

2014

# Architecture Abstracts

Fourth Annual International  
Conference on Architecture  
7-10 July 2014, Athens, Greece

Edited by Gregory T. Papanikos

THE ATHENS INSTITUTE FOR EDUCATION AND RESEARCH





Architecture Abstracts  
4<sup>th</sup> Annual International  
Conference on Architecture  
7-10 July 2014, Athens, Greece

Edited by Gregory T. Papanikos



First Published in Athens, Greece by the Athens Institute for Education and Research.

ISBN: 978-618-5065-56-0

All rights reserved. No part of this publication may be reproduced, stored, retrieved system, or transmitted, in any form or by any means, without the written permission of the publisher, nor be otherwise circulated in any form of binding or cover.

8 Valaoritou Street  
Kolonaki, 10671 Athens, Greece  
[www.atiner.gr](http://www.atiner.gr)

©Copyright 2014 by the Athens Institute for Education and Research. The individual essays remain the intellectual properties of the contributors.



# TABLE OF CONTENTS

(In Alphabetical Order by Author's Family name)

	<b>Preface</b>	<b>11</b>
	<b>Conference Program</b>	<b>13</b>
<b>1</b>	<b>Digital Replacing Analog: Integration of CAD within Architectural Design Process</b> <i>Salem B. Abdalla</i>	<b>24</b>
<b>2</b>	<b>Jorge Oteiza's Intervention in the Chamber of Commerce in Cordoba (1953-54)</b> <i>Emma Lopez-Bahut</i>	<b>25</b>
<b>3</b>	<b>Bruno Taut and the Aftermath of the First World War</b> <i>Deborah Barnstone</i>	<b>26</b>
<b>4</b>	<b>A New Family of Cements Made from Chemically Bonded Phosphate Ceramic Magnesium/Phosphate Ceramic Cements</b> <i>Robert Barnstone</i>	<b>27</b>
<b>5</b>	<b>Experimental Studio Oriented Innovative Thinking Mode: The Case Study of IKU- Interior Architecture for First Year Design Studio</b> <i>Didem Bas (Yanarates), Gülay Usta &amp; Ferhan Yalçın</i>	<b>28</b>
<b>6</b>	<b>Back to the Future: New Historic Architecture in Datong, Shanxi, China</b> <i>Mark Brack</i>	<b>30</b>
<b>7</b>	<b>New Designs in Circulation Areas and Museums</b> <i>Nihan Canbakal Ataoglu</i>	<b>31</b>
<b>8</b>	<b>Analogies as Creative Inspiration Sources in the Design Studio: The Teamwork</b> <i>Hernan Casakin &amp; Arjan van Timmeren</i>	<b>33</b>
<b>9</b>	<b>Carballeiras in Galicia: An Example of Heritage to Preserve</b> <i>Amparo Casares Gallego</i>	<b>34</b>
<b>10</b>	<b>A University Campus Design: Revitalizing an Old Power Plant in Istanbul</b> <i>Asli Cekmis</i>	<b>35</b>
<b>11</b>	<b>Italian and Spanish Architecture in the Postwar</b> <i>Simone Censi</i>	<b>36</b>
<b>12</b>	<b>An Analysis on the Filmic Imageries of "Shikumen" Architecture in Shanghai</b> <i>Chun Kwok Chan</i>	<b>37</b>
<b>13</b>	<b>The Recovery of the Historic Buildings: A Tradition Full of New Foundings</b> <i>Domenico Chizzoniti, Letizia Cattani, Luca Preis, Klizia Beggiora &amp; Monica Moscatelli</i>	<b>38</b>
<b>14</b>	<b>Agricultural Urbanism: Lessons from the Cultural Landscape of Messina</b> <i>Steven Clarke</i>	<b>39</b>

---

15	<b>Energy Retrofits with TES as an Opportunity for Architectural Regeneration</b> <i>Yrsa Cronhjort</i>	40
16	<b>The Historiography of Modern Architecture: Twenty-Five Years Later</b> <i>Macarena De la Vega de Leon</i>	41
17	<b>Pressures of Social and Programmatic Needs on Architecture and Urban Form: Towards a Renewed Approach to Sustainability in the Post-Crisis Era</b> <i>Ioanni Delsante</i>	42
18	<b>Low-cost Housing as Driving Force of Collaborative Architectural Design Process: Case study BMK Program, Thailand</b> <i>Kitapatr Dhabhalabutr</i>	43
19	<b>Global Interaction into the Traditional Design Studios Thru Blogs</b> <i>Lia Dikigoropoulou &amp; Jill Bouratoglou</i>	44
20	<b>Research on the Development of Recreational Opportunities for the Public Space of Equestrian Sport Facilities</b> <i>Elena Dineva</i>	46
21	<b>Rediscovering Turkey-Konya City Centre</b> <i>Rabia Kose Dogan</i>	47
22	<b>Space Making: The Concept of Reinterpretation + Reformation</b> <i>Pelin Dursun, Ozan Avci &amp; Gulsun Saglam</i>	48
23	<b>Modular Animal Farms: The Studies of Khun Piramit's Goat Farm in a Muslim Community of Bangkok</b> <i>Chi-Wen Fu</i>	49
24	<b>Integrated Open Source Architectural Design for High Density Housing with Computational Control and Management Engineering the Paradoxes of Chinese Housing Architecture</b> <i>Yan Gao &amp; Tian Tian Lo</i>	50
25	<b>Travelling Through Greece. The Greek Influences on Louis I. Kahn's Late Work</b> <i>Ruben Garcia Rubio</i>	51
26	<b>Industry and Policy Recommendations for the Improvement of Embodied Energy and Carbon Accounting, Based on a Study During Construction Stage</b> <i>Efstathios Gavotsis &amp; Alice Moncaster</i>	52
27	<b>Enhancing Urban Heritage</b> <i>Esther Giani &amp; Giancarlo Carnevale</i>	53
28	<b>Wellness and Happiness: How and why Architecture Must Contribute to a Cultural Revolution</b> <i>Emanuele Giorgi</i>	54
29	<b>A Comparative Study of Ancient Greek Houses Using Visibility Graph Analysis</b> <i>Kevin Glowacki</i>	55

