## 2010 International Conference on Optimization Design

### ICOD 2010

### Table of Contents

- **Message from General Chair**
- **Message from Program Chairs**
- **Organizing Committee**
- **Reviewers**

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**ICOD 2010**

- “Oasis” Eco-park Landscape Design and Rainwater Utilization
  - Zhaoyang Song and Yuexia Mao
  - Page 1

- “Plastic Limit” Triggered Rethinking the Design of Packaging
  - Haojun Cheng
  - Page 5

- A New Rural Look Created by Perseverant Pursuit of Tradition in Reconstruction of Ancient Dwellings
  - Wu Changyou and Shen Jie
  - Page 9

- A Study on the Protection and Remolding of the Spatial Characteristics of a City in China
  - Zhu Jing and Feng Jixin
  - Page 15

- A Theoretical Discussion on Methodological Study of Modern Design
  - Zhiyong Wang
  - Page 21

- Advanced DFT Features for an Industrial Application SoC
  - Zhikuang Cai, Kai Huang, and Jun Yang
  - Page 25

- An Analysis on the Influence of Lifestyle Studies on the Development of Industrial Design
  - Long Zhoujun
  - Page 29

- An Exploration of the Residence Unit Design in Changsha
  - Wang Wei and Miao Lin
  - Page 33

- Analysis Development of Animation with National Culture
  - Zhou Yan and Zhang Wei
  - Page 37

- Campus Pastoral Landscape Ideas
  - Shen Jie and Wu Changyou
  - Page 41

- Analysis on Spatial Form of Traditional Towns in Hubei Province
  - Wan Yanhua, Chen Tao, and Song Yang
  - Page 45

- Analysis on the Employment Characteristics and Strategies of Art and Design Graduates: Exemplified by School of Art and Design in Wuhan University of Technology
  - Guanghua Hu
  - Page 51
Application of Artistic Wallpaper in Soft Interior Decoration Design ................................................................. 55
Yang Yi

Application of Parametric Design in Contemporary Architecture Design .............................................................. 61
Cheng Bin and Wang Yu

Application Scope and Study of Animation Virtualization ......................................................................................... 65
Liu Chang

Applied Analysis of Light and Shadow in Virtual Space .............................................................................................. 69
Xinfan Ma

Architectural Design Optimization of Transformation Under the Digital Age ............................................................. 73
Xie Ou

Architecture Optimization Design under Extreme Natural Environment: A Case Study of the Office and Living Quarter for SDIC Potash Project in Lop Nur, Xinjiang ......................................................... 77
Gao Bo, Huang Lei, and Zhu Jing

Based on the Context of Urban-Rural Integration Optimal Design of Agricultural Landscapes .............................. 83
Yujing Zhu

Based on the Optimal Design of Product Form Modeling of Cognitive Semantics of Symbolic Elements .......................... 87
Yanfang Peng

Biotrickling Filter Optimization Measures and it Impact on the Removal Efficiency for H₂S ............................................. 91
Ge Jie and Zhang Chengzhong

Brief Analysis on Featured Truism Innovation of Mongol-Yuan Culture ................................................................. 95
Li Jiao

Characteristics Design with Organic Link on the Environment Landscape of Campus ............................................ 101
Yin Jing

Comparison and Analysis of Urban Central Districts’ Land Use Mode and Transport System .................................. 105
Guo Liang

Computer Aided Optimal Design of the Pictography of Marriage Custom of Naxi Nationality ............................. 109
Zhang Chao, Zhu Xiaojun, and Wu Xingkuan

Crystal Orientation Optimization of Nickel-Based Single Crystal Turbine Blade ...................................................... 113
Qingwu Wang, Mao Pang, and Hongyu Qi

Cultural Landscape of Catholic Churches of Northern Shaanxi in the Period of Late-Qing Dynasty and the Early Republic of China .................................................................................. 119
Wang Li and Li Xiaoming

Design for Natural and Intuitive Interaction: Touch-Based Human-Computer Interaction .................................... 123
Chong Zhang, Yonghai Yu, Bing Xu, and Qiong Liu

Digital Art: A New Form of Artistic Expression .......................................................................................................... 127
Gong Huilan

Discussion on Display and Exhibition Design of Modern Museums ......................................................................... 129
Zhang Bo

Ecological Landscaping Optimization Design .......................................................................................................... 135
Zhou Xiao and Zhou Yuanyuan

Ecological Water Landscaps Practice on Campus Landscape .................................................................................. 139
Yin Jing
Enery-Saving Measures in HVAC System

