
Foreword

This year marks the 25th Digital Landscape Architecture conference. Happy silver anniversary DLA!

The theme of my first DLA conference was Virtuality in Landscape Architecture. It was 2001 and I was asked to give a keynote about how landscape architects were changing from analog to digital methods as the 20th century was coming to an end. Most of the presentations discussed visualization technology – many discussed 3D visualizations. PAAR introduced us to the idea of using a gaming engine for landscape visualization. There was interest in “immersive” environments using multiple synchronized projections. Several presentations were about new software. It was all very exciting! In 2002 the theme was expanded to include GIS applications to which presenters enthusiastically responded. Participation was added to the theme in 2003, though the contributions focused on the technology and less on the quality of the participation. I may have been asleep, but it seems to me that we have proceeded largely along these lines for 20 years with interesting new contributions, but no major innovations that would change the nature of landscape architecture as much as moving from analog to digital methods did.

The prediction of revolutionary change has been on the horizon for what seems decades – computers would be able to make meaningful design decisions and designers would interact constructively with the public in real-time fully immersive virtual landscapes. I am excited to find that there are 2024 DLA presentations that do just that and go beyond the concept to provide evaluations of artificial intelligence (AI) in design and using immersive technology in co-design projects.

The importance of artificial intelligence was recognized by several JoDLA 5-2020 papers, but as TEBYANIAN characterized it “while [machine learning] generated landscape design solutions are possible, they rarely have been studied and remain a future field of research.” In JoDLA 7-2022, ZENG & PENG presented a bibliometric analysis of digital landscape publications identified through the Web of Science and the JoDLA between 2010 and 2021. They recognized AI as falling within digital technologies, but did not identify it as a researched area. Two articles employed AI technology, one concerned recording human behavior for post-occupancy evaluation, and the other explores prototypes of human-plant-digital interactions. JoDLA 8-2023 included four AI related papers. An autonomous robot that cares for an urban garden, for instance while you attend the DLA. A second compared visualization created using traditional Photoshop collaging with text-based and sketch-based AI image generation. Twelve landscape architects and urban designers evaluated the visualizations and answered questions about the potential and implications of AI for landscape architectural practice. The third paper compared the usefulness of three AI image generators for producing 2D assets for inclusion in design renderings. The final paper identifies micro-level landscape qualities associated with Starbucks coffee shops in Hong Kong by using machine learning to interpret customer comments and relate them to visual features extracted from street photographs.

This brings us to JoDLA 9-2024. I would note that AI was not identified as a sub-theme for the 2024 DLA conference, yet over a dozen papers across seven sub-themes focus on AI!

Perhaps that is how it should be – less focus on the technology and more focus on the problems it can usefully address.

The AI papers are moving beyond giving AI a tryout to systematically evaluating its capabilities. GEORGE et al. prepared 15 prompts for “various ecological, stylistic, functional and aesthetic themes” to identify 20 appropriate perennials. Three testers submitted each prompt ten times to two versions of ChatGPT and the resulting plant lists were evaluated for accuracy, variety and distribution. Among the interesting results was a bias toward certain plants, even across the diverse criteria. The authors consider how such bias might affect plant selection. SENEM et al. created a custom database of garden plans evaluated for a number of attributes by a large number of people to train a deep learning AI. The AI was used to generate 100 garden plans which were then evaluated for graphic language, plan readability, building mass, land-use patterns, circulation, softscape pattern, diversity, and readability. TAN et al. provide another example of how AI can become a “collaborative partner” in creating form, in this case by providing real-time feedback about wind-related conditions. The role of AI as instructor was also explored by a couple of papers. Finally, I would like to draw attention to FERNBERG & ZHANG’s paper characterizing five ways landscape architects relate to AI – a sort of Myers-Briggs for AI personalities.

The second subtheme that drew my attention this year was Co-creation, or approaches to participation. The predictions that public engagement will move into the virtual landscape are decades old. I am very excited by the paper from DHAINI & DREKSLER that compared two workshops with participants representing diverse interested parties. Their purpose was to design a pond area in a Bioserve using a physical model and immersive VR (i. e., participant wore Oculus Quest 2 VR headsets and worked using Gravity Sketch 3D design software). A systematic evaluate was conducted through a questionnaire documenting their experiences. We need many more such comparisons to better understand how to effectively employ VR as a co-creation tool. Digital approaches to more traditional public participation methods were also discussed. For instance, POLYZOU & SECHIDIS adapted an open-source children’s art program to overcome inhibitions in graphic expression. In addition to basic drawing tools, the program included a library of design-appropriate landscape features. Creating this image library was part of the co-creation process. A couple of papers also considered AI as a co-creation partner, for instance the paper by TAN et al. discussed above. I am looking forward to further development of this subtheme next year when the overall conference theme will be Collaboration.

Overall, I declare this year’s Journal of Digital Landscape Architecture a successful representation of the diversity of activity in the field. I look forward to the stimulating discussions we are sure to have at the conference.

*Prof. Dr. James F. Palmer, DLA Editor
Burlington, Vermont*