30	<b>Accessibility of Historical Buildings: To Assess, to Design, to Enhance</b> <i>Valentina Giacometti</i>	56
31	<b>On Site and Laboratory Investigation on the 16<sup>th</sup>-17<sup>th</sup> Century Masonries: The Western Sardinian Coast Defensive Towers</b> <i>Silvana Maria Grillo &amp; Caterina Giannattasio</i>	57
32	<b>The Space of Impossible</b> <i>Mehrdad Hadighi</i>	59
33	<b>Socio-cosmic Realities Represented by the Prescriptions concerning the Orientation of Built Spaces in Chinese Feng-Shui and Indian Vāstu-Shāstra Traditions</b> <i>En-Yu Huang</i>	60
34	<b>Sustainable Development of Environment, Historical Places and Dwellers' Community in Bergama, Turkey</b> <i>Wan-Wen Huang &amp; Tomoko Kano</i>	61
35	<b>Open-Plan Offices - Design and Psycho-Emotional and Health Aspects</b> <i>Zuzana Humajova</i>	62
36	<b>Exploiting Advanced Technology to Producing Clean Energy in Sustainable Interior Space (Jordan as a Case Study)</b> <i>Mayyadah Hussien</i>	63
37	<b>The Implications of Leonardo da Vinci's Usage of 'Infinite' Grid in His Centralized Plans</b> <i>Minhye Hwang</i>	64
38	<b>Architecturalization of the Forest of the Cosmic Trees. New Interpretation of the Five Orders</b> <i>Woo Bang Kang</i>	65
39	<b>Traces of Culture in Architecture: Traditional Gaziantep Houses</b> <i>Burcin Kutsal</i>	66
40	<b>Ruralist Utopia &amp; Modernity in Franco's Spain: The Pueblos de Colonizacion, 1939-67</b> <i>Jean-Francois Lejeune</i>	67
41	<b>On Modern Architecture, Photography and City Readings: Teófilo Rego and the Escola Do Porto</b> <i>Helena Maia, Alexandra Trevisan &amp; Miguel Moreira Pinto</i>	68
42	<b>The Role of the Second Architect on a Significant Building Site</b> <i>Estelle Mare</i>	69
43	<b>Architecture Program Accreditation : A Pathway to Graduates International Mobility</b> <i>Sawsan Saridar Masri &amp; Hisham Arnaouty</i>	70
44	<b>Strata and Topographies: the Arduous Interweaving of Archaeology, Architecture and the City</b> <i>Pasquale Miano, Giorgia Aquilar &amp; Bruna Di Palma</i>	71
45	<b>The Living Wall: An Innovation in the Education of an Architect</b> <i>Shadi Nazarian</i>	72
46	<b>007 and Contemporary Sacral Architecture</b> <i>Riitta Niskanen</i>	73

47	<b>De Stijl All-Sidedness: A Volumetric Theory</b> <i>Kimberly Nofal</i>	74
48	<b>John Nolen and Raymond Unwin: Garden City Collaborators</b> <i>Michael Obrien</i>	75
49	<b>Place within the Architectural Design Pedagogy</b> <i>Jose Manuel Pages Madrigal</i>	76
50	<b>Performance of Passive Solar Systems in a Case of Retrofitted Buildings</b> <i>Chiara Piccardo, Andrea Giachetta &amp; Adriano Magliocco</i>	77
51	<b>Continuities and Discontinuities in Vernacular Architecture</b> <i>Maria Philokyprou</i>	78
52	<b>Animistic Architecture: Proposal Development for Bang Pli Market</b> <i>Nattakul Phouangsombat</i>	79
53	<b>Abstract Painting in Architectural Education</b> <i>Ann Pitt</i>	80
54	<b>Manuscripts of the Early Years of the Greek Architect Isaac Saporta: 1932-1933</b> <i>Alfons Puigarnau</i>	81
55	<b>Endogenous Spatiality in the First Artistic and Architectonic Vanguards of the Twentieth Century: Blurred Boundaries Between Constructivism and Modernism</b> <i>Gabriela Raposo</i>	82
56	<b>Genesis and Epicenter of Renaissance: Florence versus Istanbul</b> <i>Fatih A. Rifki</i>	83
57	<b>Rehabilitation of Historic Buildings with Special Reference to the Typological, Technical and Energetic Aspects of Collective Residences. A Method to Requalify the Student Residences</b> <i>Elena Romano &amp; Alessandro Greco</i>	85
58	<b>Metamorphosis Housing Architecture and Values: The Tel-Aviv Experience</b> <i>Shapira Ruth</i>	86
59	<b>Cross-Fertilization of Cultures and its Role in Formation of Venice: A Comparative Study between Isfahān and Venice in Early Middle Ages</b> <i>Elham Saffarzadeh</i>	87
60	<b>Searching of the Concept on 21<sup>st</sup> Century Architecture</b> <i>Zafer Sagdic</i>	88
61	<b>Learning from Saarinen</b> <i>Gregory Saldana</i>	89
62	<b>Feasibility of Recycling Cdw as Raw Material in Gypsum Composites</b> <i>Alicia San-Antonio-Gonzalez, Mercedes Del Rio Merino, Mariano Gonzalez Cortina &amp; Rocio Santos Jimenez</i>	90
63	<b>Swedish Theory of User Centred Lighting Design</b> <i>Monica Säter</i>	91
64	<b>The Masterpiece of Constructivism in the Steppe</b> <i>Sergei Sena</i>	92