Hongying Zhang and Rui Xiong

Environmental Conservation of Historical Architectures and the Application of Digital Technology in Universities

Dai Fei

Exploration on a Model of Sticky Knowledge in the Process of Organizational Knowledge Transformation

Gang Kong, Liwen Tan, Sengtai Zhang, and Qian Li

Exploration on Concept Planning of the Historical and Cultural Town under the Background of Tourism Development: Set the Concept Planning of Sanhe Ancient Town for Example

Gu Dazhi and Xu Zhen

From Tujia Minority People’s Residential Buildings to the Application of City Design

Jiang Meng

Function, Scale and Level: Investigation of Multicentre Developmental Patterns of Megacities

Yongying Tian and Yukun Zhang

Further Study on Optimization Design of Multi-dimensional Form of Books

Cao Gang and Li Haiyan

Graphic Designs Based on the Modern Cognitive Theory

Peng Tian

Green Architectural Technology Optimization Design: Longgang High School’s Canteen Design as an Example

Peng Yue, Jiaping Liu, Bin Zhou, and Yixuan Lu

Identity of Space and Information Experience in Display Design

Hu Yiping

Improving University Administration Under the Perspective of Tacit Knowledge Management

Ruihong Zhang

Interior Optimization Design: Analysis on Sustainable Development in Interior Design

Ying Hu

Investigation of Design Optimization on Inner Roof Structure of Nansha Stadium for 2010 Asian Games

Ran Zhao, Demin Wei, Wenbo Sun, and Haoliang Zhu

Investigation on the Concept “Design”

Liu Hainian and Xu Yonggang

Landscape for Educational Technology: The Importance of Virtual Reality Technology in Landscape Design Teaching Method

Liu Jing and Chen Li

Landscape for Educational Technology: Landscape Design with Practice Teaching Thinking

Zhou Yuanyuan and Zhou Xiao

Low-Cost, Energy-Saving and Ecological Optimization Design for Rural Housing

Guohui Fan and Jiding Zhu

Ocean of Knowledge & Heights of Science: Architectural Design of Guangzhou No.2 Children Activity Center

