architecture and Design, aiming at producing a complementary approach to the policies of an emerging metropolitan area based on transportation nodes and compact city development.

The aim of the presentation is to unfold the working process that constantly changes between scales, from the overall view of the territory to the scale of bodily experience. GIS mapping at a territorial level is interpreted by hand tracings using eye, head, and arm to reveal landforms and patterns formed by the forces acting upon the landscape. Forms of flow and delay are developed as scenarios at the watershed scale within which a pilot project is elaborated in a strategic location. Eye level model photography creates an immersive experience, which is scaled up again into territorial figures beyond the watershed. A narrative of water tales interrelates the different scales.

The result is the laying out of flows and its changes as a framework with the capacity to steer further development. The figures and structures designed may not be considered nor area planning nor detailed design. Yet, they present exactly the missing hinge between the scales and put the prevalent practice on its head, promoting a design-specific framework for planning.

**ID 207: Teaching in landscape architecture; learning to design in the context of the dynamics of landscape form and process**

Mr. Martin van den Toorn

Faculty of Architecture, TUDelft, Delft, Netherlands. The Budapest School of Landscape architecture. Hungarian University of Agriculture and Life Sciences (MATE). Institute of Landscape Architecture, Urban Planning and Garden Art, Budapest, Hungary

Teaching in landscape architecture takes place in real time and real place, with the studio as core of the program. At an academic level teaching in the BSc is focussing on learning 'how & why', while in the MSc on 'why & how' because of the relation between research and design. In this paper I will focus on teaching at the Master's level in European universities and design schools.

The main research question is: how does the concept of scale play a role in teaching landscape architecture in the Master's? The research methods are mixed and are based on the principles of case study research. The research material is first of all based on my own experience in different schools and programs, publications from others and experiences from colleagues.

In the first part, the concept of scale in landscape architecture will be at stake in which the relation between time and space will be a key to the distinction of levels of intervention. In the second part I will pay attention to the design process in landscape architecture and how that relates to teaching. It comprises learning the content of and distinction between perception, analysis and synthesis. In the last part I will briefly elaborate some case studies based on my own teaching experience in courses, seminars and studio's with a focus on scale and its role in design.

In the conclusions I will focus on the conceptual approach of design teaching based on fieldwork, visual thinking, drawing and presenting. In teaching design, scale is directly related to the level of intervention and the specific design means at that level. Even though these levels can be distinguished they are also part of a unifying concept.

## **ID 42: Blue-Green Factor (BGF) as a tool for cross-scale Teaching Methods in Landscape Architecture**

Dr. Artan Hysa<sup>1,2</sup>, Prof. Dr. Zydi Teqja<sup>2</sup>, Mr. Albert Karaj<sup>2</sup>

<sup>1</sup>Epoka University, Tirana, Albania. <sup>2</sup>Agricultural University of Tirana, Tirana, Albania

This paper presents the experience during the graduate course Studio of geospatial analysis and landscape design (SGALD) as an example of tested cross-scale teaching methods in landscape architecture. The course is delivered within the professional master program in landscape architecture at Agricultural University of Tirana (AUT). As the enrolled students had no information about spatial scales, introducing the basics of GIS technologies at the very early stages of the process was very helpful to simultaneously get information from various spatial scales. We utilized blue-green factor (BGF) tool as a practical method to make students understand the cross-scales realities. BGF was first developed by Future Cities project as a tool to assess both the quantity and quality of the water and vegetation surfaces within an urban property plot. Thus, within the scope and objectives of SGALD, BGF belongs to the meso-scale. Prior to that, students were introduced to the Urban Atlas (UA) data (macro-scale) to define the specific study areas. Then, students were asked to assess the BGF evolution of their specific plots based on three orthoimages of 1994, 2007, 2018. After the meso-scale BGF analysis, students were invited to develop critical thinking on their plots by visiting the sites. Furthermore, they had to re-think on BGF method based on the reflections gained from the context (Tirana). Indicators like the ratios between deciduous to evergreen or trees to bushes are discussed as context-based adaptation of BGF tool. Then they were expected to develop some design approaches at micro-scale (plot scale). Each proposal was aimed to improve the most recent BGF of the plot, by introducing meaningful and multi-functional new landscape features into the existing urban fabric. We push forward our experience during SGALD course as a case to show how much helpful is the “digital scalelessness” in landscape architecture teaching methods.

**ID 172: "Land-Based": Issue-based teaching of landscape territorial design, as a bridge between planning and design at multiple scales - the case of LandBasics "River-Sea" programme.**

Assist. Prof. Matanya Sack

Technion, Haifa, Israel. shelter\_expense, Tel-Aviv Jaffa, Israel

The current global issues which landscape architecture must address - mainly environmental crises inextricably coupled with political and economic inequalities - require a new approach for teaching the discipline. As such, it is also a new approach to questions of design and planning at multiple scales. The LandBasics unit at the Technion, Haifa, established in 2014, developed these ideas as part of an educational research-by-design methodology.

The starting point of every student project is a fundamental issue, rather than beginning with a specific site. These could be abandoned military bases, patterns of grazing and transhumance, or interfaces of regional urbanism and regional landscape. Students then critically map the issues across the land and beyond, from which they later delineate new territories for action.

The act of issue-based mapping is both strategic and local, regional and site-specific (where sometimes the region itself can be the site). It nurtures projects of "landscape territorial design" - an act which by definition integrates planning and design, at multiple scales.

As a case study, I will present the recent work from the LandBasics "River-Sea" programme.

River-Sea explores Israel's (micro-) estuaries along the Mediterranean coastline. These areas have been overlooked in national and district planning, while in local plans they were narrowed down to the perceived river mouth. However, such landscape systems present multiple scales simultaneously. The meeting of a water stream and the sea is everchanging in time and space. Even if we look specifically at the estuary as the area where fresh water and saltwater mix, in some local streams these areas stretch up to several kilometers deep into the land, with a multitude of interfaces - urban and rural residence, industrial zones, agriculture, forests, nature reserves, infrastructures. And finally - these territories present all the issues and processes upstream, across the regional basin.

## Poster abstracts of track 3

### **ID 4: Cooperation enhancing methods in process of large territory landscape planning by a group of students.**

Madara Markova, Natalija Nitavska

Latvia University of Life Sciences and Technologies, Jelgava, Latvia

Working in groups, students generally find challenging. And to work on a large area project, creating a coherent approach, concept, design, and detailed solutions, create additional challenges. Students, in this case, need to cooperate, discuss and make decisions at all levels of the project – most important research findings, concept idea, detail offer (greenery, landscape elements), and where the borders of detailed technical drawing with planned elevation marks will be drawn. The method used is step-by-step guiding of students through the process of planning. This kind of public space planning and design project are part of the landscape architecture program in Latvia for more than 25 years, but new technologies and the amount of information available for students are making them more confused somehow. There is also a need for 3D models and detailed technical drawings to connect solutions and visual solutions. Knowledge students are gaining through this study course is specific research and design principles of the respective areas and examples of good practice. Skills are more with the aim to give students the ability to design an area according to its functions and specific aims as public space could be with different, complex, and also changing seasonally functions. Additional task for students is to identify the most suitable designing principles, as well as plan expected management techniques.

## ID 19: Learning from Comparing Scales

Mr. Karel Vandenhende

KULeuven, Leuven, Belgium

Are there specific problems to be addressed at certain scales? Or should each problem be approached using a variety of scales? Leon Battista Alberti introduced the analogy between different scales in his ten books (Alberti, 1452). His famous sentence has been picked up several times since then in architectural theory.

But is the analogy really there? In this research, we approach the analogy between scales by checking if the elements of the city, as defined by Kevin Lynch (Lynch, 1972) can also be recognised on a smaller scale? Among Lynch, people form mental maps of their surroundings consisting of five basic elements: paths, edges, districts, nodes, and landmarks. Using a study of literature we find several suggestions for similar elements on the smaller scale of a public place. There, these elements can be replaced for example by passages, borders, places, centres and public art.

But a more interesting conclusion is that investigating this analogy between scales, makes us look at the smaller scale in a fresh new way and changes the focus of the design assignment. Does a public place need a centre? Does it need a hierarchical design? Do we need art on public places? This strategy makes us curious to apply the same strategy in reverse as well. Which will be the important elements on the scale of the city if we transpose known important elements of the design of a public place to the scale of the city?

**ID 134: Material ecologies and the scales of entanglement**

Zaneta Hong

Cornell University, Ithaca, USA

Landscapes represent a stratum of human interaction comprised of programmed, assembled, and constructed surfaces for occupation. In designing the ground, we transform, shift, adapt its surface materiality including its shape, slope, and aggregate. As landscape architects, we actively participate in this expansive reorganization of Earth's matter, energy, and form at multiple scales. While the output of spatial interventions tends to manifest as intricate environments and isolated artifacts, their formations are generated from an entanglement of complex ecologies, geologies, and technologies. Whether we consider the products of these exchanges biotic or abiotic in nature, simple or complex in computation, the conditions that manifest their formal and performative qualities are not bounded to any fixed or finite territory – their environmental impact influences an ecosystem of oceans, forests, quarries and an economy of commodification, consumption, depletion.

In a research seminar at Cornell University, students engaged material definitions of terra firma as its site and program of inquiry. Through material-based, material-scaled drawings, mappings, experimentations and prototyping, students re-defined and re-constituted what we commonly refer to as ground – designing and constructing physical profiles for its subsurface, surface, and super-surface. Students investigated materials beyond a single state, to incorporate multiple territories and multiple scales, along with their socioeconomic and environmental implications in order to better understand the scope of landscape practice and representation.

**ID 160: Teaching and learning experiences from the module of "Scalable processes in Built Environment"**

Outi Tahvonen, Hannu Äystö

Häme University of Applied Sciences, Hämeenlinna, Finland

The main components of urban green are water, soil, and vegetation. These components form an interlinked system that exists throughout urban landscapes and land-use categories, and the system continuously adapts to the urban-specific changes. At the site scale, the designer modifies the system by soil specifications, introducing nature-based solutions, and using sustainable urban drainage solutions. However, at the city scale planning defines the base for the system when identifying ecological corridors, master plans for stormwater management, and strategies to manage impermeable surfaces. Students need to be able to see themselves as part of a multidisciplinary professional community that defines and manages urban green. Students gain the capacity to work in a genuinely multidisciplinary team but also emphasize their knowledge of urban green, ie vegetation-related processes, concepts, and stakeholders at different scales.

The Scalable Processes in Built Environment module (15 ECT) has been held at Häme University of Applied Sciences for three years. Processes refer to the cycles of water and nutrients, the succession of urban vegetation, and processes in soil. The module aims to provide students with an overview of the profession and its key concepts in the first year of bachelor's studies. This paper describes the structure of the module, the experiences of teachers, and the feedback of students about the module. Based on the results, the scalable processes may be challenging for students, but their significance will unfold much later than during the module feedback. For teachers, a completely new module offers an opportunity to reformulate and develop their core competencies in a changing environment.

