

**Landscape Architecture First Symposium | Virginia Tech Landscape Architecture Program
Co-sponsored by VA ASLA**

February 24, 2024

5 hours of education sessions

Industrial Waterscapes in Transformation

Irene Curulli, Ph.D., Associate Professor of Practice

Parkification of Post-Industrial Sites: Decision-Making and Landscape Transformation in Jordan

Kawthar Alrayyan, doctoral candidate

The Historical American Landscape Survey, Archival Silences, and Jim Crow: Revealing the Narrative of a Segregated Picnic Area Along Blue Ridge Parkway

Jennifer Thomas, Ph.D., Assistant Professor

Nature-Based Play and Play Spaces

Matthew Powers, Ph.D., Associate Professor, Director of the School of Design

Predicting the Impact of Shifting to Work-from-Home Paradigm on Urban Sprawl Using an Agent-Based Model

Heba Nusair, doctoral candidate

Who is afraid of Night(scape Design)?

Mintai Kim, Ph.D., Professor

Finding the Potential in Lines: Faults, Horizons, and the City

Shaun Rosier, Ph.D., Assistant Professor

Sweetgrass Case Study: Exploring Interventions with Salmon and Community Engagement at the Forefront of the Landscape

Jennifer Engelke, Ph.D., Assistant Professor

Building an Authentic Engagement Practice to Identify and Share Community Valued Scenic Views

Terry Clements, Professor, Chair of Landscape Architecture Program

Immersive Visualization Technology for Enhanced Landscape Architecture Design

Jaeyoung Ha, Ph.D., Assistant Professor

Smart Devices in Landscape Architecture Using Landscape Performance as an Example

Zhongzhe Shen, doctoral candidate

Virtual Reality and Spatial Scale Perception

Mengting Ge, doctoral candidate

12 Speakers. Each speaker will have 25 minutes, including time for Q&A (5 hours of educational sessions)

Matthew Powers, Ph.D., Associate Professor, Director of the School of Design

Title: Nature-Based Play and Play Spaces

Playground design and construction has grown considerably over the past decade. Play and playground design is projected to generate over eight billion dollars in the United States alone. One type of playground that has shown to be both appealing to children and supportive of cognitive,

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physical, and social growth is nature-based playgrounds. This presentation will use existing research and case studies to illustrate different types of play spaces, especially nature-based play spaces.

Learning objectives.

1. identify key issues in play space design and outdoor learning.
2. understand factors influencing the design of nature-based play spaces.
3. analyze the relationship between design and learning in outdoor play environments.

Jaeyoung Ha, Ph.D., Assistant Professor

Title: Immersive Visualization Technology for Enhanced Landscape Architecture Design

Conventional landscape construction approaches utilizing two and three-dimensional modeling tools face several challenges, including a lack of interactivity, difficulty in interpreting existing maps by laypersons, and limited engagement from the general public due to reliance on two-dimensional drawings by experts. These challenges highlight the importance of adopting new technology for design education. Three-dimensional visualization technologies like virtual reality (VR) and augmented reality (AR) have garnered attention in environmental planning and design for their ability to create immersive environments and simulate interactive, dynamic, and experiential landscapes. Immersive visualization technology, particularly VR, offers significant benefits to designers by facilitating spatial awareness and decision-making processes in situ. It allows users to foresee and adjust future spaces, while also enabling the collection of post-occupancy survey data from residents to assess the impacts of built environments.

Learning objectives.

1. Describe how immersive visualization technology can impact the design and communication process.
2. Describe practical applications of immersive visualization technology in the field of landscape architecture.
3. Understand the benefits of immersive visualization technology in learning landscape detail design.

Kawthar Alrayyan, doctoral candidate

Title: Parkification of Post-Industrial Sites: Decision-Making and Landscape Transformation in Jordan

Description: This session proposal focuses on the transformative process known as “Parkification,” wherein three abandoned post-industrial sites in Ruseifa city, Jordan were converted into urban public parks. This significant shift in the treatment of post-industrial landscapes calls for an exploration of the decision-making processes, key players, and motives that led to this transformation. By tracing these processes, we aim to shed light on the management of post-industrial sites and their landscape transformation in Jordan.

