LEARNING OBJECTIVES:

- Illustrate the application of scripting and parametric design in landscape architecture.
- Examine the potentials of design computing techniques that duplicate analog methodologies.
- Review the Role of creative mapping, GIS, and Geo data representation.
- Identify the opportunities environmental illustration and computation provide for landscape architectural practice.
- Review the potentials of parametric design software and creative mapping applications.

PRESENTATION OUTLINE

1. Introduction: Understanding computation and responsive systems: Amoroso
   a. Explanation of potentials of medium
   b. Brief overview of computation, illustration and parametrics in the profession
2. Precedent Overview: Amoroso
   a. Examination of emerging landscape architecture firms using digital applications and representation to how express landscape design issues
   b. Creative Mapping: New Modes of Visually Representing Urban Data and Geo-Data Representation
      i. Quick overview of some historical and contemporary figures in 3D Mapping and Data-repicaling
      ii. Map-Landscape: the role of maps as both presentational devices and instructional pieces (Art and Analysis)
      iii. New application for 3D mapping and GIS: examining a new simplified GIS application that renders geo-data into 3D and animated designed maps on Google Earth platform. (Web-based application developed using KML and PHP programming language).
3. Modeling the Environment: Cantrell
   a. Overview
   b. Processes
   c. Environments
      i. Scene/Composition
      ii. Objects/Modeling
      iii. Terrain/Surface
      iv. Light/Atmosphere
      v. Dynamic Processes
      vi. Composites
   d. Considerations
4. Illustrating Ecologies: Cantrell
   a. Hybrid Representation Methods
   b. Integration of Analog and Digital Techniques
      i. Flexibility
      ii. Tangible Products
      iii. Virtual vs Physical
   c. Static and Dynamic Models
5. Generative Design Analytics: Michaels
   a. Heuristic Modeling as a Design Tool
      i. The potential for design programming in practice
      ii. Heuristic models vs predictive modes
   b. Algorithmic Landscapes
      i. Project Overview
      ii. Design Process
      iii. Conclusions
   c. Future Considerations
6. Project Overview and Case Studies: Fletcher
   a. Beta Bridge
      i. Populating vertical and horizontal surfaces
      ii. Options and Alternatives
      iii. Design Process
      iv. Results
   b. La Valentina Station Plaza and The San Jose Biennial
      i. Working with 3 Dimensional Primitives
      ii. Options and Alternatives
      iii. Design Process
      iv. Results
   c. South Park
      i. Overview of Conventional Analysis
      ii. External Determinants: Vectors, Attractors, Repellers
      iii. Internal Determinants: Attractors, Repellers, and the Z axis
      iv. Results
   d. Conclusion
      i. Applications across scales
      ii. Urban Metabolism
      iii. Open Source Urbanism
      iv. Open Source Cartography

PRESENTER BIOS

Bradley Cantrell is a designer and Associate Professor of Landscape Architecture at Louisiana State University. His work in responsive environments and design computing has been published and exhibited in numerous international venues. He is currently an invited research associate at the Harvard Graduate School of Design Responsive Environments Lab pursuing interdisciplinary research in media and responsive systems and the co-author of Modeling the Environment and Digital Drawing for Landscape Architecture published by John and Wiley Sons. http://reactscape.visual-logic.com http://lab.visual-logic.com

David Fletcher is an Urban Designer and Landscape Architect, professor, and writer. His work addresses process, void, symbiosis, alternative transportation networks, green infrastructure, and post-industrial urbanism. He holds an MLA with Distinction from Harvard University, a Bachelor of Art in Studio Art and Bachelor of Science in Landscape Architecture from the University of California at Davis. David is the founding principal of Fletcher Studio, an innovative and award winning collaborative practice based in San Francisco. Fletcher Studio is presently using parametric modeling and scripting to achieve automation, and in the design process. http://fletcherstudio.blogspot.com/

Nadia Amoroso is an educator in Landscape Architecture, specializing in visual representation and urban design. She teaches at the University of Guelph and Toronto, and was the Lawrence Halprin Fellow at Cornell University and the Garvan Chair at the University of Arkansas. She is the co-founder of DataAppeal, a 3D and 4D creative mapping platform. She is the author of The Exposed City: Mapping the Urban Invisible (Routledge, 2010) and Representing Landscapes: A Visual Collection of Landscape Architectural Drawings (Routledge, 2012) and is currently writing about digital landscapes in a forthcoming publication, Digital Landscape Architecture Now. She holds a BLA and MUD from the University of Toronto and a PhD in architectural design at the Bartlett School of Architecture. www.dataappeal.com www.nadiaamoroso.com

Wes Michaels is a principal of Spackman Mossop+Michaels landscape architects and Associate Professor of Landscape Architecture at LSU. Wes holds degrees in landscape architecture from the University of Georgia and Harvard University. Wes previously taught at Auburn University and was awarded a Fulbright Fellowship in 2009. Wes is recognized as a leading authority on digital media and the design process and his book Digital Drawing for Landscape Architecture was published by Wiley Press in 2010. www.sm2group.com