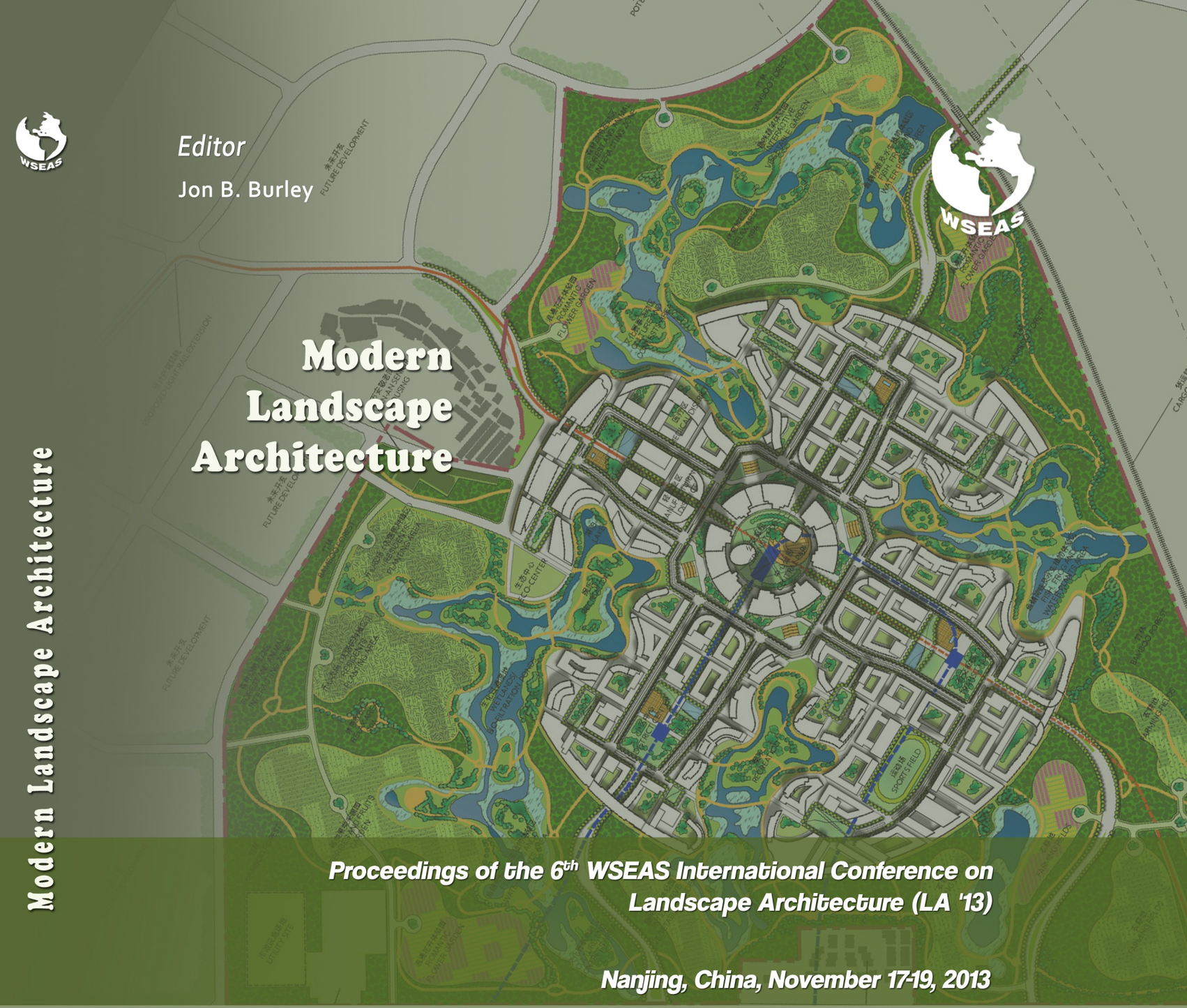

Editor

Jon B. Burley

Modern Landscape Architecture

Modern Landscape Architecture

Proceedings of the 6th WSEAS International Conference on Landscape Architecture (LA '13)

Nanjing, China, November 17-19, 2013

Scientific Sponsors

MODERN LANDSCAPE ARCHITECTURE

Proceedings of the 6th WSEAS International Conference on Landscape Architecture (LA '13)

Nanjing, China
November 17-19, 2013

Scientific Sponsors:

Zhejiang University of Technology, Hangzhou, CHINA

College of Computer Science & Department of Biomedical Informatics Asia University, TAIWAN