Professional Learning Objectives:

1. Understand the concept of “Parkification” and its significance in repurposing post-industrial sites into urban public parks.
2. Explore the series of events, processes, and key players involved in the decision-making process of transforming post-industrial sites into parks.
3. Analyze the compelling issues related to post-industrial sites and how they were addressed in the parkification proposals, contributing to better strategies for landscape management.
4. Examine the multi-method research approach used to unravel the parkification processes, including content analysis and qualitative data collection through semi-structured interviews, providing insights into effective research methodologies for similar projects.

Heba Nusair, doctoral candidate

Title: Predicting the Impact of Shifting to Work-from-Home Paradigm on Urban Sprawl Using an Agent-Based Model

The COVID-19 pandemic, Flexible work arrangements and technological advancements have significantly driven the shift to Work From Home (WFH). Residential location choices pattern has changed due to this transformative trend, leading workers to look beyond housing options close to their workplaces. This complex interaction between housing and work preferences has repercussions for socioeconomic structures and urban sprawl, among other aspects of urban development. An intelligent self-adapting agent-based model simulation is used to forecast the urban sprawl in a Roanoke metropolitan area in Virginia to simulate the urban growth in multi-employment scenarios. Comparing the scenarios' output helped forecast and understand the trends, acceleration, and direction of the residential development footprint. This research could be used to adapt and modify design practices, hence, preparing for more resilient plans that mitigate the impact of the potential future paradigm shift.

Learning Objectives:

1. Prepare for more resilient plans that mitigate the impact of the potential future work paradigm shift by modeling the city's complex systems in metro cities.
2. Understand the future urban growth patterns under the impact of the WFH paradigm and analyze how the evolving human behaviors and their decision-making process influences the urban growth system and hence the metropolitan areas landscape.
3. Review essential urban planning and policymaking knowledge, such as how and where urban sprawl can occur, and recommend some examples of policy suggestions and preventive measures based on the research's potential outcomes.

Mintai Kim, Ph.D., Professor

Title: Who is afraid of Night(scape Design)?

People spend significant amounts of time outdoors in the evenings and at night, especially on weekdays. However, not much consideration is given to the design of nightscapes. What is designed is mainly intended for daytime use. If any considerations are taken into account, they mostly pertain to the aesthetic aspects of lighting design. Nightscapes often appear distinct from their daytime counterparts. People behave differently at night compared to during the day, even in the same place. Furthermore, light pollution mitigation is not typically considered in nightscape design.

This session delves into various considerations for nightscape design. The session's topics include:
Designing to reduce light pollution.

Exploring the perception of fear associated with nightscapes.

Contrasting people's behaviors between daytime and nighttime landscapes.

Learning Objectives:

1. Gain insights into reducing light pollution through design.
2. Understand how to design to mitigate the perception of fear in nightscapes.
3. Explore the behavioral disparities of people between daytime and nighttime environments.

Shaun Rosier, Ph.D., Assistant Professor

Title: Finding the Potential in Lines: Faults, Horizons, and the City

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This presentation introduces the notion of a 'geo-urbanism' as an alternative and speculative approach to the design of urban landscapes. Approaching the challenge of laying out (sub)urban fields from the material of landscape first as opposed to the functional instrumentality of planning codes and manuals has the capacity to offer insights into reconfiguring our everyday relationship to geologic material and the unsustainable practices associated with its use in the built environment. With increasing consumption rates for geologic material, the everyday relation to this material is becoming more abstract. Our position has become distinctly separate from the world, at the same time as the interconnectedness of things is more apparent. The error of Descartes's dualism of mind and body has led to an understanding and design of landscape that leaves it 'out there' instead of 'here and now'.

The presented research challenges predominant paradigms and approaches within landscape architectural discourse by focusing on the capacities of design to generate knowledge itself as opposed to being a translational or application method. This presentation argues that decolonial methods and approaches, alongside an expanded notion of Nature, in landscape architectural design-research offers immense potential to make a difference in complex socio-environmental problems.

Learning Objectives:

1. Introduction to landscape-led urbanisms that are derived from aesthetic material.
2. Introduction to decolonial thinking in landscape architecture and design research.
3. Examine how an expanded notion of Nature can empower landscape architectural design.

Jennifer Engelke, Ph.D., Assistant Professor

Title: Sweetgrass Case Study: Exploring Interventions with Salmon and Community Engagement at the Forefront of the Landscape

The Sweetgrass Case Study examined ways to improve people-environment relationships in the Lake Washington Ship Canal (LWSC) in Seattle, Washington. The LWSC was created in the 1910s and serves as a primary route for outmigrating juvenile salmon. As Seattle grew, the salmon habitat along the LWSC was hardened and runoff decreased the water quality conditions for salmon. The Sweetgrass Shoreline Restoration Project strove to bring salmon habitat back into the environment through constructed floating wetlands (CFWs). This presentation will delve into an adaptive management approach to the design, construction, and installation process of CFWs. These units were monitored for salmon, plants, water, and wildlife to determine if we could improve the environmental relationships for more-than-human elements in the system.

