Table of Contents

Preface VII

Foreword IX

Introduction XI

Collaboration: Digital Approaches to Participation and Co-creation in Landscape Architecture 1

Ziyu Chen, Xueyu Dong
A Systemic Review of Landscape Heritage Preservation and Development in the Context of Digital Technology 2

Xinyue Shou
Ecological Game: A Worlding Analysis 17

Malte Schünemann, Jannis Gärtner, Stefan Taeger, Philipp Lensing
Vivid Hydrodynamic Sandbox: An Entry Point for Diverse Participation and Co-Creativity? 25

Viktoria Sandor, Fani Kostourou, Theresa Fink, Serjoscha Düring
Phygital Co-Creation: A Hybrid Approach for Enhancing Participatory Urban Planning in Early Design Stages 35

Beata Dreksler, Karim Bacha
Can Collaboration in Multiuser Immersive Virtual Reality Streamline the Design Process? 45

Xuezhu Zhai, Anne Giger Dray, Peter Marcus Bach, Matthias Buchecker, Jaboury Ghazoul, Fritz Kleinschroth
Developing an Ecology-Integrated Gaming Tool for Collaborative Landscape Design 53

Songül Özyurt, Ikhwan Kim
The Effect of Scaled Grid Patterns on Time Perception in Virtual Landscapes 62

Data-driven Design for Integrating Ecology and Landscape Architecture 75

Hou Qinghe, Xu Hanwen, Luo Pingjia
A Spatial Layout Optimization Framework for Urban Landscape Hydrological Infrastructure Based on Multi-Objective Optimization Model 76

Verena Vogler, Eleftherios Kourkopoulos, Luis Fraguada, Anne Mimet, Jens Joschinski
Integrating Ecological Modeling into the 3D CAD System Rhinoceros 86

Verena Vogler, Eleftherios Kourkopoulos, Jens Joschinski, Kay Eckelt
Developing Volumetric Data Models for ML Training Datasets Using Grasshopper 101

Pia Fricker, Raphael Weidhaas
Immersive VR-Driven Landscapes: Exploring Climate-Adaptive Ecosystem Design 114

Taorui Huang, Jiaying Shi, Zhe Li
The Impact of Urban Cool Islands on Expressed Happiness: A Case Study in the Central Urban Area of Nanjing, China 125

Roy Kozlovsky, Yasha Grobman, Hanna Levy
Performative Coastal Textures: Integrating Computational and Physical Simulations for Seawall Design 135

Liya Wang, Zhe Li, Hao Cao, Yi Shi
Third Time's the Fatigue: Frequency Verification and Its Extended Discussion of Landscape Fatigue Based on Electroencephalogram Measurement 150

Nature-based Solutions, Ecological Modeling and Simulation and Digital Landscape Architecture 163

Justin Booz
Sensing the Living City: A Scalable Platform for Monitoring the Electrophysiology of Urban Forests 164

Muge Unal, Ariane Middel
Strategies for Enhancing Courtyard Thermal Comfort in Hot Arid Phoenix: The Secret Garden on ASU Campus 173

Wei Dong, Jinxiu Wu
Integration of Building and Landscape Design: A Comprehensive Evaluation Framework for Cooling Effect of Urban Built Environments 181

Kexin Huang, Ye Chen
Research on the Optimization of Urban Waterfront Green Space Layout Based on Thermal Comfort: A Case Study of the Qinhuai River 189

Decision Support for Social-Ecological Systems 203

Emmanuel Khanano, Matthias Pietsch, Bryce T. Lawrence
Assessing Site Suitability and Visual Impacts of Wind Farm Development in Garfield County, Oklahoma: An Investigation Utilizing GIS 204

Beatrice Magagnoli, Francesco Axel Pio Romio, Lorenzo Tinti, Gianni Lobosco
Interconnected Landscapes: Multiscale Integration of Earth Observation and GIS for Sustainable Planning..... 219

Brooke Ayers, Madeline Brown, Vivian Chenxue Lu
Examining Cultural, Historical and Ecological Themes in Trail Names in Maryland, USA 227

Nan Wang, Jiaying Shi, Ran He
Exploring the Connection Between Urban Foraging and Biodiversity in Nanjing: Insights from User-Generated Content 236

Stefanie Tischberger, Milica Vujovic, Michael Hensel
A Data-Informed Analysis of Population Density and Soil Sealing in Suburban Housing Types at the Plot Level..... 246

