

Editors

Jon Burley Luis Loures Thomas Panagopoulos



Recent Researches in Environmental Science C Landscaping

- Proceedings of the 5th WSEAS International Conference on Landscape Architecture (LA '12)
- Proceedings of the 1st International Conference on Lakes, Rivers, Groundwater and Sea (LARIGS '12)
- Proceedings of the 1st International Conference on Sustainable Cities,
 Urban Sustainability and Transportation (SCUST '12)
- Proceedings of the 1st International Conference on Forests, Mountains, Valleys and Volcanoes (FOMOVAVO '12)
- Proceedings of the 1st International Conference on Science Parks and Technology Parks (SPATP '12)
- Proceedings of the 1st International Conference on Sustainable Tourism and Cultural Heritage (STACH '12)

University of Algarve, Faro, Portugal, May 2-4, 2012







Energy, Environmental and Structural Engineering Series



RECENT RESEARCHES in ENVIRONMENTAL SCIENCE and LANDSCAPING

Proceedings of the 5th WSEAS International Conference on Landscape Architecture (LA '12)

Proceedings of the 1st International Conference on Lakes, Rivers, Groundwater and Sea (LARIGS '12)

Proceedings of the 1st International Conference on Sustainable Cities, Urban Sustainability and Transportation (SCUST '12)

Proceedings of the 1st International Conference on Forests, Mountains, Valleys and Volcanoes (FOMOVAVO '12)

Proceedings of the 1st International Conference on Science Parks and Technology Parks (SPATP '12)

Proceedings of the 1st International Conference on Sustainable Tourism and Cultural Heritage (STACH '12)

University of Algarve, Faro, Portugal May 2-4, 2012

Energy, Environmental and Structural Engineering Series | 2

Published by WSEAS Press www.wseas.org

ISSN: 2227-4359

ISBN: 978-1-61804-090-9

RECENT RESEARCHES in ENVIRONMENTAL SCIENCE and LANDSCAPING

Proceedings of the 5th WSEAS International Conference on Landscape Architecture (LA '12)

Proceedings of the 1st International Conference on Lakes, Rivers, Groundwater and Sea (LARIGS '12)

Proceedings of the 1st International Conference on Sustainable Cities, Urban Sustainability and Transportation (SCUST '12)

Proceedings of the 1st International Conference on Forests, Mountains, Valleys and Volcanoes (FOMOVAVO '12)

Proceedings of the 1st International Conference on Science Parks and Technology Parks (SPATP '12)

Proceedings of the 1st International Conference on Sustainable Tourism and Cultural Heritage (STACH '12)

University of Algarve, Faro, Portugal May 2-4, 2012

Energy, Environmental and Structural Engineering Series | 2

Published by WSEAS Press www.wseas.org

Copyright © 2012, by WSEAS Press

All the copyright of the present book belongs to the World Scientific and Engineering Academy and Society Press. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the Editor of World Scientific and Engineering Academy and Society Press.

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: 978-1-61804-090-9



World Scientific and Engineering Academy and Society

RECENT RESEARCHES in ENVIRONMENTAL SCIENCE and LANDSCAPING

Proceedings of the 5th WSEAS International Conference on
Landscape Architecture (LA '12)
Proceedings of the 1st International Conference on Lakes, Rivers,
Groundwater and Sea (LARIGS '12)
Proceedings of the 1st International Conference on Sustainable Cities,
Urban Sustainability and Transportation (SCUST '12)
Proceedings of the 1st International Conference on Forests,
Mountains, Valleys and Volcanoes (FOMOVAVO '12)
Proceedings of the 1st International Conference on Science Parks and
Technology Parks (SPATP '12)
Proceedings of the 1st International Conference on Sustainable

University of Algarve, Faro, Portugal May 2-4, 2012

Tourism and Cultural Heritage (STACH '12)

Editors:

Prof. Jon Burley, Michigan State University, USA

Prof. Luis Loures, Polytechnic Institute of Portalegre, Portugal

Prof. Thomas Panagopoulos, University of Algarve, Portugal

International Program Committee Members:

Prof. Jon Bryan Burley, Landscape Architecture Program, School of Planning, Design, and Construction, Michigan State University, USA

Prof. Cyril Fleaurant, Institut Superieur des Sciences Agronomiques, Angers, France

Prof. Arch. Biagio Guccione, Architettura del Paesaggio, Universtita degli Studi di Firenze, Via Giambattista Lulli 85, 50144 Firenze, Italy

Prof Carlos Braganca, Department of Civil Engineering, Superior school of Technology, University of Algarve, Faro, Portugal

Prof. Ioannis Ispikoudis, Landscape Ecology, Aristotle University, Thessaloniki, Greece