This study indicates that the CFWs provide conditions that are conducive to salmon habitat and beneficial for improving water quality. Additionally, community engagement is important in forming meaningful connections with the landscape and essential in restoring human/more-than-human system relationships. A holistic lens to design is vital to improving people-environment relationships and promoting landscape stewardship practices.

Learning Objectives:

1. Explore novel approaches to how innovative green infrastructure can be applied to urban settings.
2. Recognize the relationship of adaptive design, a safe-to-fail approach, and research.
3. Discover ways to improve human-environment relationships through design.

Irene Curulli, Ph.D., Associate Professor of Practice

Title: Industrial Waterscapes in Transformation

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The main aim of this research is the enhancement of historical and heritage values in the transformation of former industrial sites and their contribution towards actions against the climate change. Industrial waterscapes are those abandoned factory areas along watercourses that have made many areas at the edge of a consolidated urban structure quite distinctive. They are incredible opportunities for the cities to reconnect to their water's edge, recapture economic investments, and attract people back to deserted and isolated areas.

The research explores the industrial canal circuit that connects the metropolitan area of the Dutch cities of Helmond, Eindhoven, Tilburg, Breda, 's-Hertogenbosch (former canters of textile and food conservation factories) and the unique landscapes that it crosses. Each city is characterized by an industrial canal zone that was originally located at the edge of the historical urban structure. Nowadays, the canal zones have acquired a new urban position as they have been adsorbed by new developments. The five canal zones are connected to each other by a larger system of navigable canals, thus forming a transport circuit that crosses unique man-made landscapes and urban agglomerations and shaping a complex network of public encounters and potential areas for flood prevention strategies.

The presentation will show how plans of transformation can enhance the unique characteristics of industrial waterscapes as well as the multi-dimensional complexity of the artificial canal infrastructure and the cross-dependency that it generates between land and water, city and landscape, mobility and energy, ecology and waste.

Learning objectives

1. Recognize and critically reflect on the heritage values of industrial waterscapes (concepts of identity and place-making).
2. Understand how design & heritage can strengthen society's awareness of climate change.
3. Interpret the instrumental role played by industrial waterscapes in spatial planning design and master landscaping.
4. Acquire a knowledge of innovative design solutions that benefit from the multidisciplinary collaboration between research and design, profession, and education.
5. Learn about water-related climate change policies in the Netherlands/Europe.

Terry Clements, Professor, Chair of Landscape Architecture Program

Title: Building an Authentic Engagement Practice to Identify and Share Community Valued Scenic Views

Visual landscape character is an essential component of local sense of place. Communities often emphasize views and vistas as cornerstones of individual and shared experience and place values. However, there are few examples of engagement programs that gather, and record community identified valued scenic views. Scenic Virginia's Treasured Views project intends to co-develop and support community-initiated efforts to identify, record, and celebrate the views local community members feel most passionate about. A pilot offering of the program revealed the importance of a multi-faceted, robust community engagement process focused on local voices.

In practice, most visual resource identification and assessment is done on publicly owned or managed properties by trained experts. Most visual impact assessments on private properties are responses to community concerns about the impact of proposed development without anyone knowing whether potentially impacted views are locally identified as significant. Valued viewshed documentation prior to new development plans coming forth can assist community efforts to preserve their most treasured views, and potentially reduce or avoid long and expensive efforts to conserve highly valued views. There are limited shared practices to guide communities in scenic

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view identification, recording, and sharing with local community members. This session is intended to share a collaboration between Virginia Tech's Landscape Architecture Program and Scenic Virginia to develop best or better practices to engage and empower community members to identify and share their valued scenic views in three areas – Community Awareness, Diverse Community Representation, and Viewshed Data Collection.