Music Academy "Studio Musica", Italy

Nanjing Forestry University, CHINA

Tianjin University, Tianjin, CHINA

Energy, Environmental and Structural Engineering Series | 21

ISSN: 2227-4359
ISBN: 978-960-474-355-1

MODERN LANDSCAPE ARCHITECTURE

Proceedings of the 6th WSEAS International Conference on Landscape Architecture (LA '13)

Nanjing, China
November 17-19, 2013

Published by WSEAS Press
www.wseas.org

All papers of the present volume were peer reviewed by no less that two independent reviewers. Acceptance was granted when both reviewers' recommendations were positive.
See also: http://www.worldses.org/review/index.html

ISSN: 2227-4359
ISBN: 978-960-474-355-1

MODERN LANDSCAPE ARCHITECTURE

Proceedings of the 6th WSEAS International Conference on Landscape Architecture (LA '13)

Nanjing, China
November 17-19, 2013

Preface

This year the 6th WSEAS International Conference on Landscape Architecture (LA '13) was held in Nanjing, China, November 17-19, 2013. The conference provided a platform to discuss landscape design, gardens, land art, earthworks art, historic preservation, landscape protection, regional architecture, soil and agricultural issues, natural resources management, natural hazards and risks etc with participants from all over the world, both from academia and from industry.

Its success is reflected in the papers received, with participants coming from several countries, allowing a real multinational multicultural exchange of experiences and ideas.

The accepted papers of this conference are published in this Book that will be sent to international indexes. They will be also available in the E-Library of the WSEAS. Extended versions of the best papers will be promoted to many Journals for further evaluation.

Conferences such as this can only succeed as a team effort, so the Editors want to thank the International Scientific Committee and the Reviewers for their excellent work in reviewing the papers as well as their invaluable input and advice.

The Editors

Table of Contents

Plenary Lecture 1

Landscape Evaluation Criteria: Dispersed Expectations

Associate Professor Jon B. Burley
Co-author: Chunqing Liu
Landscape Architecture
School of Planning, Design, and Construction
Human Ecology Building
Michigan State University
USA
E-mail: burleyj@msu.edu

Abstract: Planners and designers are interested in understand respondent's perceptions concerning the environment. In our study, we examined the criteria respondents indicated to assess landscape. We were interested in comprehending the simplicity/diversity of these responses. In our study we discovered that just a small sample of 71 respondents generated 65 criteria divided into 31 dimensions to evaluate environments. In other words, we found the criteria to evaluate environments to be complex and not uniform. These dimensions explained 80% of the variance in the respondents. We do not suggest that this list is definitive nor precisely represents the larger population. Rather, we suggest that such inconsistency means that agreement amongst respondents concerning how the landscape should be evaluated is dispersed. For planners and designers, this means that achieving agreement across numerous clients, stakeholders, and users requires successful implementation over an extensive programmatic list of expectations.

Brief Biography of the Speaker: Dr. Jon Burley is a registered Landscape Architect, an MSU SPDC Associate Professor, and a Fellow in the American Society of Landscape Architects (ASLA). He has accomplished professional planning and design work in the U.S., Canada, France and Nepal. Dr. Burley has published nearly 300 articles and abstracts related to landscape architecture and one book in reclamation planning and design. His work has been published in English, Chinese and French, and besides English, he can also speak French (somewhat) and a little Portuguese and Putonghua (Mandarin Chinese). Currently, he is a member of the Landscape International Scientific Committee for the World Scientific and Engineering Academy and Society, Chair of the Land-Use and Planning Technical Division of the American Society for Mining and Reclamation (ASMR), and Associate Editor of the ASMR online journal. Dr. Burley has won numerous teaching, design and research awards, including a Fulbright to Portugal in 2003, the 2005 ASMR Reclamation Researcher of the Year Award, a 2011-2012 Invited Pre-eminent Researcher Award in France, and nine state and two national ASLA awards. He has international connections at Nanjing Forestry University, Nanjing, China; Universidade do Algarve, Faro, Portugal; and Agro-campus Ouest-Paysage, Angers, France. Dr. Burley is the past Chair of the ASLA International Professional Practice Network, past member of the AFB40 Landscape and Environmental Design Committee Transportation Research Board National Academies, past Chair of the ASLA Restoration and Reclamation Professional Practice Network, and past Chair of Chairs for the ASLA Professional Practice Network. At MSU, he works with visiting scholars and students from China, Portugal and France. He has lectured in Nepal, China, S. Korea, Sweden, Estonia, Portugal, Germany, France, Switzerland, Italy, U.S., the United Kingdom (U.K.), Turkey and Canada; and has led overseas studies in the U.K., France, Spain, Portugal, Germany, Turkey, Morocco, Greece and Italy.
Research Interests: Wildlife habitat design, surface mine reclamation planning and design, landscape planning methods, landscape research methods, landscape theory, landscape ecology, environmental design, landscape hazards, visual quality assessment, conceptual design, international planning and design, and transportation planning and design.
Website: https://www.msu.edu/~burleyj/