**ID 200: 'Landscape': a small word encompassing a diverse scale of interpretation**

Ms. Jess Bryne-Daniel CMLI  
Leeds Beckett University, Leeds, United Kingdom

Our landscapes, at all scales, are facing tectonic change in the next generation. From addressing climate change to encouraging greater local empowerment. From guiding the appropriate response to large scale landscape change associated with carbon sequestration to ensuring the health and well-being of the future users of the spaces we design are accommodated in our urban and residential environments. Some of these changes will result in large scale global effects, whilst others focus on specific locations at the smallest of scales. The changes will affect all landscapes from dense urban cities to remote wild landscapes and our marine environments.

There is a need to understand the potential contribution landscape architects can bring to these opportunities and consequently what landscape education needs to share to enable future landscape architects to tackle these issues with confidence. From providing a broad overview of the subject through to encouraging specialised research to ensure students are equipped with the necessary knowledge to ensure sustainable and meaningful interventions.

The poster aims to capture pertinent issues effecting change at global, regional and small scales in urban, transitional, rural and marine landscapes, highlighting potential synergies and conflicts. Interaction during the conference would provide the opportunity to explore these observations further, enabling delegates to contribute to provide an all-encompassing overview of the scales of change that landscape architects will need to understand to lead future design teams in professional practice.

Through interrogation, discussion and contribution to the content of the poster, we can explore where the greatest scale of change will occur in our landscapes and highlight appropriate teaching that needs to be included as core subjects when planning our future course structures as well as identifying existing research to support future landscape architects in our changing world.

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#### **Track 4: Context matters**

Chairs: Jeroen de Vries, Prof. Dr. Davorin Gazvoda

#### **Context Matters**

Jeroen de Vries  
LE:NOTRE Institute

Landscape architecture (LA) is in various stages of development all over the world. In 2018 the profession was redefined by IFLA World: “Landscape architects plan, design and manage natural and built environments, applying aesthetic and scientific principles to address ecological sustainability, quality and health of landscapes, collective memory, heritage and culture, and territorial justice. By leading and coordinating other disciplines, landscape architects deal with the interactions between natural and cultural ecosystems, such as adaptation and mitigation related to climate change and the stability of ecosystems, socio-economic improvements, and community health and welfare to create places that anticipate social and economic well-being” (IFLA World, 2018).

This definition points the way to which competences need to be acquired by LA graduates, especially on a master level. How graduates accomplish

this can vary, either by a combination of a bachelor and master programme, continuous education leading to a master title or a master where graduates of other neighbouring disciplines can ‘convert’ themselves to LA.

The definition marks the evolution of the profession towards an integrated landscape approach, that includes systems thinking, analysis of driving forces and processes and addressing current challenges such as climate change and well-being of people.

European standards for architects influenced those for LA: requiring an additional post graduate traineeship and continuous professional development (CPD) for registered landscape architects. The introduction of the post graduate traineeship with subjects relating to entrepreneurship, contracting, laws and regulation, led in several countries to reducing the internship period and business-oriented subjects in regular education. The national requirements for CPD are still quite basic or non-existing.

Standardisation of programmes is not called for, because landscape architects need to be able to work in different national context where the kind of tasks and their role in planning varies. Moreover, it is important for the profession that schools have different profiles and landscape architects can find their niche in the realm of planning, design, management, and project implementation. However, a common core with a landscape system approach and being able to work across scales is essential for every programme.

#### **Diversity and context of the programmes**

IFLA Europe (2020) composed an overview of schools and programmes. In Europe over 90 insti-

tutes of higher education (HEI) offer 178 landscape programmes. Most (85%) cover both landscape architecture and planning; a small number offer mainly landscape planning (3%) or a broader or more specialised curriculum (11%). The division between bachelor programmes (43%) and master programmes (46%) is almost equal. In some countries (Bulgaria, France, Norway, Poland, Spain and Sweden) a 4- or 5-year integrated master programme is offered, which is 6% of the courses. There are still a number of pre-Bologna diploma courses (mostly 4 years programmes) offered in Germany, Poland and the UK. The profiles of the HEIs are changing: e.g. agricultural universities transform into universities of life science with a broader scope of programmes and faculties. LA courses are mainly embedded in universities of life sciences/agriculture/forestry/horticulture (43%) with a focus on environmental subjects, planting and vegetation. Some 29% is positioned in the context of technical universities and faculties of architecture with a focus on design, perception, and project implementation. A small number of courses are part of an art school (4%). The context of the institutes offers students different choices in elective subjects and discourse with fellow students. In recent decades the content of the programmes is completed with subjects that were missing in the original programme. Technical universities added ecology, vegetation, planting; horticulture schools integrated courses in urban planning and open space design; art schools included materials, construction techniques and planting design.

The development of the programmes is greatly influenced by academic staff who also function in professional practice. So in countries where the posi-

tion of the profession is still restricted to project work and not open to strategic planning or designing green infrastructure, the education is more focused on projects and less on landscape systems and urban contexts. However there is an important influence by the networks of ECLAS and IFLA Europe in seeing future roles for landscape architects and developing the programmes accordingly. Here there is a difference between the north of Europe, where the profession is well established but not regulated, northwest Europe where landscape architects have a well-established position and role compared to other planning disciplines, and some of the countries in the south and centre of Europe where activities are more regulated and dominated by architects, engineers and foresters. All over Europe is, also with commissioners, a growing awareness of the capacities of landscape architects, there is a call for professionals with expertise in landscape ecology and landscape approaches to current challenges such as climate change, and water management.

### **The development of a Common Training Framework**

In 2021 InnoLAND conducted a collaborative process in which some 60 landscape architects from academia and professional practice took part, representing 24 national LA organisations and programmes across Europe. In 2021 the principles of the CTF were almost unanimously approved (90%) by the ECLAS General Assembly. The Executive Council of IFLA Europe discussed the principles of the CTF. There is still a discussion going on regarding the 50 % of study time allocated to design studios. The contents of the draft CTF were presented to the IFLA Europe General Assembly in 2021.

In spring 2022 the partners of the InnoLAND project and IFLA Europe delegates tested to what extent the draft proposal for the CTF complies with the standards for the qualifications of landscape architects: in countries where the profession is regulated (the Netherlands, Hungary), where there is no regulation (Finland, Lithuania), and where there is neither regulation nor recognition (Spain). The testing showed that the CTF should be formulated in more general terms and that the draft ((Vries, de et al 2021) ) that was presented to ECLAS and IFLA Europe should be split in a core text with the states quo and advice for future development of the programmes.

### Summing up

LA programmes need to attune their profile to the IFLA World definition. The core CTF defines the main competences and will be accompanied by a set of guidelines for subjects, the balance between practice-oriented learning and academic competences, internships and traineeships and future oriented transformative competences (UNESCO 2017).

Bachelor graduates should acquire basic competences in all fields of knowledge that are defined in the core CTF. Master programmes need to focus on an integrated landscape approach with system thinking, multidisciplinary teamwork, addressing current needs of society and competences for research by design.

The national context and the characteristics of each HEI should allow for diversity of programmes offering a profile both to the programme and the graduate, who can strengthen this by elective subjects.

Programmes should have a balance between practice-led courses (studios, project work, internships) and theoretical courses. For acquiring professional qualification a post graduate traineeship, tutored by a registered landscape architect and completed by a final examination by a national examination is essential. Schools or combination of schools might offer such a programme.

The establishment of a CTF is feasible since ECLAS approved the principles and IFLA Europe takes part in the development within the framework of the InnoLAND project. The EU does not seem inclined to formally establish new CTFs. However, even without formal establishment by the EU it will function as the main benchmark for LA education and professional recognition of programmes and will be used by peer-review committees in the framework of validation and accreditation of education. The common standards of the CTF will form the foundation for updated recognition procedures of IFLA Europe and ECLAS guidance. This will strengthen the position of all schools and LA graduates in Europe.

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## Presentation abstracts of track 4

### **ID 52: Expanding Horizons on historical political context, international networks and the role of sustainability in landscape architecture. - Findings from "Routledge Handbook of Landscape Architecture Education"**

Dr. Stefanie Hennecke, [Dr. Diedrich Bruns](#)

University of Kassel, Kassel, Germany

Presenting studies from 30 countries worldwide, the Routledge Handbook of Landscape Architecture Education chronicles two hundred years of educational practice including theoretical reflections on educational research. The handbook editors examine findings gained from the project and discuss three interwoven challenges: 1. Growing awareness of our history, 2. International communication and networks, and 3. Alignment with Sustainable Development Goals.

The first challenge is to decode regional and institutional narratives that appear when studying education history, and the history we teach. Which are the standards for successful graduation and accreditation? Which resources do institutions make available, under which conditions and to what end? Which ideas and motives, racist, colonial, gender, and other, may we identify, placed in a historical and contemporary context? Which genealogy of ideas and patterns of injustice might be in effect today, and what educational action is required?

The decoding of narratives becomes possible by taking international comparative views. We find that, what locally and internally might appear as inevitable developments, particularly when looked at through sets of institutional glasses, might become recognizable as parts of a greater picture when observed internationally and from the outside. By way of developing international comparative perspectives, the very concepts of landscape, design and planning start shining in new lights. We are learning how several ideas and ideologies no longer hold in the context of policies aiming for justice, reconciliation, and decolonization.

Action is required and, by extracting knowledge from education history research, we might aim to formulate paths leading towards Education for Sustainable Development. Findings from the Handbook suggest which educational approaches have been in place for a long time. We discuss how to further explore and build on successful approaches. The question needs addressing is where landscape architecture stands internationally when aiming to align education agendas and practice with sustainability goals.

## ID 202: Landscape character: Common good across scales

Mrs. Nevena Vasiljević

University of Belgrade, Faculty of Forestry, Department of Landscape Architecture and Horticulture, Belgrade, Serbia

Landscape planning and design are activities that imply a mental creation of space and the intention to change the landscape from the existing to the desired one. Today, we can talk about the demands of society that landscape planning and design deals with and the main challenges which include, among other things, global warming, demographic changes, the energy crisis, and the loss of biodiversity.

Long existence has not solved the following academic dilemmas: *What is special within landscape architecture theory?* Which profession deals with landscape planning? In the time of spatial and urban planning crisis, arguments are sought by which landscape design across scales can and should meet the challenge of spatial and urban development in the 21st century.

The paradigm of landscape architecture, from McHarg's design in harmony with nature and not against it, Ahern's Novel urban ecosystems to Steinitz's Geodesign, is based on resilience thinking and collaboration within different contexts. Consulting the discussions on this topic, I advocate for the thesis that the landscape can be defined as a common good, and landscape development, as a bearer of cultural identity, should be discussed as the interest of all participants in the planning process.

The landscape perspective in planning and policy is initiated and promoted by the European Landscape Convention. In addition to a theoretical reflection on the principles of landscape planning and design, in this paper, I would like to *discuss the role of context in the implementation of the ELC in Serbia as a premise of the modern concept of landscape architecture*. Based on the contributions to the Serbian Government Counsel of Landscape Convention Advisers activities and on my experience in landscape architecture education and practical research, I want to discuss the implications/influences of the thesis: *landscape character as a common good*.

