

## Table of Contents

<b>Introduction</b> .....	VII
<b>Editorial</b> .....	IX
<b>Geodesign for Climate Change</b> .....	1
<i>Ata Tara, Yazid Ninsalam, Charles Anderson</i>	
Interrogating Urban Renewal Scenarios Using Skyline Analysis in Fishermans Bend, Melbourne .....	2
<i>Jacqueline Zavala, Irene Lorenzoni, Andrew Lovett, Katy Appleton</i>	
Community-led Coastal Planning: The Contribution of Visualizations to Decision-making.....	12
<i>Medria Shekar Rani, Eckart Lange, Ross Cameron, Olaf Schroth</i>	
Future Development Scenarios for Adaptation to Climate Change in the Ci Kapundung Upper Water Catchment Area, Bandung Basin, Indonesia.....	23
<i>Muge Unal, Cengiz Uslu, Ahmet Cilek, Mehmet Faruk Altunkasa</i>	
Microclimate Analysis for Street Tree Planting in Hot and Humid Cities .....	34
<i>Dor Schreier, Tal Alon-Mozes</i>	
Evaluating the Potential for Green Roof Retrofit in Urban Fabric .....	43
<i>Yexuan Gu, Brian Deal</i>	
Coupling Systems Thinking and Geodesign Processes in Land-use Modelling, Design, and Planning .....	51
<i>Stefan Taeger, Lothar Ulferts</i>	
Beyond Viewshed Analysis: Extended Approaches to Visibility Analysis in Energy Transition Landscapes.....	60
<b>Mobile Devices for Geodesign</b> .....	69
<i>Kelleann Foster (Invited Paper)</i>	
The Data/Tech Wave is Growing: How Can We Get More onto the Geodesign Surfboard? .....	70
<i>Dae Yong Kim, Matthias Pietsch, Nicole Uhrig</i>	
Testing Stamp Rally Mobile Application to Encourage Self-learning Local Area Enhancing “Wayfinding” and “Place Legibility” in Multicultural Society .....	78
<i>Muhamad Bin Rosley, Eckart Lange, Kevin Thwaites</i>	
Mapping of Public Places: Integration of Mobile Devices and Conventional Mapping to Investigate Place Identity in Muar, Malaysia .....	86

<b>Algorithmic Landscapes</b> .....	95
<i>Stephen M. Ervin</i>	
Sensor-y Landscapes: Sensors and Sensations in Interactive Cybernetic Landscapes ....	96
<i>Yuan Yangyang, Chen Yulong, Cheng Yuning</i>	
Logical Construction and Algorithm Implementation: Research on Parametric Designs of Naturalistic Waterscapes .....	107
<i>Austin Dunn, Bailey Hanson, Christopher J. Seeger</i>	
Evaluating Walkability in the Age of Open Data: OpenStreetMap and Community-level Transportation Analysis .....	119
<i>Michael Roth, Silvio Hildebrandt, Sina Röhner, Christian Tilk, Hans-Georg Schwarz von Raumer, Frank Roser, Milena Borsdorff</i>	
Landscape as an Area as Perceived by People: Empirically-based Nationwide Modelling of Scenic Landscape Quality in Germany .....	129
 <b>Augmented and Virtual Reality and Immersive Displays in Landscape Architecture</b> .....	 139
<i>Brian Orland, Micah Taylor, Tara Mazurczyk, Meredith Welch-Devine, Lacey Goldberg, Mary Candler Scales, Timothy Murtha, Jon Calabria</i>	
Augmented Reality and the Scenic Drive .....	140
<i>Christian Soria, Michael Roth</i>	
Unreal Reality: An Empirical Investigation of Augmented Reality Effects on Spatial Cognition in Landscape Architecture .....	150
<i>Ana Moural, Helena Nordh, Ramzi Hassan</i>	
Tools for Planning, Design and Communication in Landscape Architecture: From Conventional Approaches to Virtual Reality .....	163
<i>Ulrike Wissen Hayek, Laura Endres, Reto Spielhofer, Adrienne Grêt-Regamey</i>	
Sound Ambiences Consistent with Visualizations of Landscape Types: An Evaluation .....	172
 <b>Big Data and Landscape Architecture</b> .....	 181
<i>Wenqian Ma, Qiyue Sun, Ye Chen</i>	
Research on Landscape Performance Evaluation Technology Based on Big Data Multivariable Ornamental Plant Database .....	182
<i>Don Royds</i>	
The Big Data Analysis Challenge for Landscape Architecture .....	191