Prof, Bruce Sharky, Landscape Architecture, Louisiana State University - Baton Rouge, USA

Prof. Miguel Costa, Landscape Architecture, FCT, University of Algarve, Faro, Portugal

Prof. Giuseppe Genon, Politecnico di Torino, Dipartimento di Scienza, Torino, Italy

Prof. Carla Antunes, Landscape Architecture, FCT, University of Algarve, Faro, Portugal

Prof. Jose Luis Miralles, Universidade de Valencia, Valencia, Spain

Prof. Desiderio Batista, Landscape Architecture, FCT, University of Algarve, Faro, Portugal

Prof. Giuseppe Luigi Cirelli, Department of Agricultural Engineering - Hydraulic division, University of Catania, Via S.Sofia, 100 - 95123 Catania, Italy

Prof. Luis Loures, Politechnic Institute of Portalegre, Elvas, Portugal

Prof. Francesco Ferrini, Universita di Firenze, Departamento di Ortofroricoltura, Firenze, Italy

Prof. Andre Leitão, Research Center of Landscape Territory and Urbanism, University of Algarve, Faro, Portugal

Additional Reviewers:

Adrian Turek Rahoveanu

Ahadollah Azami

Al Emran Ismail

Alena Bumbova

Alexandru Filip

Ali Dashti Shafiei

Ali Salehipour

Ana Maria Tavares Martins

Andrei Jean Vasile

Andrei Madalina-Teodora

Andrey Dmitriev

Arion Felix

Aw Yoke Cheng

Avca Tokuc

Badea Ana-Cornelia

Baltalunga Adrian

Berrichi Faouzi

Betul Betul Kan

Calbureanu Popescu Madalina Xenia

Carlos Gonzalez

Catalin Popescu

Catarina Luisa Camarinhas Chandrasekaran Manoharan

Chellali Benachaiba

Chi, Chieh-Tsung Bruce

Chirita Mioara

Claudia A.F. Aiub

Claudiu Mereuta

Cornelia Aida Bulucea

Cristina Barbu

Cristina Matos

Daniela Cristina Momete

Daniela Litan

David Vallejo

Davorin Kralj

Denizar Cruz Martins

Dumitru-Alexandru Bodislav

Dzenana Donko

Elena Zaitseva

Eustache Muteba Ayumba

Feridoun Nahidi Azar

Francesco Rotondo

Francisco Diniz

Gillich Gilbert-Rainer

Giri Kattel

Heimo Walter

Irene Zananiri

Ismail Rakip Karas

Jainshing Wu

John Manuel Delgado Barroso

Jon Burley Jose A. Orosa

Jose Manuel Mesa Fernandez

Jose Metrolho Jose Nunes Julian Pucheta Karim Shirazi

Khaled Galal Ahmed

Kok Mun Ng

Konstantinos Vogiatzis Krisztina Uzuneanu Kyunghee Lee Ligia Silva Ljubomir Lazic