---



65	<b>The Role of Personal Characters on the Residential Space Light</b> <i>Bahram Siavashpor</i>	93
66	<b>Role of Public Space and Urban Interventions in Segregated Areas - Ghettos and Urban Slums. Case Study of Roma Concentrations in Slovakia</b> <i>Katarina Smatanova</i>	94
67	<b>A Phenomenological Study in Genius Loci: Implication for Architectural Design (Case Study, Talad Noi, Bangkok, Thailand)</b> <i>Pimchanok Sriruttrakul</i>	95
68	<b>Conservative Modernity in the Magazine The Portuguese Architecture and Ceramics and Edification (Reunited) – The Impact of the New Industrial Materials in the Architectural Debate, 1935-1945</b> <i>Paulo Tormenta Pinto Joao Paulo Delgado &amp; Catarina Diz de Almeida</i>	96
69	<b>Narrative and the Substance of Architectural Spaces: The Design of Memorial Architecture as an Example</b> <i>Ching-pin Tseng</i>	98
70	<b>Shopping Center as a Public Space in Turkey</b> <i>Inci Uzun</i>	99
71	<b>The American University President’s House: A Discourse on the Architectural Preservation of an Iconic Structure in Higher Education</b> <i>Juanita Gamez Vargas &amp; Carlos Reimers</i>	100
72	<b>Atrium Space as the Basic Communicational Fundamental Factor in Material Architecture and Urban Environment</b> <i>Atanas Vassilev</i>	101
73	<b>Traditional Refurbishment as ‘Future-Proofing’ our Built Environment</b> <i>Kaitlin Veenstra</i>	102
74	<b>Analysis of the Effectiveness and Viability of Construction Waste Management Measures: A Spanish Study</b> <i>Paola Villoria Saez, Mercedes Del Río Merino, Antonio Rodriguez Sanchez &amp; Jaime Santa Cruz Astorqui</i>	103
75	<b>A Typological Study on Traditional Houses in Malaysia, Vietnam and Japan – A New Approach to Cultural Understanding</b> <i>Wei-Ju Wang &amp; Hui-Chun Tseng</i>	104
76	<b>The Crucible of Construction: Designing and Building the UNLV Solar Decathlon House</b> <i>Eric Weber</i>	105
77	<b>Stupa, Pagoda and Chorten – Origin and Meaning of Buddhist Architecture</b> <i>Wah Sang Wong</i>	106
78	<b>A Study on the Formation and Demolition of Tainan City Walls in Taiwan by Digital Representation (1875-1945)</b> <i>Ping-Sheng Wu</i>	107

---

79	<b>Graphic Representation and Military Architecture: The Trace of the Fuenterrabía Fortifications in the Current City</b> <i>Roberto Tomas Yanez Pacios, Victor Echarri Iribarren, Ángel Benigno González Avilés &amp; María Isabel Pérez Millán</i>	108
80	<b>The Changing Social Responsibilities of the 21<sup>st</sup> Century Architect and the Implications for the Profession and Education of Architecture</b> <i>Derya Yorgancioglu</i>	109

---

## Preface

This abstract book includes all the summaries of the papers presented at the *4<sup>th</sup> Annual International Conference on Architecture, 7-10 July 2014*, organized by the Sciences and Engineering Research Division of the Athens Institute for Education and Research. In total there were 80 papers and 85 presenters, coming from 23 different countries (Australia, Bulgaria, China, Cyprus, Finland, Iran, Israel, Italy, Jordan, Korea, Lebanon, Portugal, Russia, Slovakia, South Africa, Spain, Sweden, Taiwan, Thailand, Turkey, UAE, UK and USA). The conference was organized into XVII sessions that included areas of Space Making, Design, Buildings, Pedagogy, Materials and other related fields. As it is the publication policy of the Institute, the papers presented in this conference will be considered for publication in one of the books of ATINER.