**ID 83: The European Master in Landscape Architecture: Examining pedagogical approaches on European dimension in large-scale landscape design.**

Prof. Karin Helms

AHO, Oslo, Norway. ESALA, Edinburgh, United Kingdom

The European Master in Landscape Architecture (EMiLA) was launched ten years ago, by five schools/universities in Europe: the Amsterdam Academy of Architecture, Ecole Nationale Supérieure de Paysage, Leibniz Universität Hannover, Edinburgh College of Art and the Universitat Polyècnica de Catalunya. We are willing to present at ECLAS's conference the experience of this shared curriculum. The primary objective of the participants was to align teaching and professional education by drawing on the strengths and authority of our shared European perspectives. We undertook this work with high regard for The European Landscape Convention, believing that educators had an essential and potentially impactful role to play in meeting the aims of the convention. We observed, that within major international competitions, the Landscape Architectural knowledge applied to the design of major infrastructural projects, in the anticipation of sea level change and in addressing flooding issues and coastal resilience was at that time missing. Our European landscapes do not stop at national borders even if the national and historical policies have been very important in each nation. As the curriculum developed we set out to address significant cross-border and large-scale landscape questions: How should we build our European energy-system? How can we manage flood risk and the resilient planning of coasts through landscape architectural practice and policy making?

We observed within major international competitions, the Landscape Architectural knowledge applied to the design of major infrastructural projects, in anticipation of sea-level change and in addressing flooding issues and coastal resilience was at that time missing. We set up an 'Intensive summer school' to experience these questions.

We would like to develop and deepen the grounding notions and methodologies we experienced. We hope by this way to contribute to: *the current status of the joint efforts for EU recognition through education common standards?*

**ID 67: Not just 'green...' and 'blue...', it is time to focus on: Invisible Infrastructure**

Prof. Richard Stiles<sup>1</sup>, Prof. Elke Mertens<sup>2</sup>, Prof. Nilgül Karadeniz<sup>3</sup>

<sup>1</sup>TU Wien, Vienna, Austria. <sup>2</sup>Neubrandenburg University of Applied Sciences, Germany.

<sup>3</sup>Ankara University, Ankara, Turkey

Any successful profession and discipline is embedded in a wider societal context upon which its ultimate success depends. Established disciplines and the professions which they serve each sit at the centre of a networked ecosystem of close interrelationships across a wide range of different domains, reaching far beyond the confines of the discipline itself.

It is these supporting ecosystems, as much as their academic credentials, that ensure the continuing visibility of these disciplines and maintain their presence in the public consciousness. But at the same time the infrastructure supporting these ecosystems itself remains largely invisible.

Invisible infrastructure can be divided into two groups: those domains which influence the discipline within its immediate academic environment; and those affecting the profession as part of society as a whole. Despite the fact that solid progress has been made within the academic field, and today landscape architecture academics can sit on faculty boards and in university senates alongside their peers from long established academic and professional disciplines there is still much to be done, both to improve the situation here, as well as to strengthen the role of landscape architecture in its wider societal context. However, the first important step towards addressing this challenge must involve becoming aware of the current shortcomings of the situation in which landscape architecture finds itself, by drawing attention to what is at present effectively invisible.

So, although landscape architecture has justifiably been celebrating a number of important academic anniversaries over recent years, in comparison for example to the venerable professional disciplines of medicine and law, it is not just a relative newcomer in the academic world, but it still also enjoys only limited visibility in the wider societal arena. Furthermore, this is the case at a time when the discipline ought to be better placed than most to contribute to ameliorating the impacts of many of the current crises with which society is today confronted.

This ought to be a cause for concern, and so in considering what might be done, alongside our continuing championing of green and blue infrastructure, it is surely time to turn our attention to understanding the sort of 'invisible infrastructure' which lies behind so many other successful fields. This paper will introduce the idea of the 'hidden ecosystems' – the invisible infrastructure – behind successful disciplines/ professions, and begin to reflect on how we might nurture them in the context of landscape architecture.

**ID 142: Connecting national and international scales of landscape architecture standards: a draft proposal for a common training framework**

Prof. Gintaras Stauskis<sup>1</sup>, Dr. Roxana Triboi<sup>2</sup>, [Dr. Jeroen de Vries](#)<sup>2</sup>

<sup>1</sup>Vilnius Tech, Vilnius, Lithuania. <sup>2</sup>LE:NOTRE Institute, Wageningen, Netherlands

In 2021 the InnoLAND project developed in a collaborative process a proposal for a Common Training Framework (CTF) for landscape architecture. Some 60 landscape architects from academia and professional practice took part in this process with representatives of 24 national landscape architecture organisations in the EU and of landscape architecture programmes across Europe. The contributors are located in 24 EU countries, 6 other European countries, and some from outside Europe. The 2021 General Assembly of ECLAS accepted the principles of this draft and it was presented at the General Assembly of IFLA Europe. The CTF defines the profession, and the core competences, subject-specific competences, and transversal competences for landscape architecture. It also states principles for post-graduate traineeships, continuous professional development, and compliance with an international code of ethics.

Qualifications gained under a CTF may be recognised automatically across the internal borders of the European Union, but in any case, an agreed CTF for Landscape Architects would usefully act as a benchmark document for both teaching and professional recognition across Europe.

The creation of a CTF for landscape architects will support and contribute to the EU's goals of increasing professional mobility, safeguarding consumers, and ensuring an equitable distribution of skills and expertise across EU member states. The content of the proposed CTF provides a template for national professional bodies and/or competent authorities to engage with the EU Commission. It supports the development of higher education by including transformative competences for sustainable development.

This paper presents the outline of the draft proposal for the CTF, the results of pilot testing this in partner countries. It shows to which extent the national regulations in partner countries comply with the proposed CTF and which adaptations may result from the pilot. The paper also discusses the feedback by neighbouring disciplines on the draft.

**Poster abstract of track 4****ID 153: The intersection of landscape management and maintenance**

Outi Tahvonen, Sari Suomalainen

Häme University of Applied Sciences, Hämeenlinna, Finland

The municipal governance and development of urban green spaces build on the processes in governance, management, and maintenance, although they are inconsistently used and their meaning varies in the different contexts. The definitions are clear e.g. in the fields of engineering and economic sciences. Maintenance refers to the efforts taken to achieve keep the condition and performance of a machine operating, while management refers to the coordination and administration of resources and processes to achieve desired goals. Governance oversees the management of structures and processes and represents norms, values, and rules of the game in the organization. However, the living environment and especially continuous plant growth forces us to re-think the content of these three concepts in the field of landscape and green industries. Is the maintenance of a plant only the operations that preserve it in the original format or should we rather provide good growth in varying conditions? If the latter, is it then actually management that adapts and optimizes the conditions for the growth? And what is the role of governance to support vegetations growth?

Management in green areas, gardens, and parks refer commonly to this adaptive support of growth at the operational level (1), (2), (3), (4), (5). In addition to these operational activities, such as irrigation, fertilizing, mulching, and pruning, management comprises generally resource allocation of staff and machinery, and site-specific, long-term planning and strategies for maintenance (6), (7). We reviewed a set of documents, guidelines, and manuals to formulate content-driven descriptions for the governance, management, and maintenance of urban green and greenery. Our proposal recognizes the two-fold nature of management as strategic management seems to integrate governance and tactical management to maintenance. This proposal may support further research and practice to introduce User-oriented urban governance and management that Jansson and Randrup claim (2020).

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### Track 5: Beyond the field

Chairs: Assoc. Prof. Dr. Tijana Dabović,  
Dr. Tomaž Pipan

#### Beyond the field seen by a learning spatial planning theorist, geodesigner and a tourist in the human behaviour disciplines

Assoc. Prof. Dr. Tijana Dabović

The period of specialisation in academia and governance has led to their enhancement, but also to entrenched and parochial fields of research, decision-making and action. However, as it was already recognized in the past – complex, multifaceted problems societies face cannot be solved by one discipline, sector, or on one scale, by one actor. Currently, finding and implementing context-based solutions and opportunities for *our common future* demands urgent and savvy understanding about which fields need to be interrelated on which scale and who, where and when needs to go beyond their field to make the necessary encounter with others. At this ECLAS, we will try to find potential paths of thought to answer the question: What does “beyond the field of landscape architecture” entail in 2022? Consequently, we need to answer the questions: what is the “field”, what does “beyond” mean, and how it can

lead us to the points of encounter? However, instead of exploring these questions for our spatially related disciplines of planning and design, we will go elsewhere – beyond our fields in search for some inspiration and possible guidance.

To be quite honest, I will take you on a “detour” which was initiated by my frustration built around the unknown field of spatial planning, its position and links to other disciplines. The need to resolve the frustration and a recent positive experience in doing research on land use change with a psychologist made me curious about the fields of human behaviour. After some literature review and an intensive search on YouTube for Andrew Hubermann’s podcast, the algorithm offered me videos with Robert Sapolsky’s talks and interviews. His lecture on *The Biology of Humans at Our Best and Worst* given in 2017<sup>1</sup> was particularly inspiring. Please, let’s jump over this fence.

At the beginning of the lecture, Robert Sapolsky, a professor of biology and neurology and neurological sciences at Stanford University, asked this question: Why did certain (human) behaviour happen? In order to understand the context and drivers of a certain behaviour triggered by the brain, Sapolsky used the units of time as a framework for drivers’ analysis and employed different scales and methods from different fields of research to find the multi-faceted answers. He showed how neurosciences analysed the activity of the brain one second before, but also seconds to minutes before when brain was influenced by the sensory apparatus, information and environment stimuli. Then he presented some findings from neurosciences with some studies from endocrinology, biology and psychology to explain how and in which context hormones affected the brain

hours to days before. He went further back in time to weeks or months, back to adolescence, to childhood and the fetal life, back to the fertilized egg, to decades, to millennia and to millions of years back before the behaviour happened searching for a rich, complex answer to the question why. By going back in time, in each time frame, he pointed out new drivers of behaviour e.g. neuroplasticity, experiences in different stages of person's life, genes, neurotransmitters, culture, ecological factors, the evolution of humankind. Each driver performed on a different scale and was analysed in different fields of research e.g. psychology, and behavioural aspects of biology, sociology, social and cultural anthropology, economics, geography, law, psychiatry, and political science. So, even though he went *beyond*, Sapolsky never actually left the field of neurosciences. The question was always about the brain activity that triggers particular behaviour and the answer was always about the interaction of nature with "nurture". Even more so, by knowing that drivers which trigger "inappropriate" behaviours can change and that free will does not exist, he sees the current criminal justice system in the USA inadequate and advocates for its reform.

I find Sapolsky's use of time frames for indicating the needed knowledge co-production and the resulting decisions very useful for understanding what *beyond the field* could entail. We can use this example to ask our own questions and encourage discussion. For example, is our field supposed to produce knowledge for the decision-making process and action towards future land use on individual parcels, in neighbourhoods, settlements, natural areas, regions, territories, biomes and our planet? If not, what is our field? Will the research question "Why did this partic-

ular land use occur?" help us understand which drivers perform on which scales and during which time frames?<sup>2</sup> Furthermore, could this question indicate necessary collaborations with other similar fields of research, decision-making and action towards the needed land use in *our common future*? Is the work of an academic in changing policies and laws according to the best of his/her knowledge an act *beyond the field* of academia or not?