Luis Loures Mahboobeh Mahmoodi

Marcio Dorn

Maria Bostenaru Dan

Maria De Fatima Nunes De Carvalho

Maria Wenisch

Mario Cesar Do Espirito Santo Ramos

Marios Soteriades Matteo Palai

Mehdi Seyyed Almasi

Menakasivakumar Menakasivakumar

Mihaela Dudita

Mihai Tiberiu Lates

Mohd Helmy Abd Wahab

Monica Dumitrascu

Mueen Uddin Awan

Muntean Mihaela-Carmen

Nabil Mohareb Najib Altawell

Nikos Loukeris

Noraida Haii Ali

Nubli Abdul Wahab

Oguz Arslan

Oprita Razvan

Panagiotis Gioannis

Pedro Nucci

Perumal Pitchandi

Petr Hajek

Petr Mastny

Poom Kumam

Priyadarshan Dhabe

Ramin Khodafarin

Reza Fathipour

Ricardo Gouveia Rodrigues

Rodica Badescu

Roman Mihai Daniel

Roumiana Kountcheva

Serban Corina

Shiang-Yen Tan

Suzana Yusup

Theodoros Xanthos

Thomas Panagopoulos

Tiberiu Socaciu

Tsvetelina Draganova

U.C. Jha

Vasile Paul Bresfelean

Vasile Zotic Vasile Cojocaru Walid Oueslati Yang Zhang Zakaria Zubi

Zohreh Salavatizadeh

Preface

This year the 5th WSEAS International Conference on Landscape Architecture (LA '12), the 1st International Conference on Lakes, Rivers, Groundwater and Sea (LARIGS '12), the 1st International Conference on Sustainable Cities, Urban Sustainability and Transportation (SCUST '12), the 1st International Conference on Forests, Mountains, Valleys and Volcanoes (FOMOVAVO '12), the 1st International Conference on Science Parks and Technology Parks (SPATP '12) and the 1st International Conference on Sustainable Tourism and Cultural Heritage (STACH '12) were held at the University of Algarve, Faro, Portugal, May 2-4, 2012. The multiconference provided a platform to discuss landscape design, gardens, spatial behavior, lakes, rivers, groundwater, forests, mountains, sustainable tourism 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 multiconference 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 these 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: Multicultural Project-Better Future with Recycling Materials	12
Jozica Bezjak	
Second Life 3D City Virtual Environment as an Urban Planning Tool for Community Engagement	13
Thomas Panagopoulos, Ilze Jankovska, Inga Straupe	
<u>The Evaluation of Pine Forest Vegetation in Riga City, Latvia</u> <i>Inga Straupe, Ilze Jankovska, Inese Ozoliņa, Janis Donis</i>	20
Assessment of Spatial Variability of Soil Properties in Areas under Land Use Change due to the Alqueva Dam Construction	26
Thomas Panagopoulos, Rita Andrade, Vera Ferreira, Carlos Guerrero	
Renegotiating the Architectural Space, Landscape Juan Manuel Palerm Salazar	32
<u>Durable Coastal Landscape and Sustainable Tourism Development:objectives and Proposals</u> Annalisa Calcagno Maniglio	36
Analysis of Landscape Change Following the Construction of the Alqueva Dam, Southern Portugal – Approach and Methods André Samora Arvela, Thomas Panagopoulos, Anda Cakula, Vera Ferreira, Joao C. Azevedo	42
Medium-Sized Brazilian Cities, Urban Planning and Sustainability: The Case of Passo Fundo, in Southern Brazil Adriana Gelpi, Rosa Maria Locatelli Kalil, Tanise Spielmann, Acácio Dolci Rosalen	48
Sustainable Design of Public Open Spaces in the Great Porto Metropolitan Area Isabel Martinho Da Silva	54
A Sustainable Proposal for the Waterfront Brownfield Reclamation in Vila Real de Santo António, Portugal Rita Andrade, Thomas Panagopoulos, Luís Loures	59
Towards a Different Approach in Teaching Landscape Design. A Cross-educational, Cultural and Disciplinary Strategy Maria Freire, Isabel Joaquina Ramos	66
Contemporary Landscape: Preservation and Transformation. A Contribution to an Intervention Methodology Desidério Batista, Miguel Reimão Costa	72
The Role of Built Rural Heritage in the Contemporary Landscape of Central Algarve Miguel Reimão Costa, Desidério Batista	78
Land-Art: An Ingrandes Sur Loire Case Study Vincent Bouvier, Muriel Bouvier, Jon Bryan Burley	84

Developing Polychrome Fields: A Minnesota Case Study Jon Bryan Burley, Luis Loures, Mengwen Feng	90
Teaching Environmental Issues in an Architectural Design Studio. Description and Students' Response	97
Arnault François, Yann Nussaume, Catherine Szanto	
Project of Urban Regeneration - Rehabilitation and Revitalization of the Main Church Surroundings and Amuados Garden in the Historic Center of Loulé D. Batista, M. Carvalho	102
Vegetation Modules for Evaluation of Urban Green Areas	111
José Antonio González-Duque, Thomas Panagopoulos	111
Municipalities with Cities Growing Smaller - The Case of Portugal Thomas Panagopoulos, Ana Paula Barreira	118
Landscape and Sustainability in Golf Courses in the Algarve Region, Portugal André Botequilha-Leitão, Carla Antunes, Ana Silva	123
The Relevance of Urban Parks to Achieve Sustainable Development in Metropolitan Areas Laura Costa, Luís Loures	129
Greenways as a Land Use Tool Promoting Integrated Sustainable Planning and Management of Mediterranean Protected Areas. The Case of Trihonida Lake, Greece Alexander Kantartzis, Maria Koutsikou, Anna Papadopoulou	135
Sand Particles Bedload and its Related Bedform under Different Uniform Flow Stream A. H. N. Chegini, G. Pender	143
Conditionally Averaged Turbulent Structures of Flow over Two Dimensional Dunes in Large Rivers	149
Nadeesha Dharmasiri, Shu-Qing Yang, Yu Han	
Changes of Lake Engure Sedimentation Conditions Reflected by Paleovegetation Records Agnese Pujate, Laimdota Kalnina, Maris Klavins	155
Valuation of Urban Green Space and Provide Management Solutions to Increase Prosperity and Desirability of Urban Citizens Komeil Jahanifar, Zahra Abedi, Mostafa Jafari Kojor, Mehdi Ziaei, Mahdiyeh Jahanimehr	161
Sustainable Development and Risk Management Dana Prochazkova	168
A Combined Model of GIS and Fuzzy Multi Criteria Decision Analysis (FMCDA) for Suitable Evaluation/Selection of Industrial Areas, (Birjand, Iran) Mehdi Ziaei, Fatemeh Hajizadeh, Seid Said Reza Ahmadizadeh, Komeil Jahanifar	174
Aspects Regarding Urban Green Areas in the Post-Communist Cities of Romania. Case Study - The City of Timişoara Cătălina Ancuța, Claudia Muțulescu	180
Aspects Considering the Evaluation of Urban Risk. Case Study - Timisoara (Romania) Cătălina Ancuța, Claudia Muțulescu	186