The Institute was established in 1995 as an independent academic organization with the mission to become a forum where academics and researchers from all over the world could meet in Athens and exchange ideas on their research and consider the future developments of their fields of study. Our mission is to make ATHENS a place where academics and researchers from all over the world meet to discuss the developments of their discipline and present their work. To serve this purpose, conferences are organized along the lines of well established and well defined scientific disciplines. In addition, interdisciplinary conferences are also organized because they serve the mission statement of the Institute. Since 1995, ATINER has organized more than 150 international conferences and has published over 100 books. Academically, the Institute is organized into four research divisions and nineteen research units. Each research unit organizes at least one annual conference and undertakes various small and large research projects.

I would like to thank all the participants, the members of the organizing and academic committee and most importantly the administration staff of ATINER for putting this conference together.

**Gregory T. Papanikos**  
**President**



**FINAL CONFERENCE PROGRAM**  
**4<sup>th</sup> Annual International Conference on Architecture,**  
**7-10 July 2014, Athens, Greece**  
**PROGRAM**

**Conference Venue:** [Titania Hotel](#) (52 Panepistimiou Avenue)

**ORGANIZING AND SCIENTIFIC COMMITTEE**

1. Dr. Gregory T. Papanikos, President, ATINER.
2. Dr. George Poulos, Vice-President of Research, ATINER & Emeritus Professor, University of South Africa, South Africa.
3. Dr. Nicholas Pappas, Vice-President of Academics, ATINER & Professor, Sam Houston University, USA.
4. Dr. Nicholas Patricios, Director, [Engineering & Architecture Research Division](#), & Dean Emeritus, School of Architecture, University of Miami, USA.
5. Dr. Thomas Attard, Academic Member, ATINER & Associate Research Professor, Arizona State University, USA.
6. Dr. Stavros Alifragkis, Academic Member, ATINER & Adjunct Lecturer, Hellenic Army Academy, Athens, Greece.
7. Dr. Howayda Al-Harithy, Professor, American University of Beirut, Lebanon.
8. Dr. Patrick Ashton, Associate Professor, Indiana University Purdue University Fort Wayne, USA.
9. Dr. Debnath Bhattacharyya, Professor, MPCTM, Gwalior, India.
10. Dr. Jose Manuel Pages Madrigal, Associate Professor & Chairman, Lebanese American University, Lebanon & Associate Professor, University of Genova, Italy.
11. Dr. Stella B. Bondi, Associate Professor, Old Dominion University, USA.
12. Dr. Matthew Kubik, Associate Professor, Indiana University Purdue University Fort Wayne, USA.
13. Dr. Virginia Sisiopiku, Associate Professor, The University of Alabama at Birmingham, USA.
14. Dr. Caterina Pizantias, Instructor, University of Calgary, Canada.
15. Mr. Moamer Gashoot, Researcher, Bournemouth University, UK.

**Administration**

Fani Balaska, Stavroula Kiritsi, Eirini Lentzou, Konstantinos Manolidis, Katerina Maraki, Celia Sakka, Konstantinos Spiropoulos & Ioanna Trafali

## C O N F E R E N C E   P R O G R A M

(The time for each session includes at least 10 minutes coffee break)

### **Monday 7 July 2014**

**08:00-09:00 Registration**

**09:00-09:30 Welcome and Opening Remarks**

- Dr. Gregory T. Papanikos, President, ATINER.
- Dr. George Poulos, Vice-President of Research, ATINER & Emeritus Professor, University of South Africa, South Africa.
- Dr. Nicholas Patricios, Director, [Engineering & Architecture Research Division](#), & Dean Emeritus, School of Architecture, University of Miami, USA.
- Nicholas Pappas, Vice-President of Academics, ATINER & Professor, Sam Houston University, USA.

**09:30-11:30 Session I (Room C): Architectural History**

**Chair:** Nicholas Pappas, Vice-President of Academics, ATINER & Professor, Sam Houston University, USA.

1. Roberto Tomas Yanez Pacios, Ph.D. Student, University of Alicante, Spain , Victor Echarri Iribarren, Professor, University of Alicante, Spain, Angel Benigno Gonzalez Aviles, Teacher, University of Alicante, Spain & Maria Isabel Perez Millan, Teacher, University of Alicante, Spain. Graphic Representation and Military Architecture: The Trace of the Fuenterrabía Fortifications in the Current City. (Monday, 7 of July).
2. \*Mark Brack, Associate Professor, Drexel University, USA. Back to the Future: New Historic Architecture in Datong, Shanxi, China.
3. Woo Bang Kang, Director, Illhyang Research Institute of Korean Art History, South Korea. Architecturalization of the Forest of the Cosmic Trees. New Interpretation of the Five Orders.
4. Ping-Sheng Wu, Associate Professor, National Cheng Kung University, Taiwan. A Study on the Formation and Demolition of Tainan City Walls in Taiwan by Digital Representation (1875-1945).
5. Simone Censi, Ph.D. Student, University of Sassari, Italy. Italian and Spanish Architecture in the Postwar.
6. Macarena De la Vega de Leon, Ph.D. Student, University of Canberra, Australia. The Historiography of Modern Architecture: Twenty-Five Years Later. (Monday, 7 of July, Morning Session).