Whatever we might use as an inspiration, if going *beyond the field* is necessary; we need to answer all the important questions to make sure we do not get lost.

<sup>1</sup> The lecture and other relevant information is available at <https://www.youtube.com/watch?v=GRYc-SuyLiJK>

<sup>2</sup> Is time as space nested, instead of linear?

## Presentation abstracts of track 5

### ID 150: Planetarity: Landscapes of Double Consciousness

Dr. Tim Waterman<sup>1</sup>, Dr. Ed Wall<sup>2</sup>

<sup>1</sup>Bartlett School of Architecture, University College London, London, United Kingdom.

<sup>2</sup>University of Greenwich, London, United Kingdom

In 1903 W.E.B. Dubois elaborated the idea of double consciousness in his *The Souls of Black Folk*. Black Americans, he argued, were forced to see the world and themselves through the eyes of a white supremacist society. The idea of double consciousness has since been enriched by queer theory, feminism, gender studies, and more, with 'triple consciousness' and other framings added to and enlarging Dubois's original theory. In this paper we argue that landscapes are likewise perceived and experienced in their plurality, through double, triple, multiple consciousness. Landscapes are the scenography of earthly power and financial might, but also the dialogic milieu of everyday lives. These are in conflict, but also result in hybrid formations as well as contestation and resistance. All landscapes in the world now express this multiplicity, whether as the result of settler colonialism, or the ways in which the same forces of imperialism transformed (and continue to transform) lives and landscapes at colonialism's centre. In this paper we map two particular poles of understanding, landscapes of *globality* and *planetarity*. We explore globality as cartographic, imperial, and employing the language of colonialism, plantation, emparkment, and enclosure. In contrast we argue that planetarity is more dialogic, relational, and expressed in commonality, sharing, care, and management. While we recognise these two faces of landscape are in conflict, we contend that they also exist simultaneously in the same landscapes, often sharing the same consciousness, looking out through the same eye sockets. Understanding this not just as a duality, but as a trialectic enfolding hybrids and mutations, becomes a tool for working and thinking with all landscapes more effectively.

## **ID 29: Scales of West African Dimensions**

Dr. Chrili Car

Chrili Car, Brunn am Gebirge, Austria

Landscapes change immensely in this era called the Anthropocene. When, gradually, the sea takes away houses, the village where you grew up continues to exist only in your memories. Where beliefs in the spirits of the earth fade, sacred groves are the last of their kinds. The face of huge water bodies changes with the construction of artificial islands. In West Africa, humankind increasingly informs landscapes, but landscape architects are rarely involved in the most drastic transformations of the land. From artistic flash mobs, plant essences to intercontinental trajectories, 'Scales of West African Dimensions' seeks to understand transformative forces by listening to voices on various scales - from global shifts to microscopic spatial impacts as kaleidoscope of simultaneous stimulating spatial agents of West African dimensions.

## **ID 122: En Route: a new understanding of being physically and virtually on the move**

Ines Prehn, Christopher Jutz, Prof. Dr. Kai-Michael Griese, Prof. Dr. Karsten Morisse, Prof. Dr. Sandra Rosenberger, Prof. Dr. Johanna Schoppengerd, Prof. Dr. Henrik Schultz  
University of Applied Sciences Osnabrück, Osnabrück, Germany

When the ECLAS Conference took place in 1972 western societies were undergoing profound change: They transformed from industrial to postindustrial societies – the so-called service societies. 50 years later, the knowledge society is emerging: Knowledge is considered the key resource of this era. Digitalization and widespread dissemination of ICT allow information to be obtained anywhere anytime. This has severe implications for individual lifestyles and everyday practices. Different aspects of living, learning and working are no longer bound to physical limitations but can be enhanced by or even transferred to the virtual space. So being on the move today means travelling in hybrid spaces. We call this the space and practice “en route”.

At the University of Applied Sciences Osnabrück we explore the following questions:

- What does “en route” mean and look like in landscapes of higher education?
- How is it perceived individually?
- (How) can landscape architecture shape it?

Our transdisciplinary research project EN ROUTE aims to meet current challenges at universities (e.g. digitalisation, sustainable development) with a comprehensive understanding of space and practices “en route”. In a transdisciplinary process, researchers from various disciplines – landscape architecture, geography, urban planning, business administrations and marketing, energy technology and computer science – develop concepts and strategies for sustainable and digital mobility in higher education. New “EN ROUTE” types provide insights into the individual production and utilization of spaces “en route”.

The campuses of the University of Applied Science Osnabrück as well as the virtual and physical space network of its members serve as research example. Initial findings will be presented at the conference. While the ECLAS conference in 1972 focused on physical scales, landscape architecture has to reflect them critically and ask: What could be an innovative understanding of spaces “en route”?

### **ID 34: Courage to leave gaps in landscape architecture education**

Dr. Ir. Inge Bobbink

TU Delft, Faculty of Architecture and the Built Environment, Delft, Netherlands

Digitalisation in landscape architecture education has changed the assignments students receive, how they work, are supervised, and their learning output. During the 27 years I have been teaching, design assignments have become more complex; due to increasing knowledge and information gathering, the pressing challenges that society faces, and the vast possibilities that digital tools offer. As a result, the discipline changed from a design-oriented practised, coping primarily with questions on aesthetics of space, to a field expected to contribute to solving today's problematic relationship between humans and nature using the most advanced digital data and tools. These digital tools, like the hand drawings, need much practice and are not always content-driven since the produced images look polished, often not leaving an opening for discussion.

Nevertheless, the length of study has not increased; quite the contrary. Therefore, because of the expansion of the discipline, educators must be selective about the educational program they offer. At TU Delft, for example, the master track of Landscape Architecture focuses on design. In the first year, the program strictly teaches disciplinary knowledge and skills and challenges the students to become critical thinkers in their graduation year. Students themselves formulate their graduation assignment within an offered research topic. To do so, they must reflect on their discipline, knowledge and skills and question every step they take. We consciously ask them to leave gaps and tell them to limit themselves. Other schools focus on other topics, and their students gather different knowledge. In the Netherlands, three Landscape Architecture schools provide three various programs. Ideally, all schools cover the discipline's breadth based on the general fundamentals of Landscape Architecture. After graduation, our alumni are ready to contribute to disciplinary, interdisciplinary, or transdisciplinary collaborations to solve complex assignments and create new healthy environments open for change.

## **ID 82: Transdisciplinary knowledge production: From ideal to driving force**

Assoc. Prof. Ranja Hautamäki, Postdoctoral Researcher Tiina Merikoski  
Aalto University, Espoo, Finland

Transdisciplinarity – the collaboration of diverse disciplines and non-academic stakeholders in knowledge production – is vital for addressing the most complex questions, such as climate change. In urban planning, landscape architects hold a key position in facilitating the transdisciplinary process and in engaging diverse stakeholders. However, despite the potential, transdisciplinary practices still require improvement in order to efficiently respond to pressing global questions.

In this paper, we address the barriers of transdisciplinarity through two case studies. First, we examine the findings of a study in which 35 planners and experts were interviewed on how knowledge integration materializes in their work. The second case study explores the co-creative and transdisciplinary practices of knowledge production between the key researchers of a multidisciplinary research project investigating climate change mitigation in urban areas.

The paper identifies several challenges concerning effective transdisciplinary knowledge production. In planning, knowledge creation remains siloed even though many cities have improved the dialogue between administrative units. In addition, the disciplinary differences in knowledge production create barriers for effective knowledge integration. Similarly, in research, the challenges lie in differing methodological standpoints, especially between natural and social sciences and the inability to step back from one's own discipline. Moreover, co-creative practices are considered time-consuming and difficult, especially, if no-one takes charge of facilitating the collaborative process and when conflicting interests exist. Therefore, while urban planning aims to integrate different objectives and knowledge, there is a risk that some of the knowledge is left as “an appendix” and is not included in the goal setting, scenario planning and the search for alternative solutions. Even if different stakeholders participate in the process, transdisciplinarity does not materialize effectively in the decision-making. If transdisciplinary knowledge production manages to overcome these barriers, it may develop from an ideal to a true driving force in both planning and research.

## **ID 27: A spatial quality framework to discuss design interventions for agricultural landscapes**

Michiel Bakx<sup>1</sup>, Sanda Lenzholzer<sup>1</sup>, Tia Hermans<sup>2</sup>, Amanda Krijgsman<sup>2</sup>

<sup>1</sup>Landscape Architecture and Spatial Planning Group, Wageningen University, Wageningen, Netherlands. <sup>2</sup>Regional Development and Spatial Use, Wageningen Environmental Research, Wageningen, Netherlands

Spatial quality is a complex concept which is interpreted differently depending on its societal, governmental or academic context. The range of possible interpretations for spatial quality may lead to miscommunication between different actors in debates about landscape interventions. This research therefore aimed to operationalize the so far ill-defined concept 'spatial quality'. The study focused on spatial quality in the context of agricultural landscapes, which require design interventions to become more environmentally friendly in future. By means of a literature review, a range of spatial quality aspects for agricultural landscapes was identified. The importance and completeness of these aspects according to different types of actors (farmers, recreationists, local inhabitants and experts) was then assessed by means of a survey, showing that abiotic quality, historicity and regional character were considered most important for spatial quality of agricultural landscapes. However, the importance attached to most spatial quality aspects varied mainly between farmers and other actor types. Overall, farmers attached more value to degree of openness, cues of care, profitability, local economy and less value to historicity, diversity, naturalness, recreational opportunities and biodiversity. In order to better take the interests of different actors into account, we recommend their involvement in the formulation and evaluation of area specific spatial quality goals. To this end, the spatial quality framework developed in this research can provide a basis for a shared language regarding the concept 'spatial quality'.

**ID 133: Recreational landscapes in the compact city: a challenge for landscape planning**

Amalia Engström

Swedish University of Agricultural Sciences, Uppsala, Sweden

Compact cities and urban densification are continuously promoted as means for reaching sustainable development, and as means for encourage healthy lifestyles. Despite this, aspects of public spaces and green landscapes may not be of highest priority even if such elements are crucial for healthy urban living. A particularly overlooked aspect is the access to, and provision of, outdoor recreational facilities, especially for active forms of recreation such as facilities for organized and unorganized sports. The aim of this project is to explore the interactions and tensions between outdoor recreation and compact city ideals in order to scrutinize the conditions for recreational planning within the compact city. The theoretical approach is socio-material and relational, arguing for the need of looking not just at planning policy, nor just at the physical landscape, but to look towards the complex and situated relations between place, history and urban policy in order to understand the dynamics with witch recreational landscapes change with time and context. The study is based in Sweden, where a strong historical legacy of recreational planning in the 1960's and 1970's are still present, forming recreational landscapes that still acts as the fundament for public provision of recreational facilities, and where urban planning are increasingly geared towards compact city developments. The empirical data for this study is multifaceted and consists of a heterogeneous collection of policies, interviews, place analyses and observations from two major case studies. One of the finding of the study points to the importance of careful contextual and historical sensitivity both when conducting research on compact urban planning initiatives, and when drawing out plans and strategies for planning. Finally, the project hopes to contribute to contemporary planning debates by drawing attention to the possibilities of reassembling recreational landscapes as socio-material complexes in contemporary and future planning.