The Forests in the EU Mediterranean Basin: Different Management Models and Problems António Xavier, Maria De Belém Martins	192
Comparing Business Park Success Factors Using Value Assessment Pasi Ojala, James Nysather	199
Latvian Project of Smart Grid and Renewables Technological Park Antans Sauhats, Diana Zalostiba, Galina Bochkarjova, Edite Biela, Janis Dinevics	205
Synergy between Academic Institutions and Enterprises in Mexico: Currentstate and Potential of Science Parks Laurence Mercier, José Naranjo, Humberto Villarreal	211
Is Water a Limiting Factor to Tourism in Desert South Australia? Meryl Pearce, Eileen Willis, Ben Wadham	215
History of Touristic Destination in Geografical Perspective (Kals am Grossglockner) Pavlina Chaloupská, Jiří Štýrský	221
Authors Index	226

Plenary Lecture 1

Multicultural Project-Better Future with Recycling Materials



Professor Jozica Bezjak University of Primorska PEF Cankarjeva 5, 6000 Koper Slovenia

E-mail: jozica.bezjak2@gmail.com

Abstract: Our international students project is distinguishable by multicultural and multidisciplinary approach, as well as a humanitarian side, as the students of pedagogical faculties and our grandparents has shown, when they helped us to produce more than interesting toys from recycled materials — Toys from grandmas chest and grandpas workshop. These toys were given to children in mothers Irma family. Part of the toys was also donated to SOS centres in Sarajevo and Macedonia, as a part of model of education by making toys from worn-out clothes and other waste materials. We have shown them how to make their own toys, which can be a fond memory of parents and grandparents. We also had a workshop in gipsy settlement, where children were shown how to make their own simple toys. We could certainly say that during the shaping and realization of project and by following our goals we all became a sort of family. Our ideas and solutions multiplied and spread, and as shown by students from pedagogical faculties and participants on symposium, took effect, when we made during a single week a lot of innovative toys from waste materials and donated them to homes where children live without or with single parent.

Intercultural dialog became a homogeneous, although multicultural, group with more than 300 active participants and more than 300 receivers of toys under the motto "Make a toy and make somebody happy".

It should also be mentioned that for seven years International symposiums of technical creativity educators of Slovenia hosted international participants and young researchers from more than 13 countries, which make projects by the model of PUD-BJ.

Brief Biography of the Speaker: Jozica Bezjak is a professor of education at the University of Primorska. In the field of education she graduated, made her master and her PhD she made out of contemporary materials and technologies at the University of Ljubljana, Faculty of natural sciences and engineering. She takes the science research of new materials and technologies out of medicine and technique – shape memory alloys, contact materials in microelectronics and technik. Her second degree she achieved in a special field of engineering pedagogic:»ING – PEAD IGIP«. Afterwards he made her second PhD out of engineering pedagogic at the Alpen Adria University of Klagenfurt in Austria. Science 1986 she take her research, science and pedagogic work on the different science and pedagogic institutions: University of Ljubljana, Faculty of natural sciences and engineering, University of Ljubljana, Faculty of pedagogic, University of Primorska, Alpen Adria University Klagenfurt, University Usti nad Labin (Czech Republic). At the University Usti nad Labin she teached courses at the graduated and post-graduated program mathematic-technic, physic-technic and pedagogic.

More than 692 works of her is to find in COBISS, of which more than 20 monographs. She recived numerous of honors and awards – Sokrates excellence SOVA for the highest achievements in the field academic didactic ("special engaged and excellent teaching in higher education"), she was awarded with the highest national award of Slovenia for the highest achievements in scientific research and teaching (2005). She is the president of the Association of Teachers of technical creativity of Slovenia. Over the last ten years (2003 - 2011) was also president of the Organizing and Scientific Committee and editor of the International Scientific Symposium "Technical creativity in school's curricula with the form of projectlearning "From idea to the product" - from the kindergarten to the technical faculty", Portoroz, Slovenia.