Xiong Dizhu

On Chinese Traditional Architectural Art and Eco-culture

Lu Xiaobao

On the Interior Environment Optimization Design in Digitization Age

Deping Ge
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optimized Color in Web Page Plane Design</td>
<td>231</td>
</tr>
<tr>
<td>Yu Lan</td>
<td></td>
</tr>
<tr>
<td>Optimization Design of the “Axis“ as the Characteristics of Urban Landscape</td>
<td>235</td>
</tr>
<tr>
<td>Liu Jin</td>
<td></td>
</tr>
<tr>
<td>Optimization Design on Positioning Model of Destination Image: A Case Study of Nanjing</td>
<td>239</td>
</tr>
<tr>
<td>Xiong Yuanbin and Chai Haiyan</td>
<td></td>
</tr>
<tr>
<td>Optimization on Information System of Highway Natural Zoning in China</td>
<td>243</td>
</tr>
<tr>
<td>Yuxin Niu and Jinliang Xu</td>
<td></td>
</tr>
<tr>
<td>Optimizing Design of Landscape Symbol and Image-Building of City Culture</td>
<td>247</td>
</tr>
<tr>
<td>Wu Biao and Xingkuan Wu</td>
<td></td>
</tr>
<tr>
<td>Outdoor Space Optimization for Senior Citizens Based on Interactive Activities in Old Communities in Wuhan / China</td>
<td>251</td>
</tr>
<tr>
<td>Peng Xia</td>
<td></td>
</tr>
<tr>
<td>Planning of Tourist Resort Based on the Culture and Ecology Factors: Case Study of Jining North Lake Tourist Resort</td>
<td>255</td>
</tr>
<tr>
<td>Xiuqin Zhang and Paolo Vincenzo Genovese</td>
<td></td>
</tr>
<tr>
<td>Preliminary Study of Energy Saving and Emission Reduction Strategy in Green Building</td>
<td>259</td>
</tr>
<tr>
<td>Yuan Yuhui</td>
<td></td>
</tr>
<tr>
<td>Product Innovation Based on Universal Design</td>
<td>263</td>
</tr>
<tr>
<td>Jie Zhu and Qianghua Duan</td>
<td></td>
</tr>
<tr>
<td>Product Optimization Design Based on User Needs</td>
<td>267</td>
</tr>
<tr>
<td>Han Ji An</td>
<td></td>
</tr>
<tr>
<td>Renaissance and Inheritance of Regional Culture in Design on Style and Feature of Small Town: A Case Study of Bapu Yi Minority Town In Liangshan Region</td>
<td>271</td>
</tr>
<tr>
<td>Cheng Bin and Luo Neng</td>
<td></td>
</tr>
<tr>
<td>Research of Jingzhou City Circumvallation Park Plan</td>
<td>275</td>
</tr>
<tr>
<td>Wang Yanan, Li Zhiming, An Yunhua, and Zeng Junfeng</td>
<td></td>
</tr>
<tr>
<td>Research on Climate Adaptability of Urban Environment Based on Simulation and Analysis</td>
<td>279</td>
</tr>
<tr>
<td>Hui Zhang, Hao Xie, and Jing Wu</td>
<td></td>
</tr>
<tr>
<td>Yonghai Yu, Kaiyu Zhu, Bing Xu, and Jingsong Zhang</td>
<td></td>
</tr>
<tr>
<td>Research on the Landscape Design of Urban Riverside Area from the Perspective of Historical Geography: The Case Study of the Conceptual Design of the Left Riverside Region in Hanzhong City</td>
<td>289</td>
</tr>
<tr>
<td>Feng Wu, Jingyi Fan, Fangxin Cheng, and Jingtao Li</td>
<td></td>
</tr>
<tr>
<td>Research on Wetland Landscaping Optimization Design in Wuhan</td>
<td>295</td>
</tr>
<tr>
<td>Qin Song</td>
<td></td>
</tr>
<tr>
<td>Researches on the Dynamic Changes of Wetland Ecologic Landscape Pattern Based on 3S Techniques</td>
<td>299</td>
</tr>
<tr>
<td>Shang Lei and Xiong Huiying</td>
<td></td>
</tr>
<tr>
<td>Rural Landscape Compensative Design Based on the Overall Planning of Urban and Rural Development</td>
<td>305</td>
</tr>
<tr>
<td>Qin Zhang and Jing Wu</td>
<td></td>
</tr>
<tr>
<td>Chen Li and Liu Jing</td>
<td></td>
</tr>
</tbody>
</table>
Specific Geographical Waterfront Landscape Optimization Design .......................................................... 313
Jun Ren

Study on Spatial Planning Strategy of the River-Crossing Cities in the Middle and Lower Reaches of Yangtze River Based on Low Carbon .......................................................... 317
Chuancheng Li and Jin Yu

Study on the Relationship between High Technology Inclination of Fashion Design & Humanity Origin ............ 323
Liu Zhouhai and Fan Fei

Strategic Research on Optimization of Ecological Waterfront Landscape with Sustainability: A Study of Wuhan - The Hot Summer and Cold Winter Area in China .................................................. 327
Jing Wu, Baofeng Li, and Hao Xie

Sustainable Urban and Space Planning Strategy ..................................................................................... 331
Zhang Zhong Hua

The Analysis & Design of Urban Wetland: With the Water Garden in Portland & Living Water Park in Chengdu as Case Studies ................................................................. 337
Zhongzhong Zeng and Baofeng Li

The Application of Virtual Reality Technology in the Preservation of Mining and Metallurgy Culture in Huangshi Region ................................................................................... 343
Zhou Jinlin and Liu Manzhong

The Brand Creation of Chinese Underwear in Terms of the View of the Cultural Pedigree ........................................ 345
Sun Enle

The Consideration about Setting of Topics in Animation Creation ............................................................ 349
Zhang Wei and Zhu Mingjian

The Construction of Chinese Tea Culture Tourism Landscape .................................................................... 353
Li Zhiyong and Chen Ming

The Contextual Characteristics of the Spacial Landscape of City Intersections ............................................... 357
An Qi

The Design of Urban Green Space Based on the Landscape Pattern Optimization ........................................ 363
Lu Shizhu

The Development and Integration of Historical Culture and Geographical Characteristics: On the Outdoor Environmental Planning Program Design of Hubei Provincial Museum ................................................................. 367
Wang Gang

The Effects of Transformational Leadership and Team Climate on Employee Creativity: A Cross-Level Model .... 371
Guo Wei and Li Yanping

The Evaluation System of Industrial Product Design Based on Comprehensive Fuzzy Evaluation Method ........ 375
Changzhong Ke and Wenyu Wang

The Mathematical Beauty of Traffic Circles: An Exploration of the Role of Traffic Circles in Controlling Traffic Flow .................................................................................................................. 379
Hao Zhang, Hengjia Song, and Fei Qiu