Learning objectives:

- Community education practices to raise awareness of scenic views and their value;
- Engagement practices to include diverse representation of community members; and
- Methods of recording specific views identified by individual community members

Jennifer Thomas, Ph.D., Assistant Professor

Title: The Historical American Landscape Survey, Archival Silences, and Jim Crow: Revealing the Narrative of a Segregated Picnic Area Along Blue Ridge Parkway

Histories of the Blue Ridge Parkway often describe the 469-mile roadway as a design, engineering, and recreation marvel—one with spectacular viewpoints, wooded campgrounds, and pleasurable driving experiences for all to enjoy. Designed, built, and overseen by people in the National Park Service since its inception, official and unofficial narratives about the Parkway promote its rural character, scenic beauty, and cultural significance to regional and national identities. However, like many cultural landscapes in the American South, racial segregation was spatialized along the Parkway in overt and subtle ways. The Woods Picnic Area in Doughton Park, North Carolina was a designated area for Black motorists to use during the first two decades of the Parkway's implementation. Using primary and secondary sources, this paper, based on an Historic American Landscape Survey (HALS) history document I am writing, will emphasize key aspects of the Woods Picnic Area design history, highlight how the lack of documentation about this segregated area—an archival silence—reflects the material erasure of a painful but important cultural landscape legacy. Recent scholarship about African-American experiences related to driving, recreation, and the outdoors provide additional historical contextualization, rounding out some much-needed details about the racialized atmosphere Black travelers had to navigate while pursuing outdoor leisure activities in conspicuously white spaces. This HALS project is part of a larger initiative within the National Park Service meant to redress ignored and overlooked historical perspectives, especially stories of heretofore underrepresented communities and people of color.

Learning Objectives:

1. Understand how Jim Crow segregation informed design decisions and implementation for the Woods Picnic Area along the Blue Ridge Parkway;
2. Learn the extant remnants and state of the site as exists today;
3. Understand the challenges of “benign” neglect and archival silences that a HALS researcher could sometimes face when writing about often painful and, at times, triumphant histories about racialized spaces.

Zhongzhe Shen, doctoral candidate

Title: Smart Devices in Landscape Architecture Using Landscape Performance as an Example

Landscape architecture discipline due to its essential role in the goal of reaching sustainable development is increasingly raising awareness under the background of climate change, weather issues, and increasing urbanization. Landscape performance is proposed to ensure the sustainability

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of landscape design and planning projects in terms of economic, social, and environmental. Landscape performance provides scientific, quantifiable data evidence for landscape projects. Landscape performance was proposed by the landscape architecture foundation in 2010. Due to its short development time, there are some gaps and deficiencies in the current research. The inadequacy of performance data collection tools is one of the main deficiencies. Relevant studies have shown that smart devices have advantages in the long-term, longitudinal collection of environmental data; and they have achieved certain developments in other related fields (such as architecture and urban planning). It is feasible and reasonable to extend it to landscape performance research and even the entire field of landscape architecture to make up for the gaps in current research and promote the development of the landscape architecture discipline. Research on the use of smart devices in landscape architecture can help landscape architecture improve the existing disciplinary body of knowledge and provide solid evidence supports. And contribute to the generation of new subject knowledge. It helps to make landscape professionals more involved in urban development as decision-makers.

Learning objectives:

1. Understand the framework and method of landscape performance in terms of ecological, social, and economic sustainability.
2. Understand smart device capabilities, functionalities, and applications, and how they can be integrated into landscape architecture projects.
3. Understand ways to integrate smart devices in landscape architecture academic and professional settings.

Mengting Ge, doctoral candidate

Title: Virtual Reality and Spatial Scale Perception

Spatial scale and distance are essential attributes of physical space in landscape design. People's perception of spatial scale and distance reflects how well they understand the space and decides how they design the space. This research studies how people's scale and distance perception in landscape design projects using Virtual Reality (VR) renderings can differ from traditional design representations.

This study examines people's perceptions of space using three design representation methods: VR simple 3D model, VR realistic rendered model, and traditional representation with the illustrative plan. 54 people with design education and practice experience participate in this research. Participants are divided into 3 groups, and every group uses one design representation method to estimate the spatial scale of selected space and distance to selected objects. Participants' perceptions are investigated through surveys and statistically analyzed. This research enriches VR-related studies from the perspective of spatial perception and awareness. It inspires the diverse possibilities of future design representation in the design industry and education.

Learning Objectives:

1. Help landscape researchers and designers understand how different design representation methods can affect people's perception of scale and distance in design projects.
2. Involve VR devices and technologies in landscape learning and design process and explore their potential advantages and challenges.
3. Develop criteria of selecting appropriate design representation methods for different types and goals of landscape projects.