**11:30-13:00 Session II (Room C):  
Sustainability I**

**Chair:** \*Mark Brack, Associate Professor, Drexel University, USA.

1. Steven Clarke, Associate Professor, University of Nevada Las Vegas, USA. Agricultural Urbanism: Lessons from the Cultural Landscape of Messinia.
2. Eric Weber, Assistant Professor, University of Nevada-Las Vegas, USA. The Crucible of Construction: Designing and Building the UNLV Solar Decathlon House.
3. Wan-Wen Huang, Assistant Professor, Yuan Ze University, Taiwan & Tomoko Kano, Associate Professor, Teikyo Heisei University, Japan. Sustainable Development of Environment, Historical Places and Dwellers' Community in Bergama, Turkey.
4. Efstratios Gavotsis, Engineer in Structures, University of Cambridge, UK & Alice Moncaster, Director, University of Cambridge, UK. Industry and Policy Recommendations for the Improvement of Embodied Energy and Carbon Accounting, Based on a Study During Construction Stage.

**11:30-13:00 Session III (Room D): Space Making in Architecture**

**Chair:** Woo Bang Kang, Director, Illhyang Research Institute of Korean Art History, South Korea.

1. Amparo Casares Gallego, Professor, University of a Coruna, Spain. Carballeiras in Galicia: an Example of Heritage to Preserve.
2. Pasquale Miano, Associate Professor, University of Naples Federico II, Italy, Giorgia Aquilar, Professor, University of Naples Federico II, Italy, & Bruna Di Palma, Ph.D. Student, University of Naples Federico II, Italy. Strata and Topographies: the Arduous Interweaving of Archaeology, Architecture and the City
3. Pelin Dursun, Associate Professor, ITU Faculty of Architecture, Turkey, Ozan Avci, Research Assistant, ITU Faculty of Architecture, Turkey & Gulsun Saglamer, Professor, ITU Faculty of Architecture, Turkey. Space Making: The Concept of Reinterpretation + Reformation.
4. Atanas Vassilev, Assistant Professor, Higher School of Civil Engineering Lyuben Karavelov, Bulgaria. Atrium Space as the Basic Communicational Fundamental Factor in Material Architecture and Urban Environment.
5. Chun Kwok Chan, Ph.D. Candidate, The University of Hong Kong, Hong Kong. Place-Making in Third Space: An Analysis on the Filmic Imageries of "Shikumen" Architecture in Shanghai.

<p><b>13:00-14:30 Session IV (Room C): Design Processes I</b>  <b>Chair:</b> <u>Efstratios Gavotsis</u>, Engineer in Structures, University of Cambridge, UK</p>	<p><b>13:00-14:30 Session V (Room D): Methodology I</b>  <b>Chair:</b> Stavros Alifragkis, Academic Member, ATINER &amp; Adjunct Lecturer, Hellenic Army Academy, Athens, Greece.</p>
<ol style="list-style-type: none"> <li>1. *Estelle Mare, Professor, Tshwane University of Technology, South Africa. The Role of the Second Architect on a Significant Building Site.</li> <li>2. <u>Juanita Gamez Vargas</u>, Assistant Professor, University of Oklahoma, USA &amp; Carlos Reimers, Assistant Professor, The Catholic University of America, USA. The American University President's House: A Discourse on the Architectural Preservation of an Iconic Structure in Higher Education.</li> <li>3. Asli Cekmis, Researcher, Istanbul Technical University, Turkey. A University Campus Design: Revitalizing an Old Power Plant in Istanbul.</li> <li>4. *<u>Esther Giani</u>, Researcher, Iuav University of Venice, Italy &amp; Giancarlo Carnevale, Professor, Iuav University of Venice, Italy. Enhancing Urban Heritage.</li> </ol>	<ol style="list-style-type: none"> <li>1. <u>Elena Romano</u>, Ph.D. Student, University of Pavia, Italy &amp; Alessandro Greco, Associate Professor, University of Pavia, Italy. Rehabilitation of Historic Buildings with Special Reference to the Typological, Technical and Energetic Aspects of Collective Residences. A Method to Re-Qualify the Student Residences.</li> <li>2. <u>Yan Gao</u>, Assistant Professor, The University of Hong Kong, Hong Kong &amp; Tian Tian Lo, Professor, The Chinese University of Hong Kong, Hong Kong. Integrated Open Source Architectural Design for High Density Housing with Computational Control and Management Engineering the Paradoxes of Chinese Housing Architecture.</li> <li>3. Kevin Glowacki, Associate Professor, Texas A&amp;M University, USA. A Comparative Study of Ancient Greek Houses Using Visibility Graph Analysis.</li> <li>4. Monica Sater, Researcher, University of Technology, Sweden. Swedish Theory of User Centred Lighting Design. Swedish Theory of User Centred Lighting Design.</li> </ol>