**ID 156: NATURACT, a multi-disciplinary research project examining anticipatory projects through nature-based solutions in risk landscapes.**

Prof. Karin Helms, researcher Abel Crawford, Assoc. Prof. Elisabeth Sjødahl  
The Oslo school of Architecture and Design (AHO), Oslo, Norway

Our world and Norway face increased risk events due to climate change. The research project NATURACT seeks to develop three landscape-based transition plans using Nature-based solutions (NBS) for adapting to and mitigating climate change. The research seeks to investigate the hypothesis that NBS applied at a landscape level are a more cost-effective and resilient approach to addressing climate risk and providing other functionalities than just addressing risk. Key points is what will the large scale "landscape project/ intervention" have as an effect back on the climate? through a scale understanding.

NATURACT hypothesises that large-scale transformations in land use and land cover using NBS is an efficient and resilient approach to address vulnerable landscapes while reducing emissions, improving ecological functionality and delivering other benefits for the community and ecology.

There is awareness of the need for interdisciplinary work to succeed with climate adaptation, but it is a challenge to achieve this in practice. In order to accomplish this, NATURACT integrates the expertise and competence of various academic disciplines within risk management, ecology, earth systems science and landscape architecture and design, as well as explore community attitudes linked to landscape changes. NATURACT applies an innovative Systems Oriented Design (SOD) approach to cater to the interdisciplinary reach of the project and negotiate the complexity of the climate change impacts and solutions to be addressed. SOD is a skill-based methodology to understand, interact with, and design complex systems (Dudandi, 2020).

The research funded by Research Council Norway includes five Norwegian research organisations: Norwegian Geotechnical Institute (NGI) Norwegian Research Center (NORCE), Norwegian University of Science, The Oslo School of Architecture and Design (AHO) and Norwegian Institute for Cultural Heritage.

We aim to reveal the role of each discipline in this interdisciplinarity landscape research project and at which scales are we searching to propose creative NSB.

**ID 135: An eye-tracking study of the effect of green zones and car ownership on the attractiveness of the shared courtyards.**

Nadezhda Kerimova<sup>1</sup>, Pavel Sivokhin<sup>2</sup>, Diana Kodzokova<sup>3</sup>, Karine Nikogosyan<sup>4</sup>, Vasily Klucharev<sup>5,6</sup>

<sup>1</sup>Saint Petersburg State University of Architecture and Civil Engineering, Saint Petersburg, Russian Federation. <sup>2</sup>Department of Sociology, The European University at Saint-Petersburg, Saint Petersburg, Russian Federation. <sup>3</sup>Research Laboratory for Multi-Sensory Experience in Urban Environment, Faculty of Urban and Regional Development, HSE University, Moscow, Russian Federation. <sup>4</sup>Vysokovsky Graduate School of Urbanism, Faculty of Urban and Regional Development, HSE University, Moscow, Russian Federation. <sup>5</sup>Institute for Cognitive Neuroscience, HSE University, Moscow, Russian Federation. <sup>6</sup>Amsterdam School of Economics, University of Amsterdam, Amsterdam, Netherlands

Landscape architecture may cooperate with cognitive sciences to better understand the perception, cognition of inhabitants, and their behaviors in urban spaces. Accordingly, such approach enables landscape architects to design more environment- and human-friendly spaces. We used a cognitive (eye-tracking) approach to investigate the effect of greenery on the attractiveness of the courtyards of multistorey apartment buildings. Two interest groups—a group of people who owned a car and a group of people who did not a car—observed images of courtyards. Images were digitally modified to manipulate the spatial arrangement of three courtyard elements: green zones, parking lots, and children’s playgrounds. The participants rated the attractiveness of courtyards during hypothetical renting decisions. We investigated whether visual exploration and appraisal of courtyards differed between people who owned a car and those who did not.

Our study showed that the more people fixate on parking lots, the less positively they evaluate shared courtyards. Moreover, the longer people looked at green areas, the more positively they evaluated urban areas. Interestingly, this effect of greenery was significantly stronger for participants who owned cars than for those who did not. The results indicate that urban greenery may differentially affect the preferences of various interest groups. Importantly, our study confirmed that the longer people looked at green areas, the more positively they evaluated urban areas. Thus, not only the mere presence of greenery at courtyards but also the particular designs of green areas that make greenery more visually salient can effectively influence tenants’ decisions and preferences. The study further supports the idea that methods of cognitive sciences, such as eye tracking, could help landscape architects to study the visual processing of urban environments by various interest groups. Our results call for further studies of differences in the evaluation of urban environments by various interest groups.

**ID 138: The bird-friendly city: Interdisciplinary design research examining residential landscape typo-morphologies favorable to housing avifauna in the city of Toulouse, France.**

Assoc. Prof. Dr. Anais Leger-Smith<sup>1</sup>, Assoc. Prof. Dr. Anne Péré<sup>1</sup>, Assoc. Prof. Dr. Audrey Marco<sup>2</sup>

<sup>1</sup>Toulouse School of Architecture, TOULOUSE, France. <sup>2</sup>École nationale supérieure de paysage, Versailles-Marseille, France

This research evaluates the capability of urban fabrics from five different epochs to house birds in the city of Toulouse, France. Understanding the ecosystemic relationship between urban form, architectural typologies, biodiversity, vegetation type and structure requires an interdisciplinary approach. This presentation focuses on the tools that were used to collect specific knowledge to trigger a dialogue and formulate shared research questions with the objective of identifying urban forms favorable to avifauna. Our hypothesis is that landscape research has the ability to instigate collaboration between designers, the humanities and natural sciences. The first stage of our work describes urban forms through drawings (plans, sections) from the metropolitan scale, through the neighbourhood down to the scale of a private garden. This stage crosses disciplinary readings of the forms through a layered and iterative process: planners located the sites within the green infrastructure at the metropolitan scale ; architectural historians produced an historiography of the urban forms and architectural morphologies ; urbanists mapped urban composition and form ; landscape architects, ecologists and botanists collectively surveyed and mapped public spaces, layers of vegetation, identified plant species and ecological functions. Building on this descriptive stage, the second analytical stage cross-referenced the collected data. We established the spatial relationships between trees, vegetation, building facades, architectural and urban forms to measure the attractiveness of these landscape typo-morphologies to avifauna through ornithology and statistical investigation. We seek to illustrate the way different bird communities interact with this system by collectively drawing detailed cross-sections for each landscape typo-morphology at 1:250 scale. This graphic representation serves as a point of reference encouraging interdisciplinarity discussion. Throughout the process, workshops are organized with the local planning authority, decision-makers, designers, scientists and partners in the construction sector to re-think urban form in relation to the landscape typo-morphologies which are beneficial to avifauna.

## **ID 171: Participations of Different Disciplines- Examining the Development Process of Landscape Architecture through Academic Publications**

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

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

The world changes and becomes more global every day, so as the challenges it faces. The shift in the challenges from local to global creates the demand for the same shift in response mechanisms in every field. Landscape architecture is one of the main fields affected by this shift, as its main study focus is social and physical planning and design of the environment. Since the problems landscape architects deal with expand their context and scale, the process of generating solutions changes accordingly. To develop a suitable response to these problems, it has been realized that it is necessary to go beyond individual work.

This article aims to investigate this transformation process in the field of landscape architecture through a bibliometrics study. Thus, the scientific articles published in the 50-year periodical were scanned by using the landscape architecture-related keywords and topics, then categorized for further discussions. A 4-stepped categorization process supported by Regression Analysis via SPSS was followed in this study.

In the first step, the articles were scanned from the Web of Science(WoS) database with the keyword landscape architecture and categorized chronologically.

In the second step, articles involving the keyword of landscape and the multi-disciplinary, interdisciplinary, and transdisciplinary topics were examined. In order to understand the interplay between these disciplinary keywords, their dispersion along the time was discussed.

In the third step, "Europe" as a topic was added to the analyzing system to discuss the current situation in the continent.

In the fourth step, the findings of previous steps, author and affiliation numbers of the articles, and the environmental break-up points were superposed to discuss the relationships between them and define the scope of vision of the landscape architecture profession.

**ID 161: What is considered as high aesthetic value of landscape architecture and how is it believed to be achieved? Architect Sweden's Landscape Architecture Awards - a critical examination**

Josephine Norrbo

Swedish University of Agricultural Sciences, Department of Urban and Rural Development, Uppsala, Sweden

Aesthetic values are lifted up in Swedish architecture policy and in New European Bauhaus as an important part of building a sustainable and inclusive future. But what is considered as high aesthetic value of landscape architecture, and how is it assumed to be achieved by landscape architects today? Architectural awards are one powerful agent in creating recognition and define value in the field. This paper in progress explores what assumptions leading actors within the landscape architecture field hold about aesthetic value of landscape architecture and how high aesthetic value is achieved by using Architects Sweden's Landscape Architecture Award as case study. Using critical discourse analysis as method, forty texts composed by the annually changing award juries from 2011-2021 were examined and discussed.

**ID 26: MicroLandscapes: Lessons in multi-scalar green infrastructure design from the discipline of microbial ecology**

Elizabeth Stapleton

Iowa State University, Ames, USA

As urban areas increasingly turn to green infrastructure solutions for managing stormwater and improving urban habitat and livability, microbial ecology offers a lens for landscape architects to expand their scales of inquiry. Landscape architects, already trained to think across scales, thoughtfully design individual bioswales, green roofs, and rain gardens, and integrate these site-scale designs into city-scale urban stormwater networks. Yet beneath our feet, in the engineered soils of these sites, emergent and undesigned soil microbiomes teem with life at a micro-scale largely unconsidered by landscape designers and planners.

Microbial ecology is the study of the interactions between microbes such as bacteria and fungi and their surrounding environments, including plants, animals, and humans. Like landscape architects, microbial ecologists consider environmental systems across scales, from the single-celled bacteria to the global soil system. Soil microbes not only contribute significantly to urban biodiversity but provide critical biochemical functions such as nitrogen fixation and decomposition. Through collaborations with microbial ecologists, landscape architects have the opportunity to extend “design” to the micro-scale typically not explored in the studio, creating landscapes which promote microbial diversity and ecosystem function.

In this paper I explore the importance of cross-scale thinking in landscape architectural research through the lens of my three-year collaboration with a microbial ecology lab. Through this collaboration, I have explored the role that design and planning decisions such as plant choice and maintenance practices play in structuring green infrastructure microbiomes. Here, I argue that such interdisciplinary collaborations between scientists and designers are valuable not only for expanding landscape architectural research methods but for integrating scientific knowledge more directly into design and planning applications. By demonstrating a successful collaborative project between landscape architects and microbial ecologists, this paper asserts that interdisciplinary collaborations can expand the scope of landscape architectural research to scales previously unconsidered.