Plenary Lecture 2

Sustainable Landscape Management to Decrease Erosion Risk and Extend the Lifetime of Dams

Professor Thomas Panagopoulos
Centro de Investigação sobre Espaço e Organizações (CIEO)
Faculdade de Ciências e Tecnologia
Universidade do Algarve, Campus de Gambelas, 8005-139, Faro
PORTUGAL
E-mail: tpanago@ualg.pt

Abstract: European landscapes are changing due to the increased construction of renewable energy projects. One of them is the Alqueva dam in South Portugal that created the biggest artificial lake of Europe. In this research it was analyzed recent landscape changes at the Alqueva dam watershed. Soil erosion is one of the most pressing environmental problems facing the reservoir watersheds of any place in the world. Soil erosion risk assessment is urgently needed in order to conserve water resources and prevent the accelerated siltation at the watershed of the Alqueva dam reservoir. In order to achieve more and better management of rangelands around the second largest reservoir of Europe, it is essential to evaluate how the soil properties can be affected in regard to the introduced land use changes. The Revised Universal Soil Loss Equation (RUSLE) is the most widely used method to calculate erosion. A dynamic model is constructed in Stella environment based on RUSLE factor interconnections. The Study model is developed from empirical data of an experimental area of Parque do Alqueva that recently affected by a development to a luxury tourism resort with golf course. The study area was previously used as an agroforestry type landscape managed as the traditional low tree density montados of south Portugal. Geo-statistical techniques were used to assess the relation of the spatial variability of soil erosion to soil properties. Graphical interpretation of soil properties was performed using ordinary kriging. The maps obtained by kriging showed which are the areas that soil erodibility will be mostly affected due to the land use changes. The modelling results show that erosion can have a significant impact on the ability to hold water. In the best case scenario, soil erosion process over a course of 100 years decreases the reservoir capacity by less than 1%, while in the worst case 25% of initial capacity is lost. The model will be used in different landscape change scenarios to mitigate the risk of erosion. Those scenarios reflected the problems associated with maintaining the reservoir capacity, prolong the lifetime of the dam and preserve the sustainability in landscapes.

Brief Biography of the Speaker: Professor Thomas Panagopoulos received the B.Sc. in Forestry from Aristotle University, the M.Sc. in Renewable Natural Resources from the Mediterranean Agronomic Institute, the Ph.D. from Faculty of Geosciences Aristotle University. The area of his PhD is landscape reclamation. He has published more than 120 papers in Journals and Conferences.
He has been Landscape Architecture Department Head at the University of Algarve and is vice-president of the Research Centre of Spatial and Organizational Dynamics (CIEO). He has been Director of the Landscape Architecture Master Degree at the University of Algarve, in the Doctoral Program “Innovation and Land Management” and Executive Board member of UNISCAPE (the European Network of Universities for the implementation of the European Landscape Convention). He has received over 5.4 million in external funding. He has 206 publications of which 33 are refereed journal articles and 26 are refereed book chapters. He organized 15 International conferences related to Landscape Architecture, Information and Technology, Urban Development, Climate change, Environment and Sustainability. He is at the editorial board of various national and international scientific journals.

Plenary Lecture 3

Greenway Theory and Integrated Planning of Urban Green Space System - A Case Study of Yancheng City in Jiangsu Province

Prof. Hao Wang
Vice-president of Nanjing Forestry University
Landscape Architecture Expert of Construction Ministry
Member of China Landscape Architecture Professional Guidance Committee
Nanjing Forestry University
Nanjing
CHINA

Abstract: Planning of urban green space system based on green way theory is characterized by connectivity, network structures and comprehensiveness. Based on greenway theory and relevant experience, the author elaborates on the necessity of protecting and restoring ecological system and urban ecological networks. By conducting a case study of Yancheng city in Jiangsu Province, this article introduces the distribution features of urban green resources and proposes building green space in cities and countrysides based on greenways. Thanks to the linkage of greenways, a dynamic green space network could be set up by green space in different natures, shapes and sizes. Under new circumstances ,an integrated study of greenway planning and the planning of urban green space would be maximize the role of greenways in boosting urban-rural integration and a landscape-ecosystem-oriented development. It takes green ways as carriers but beyond the material forms, serving as the representation of society and culture. Therefore, the urban green space system planning moves to the planning from material one to the one combined with material and spirit.