**14:30-15:30 Lunch (Details during registration)**



<p><b>15:30-17:00 Session VI (Room C): Building Types I</b> <b>Chair:</b> *Estelle Mare, Professor, Tshwane University of Technology, South Africa.</p>	<p><b>15:30-17:00 Session VII (Room D): Values in Architecture</b> <b>Chair:</b> Dr. Nicholas Patricios, Director, Engineering &amp; Architecture Research Division, &amp; Dean Emeritus, School of Architecture, University of Miami, USA.</p>
<ol style="list-style-type: none"> <li>1. Inci Uzun, Assistant Professor, Dokuz Eylul University, Turkey. Shopping Center as a Public Space in Turkey</li> <li>2. Zuzana Humajova, Ph.D. Student, Slovak University, Slovak Republic. Open-Plan Offices – Design and Psycho-Emotional and Health Aspects.</li> <li>3. Emma Lopez-Bahut, Member, University of Coruna, Spain. Jorge Oteiza's Intervention in the Chamber of Commerce in Cordoba (1953-54).</li> <li>4. Riitta Niskanen, Researcher, Lahti City Museum, Finland. 007 and Contemporary Sacral Architecture.</li> </ol>	<ol style="list-style-type: none"> <li>1. *Zafer Sagdic, Assistant Professor, Yildiz Technical University, Turkey. Searching of the Concept on 21st Century Architecture. (Monday, 7 of July).</li> <li>2. En-Yu Huang, Assistant Professor, Chinese Culture University, Taiwan. Socio-Cosmic Realities Represented by the Prescriptions Concerning the Orientation of Built Spaces in Chinese Feng-Shui and Indian Vāstu-Shastra Traditions.</li> <li>3. Maria Philokyprou, Lecturer, University of Cyprus, Cyprus. Continuities and Discontinuities in Vernacular Architecture.</li> <li>4. Emanuele Giorgi, Ph.D. Student, University of Pavia, Italy. Wellness And Happiness: How and Why Architecture Must Contribute to a Cultural Revolution.</li> <li>5. Valentina Giacometti, Ph.D. Student, University of Pavia, Italy. Accessibility of Historical Buildings: To Assess, to Design, to Enhance.</li> </ol>

**17:00-18:30 Session VIII (Room C): Design Process II**

**Chair:** \*Zafer Sagdic, Assistant Professor, Yildiz Technical University, Turkey.

1. Shapira Ruth, Lecturer, Tel Aviv University, Israel. Metamorphosis Housing Architectue and Values: the Tel-Aviv Experience.
2. Domenico Chizzoniti, Senior Assistant Professor. Polytechnic of Milano, Italy, Letizia Cattani, Research Assistant, Polytechnic of Milano, Italy, Luca Preis, Research Assistant, Polytechnic of Milano, Italy, Klizia Beggiora, Research Assistant, Polytechnic of Milano, Italy & Monica Moscatelli, Research Assistant, Polytechnic of Milano, Italy. The Recovery of the Historic Buildings: A Tradition Full of New Foundings.
3. Katarina Smatanova, Ph.D. Candidate, Slovak University of Technology, Slovakia. Role of Public Space and Urban Interventions in Segregated Areas - Ghettos and Urban Slums. Case Study of Roma Concentrations in Slovakia.
4. Kitapatr Dhabhalabutr, Assistant Professor, Khon Kaen University, Thailand. Low-Cost Housing as Driving Force of Collaborative Architectural Design Process: Case Study BMK Program, Thailand.

**18:30-20:00 Session IX (Room C): General Issues I**

**Chair:** Shapira Ruth, Lecturer, Tel Aviv University, Israel.

1. \*Fatih A. Rifki, Professor, Montana State University, USA. Genesis and Epicenter of Renaissance: Florence versus Istanbul.
2. Elena Dineva, Assistant Professor, Higher School of Civil Engineering Lyuben Karavelov, Bulgaria. Research on the Development of Recreational Opportunities for the Public Space of Equestrian Sport Facilities.
3. Gabriela Raposo, Architect Investigator in Theory of Architecture, University of Social Sciences of Lisbon, Portugal. Endogenous Spatiality in the First Artistic and Architectonic Vanguards of the Twentieth Century: Blurred Boundaries between Constructivism and Modernism.
4. Rabia Kose Dogan, Assistant Professor, History of Architecture and the Built Environment, Turkey. Rediscovering Turkey-Konya City Centre.

**21:00-23:00 Greek Night (Details during registration)**

**Tuesday 8 July 2014**

**08:00-10:00 Session X (Room C): Pedagogy**  
**Chair:** Dr. George Poulos, Vice-President of Research, ATINER & Emeritus Professor, University of South Africa, South Africa.

1. Sawsan Saridar Masri, Assistant Dean, Beirut Arab University, Lebanon & Hisham Arnaouty, Assistant Professor, Beirut Arab University, Lebanon. Architecture Program Accreditation: A Pathway to Graduates International Mobility.
2. Ann Pitt, Associate Professor, Wentworth Institute of Technology, USA. Abstract Painting in Architectural Education.
3. Didem Bas (Yanarates), Associate Professor, TC Istanbul Kultur University, Turkey, Gulay Usta, Professor, TC Istanbul Kultur University, Turkey & Ferhan Yalcin, Researcher, TC Istanbul Kultur University, Turkey. Experimental Studio Oriented Innovative Thinking Mode: The Case Study of IKU-Interior Architecture for First Year Design Studio.
4. Shadi Nazarian, Associate Professor, Pennsylvania State University, USA. The Living Wall: An Innovation in the Education of an Architect.
5. Derya Yorgancioglu, Assistant Professor, Istanbul Kemerburgaz University School, Turkey. The Changing Social Responsibilities of the 21st Century Architect and the Implications for the Profession and Education of Architecture.