**ID 32: On the *Borderoadscape* and the *Landscape Syncope*: Conceptualization, Scale and Interdisciplinarity**

Dr. Efrat Hildesheim

Tel Aviv University, Tel Aviv, Israel. Technion IIT, Haifa, Israel

The notion of the *borderoadscape* conceptualizes the liminal-hybrid landscape of Israel's eastern border and Highway 90 – Israel's longest road (478 Kilometers) – which runs parallel and adjacent to the border. Building on a critical perception of landscape (Mitchell, 2002), the notion *borderoadscape* offers a way of perceiving the border, the road, and the landscape as a whole. It explores the intersection of power and landscape as a cultural practice, while further conceptualizing it as a mode of a *landscape syncope*.

The notion of the *landscape syncope* (Hildesheim, 2020) conceptualizes a mode of landscape performance, in which a topographical gap is related to a present-absent core predicated on perception, a visual-optical illusion and movement, and motivated by an unfulfilled desire related to a manifestation of power. The conceptualization of the *landscape syncope* draws on an interdisciplinary inquiry that binds the critical discourse on landscape and culture with landscape architecture, garden poetics, and art history. Hence, it is manifested on various scales and landscapes – land art/earthwork; the ha-ha in the English landscape garden; the Anamorphosis Abscondita in the gardens of Vaux-le-Vicomte; and Israel's *borderoad* landscape of Highway 90.

Both notions – *borderoadscape* and *landscape syncope* – pertain to critical discussion and address varied landscapes, from seemingly 'natural' ones to well-designed gardens. Bearing affinities to design and planning processes, this course of conceptualization concerns a range of landscapes, sites, and places. It includes the micro and macro levels and ranges from the national to the local, while simultaneously operating in a zoom-in /zoom-out mode. While drawing on the poetics of gardens, these interdisciplinary notions give rise to an ontological-critical discussion that goes beyond the limits of confined scales or disciplines. The presentation thus points to the significance of conceptualization and interdisciplinarity in widening the scope of theory in the discipline of landscape architecture.

**ID 185: DECODING COASTAL PARADOX. The transdisciplinary approach as a research method for an ever-changing landscape**

Maria Pina Usai

University of Cagliari - Department of Environmental Civil Engineering and Architecture,  
Cagliari, Italy

Over the last hundred years, a complex plurality of natural and anthropogenic tensions has characterized the coastline, making it somehow a “landscape par excellence” (Bellmunt, 2007). What makes the coastal landscape emblematic is its extreme instability, due to the dynamic interaction between processes constantly changing in space and time, whose origin and impacts vary from the global to the local scale, in a cyclic continuum of cause-effect. In the Anthropocene, this instability has grown exponentially: oceanic, atmospheric and terrestrial transformations due to climate change are evolving with increasing speed, causing extremely intense and significantly visible effects on the coastal zone (Alterman and Pellach, 2020), further pressed by socio-economic and geopolitical processes.

It seems clear that such a complex and dynamic landscape cannot be studied, designed and managed through linear tools and static solutions, and that the strategies developed so far in the framework of Integrated Coastal Zone Management, although multidisciplinary, are not effective if disciplinary boundaries remain impermeable.

The coast needs a flexible, highly experimental, transdisciplinary approach, capable of addressing what may appear to be a paradox: decoding an ever-changing landscape, which is apparently unmeasurable as its physical extension.

Within an international reference framework, the proposed contribution brings together the analysis of projects and experiences operating at the intersection between art, environmental and social science, architecture, cultural activism and citizen science, with the experiences of action-research developed by the author in the port city of Genoa and on San Pietro Island in Sardinia (Italy), in order to outline the potential of the transdisciplinary approach as a strategic methodological tool in the development of new critical paradigms and design solutions to address the multifaceted challenges of coastal sustainability.

## **ID 157: Defining energy transition in landscape architecture**

Zita Szabó, Dr. Ágnes Sallay

Hungarian University of Agriculture and Life Sciences, Budapest, Hungary

Nowadays, one of human civilisation's biggest challenges is turning to carbon neutrality. The energy transition is the term that we identify as the process of turning to a zero-carbon state. However, this is not the first time in human history that an energy resource replaced another. During the planning and design process, our discipline integrates natural sciences and social sciences; in this case, landscape architecture has its meaning of energy transition.

The main goal of this research is to find out how landscape architecture can define energy transition. Does it mean only carbon neutrality or does the concept have many different layers with a broader interpretation? What knowledge can we integrate from natural and social sciences to understand the energy transition process in the landscape?

The research defines the frames of energy transition through examination of the natural system, socio-economic system and cultural system. We investigate physics focusing on Newton's laws, thermodynamics and the concept of exergy and entropy. Environmental sciences show in natural systems there is energy exchange inside the system and between systems. We identify the social and economic relations such as the role of energy or industrial ecology, as it is the root of circular economy, etc. To understand human behaviour our research investigates the cultural system that includes the material culture, cognitive norms and energy practices. Understanding other disciplines leads to finding energy transition's meaning in landscape architecture.

Energy transition does not only mean carbon neutrality. We can identify an endless number of natural and built systems in the landscape with energy exchange from object to regional level in time and space. In planning and design energy transition occurs between elements as part of physics, between ecosystems as part of environmental sciences, built energy systems as part of all disciplines, and these processes affect carbon neutrality.

## **ID 119: (E)Merging Scales: On Landscape in Architectural Education**

Assoc. Prof. Dr. Funda Bas Bütüner<sup>1</sup>, Assist. Prof. Dr. Gizem Deniz Guneri<sup>2</sup>

<sup>1</sup>Middle East Technical University, Ankara, Turkey. <sup>2</sup>Atılım University, Ankara, Turkey

The question of the disciplinary divide between landscape and architecture has formed a rich discussion ground from the late 20th century onwards. Various morphologies, concepts, and design approaches - both in theory and practice- have been addressed to blur the, mostly fixed, boundaries between the two disciplines. However, the potentials of the pedagogical ground are barely discovered for the disciplinary convergence. Hereby, this study argues on the promising contribution of landscape knowledge in architectural design education not only to form a creative design or research sphere but also to fuzzi the false boundary between them. Based on a teaching experience of must and elective landscape courses over ten years in the Middle East Technical University (METU) Department of Architecture curriculum, the study intends to reflect on the pedagogical field by underlining the necessity to exceed the limits of the intra-disciplinary approach. Given METU's constitutional, inspirational and innovative motive as an educational and Aga Khan Awarded environmental model established along with the second wave of modernism at the verge of east and west, the experience that derives from the educational program and the campus site ties into a broader discourse. That accentuates architecture's essential entanglement with landscape in (re)questioning and (re)forming operative scopes, scales, and means of spatial production.

Reflecting on landscape's promises in analyzing, conceptualizing, and modeling sites – tangible and intangible, animate and inanimate - throughout ranges of scales and spatial domains, the research addresses two conceptual fields – autonomy and time – as potential realms of piecing landscape knowledge and architectural education together.

## **ID 90: Transdisciplinarity in landscape architecture profession and education in Bosnia and Herzegovina**

MSc Emir Hasanagić<sup>1</sup>, Dr. Emira Hukic<sup>1,2</sup>, MSc Amila Brajić<sup>1,2</sup>, Dr. Sanela Klarić<sup>3,1</sup>,  
Dr. Mersudin Avdibegović<sup>2</sup>

<sup>1</sup>Association of landscape architects in Bosnia and Herzegovina, Sarajevo, Bosnia and Herzegovina. <sup>2</sup>Faculty of Forestry UNSA, Sarajevo, Bosnia and Herzegovina. <sup>3</sup>International Burch University, Sarajevo, Bosnia and Herzegovina

Cooperation of different professions is an indispensable part of all steps of planning, designing, and implementing projects dealing with open and green space. It involves a wide range of expertise, including social, medical, biotechnical as well as technical sciences skills. Seeing outside of the disciplinary framework and involving different stakeholders enables the creation of a more resilient and sustainable landscape. The importance of this approach is only partially recognized in the legislation framework existing in the landscape planning practice of Bosnia and Herzegovina. Also, it is insufficiently implemented in higher education curricula in landscape architecture.

This research attempts to answer the question of the presence and application of a transdisciplinary approach in education and practice in landscape architecture. We are interested in how landscape architecture engineering is perceived by other professional and scientific fields and how is recognized in relevant urban space planning-related legislation in BiH. In addition, we aim to answer how civil society is included in the processes of landscape planning. Also, we attempt to see to which extent landscape architecture curricula are transdisciplinary.

A mixed method of collecting- and analyzing qualitative and quantitative data, through a designed open-ended questionnaire for different professional field experts in BiH and Germany, was used. We identified urban space planning-related legislation and used the method of text analysis to identify the presence of landscape planning practice. Content analysis of the transdisciplinarity aspect was used for actual study programs in landscape architecture. In addition, we also used a focus group discussion to collect expert opinions on transdisciplinarity in landscape architecture.

The result of this research is important for improving profession and education in the field of landscape architecture engineering and for activation of transdisciplinary.

## **ID 201: Future proof teaching: lifelong learning in the Mixed Classroom**

Ir. Gabriëlle Bartelse, Dr. Ir. Marlies Brinkhuijsen, Sarah de Vries

Wageningen University & Research, Chair Group Landscape Architecture and Spatial Planning (LSP), Wageningen, Netherlands

The constantly evolving nature of the profession of landscape architecture means that educational programs change over time, to prepare students for the future. At the same time, professionals also need to adapt to these changes and to develop new skills and knowledge. To face the wicked problems of contemporary societal challenges, interdisciplinary and transdisciplinary approaches are needed.

Although the importance and necessity of lifelong learning is widely acknowledged, less attention is paid to the window of opportunity that arises when professionals enter the classroom. Instead of offering separate learning tracks to regular students and professionals, the mixed classroom concept creates an innovative and promising setting in which they can learn together and from each other. In the mixed classroom theory and practice meet, just as different disciplines. Thus, the mixed classroom is a great setting for developing integrated approaches. It is also a learning environment for developing boundary crossing competences; much-needed competences in interdisciplinary and transdisciplinary contexts.

Based on experiences in a master level course about transitions in public space, we discuss the potential of a mixed classroom for learning. We go into the didactic concepts and learning activities that support mixed classrooms, and the learning experiences of course participants. Last, we argue that, designers can play a crucial role in mixed classrooms as boundary spanners. Among other integrative strategies, design thinking can break down barriers and contribute to dealing with wicked problems in public space.