The Preliminary Exploration of the Sustainable Research on the Urban and Rural Construction in the Western and Rural Construction in the Western Mountainous Area of China: The Case Study of the Planning of Chinese Medicine Industrial Park in Southern Shaanxi Mountainous Area .............................................................. 383
Degang Duan, Jin Wang, and Chengchen Wang

The Relationship between the Function and the Form in Product Shape Optimization Design .................. 389
Tang Jun
"Oasis" Eco-park Landscape Design and Rainwater Utilization

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Abstract—A modern competitive city must be of a good ecological environment and landscape, and. The city's development must be compatible with the natural environment, and the virtuous circle can provide sustainable impetus for the society. The construction of the ecological landscape must conserve enough green space in the future. In order to achieve a good result we integrate the ecological landscapes, rainwater utilization and the natural water cycle. It is believed that numbers of the eco-garden "point" will come together into a green "face", then our city can be turned into a green forest and attractive home.

Keywords—eco-landscape; rainwater utilization; landscape design, ecology; City

I. INTRODUCTION

As China's urbanization development and economic take-off, urban construction and urban landscape has rapidly developed, wide flat streets, large and small squares, uniform green, so that Chinese cities look more beautiful, but the changes of the city's appearance does not bring a corresponding improvement of the urban climate. In recent years, some of China's Cities suffer from the dusty storm and the heavy rain. For instance, on July 18, 2007 a sudden heavy rain hit Jinan City, Shandong Province, the poor city changed from a "Spring city" into a "water city". The streets turned into rivers, underground shopping malls become a big pond. The heavy rain resulted in the great economic losses and heavy casualties. How are our cities? Why do they become so irritable and heartless? With the beautiful face the city is indeed so vulnerable.

The rainwater gardens, ecological landscape design concept is very prevalent in the United States in 1980s and 1990s. Residential areas in some cities are no longer blindly hardened the ground, but the attention to rainwater infiltration and ecological balance. The most famous is the "ArE Siskiyou" reconstruction project in Portland. After the transformation, there is much less pressure on municipal drainage, because runoff water, pond water and groundwater form a good natural water cycle and also a pleasing urban landscape. For another example, professional design 2008 ASLA Honor Award - bordered by a lake channel design (Passage to the Lake) is Michael Van Valkenburgh, a landscape architecture designed by landscape class residential project. The project site in the United States, Maine Stoneham City, is a residential lake access road and landscape design.

The houses take advantages of the lake's natural landscapes, clever design of the road, the greatest degree of hardening and the road avoid the damage to the environment. Lake of the wooden tables in the design simple and beautiful scenery, a variety of landscape design elements are actually used well.

At present, China's construction of a conservation-based Urban Green Space is also strongly advocated, and the so-called saving green space is "the least amount of land, the least water, the least the financial allocations, the least disturbance to the surrounding ecological environment of the green model.

II. "OASIS" ECOLOGICAL GARDEN LANDSCAPE DESIGN

Our case locates at the northern suburbs of Jinan with a total area of 300 acres and slowly tilts from southwest to northeast. Throughout are warm and humid monsoon climate. After the completion of the project set of dining, spa vacation, fishing, cultivating and selling flowers and plants, especially in shallow buried geothermal, mining, low cost, water temperature 52-62℃, the water is clear, rich in lithium, strontium, bromine, iron, etc. minerals and trace elements, are very seductive.

The project includes catering, spa vacation, fishing, nursery places for an integrated operation, including fishing ponds, regional location has been set, position in the land of the south-west, the entire project on the ground gently from northeast to southwest tilt the terrain started to design exactly in line with our idea: the rain from the northeast to southwest flow of such big terrain without the rectification, earthwork greatly reduced. local shape terrain, the basic use of the original terrain. Moreover, in addition to the main road outside the alternative routes are arranged to maximize the use of the permeable ground.

Item terrain is very simple, vertical change little, the highest point and lowest point of elevation difference 1.5 meters, the final decision to the southwest to the northwest side of the pond soil accumulation, in this orogeny. Hot Springs, accommodation, catering peripheral set to form a mountain, water, forest, housing patchwork landscape. Room quiet elegance, hot springs gurgling sounds make us feel pleasure. The main entrance of the venue and the municipal road between a 4-meter wide river, the two sides covered with reeds, weeds. We make use of them finishing in the river side of the construction of a permeable pavement for leisure, and to river water and the park connecting the water...