**08:00-10:00 Session XI (Room D): Architecture of Cities**

**Chair:** \*Fatih A. Rifki, Professor, Montana State University, USA. Genesis and Epicenter of Renaissance: Florence versus Istanbul.

1. Michael Obrien, Professor, A&M University, USA. John Nolen and Raymond Unwin: Garden City Collaborators.
2. Helena Maia, Director, Centro of Estudos Arnaldo Araujo - Escola Superior Artistica of Porto, Portugal, Alexandra Trevisan, Director, CEAA - ESAP, Portugal & Miguel Moreira Pinto, Research Fellow, CEAA - ESAP, Portugal. On Modern Architecture, Photography and City Readings: Teófilo Rego and the Escola Do Porto.
3. Elham Saffarzadeh, Assistant Professor, Shahroud Azad University, Iran. Cross-Fertilization of Cultures and its Role in Formation of Venice: A Comparative Study between Isfahan and Venice in Early middle Ages. (Tuesday 8 of July).
4. Jean-Francois Lejeune, University of Miami School of Architecture, USA. Ruralist Utopia & Modernity in Franco's Spain: The Pueblos de Colonizacion, 1939-67.

6.

<p>7. <u>Lia Dikigoropoulou</u>, Assistant Professor, New York City College of Technology, USA &amp; Jill Bouratoglou, Associate Professor, New York City College of Technology, USA. Global Interaction into the Traditional Design Studios Thru Blogs.</p> <p>8. <u>Hernan Casakin</u>, Senior Lecturer, Ariel University, Israel &amp; Arjan van Timmeren, Professor, Delft University of Technology, The Netherlands. Analogies as Creative Inspiration Sources in the Design Studio: the Teamwork.</p> <p>9. *Jose Manuel Pages Madrigal, Associate Professor &amp; Chairman, Lebanese American University, Lebanon &amp; Associate Professor, University of Genova, Italy. Place within the Architectural Design Pedagogy.</p>	
<p><b>10:00-12:00 Session XII (Room C): Methodology II</b> <b>Chair:</b> <u>Sawsan Saridar Masri</u>, Assistant Dean, Beirut Arab University, Lebanon.</p>	<p><b>10:00-12:00 Session XIII (Room D): Architects</b> <b>Chair:</b> Michael Obrien, Professor, A&amp;M University, USA.</p>
<p>1. Wah Sang Wong, Associate Professor, University of Hong Kong, Hong Kong. Stupa, Pagoda and Chorten – Origin and Meaning of Buddhist Architecture. (Tuesday, 8 of July, morning session).</p> <p>2. <u>Wei-Ju Wang</u>, Assistant Professor, Shu-Te University, Taiwan &amp; Hui-Chun Tseng, Graduate Student, Shu-Te University, Taiwan. A Typological Study on Traditional Houses in Malaysia, Vietnam and Japan – A New Approach to Cultural Understanding.</p> <p>3. Ioanni Delsante, Assistant Professor, University of Pavia, Italy. Pressures of Social and Programmatic Needs on Architecture and Urban Form: Towards a Renewed Approach to Sustainability in the Post-Crisis Era. (Tuesday, 8 of July, morning session).</p>	<p>1. Minhye Hwang, Part-Time Professor, Konju National University, Republic of Korea. The Implications of Leonardo da Vinci's Usage of 'Infinite' Grid in His Centralized Plans.</p> <p>2. Deborah Barnstone, Professor, University of Technology, Australia. Bruno Taut and the Aftermath of the First World War.</p> <p>3. *Alfons Puigarnau, Associate Professor, International University of Catalonia, Spain. Manuscripts of the Early Years of the Greek Architect Isaac Saporta: 1932-1933.</p> <p>4. Gregory Saldana, Faculty, University of Michigan, USA. Learning from Saarinen. (Tuesday, 7 of July).</p>

<p>4. <u>Paola Villoria Saez</u>, Ph.D. Student, Technical University of Madrid, Spain, Mercedes Del Rio Merino, Professor, Technical University of Madrid, Spain, Antonio Rodriguez Sanchez, Professor, Technical University of Madrid, Spain &amp; Jaime Santa Cruz Astorqui, Professor, Technical University of Madrid, Spain. Analysis of the Effectiveness and Viability of Construction Waste Management Measures: A Spanish Study.</p> <p>5. Bahram Siavashpor, Assistant Professor, Hakim Sabzevari University, Iran. The Role of Personal Characters on the Residential Space Light.</p> <p>6. Salem B. Abdalla, Assistant Professor and Acting Chairperson of the Architectural Engineering department, University of Sharjah, United Arab Emirates. Digital Replacing Analog: Integration of CAD within Architectural Design Process.</p>	<p>5. *Ruben Garcia Rubio, Ph.D. Student, University of Rome Tre and University of Valladolid, Italy and Spain. Travelling Through Greece. The Greek Influences on Louis I. Kahn's Late Work.</p> <p>6. Kimberly Nofal, Ph.D. Student, University of Florida, USA. De Stijl All-Sidedness: A Volumetric Theory.</p>
--	---