**ID 63: Transformation pathways towards sustainable urban development by the inclusion of peri-urban farmland in green infrastructure strategies**

Mr. Werner Rolf

Chair for Strategic Landscape Planning and Management, Technical University of Munich, Munich, Germany

Urbanization and agricultural land use are two of the main drivers of global changes with effects on ecosystem functions and human wellbeing. Green infrastructure is a new and promising approach in spatial planning contributing to sustainable urban development, but rarely considers spatial and functional potentials of utilizable agricultural land as an integral part. This doctoral thesis addresses this gap and investigates how peri-urban farmland can promote green infrastructure and sustainable urban development. The results contribute to the conceptual understanding of urban green infrastructures as a strategic spatial planning approach that incorporates inner-urban utilizable agricultural land and the agriculturally dominated landscape at the outer urban fringe. Four strategies are introduced for spatial planning with the contribution to a strategically planned multifunctional network. Finally, this thesis sheds light on the opportunities that arise from the integration of peri-urban farmland in the green infrastructure concept to support transformation towards a more sustainable urban development. This work concludes that the linkage of peri-urban farmland with the green infrastructure concept is a promising action field for the development of new pathways for urban transformation towards sustainable urban development. Along with these outcomes, attention is drawn to limitations that remain to be addressed by future research.

## ID 31: Power || Energy: The Thickened Ground of Labour

Dr. Rosalea Monacella

Harvard University, Cambridge, USA

In the global north, the ever-expanding dependency on energy has historically been driven by an endeavour for economic growth that has ‘formed and informed cultures, and transfigured landscapes’. In a drive for power we have deforested, drilled, mined, extracted, removed mountaintops, and terraformed the planet’, destroyed biodiversity zones, dislocated communities, and created racial, social, and economic disparities that are immanently present and inherently linked to environmental changes. This is an opportunity to reimagine energy resources and their infrastructure as an entangled process that does not separate matter from meaning, nor nature from culture.

The research examined design responses to energy production and distribution and the implications of their local and planetary spatial formations. It questions and makes visible, the actors and agencies involved, forms of governance, territorial demarcations, land use, ecosystems, historical events, material flows and processes that determine the shape of the ever-evolving form of energy production and their socio-spatial, cultural, and ecological effects.

The paper reflects on the transformation of the energy sector in the United States to inherently hold a capacity for adaptation and simultaneously serve as the formative catalyst of transformation for locations of extraction, production, transmission and consumption whilst exploring new value systems for the environment and alternative definitions of power, work and energy. The research was framed through the following 3 scales of energy landscapes:

Scale 01: Global Scale\_Energy and Power

- global material flows & cycles material flows and cycles of extraction, and production, transmission, consumption
- structures of policy and governance

Scale 02: National Scale of USA\_Energy and Ecology

- national material flows & cycles of extraction, production, transmission, and consumption
- structures of policy and governance

Scale 03: Local Scale\_Energy and Ground

## **ID 118: People Place Palimpsest**

Assist. Prof. Divya Shah  
CEPT University, Ahmedabad, India

As a part of a landscape design studio titled Tracing lines, which considers the premise of Indian rural contexts and their present-day complexities we attempt to explore the values of multi-perspectival readings and interpretations of nature-culture interfaces of indigenous landscapes. How native communities associate, understand, and identify with their landscape context includes many different ways of thinking and action ranging from the purely pragmatic to the spiritual. These understandings of landscape develop over long periods, becoming embodied in ritual customs and histories passed from generation to generation. We frequently describe this interaction between many types of understanding as a 'palimpsest' suggesting that many influences combine to form the landscape experience. These layers might also be described as narratives or scripts. The sites consist of remote rural places with distinct human geographies nestled within the rich and varied bio-cultural landscapes of India.

We begin by deciphering the existing traces and scripts of these cultural landscapes by using documentation methods that classify the innate attributes of the physical and cultural layers that have developed over time. To this end, we draw on many forms of anthropological and spatial mapping techniques in our research, including emic readings, experimental data, anecdotal interviews, mapped systems, ecological analysis, and imaginative readings. Through texts and hybrid drawings, we visualize and interpret place-based narratives, associations, and practices that indicate the socio-cultural and ecological relationships of the local communities.

The results of these multi-perspective readings, using lens and tools from field ecologists, anthropologists, and local communities, are then advanced to decode local ecological knowledge systems and to identify spatial cultural markers in the landscape. This process help us understand how indigenous communities perceive their place and nurture and develop context-specific adaptation strategies that anticipate emerging climatic and socio-cultural challenges and respond in resilient ways.

**ID 95: CLaD and Transdisciplinarity. Transdisciplinary challenges, research and education in Landscape democracy**

Dr. Mina Di Marino, Dr. Mariagabriella Trovato, Dr. Lei Gao  
Norwegian University of Life Sciences, Ås, Norway

Today, there is a call for a new understanding of contemporary societal problems and uncertainties that requires a transdisciplinary approach. Collaborations between scientists and other actors from society, such as practitioners, policy makers, civil servants, companies, and citizens / local people, are increasingly seen as necessary. The ambition of academics is to offer intertwined research and learning environment where several professionals (e.g., from landscape architecture, urban planning, social sciences, urban ecology, geography, and architecture) may constantly dialogue. However, it is still hard to construct transdisciplinary platforms and arenas considering the disciplinary silos and the problems of learning and research transfer.

Landscape democracy is one of such arenas that cannot be addressed by a single discipline. The core group members of the Centre for Landscape Democracy (CLaD) present a study addressing transdisciplinary challenges in the research and education of landscape democracy. CLaD is a cross-departmental, interdisciplinary centre (Faculty of Landscape and Society, Norwegian University of Life Sciences) for the creation and dissemination of scientific knowledge, creative interpretations, and innovative solutions within the themes of landscape, development, and democracy. The Centre is open to networking with international organizations and associations.

The current topics of CLaD include, among others, landscape in emergencies, conflicts between nature and city (e.g., green infrastructure, ecosystem services and nature-based solution), and welfare landscape. They are analyzed in several geographical contexts (including Global South and North), from varied perspectives, and both theoretically and empirically.

These landscape challenges and research require co-creation of new knowledge and transdisciplinary approaches. The paper aims to address the following questions: i) How to frame and respond to landscape/societal challenges? ii) How to create active collaborations amongst experts from different disciplines while effectively involving stakeholders/policy makers, NGOs and students? and iii) How to use a global design approach for transdisciplinary research and learning.

**ID 105: The Biopark: a sequence of temporary landscapes active in a progressive decontamination of the soil**

Monica Manfredi

Politecnico di Milano, Milano, Italy

One of the problems of contemporary cities consists of polluted soils due to the decommissioning of vast industrial areas, once peripheral and now internal to the existing city, places that are often uninhabitable and dangerous to health.

The idea of the Biopark was born from the attempt to imagine a special landscape that coincides with the creation of an environmental infrastructure for soil decontamination, in which the aesthetics and poetic character of the landscape are based also on technical reasons belonging to scientific disciplines such as chemistry and biology as well as botany and others.

The design of a Biopark therefore has an intrinsically interdisciplinary character and enriches the reasons that legitimize the design of landscape with objectives of rehabilitation and requalification of places in an environmental and ecological sense.

The paper presents the work done together with a group of students at Politecnico di Milano in which the design of a landscape active in soil decontamination is simulated, starting from a real polluted context.

The Biopark is a sequence of temporary specific landscapes built on the presence of differently contaminating soils which correspond to various botanical essences capable of progressively decontaminating them.

The botanical species are not always able to eliminate the pollutants present, so it may be necessary to associate different decontamination techniques based, for instance, on bacteria.

The plants remain for the necessary time of the decontamination process therefore with the time of the seasons and of the growth of the plants, the time of the decontamination phases enters the scene.

The shape of the Biopark will be an evolving shape that changes according to a sort of timetable of the decontamination techniques and phases, mapped on the differently contaminated areas. This produces a temporary landscape that works for the future return to the habitability of places.

## **ID 16: Humanitarian Scale in Landscape Architecture**

M.A. Saja Al-Rifaie

Independent researcher, Freising, Germany

Refugee camps are the first step after a crisis happens, whether it is a natural disaster or a war. Going back in history, the image of the camp is not very different than today; tents, caravans or cottages depending on the weather conditions and the local materials available around the site without taking into serious consideration the site potentials and constraints in the camp planning process.

As architecture always took a role in humanitarian field, this paper aims to discuss the importance of integrating landscape architecture in the humanitarian sector and to focus on the role of landscape architecture in crisis response as a scale of change.

A case study of my master thesis in Azraq refugee camp in Jordan is shown including mainly two different scales of humanitarian landscape architecture in both planning and design processes. Therefore, this paper includes both research and project proposing a sustainable design for re-structuring and developing Azraq camp putting the light on major design problems such as the disconnection between the camp and the surrounding cities, the transportation network on different scales, the lack of green areas and open spaces inside the camp and the caravans' structure design.

This research and project aim mainly to change the image of refugee camps by showing convenient, economic and sustainable solutions that can lead into a better life condition in all levels in a way that could become an example for planning refugee camps in the future.

Introducing humanitarian landscape architecture in different scales is necessary as an element of change and development and should be taken into consideration in the study programs as a next plan in the future.

## Poster abstracts of track 5

### **ID 22: Atlas of the Emergency. Approaching methodologies for a rapidly changing built environment.**

Estefania Mompean Botias

EPFL - EDAR. ALICE Lab, Lausanne, Switzerland

In recent years the word Emergency has found a place in our everyday life. In a world increasingly interdependent and marked by planetary disruptions, Emergencies are not only on the rise but are becoming a kind of "Emergency condition" punctuated by a series of events often called catastrophic.

As an architect and urban planner, I have asked myself what we understand by Emergency and how does it operate? What does it mean for spatial practices to act under Emergency conditions? How to identify these processes? How to draw them? Can we find cases in which Emergency conditions have already been integrated into built-environment practices?

From these different questions, I started a thesis regarding Emergency Architectures, and during the first year, I molded the Emergency Atlas. The recomposition from the Emergency appears as a critique of the spatial practices solutionism. In addition, preparedness and post-emergency research have been carried out from process or event casuistry as discrete entities or isolated phenomena. While collecting data for the Atlas, I noticed how everything is segregated by countries, regions, and accident types classifications, without glimpsing the relationships between the different events, the Emergency operability, and most importantly, what emerges from these conditions.

In this way, the Atlas is constituted of different information layers, at different scales, in a methodology of diffraction and recomposition (Barad 2014). The Atlas retraces past, present, and future events in various entities such as rainfall intensities, coastlines devastated by tsunamis, rivers, agents, topographies, or materialities that overlap to create an Emergency orography and with it a reading of events that modify our experience with the territory and develop vectors of action and relationship.

Consequently, this Atlas proposes methodologies to navigate the numerous environmental ruptures and their changing dynamic realities from all the scales supporting life and its frictions (Tsing 2004).