<i>Brian Deal, Yexuan Gu</i> Resilience Thinking Meets Social-Ecological Systems (SEs): A General Framework for Resilient Planning Support Systems (PSSs) .....	200
<i>Xi Lu, Xiaojun Wang</i> A Methodological Study of Biotope Mapping in Urban Areas: Case of Xuanwu District, Nanjing City, China .....	208
<i>Antônio Ascensão, Catarina Ruivo, Franklim Morais, Laura Costa</i> Urban Park in Maia – Porto: A Case Study of Application of ‘Space Syntax’ to Landscape Architecture .....	217
<i>David Tulloch, Wansoo Im</i> Towards Using Social Media as a Geospatial Tool for Measuring Design Impact on Human Experiences .....	227
<b>Building Information Modeling (BIM) for Landscape Architecture .....</b>	<b>235</b>
<i>Mike Shilton (Invited Paper)</i> Digital Futures – BIM in Landscape Design: A UK Perspective .....	236
<i>Knut Hallgeir Wik, Marius Sekse, Bjørn Amund Enebo, Jostein Thorvaldsen</i> BIM for Landscape: A Norwegian Standardization Project .....	241
<i>Timothy Murtha, Charles Golden, Ann Cyphers, Alexander Klippel, Travis Flohr</i> Beyond Inventory and Mapping: LIDAR, Landscape and Digital Landscape Architecture .....	249
<b>Drone &amp; UAV-based Sensors and Near-range Photogrammetry in Landscape Architecture .....</b>	<b>261</b>
<i>Markus Gerke (Invited Paper)</i> Developments in UAV-Photogrammetry .....	262
<i>Matthias Pietsch, Matthias Henning, David Mader, Patrick Westfeld, Florian Etterer</i> Using Unmanned Aerial Vehicles (UAV) for Monitoring Biodiversity Measures in Periurban and Agrarian Landscapes .....	273
<i>Wang Yijing, Cheng Yuning</i> Construction and Analysis of 3D Scene Model of Landscape Space Based on UAV Oblique Photography and 3D Laser Scanner .....	283
<i>Max Marschall, Yazid Ninsalam, Jane Burry</i> Aerial Weather Stations and the Quest to Understand Built Environments.....	291

<b>Sharing Designs Through Cloud Computing and the Internet-of-Things in the Landscape .....</b>	<b>301</b>
<i>Jörg Rekitke, Philip Paar</i>	
Decoupling Design from Presentation: A Concept for Cloud-based Competition Submission and Judgement.....	302
<i>Ming-Kun Xie, Cheng Yuning</i>	
A Framework for the Intelligent Monitoring System of Stormwater Management Based on the Internet of Things and Wireless Sensor Networks .....	310
<i>György Szabó, Ervin Wirth, Anna Czinkoczký</i>	
Monitoring Urban Roadspace Usage with Radio Frequency Identification Tags and Internet-of-Things .....	319
<b>Point Cloud Applications in Landscape Architecture and Digital 3D Scanning and Fabrication in Landscape Architecture .....</b>	<b>327</b>
<i>Agnès Patuano</i>	
Measuring Naturalness and Complexity Using the Fractal Dimensions of Landscape Photographs .....	328
<i>Florian Zwangsléitner</i>	
Potentials and Constraints: Digital Design- and Manufacturing Tools for the Creation of Individualized Street Furniture .....	336
<b>Social Media in Landscape Architecture.....</b>	<b>345</b>
<i>Fernando Montañó</i>	
The Use of Geo-Located Photos as a Source to Assess the Landscape Perception of Locals and Tourists – Case Studies: Two Public Open Spaces in Munich, Germany .....	346
<i>Ma Jie, Cheng Yuning</i>	
Research on the Relationship between Urban Public Space Behavior and Landscape Morphology Based on Big Data of Social Networks.....	356
<i>Yalcin Yildirim</i>	
“Listening” Crowdsourced Knowledge .....	365
<i>Lucas Kaufen</i>	
Landscape Perception and Construction in Social Media: An Analysis of User-generated Content .....	373

---

<b>Teaching Digital Landscape Architecture</b> .....	381
<i>Jörg Rekitke (Invited Paper)</i>	
Challenges and Approaches of Landscape Research and Design in the Global South.....	382
<i>Zihao Zhang, Andrew Mondschein, Mona El Khafif</i>	
Human-Tool Assemblage: Designers in the Big Data World.....	397
<i>Philip Belesky</i>	
The Green Grasshopper: Approaches to Teaching Computational Design Methods in Landscape Architecture .....	406
<i>Pia Fricker</i>	
The Real Virtual or the Real Real: Entering Mixed Reality .....	414
<b>Acknowledgements</b> .....	423
<b>Early Conference Announcement &amp; Call for Papers for the International Conference “Digital Landscape Architecture DLA 2019”</b> .....	427