Plenary Lecture 4

Design Strategy of Landscape Architecture Based On Coupling Method

Prof. Cheng Yuning
Head, Department of Landscape
School of Architecture
Southeast University
CHINA

Abstract: Advocating “minimization” in landscape design is not to encourage to design simply and is not to emphasize the reduction of human intervention. Conversely, “minimization” recommends the intensive discipline of planning and design based on the coupling principle in an attempt to achieve the objectives of landscape resource optimization configuration through reasonable human intervention. Such practice is an effective approach to achieve scientification and minimization in contemporary landscape design. As a full-scale landscape design method, the coupling method not only involves methodology but also has a corresponding operability. The design strategy based on the coupling method takes mutual adaptability as its core and is involved in the whole process of landscape design, from project planning and design to construction.

Plenary Lecture 5

A Study on Shanghai's Practice Based on the Organic Evolution Theory of Urban Green Space System

Prof. Lang Zhang
Deputy Chief Engineer of Shanghai Greening and City Appearance Administrative Bureau
Consultant Expert of China Association for Science and Technology
Member of China Standard Technique Committee
Director of Chinese Society of Landscape Architecture
Vice Chairman of Shanghai Landscape Architecture Academy
CHINA

Abstract: Similar to biological evolution, the urban green space system meets essential requirements for evolution as an organic integrity, therefore, rules of biological evolution are still applicable to evolution of urban green space system in some degree. In 2007, Zhang combined "evolutionism" with "urban green space system" and introduced Darwin's evolutionary ideology to the planning of urban green space system and put forward a new urban green space system development theory "the organic evolution theory of urban green space system". The theory targets on guiding urban green space planning, construction and management to achieve innovation and promotion of concepts as a kind of self-examination, anticipation and integration of urban green space system planning and construction ideas, Shanghai's practice is the proof of this theory to verify. Based on the theory, this paper verified the systematic and organic evolution process of Shanghai urban green space system planning from 'urban green space layout' to 'urban green space system' and then to "city region green space and forest system", finally to "urban ecological network system". From the point of view of ecological network planning, this paper explored urban green space system evolution of decisive significance of the base power, public policy, relationship between urban and rural areas, internal structure, the resources use, genes and their variation to the influence of urban green space system evolution in order to improve urban green space system organic evolution theory system for urban green space system planning construction service.

Brief Biography of the Speaker: Lang ZHANG, Born in July, 1964, majors in Landscape Architecture. Personal experience includes: engaging in teaching and scientific research, project practice and professional management, carrying out more than 10 scientific research projects, such as the national natural science funds project, ministerial, provincial, municipal science and technology commission project and international cooperation scientific research project, the 4 projects got ministerial and provincial first, second and third prize of scientific and technological progress award, respectively, getting international prizes for four times including 2010 annual IFLA excellence award and winning a number of state-level, provincial and ministerial excellent design awards, publishing more than 60 original research papers and over 12 monographs.

Plenary Lecture 6

The Trialism of Landscape Architecture: Its Theory and Practices in China

Prof. Binyi Liu
Department of Landscape Studies
College of Architecture and Urban Planning
Tongji University
CHINA

Abstract: There are three part within the lecture: The first part is try to explore the landscape of philosophical ontology epistemology, methodology, the theory of practice. The trialism of landscape architecture, three in one, constructed by the "environment and ecology", "behavior and activity " and " space and form " were established, and the essence of landscape architecture is the concept of coupling interaction of the three “yuan”. On this basis, put forward three “yuan” of the ontology connotation of landscape architecture discipline, the inter-discipline of landscape architecture, and the three element body level elements based on extended subdivision, the system of the trialism of landscape architecture of elements, factors, evaluation, practical was initially established.
The second part is the application of the trialism of landscape architecture on coordinate system for landscape architecture disciplinary development. There are three projects as the examples in the third part: (1) Urban development oriented by landscape development: Jiyang Lake Ecological Park 2000-2012; (2) River front planning, design, construction in urban development area: Landscape Planning, Design and Construction for the North Section of the Bailang River 2011-2013; (3) Cultural landscape conservation and development: Master Planning of Longmen Grottoes World Cultural Heritage Park and Wetland Park Design and Construction 2011-2013.