**ID 66: New perspectives for neglected urban ecosystems: A case study of green roof on a brownfield site of University hospital Blato**

Monika Kamenečki, Petra Pereković, Aneta Mudronja Pletenac, Helena Miholić, Dora Tomić Reljić

University of Zagreb Faculty of Agriculture, Division of Horticulture and Landscape Architecture, Department of Ornamental Plants, Landscape Architecture and Garden Art, Zagreb, Croatia

Large scale planning and vision of then political and social government resulted in never finished Hospital that spread on nearly 20 hectares on the embankment of Sava river in Zagreb. Still half finished, for more than 30 years was part of city identity and living memory of unfulfilled vision. Never revived purpose is represented in the view of the city and questions about the future of this area are periodically raised, primarily and exclusively by political elite through economic profitability. The value of the location is almost immeasurable and not only from an economic point of view but also from environmental and social aspects. On the other hand, we have now independently created urban ecosystem. The transformation and development of the green roof through decades of extreme neglect and non-maintenance continues even today. The questions “what, where and how” are complex and almost impossible to answer. In the meantime, through the process of natural succession we have more than hundred plant species (including trees and shrubs) on hospital green roofs that was initially planned to hold only one species, and one species was sown. The green roof was made by then the newest technical solutions and following sustainable urban solutions. Some of the open topics that has to be considered by all included stakeholders are; preservation of existing urban ecosystem; conservation possibility of this brownfield location; sustainable economic and tourism development and desirable investment in green urban public space. --

**ID 127: From metabolism of soils to landscape architecture : a new way to conceive landscape design**

Marie-Laure Garnier

LAREP- ENSP, Versailles, France. Cy Cergy Paris Université, Cergy Pontoise, France

It is difficult to put oneself in the shoes of a landscape architect and to think about the evolution of territories without feeling in a delicate position, in which the awareness of our impact on our immediate and distant environment places us almost as much in a situation of responsibility as of creativity.

In the framework of my thesis, entitled "Mixed lands, tangled lands. Rethinking the cycle of inert soils from excavation site to landscape project", observing soil movements and urban metabolism, I became aware of the close dependence of metropolises on their "Hinterlands" in the daily flow of energy and material exchanges, in particular through the binomial "need/resource", or even the trinomial "need/resource/waste".

The creativity and a certain understanding of spatiality inherent to the profession of landscape architect and urban planner is modified and nourished by an increased awareness of the functioning of these metabolic flows and their particular geography, linking the territories together.

Thus, the discipline of landscape architecture can learn from the science of territorial metabolism how spatial planning practices are inscribed in a more or less sober materiality, in a period of ecological crisis. Being aware of this can change the reading grid of landscape design, by integrating into the principles of composition and understanding of space an economy as well as an ecology of matter.

In return, landscape architecture, in its capacity to read the different ontological strata of space, from territoriality to landscape perception, can help the thought of metabolism to "set" these flows of matter in a real geography, anchored in a soil and an identity of places, which then becomes more than a system of relations, a set of landscapes in synergy.

**ID 140: Landscape architect as a necessary partner in multidisciplinary dialogue toward shaping the healing environment.**

Dr. Kamila Adamczyk-Mucha<sup>1</sup>, Dr. Lucyna Górska-Kłęk<sup>2</sup>, Dr. Kamila Rojek<sup>1</sup>

<sup>1</sup>Department of Landscape Architecture, University in Life Sciences in Lublin University in Life Sciences in Lublin, Lublin, Poland. <sup>2</sup>the Faculty of Physiotherapy, The Wrocław University of Health and Sport Sciences in Wrocław, Wrocław, Poland

In solving nowadays problems in different areas is necessary to cooperate, being open, sensitive, and understanding as much as possible for human and nature needs. The very beautiful and often successful field of study is hortitherapy, where landscape and greenery is a factor of therapy.

There is an important role and work for landscape architects to do in a group of professions to share the experience of understanding, proper analyzing and noticing the potential of landscape with those who use the outside as a base/field for their work.

The proper creation of surrounding can strongly improve results of therapy for clients, their families and therapists. The challenge is to find common language with therapies, physiotherapists, foresters, architects and landscape architects, to evaluate needs and possibilities of fulfillment in satisfactory way. The landscape architect sometimes is a negotiator who shows great potential in place and greenery in service for better therapy.

As an example in the presentation will be used the foundation "Friendly Planet" (Radomsko, Poland) and their program of Forest Treatment, who work with mental disabled clients and with their families. The program is becoming popular in Poland but has not many regular examples in the country. One of the ways to popularize is to educate landscape architects to speak with other professions finding common language and common goals.

The all type of outside therapy, inter alia forest therapy (sivotherapy), is especially important to improve now, according to contemporary problems with socializing and limitation in meetings in closed environments. It has a great potential also to show the healthy lifestyle model with integration elements, where the base is interdisciplinary dialogue about using greenery for better life, in mental and physical sphere.

## **ID 166: How to communicate „Cultural Landscape“**

Dr. Jozef Sedlacek, Dr. Daniel Matějka, Dr. Petr Kučera, Ing. Radim Klepárník, Ing. Zuzana Fialová, Ing. Kristýna Kohoutková, Ing. Magdaléna Březinová, Ing. Veronika Chalupová  
Mendel university in Brno, Brno, Czech Republic

One of the unspoken tasks of landscape architecture is to raise topics related to the landscape, the environment, the relationship to the place and its intrinsic values. Related to this is the need to find tools on how we can communicate these topics. The theme is communicated through the visitor experience and through the objects and story that is given by the scenario of the exhibition. An important aspect here is space. These are mainly factors that are related to the creation of the exhibition space itself (transition spaces, so-called warm-up, and cool-down spaces), or its connection to the environment - authenticity and landscape context. These factors are often not even perceived by the visitor but are rather perceived subconsciously. The creation of a spatial scenario is an integral part of the process of interpreting values - from the main message, through the selection of appropriate means of interpretation to the production and physical origin of the interpretive act.

The authors of the article tested this approach at the exhibition Krajlina (Landscape!) Its task was to present the original research, focused on the phenomenon of “preadias”, agricultural production units, which influenced the character and use of the landscape in the Czech lands for 400 years and connect it to current discourse on the importance of the agricultural landscape. It is presented to the visitor as a story line with introductory phase, turning point and catharsis, encouraging visitor to engage and activate himself after leaving exhibition ground. The exhibition has an outdoor extension, which brings the visitor to the places he meets at the exhibition and shows him the bleakness of the current agricultural landscape. It was visited by 10 000 individual visitors.

## **ID 199: The Atlas of Belgrade's landscape character types: The new interpretation of the landscape value**

Mrs. Nevena Vasiljević, Mr. Bordis Radić, Mrs. Anja Matić, Mrs. Emilija Medojević, Mrs. Suzan Gavrilović, Mr. Andreja Tutundžić, Mr. Momir Krč, Mrs. Dragana Ćorović, Mrs. Nevenka Galečić, Mrs. Sandra Mitrović, Mrs. Dejana Pešikan, Mrs. Sofija Mičić, Mrs. Isidora Elčić

University of Belgrade, Faculty of Forestry, Department of Landscape Architecture and Horticulture, Belgrade, Serbia

Atlas of Belgrade's Landscape Character Types is the result of a research study conducted within the project "Landscape Typology for the Sustainable Development of the City of Belgrade following the principles of the European Landscape Convention" realized in cooperation with the University of Belgrade - Faculty of Forestry, Department of Landscape Architecture and Horticulture, and the Secretariat for Environmental Protection - The City of Belgrade.

The Atlas of Landscape Character Types of Belgrade presents the results of complex, no linear methodological approach, while the creation of contextual and graphical design related to the interpretation of landscape value depicts part of the scientific and educational process which has been carried on in the Landscape Laboratory at the Department of Landscape Architecture and Horticulture within the Faculty of Forestry of the University of Belgrade. During the research period, the authors showed how a fuzzy research methodology informed by complexity of landscape theory could capture new insights into ecosystem services and landscape sensitivity, advancing the variety of landscape guidelines application.

Atlas presents "ID cards" of 22 Belgrade landscape character types with an assessment of their sensitivity. The form of the ID card is graphically designed and is based on the methodology by which the research process was conducted: identification of the landscape character types with an assessment of their sensitivity, interpretation of the structure, functioning and meaning of landscape in the context of ecosystem and landscape services and, in the end, presenting the results in the form of landscape management guidelines – "morphological-ecological" and "landscape- design" rules.

In this poster presentation, the authors will describe the methodological framework for the novel interpretation of landscape value and sensitivity, and the content of "ID card" for one of 22 Belgrade landscape character types.

**Presentation of the Department of Landscape  
Architecture of the Biotechnical faculty,  
University of Ljubljana**

The Department of Landscape Architecture is one of the seven departments of the Biotechnical Faculty at the University of Ljubljana. The official launch of landscape architecture as a discipline of study occurred in 1972, when the Chair of the Horticulture and Landscape Architecture was established. The origins of the discipline do, however, date back to 1947. Today, the department is represented by interdisciplinary group of employees who provide knowledge to landscape students at all three levels (BSc, MSc, PhD; see the study programmes on the following pages), relevant to landscape design, spatial planning and environmental protection. Students gain a sense of space and the importance of landscape quality, learn skills such as drawing, construction and landscape techniques, plastic design, basic architecture and urban design, and at the same time have opportunities to test and fulfil their knowledge in large-scale design and planning projects. In the latter, they address current spatial problems identified either in research work, topics tendered in public student design competitions, or selected as themes for Master and Doctoral theses.

Around 110 undergraduate and Master students enjoy study based around small group teaching, and benefit from a great deal of personal contact with professors and assistants, as well as a field-work aimed at exploring landscape characteristics,

sketching outdoors, and learning about Slovenian landscapes as well as selected cases of landscape and urban planning at home and abroad. Their study is further enhanced by the presence of international exchange students who mostly come from France, the Czech Republic and the United States, as well as the cooperation of the department with professors from world renowned universities and other faculties from within the University of Ljubljana. These include the Faculty of Architecture, the Faculty of Arts, the Faculty of Social Sciences, the Faculty of Law, and the Faculty of Civil and Geodetic Engineering. Cumulatively, this cooperative approach brings a variety of knowledge and perspectives to our students, and contributes to the creation of a broad view that is indispensable to the subsequent professional activities associated with landscape architecture. We must seek harmony in spatial intervention and the best possible balance between the various protection and development interests that exist and arise.

The employees of the department are active both professionally and scientifically. Research by design is carried out through the provision of design solutions for the local communities and other clients. Development of methods in the field of evaluation and spatial planning, remain as core research topics. These have, however been supplemented by research projects which specifically seek to respond

to contemporary problems within society and spatial management, such as the upgrade of the green system concept with the concept of green infrastructure, the placement of solar power plants, and the spatial effects of urban tourism. The research team participates in both national (targeted research programs, fundamental and applied projects, public procurement) and international projects within the Horizon 2020 program and the European transnational territorial co-operation programs (ESPON, Alpine Space, Central Europe).

The department contributes significantly to the promotion and recognition of landscape architecture as a professional field at the national level by organizing public events and exhibitions, and by publishing daily in the media on various aspects of landscape. The current president of the Slovenian Association of Landscape Architects and the Presidents of the Slovenian Evaluation Society is based within the department. At the international level we are active in ECLAS (European Association of Schools of Landscape Architecture), in IFLA (International Federation of Landscape Architects) and in AESOP (Association of European Schools of Spatial Planning).