Resilient Landscapes, Global Change and Hazard Response..... 259

Emily Schlickman
Tools on Fire: A Review of Emerging Wildfire Technologies for Landscape Architecture and Planning Applications 260

Peter Stempel, Austin Becker, Isaac Ginis, Samual Adams, Greg Bonynge, Deborah Crowley, Chris Damon, Noah Hallisey, Olivia Krum, Aimee Mandeville, Kyle McElroy
Coastal Hazards Analysis Modeling and Prediction: Collaborative Model-Driven Multi-hazard Forecasting and Planning 268

Ahmet Cilek, Suha Berberoglu, Cenk Donmez
Planning for Thermal Comfort: Analyzing Climate Change Effects on Tourism in the Aegean Region..... 278

Natsiporn Sangyuan, Sigit Dwiananto Arifwidodo, Vudipong Davivongs
Community-Driven Flood Risk Identification Using Participatory Mapping in Nakhon Nayok Province, Thailand..... 286

Salvador Lindquist
Charting the Urban Heat Archipelago: Delineating Data Islands Using Land Surface Temperature..... 296

Islam Alshafei, Pinar Ulucay Righelato
Approaching Resilient Cities through Social-Ecological Connectivity: A Spatial Analysis of Amman City Center, Jordan 306

Yilun Cao, Yuhan Guo, Xinwei He
Research on the Correlation between Large-scale Urban Green Space Morphology and Carbon Sequestration Capacity – The Case of Nanjing Main District 314

UAV Imagery and Remote Sensing in Landscape Architecture 329

Kira Clingen, Justin Booz
Training A Machine Learning Model to Identify Historic Wetlands in an Area of Critical Environmental Concern 330

Danylo Kin, Nadiia Lazorenko, Yurii Karpinskyi, Anatoliy Lyashchenko, Tetiana Pliushch, Olena Pomortseva
Using Remote Sensing to Detect Destroyed Urban Landscapes for Their Future Restoration 339

Vudipong Davivongs, Siam Lawawirojwong, Supaporn Lertsiri, Olarn Charoenchai, Natsiporn Sangyuan, Sigit Dwiananto Arifwidodo
Fruit Productive Landscapes of Bangkok's Inner Orchard for Urban Greening in Bangkok, Thailand: Identifying Potential Areas for Conservation and Revitalisation 349

Michael Luegering, William Basenser
Monitoring Plant Species for Nature-based Infrastructure Design 358

Chenyu Du, Benedek Sölch, Xinyu Wang, Yaseen N. Hassan, Sándor Jombach
Identifying Spatiotemporal Characteristics of Carbon Storage in Green Spaces of Newly Developed Residential Areas Using High-resolution Mapping 366

Geodesign Approaches, Technologies, and Case Studies 377

Stephen Ervin, Carl Steinitz
Geodesign: IGC – Global-to-Local-to-Global (GLG) Update 378

Yahan Yan, Yutong Zeng, Wei Zhang
Methods for the Modeling and Visualization of Regional Scale 3D Vegetation: A Case Study of the Qinghai Lake Basin 386

Buse Ezgi Er, Melih Bozkurt
Artificial Intelligence and Learning from Nature in Landscape Architecture: An Innovative Approach that Shapes the Analysis & Design Process 394

Hans-Georg Schwarz-v.Raumer, Jonas Czikl
GIS Modeling as Launchpad for Geodesign of Regional Rural-Urban Nutrient Partnership 403

Benjamin Okenwa, Wassim Jabi
A Framework for Applying Computational Methods to Identify Optimal Open Space Location for Physical Activity 413

Algorithmic Design and Analysis of Landscapes 431

Jun Yang, Mengting Ge, Shaojiang Zhong, Mintai Kim
Prediction of Thermal Comfort in Nighttime Metropolises Based on Multiple Machine Learning Models and Social Media Data 432

Brent Chamberlain, David Evans, Laura Schalbetter, Peter Kiefer, Adrienne Grêt-Regamey, Ulrike Wissen Hayek
Analyzing Dynamic Outdoor Eye-Tracking Data 443

Jiabei Wang, Shuge Su
Design of Commercial Format Layout in Digital Urban Block Based on Space Syntax and Correlation Analysis 451

Ning Zhang, Yuning Cheng
Quantitative Model-Driven Parametric Design for Urban Waterbody Morphology 458

Zhao Ma, Zhi Wang, Teresa Galí-Izard
BeingAliveLanguage: An Integrated Digital Framework for Understanding and Designing with Living Systems in Landscape Architecture 471

Landscape and Building Information Modeling (LIM + BIM) 483

Yijun Lu, Joie Lim, Marcel Ignatius, Chun Liang Tan, Ervine Shengwei Lin, Nyuk Hien Wong
Integrating Multisource Data for Comprehensive Greenery Modeling in a Digital Twin: A Case Study of a Singapore Campus 484

Peter Petschek, *Aye P. P. Aung, Kim N. Irvine, Detchpol Chitwatkulsiri*
BIM for Better Urban Stormwater Design and Management: Perspectives through a Multidisciplinary, International Lens 499

Yuhao Fang, Yuning Cheng
A Digital Twin Framework for Carbon Sequestration Estimation of Urban Green Spaces 512

Ziqian Cheng, Xiaohan Zhang, Yuning Chen
Exploring the Potential to Evaluate People's Activity Preferences in Urban Green Spaces 525

Visualization, Animation and Mixed Reality Landscapes (VR, AR) 537

James F. Palmer
Google Earth Pro as a Tool for Communities to Understand Wind Farm Visual Impacts 538

Joseph Brooks, Carlos Román, Brendan Harmon, Annicia Streete, Nicholas Serrano
Visualizing Spatial Audio in Digital Landscapes 547

Mohammad Rezvan, Stuart Patton Echols, José Pinto Duarte
Assessing Computational Tools for Artful Rainwater Design: Evaluating Flow Simulations in Smallscale Hydrology 555

Rümeysa Merve Öksüz, Ikhwan Kim
The Impact of Monochrome Virtual Landscapes on Human Perception and Emotion ... 565

Karl Bittner, Mathias Baumgartinger, Thomas Schauppenlehner
Fencing Virtual Landscapes: Using GIS to Identify and Classify Fences and Hedges for More Accurate Landscape Visualizations 572

Mengting Ge, Jun Yang, Ming-Jen Hsueh, Mintai Kim
Advancing Design Communication in Multidisciplinary Team: The Impacts of VR/AR-enhanced Representations on Landscape Design Practices 582

Becca Springer, Benjamin H. George
Assessing the Impact of Viritual Reality on the Planting Design Process 595

Artificial Intelligence in Landscape Architecture 603

Yangyang Shi, Orly Enrique Apolo-Apolo, Filip Raes, Ben Somers
VGBs: A Video-based Semantic Segmentation Dataset for Quantitative Analysis of Green and Blue Spaces in Flanders 604

Qianyu Hong, Jingwen Mao, Sidan Yao, Yangyang Yuan
Using the XGBoost-SHAP Model to Explore the Impact of Urban Green-Blue Landscape Patterns on Carbon Sequestration Benefits 615

Heather Braiden, Brent Chamberlain, Benjamin H. George, Phillip Fernberg
AI in Practice: Professional Survey Findings from Landscape Architects in North America 626

Jörg Rekittke, Angela Hayles
Early Days of AI Image Generation in Landscape Architecture 634

Soyoung Han , Dohun Kim
Multimodal GeoAI for Urban Perception Prediction: A Case Study of Songdo, Incheon 645

Afshin Ashari, Ramtin Shafaghati
Customizable AI Tools for Landscape Architecture: Tailored Processes Compared with Traditional Rendering 653

Olaf Schroth, Annette Maier
Integrating Generative Artificial Intelligence into the Landscape Architecture Design Process 665

Teaching Digital Landscape Architecture 677

Arzu Türk, Melih Bozkurt
Let's Play the AI-based Board Game: New Era for Landscape Architecture Education 678

Yin He
Fantasy, History, and Boundaries: Examining Utopian Landscapes in Digital Games ... 686

Vincent Javet
Applying Sustainable CNC Model Making Materials in Landscape Architecture Education 695

Gabrielle Bartelse, Raita Steyn
Exploring the Pedagogical Value of Game Design for Landscape Architects 703

Auriga Joy Rosell, Nappy Navarra
Mapping Emergent Patterns of Landscape Architect User Experience in Creation Games to Describe Digital Landscapes 713

Acknowledgements 723

Introducing DLA 2026 in Dublin 731

Early Conference Announcement & Call for Papers for the International Conference "Digital Landscape Architecture DLA 2026" 733