#### 12:00-13:00 Lunch (Details during registration)

<p><b>13:00-14:30 Session XIV (Room C): Sustainability II</b>  <b>Chair:</b> <u>Lia Dikigoropoulou</u>, Assistant Professor, New York City College of Technology, USA</p>	<p><b>13:00-14:30 Session XV (Room D): Building Materials</b>  <b>Chair:</b> *Alfons Puigarnau, Associate Professor, International University of Catalonia, Spain.</p>
<p>1. *<u>Chiara Piccardo</u>, Ph.D. Student, University of Genova, Italy, Andrea Giachetta, University Researcher, University of Genova, Italy &amp; Adriano Magliocco, Associate Professor, University of Genova, Italy. Performance of Passive Solar Systems in a Case of Retrofitted Buildings.</p> <p>2. Kaitlin Veenstra, Graduate Student, University of Cambridge, UK. Traditional Refurbishment as 'Future-Proofing' our Built Environment.</p>	<p>1. <u>Paulo Tormenta Pinto</u>, Assistant Professor, ISCTE-University Institute of Lisbon, Portugal, Joao Paulo Delgado, Researcher, ISCTE-University Institute of Lisbon, Portugal &amp; Catarina Diz de Almeida, Research Grant Holder, DINAMIA-CET'IUL, ISCTE'IUL, Portugal. Conservative Modernity in the Magazine the Portuguese Architecture and Ceramics and Edification (Reunited) - The Impact of the New Industrial Materials in the Architectural Debate, 1935-1945.</p>

<p>3. Mayyadah Hussien, Assistant Professor, Petra University, Jordan. Exploiting Advanced Technology to Producing Clean Energy in Sustainable Interior Space (Jordan as a Case Study).</p>	<p>2. *Yrsa Cronhjort, Researcher, Aalto University School of Arts, Finland. Energy Retrofits with TES as an Opportunity for Architectural Regeneration.</p> <p>3. <u>Alicia San-Antonio-Gonzalez</u>, Ph.D. Student, Technical University of Madrid, Spain, Mercedes Del Rio Merino, Professor, Technical University of Madrid, Spain, Mariano Gonzalez Cortina, Professor, Technical University of Madrid, Spain &amp; Rocio Santos Jimenez, Ph.D. Student, Technical University of Madrid, Spain. Feasibility of Recycling Cdw as Raw Material in Gypsum Composites.</p> <p>4. Robert Barnstone, Associate Professor, University of Technology/University of New South Wales, Australia. A New Family of Cements Made from Chemically Bonded Phosphate Ceramic Magnesium /Phosphate Ceramic Cements.</p>
---	---

**14:30-16:00 Session XVI (Room C): Building Types II**

**Chair:** \*Yrsa Cronhjort, Researcher, Aalto University School of Arts, Finland

1. Silvana Maria Grillo, Associate Professor, University of Cagliari, Italy & Caterina Giannattasio, Professor, University of Cagliari, Italy. On Site and Laboratory Investigation on the 16th-17th Century Masonries: The Western Sardinian Coast Defensive Towers.
2. Ching-Pin Tseng, Assistant Professor, Shu-Te University Taiwan, Taiwan. Narrative and the Substance of Architectural Spaces: The Design of Memorial Architecture as an Example.
3. Burcin Kutsal, Lecturer, Zirve University, Turkey. Traces of Culture in Architecture: Traditional Gaziantep Houses.
4. Nihan Canbakal Ataoglu, Lecturer, Individual Buildings and Building Types, Turkey. New Designs in Circulation Areas and Museums.

**16:00-17:30 Session XVII (Room C): General Issues II**

**Chair:** Nicholas Patricios, Director, [Engineering & Architecture Research Division](#), & Dean Emeritus, School of Architecture, University of Miami, USA.

1. \*Mehrdad Hadighi, Professor, Pennsylvania State University, USA. The Space of Impossible. (Tuesday 8 of July).
2. Sergei Sena, Head, Moscow Center of Museum Development, Russia. The Masterpiece of Constructivism in the Steppe.
3. Chi-Wen Fu, Student, Chulalongkorn University, Thailand. Modular Animal Farms: The Studies of Khun Piramit's Goat Farm in a Muslim Community of Bangkok.
4. Nattakul Phuangsombat, Student, Chulalongkorn University, Thailand. Animistic Architecture: Proposal Development for Bang Pli Market.
5. Pimchanok Sriruttrakul, Student, Chulalongkorn University, Thailand. A Phenomenological Study in Genius Loci: Implication for Architectural Design (Case Study, Talad Noi, Bangkok, Thailand).

**17:30-20:30 Urban Walk (Details during registration)**

**21:00-22:00 Dinner (Details during registration)**

**Wednesday 9 July 2014**

**Cruise: (Details during registration)**

**Thursday 10 July 2014**

**Delphi Visit: (Details during registration)**

**Salem B. Abdalla**

Assistant Professor and Acting Chairperson of the Architectural Engineering department, University of Sharjah, United Arab Emirates

## **Digital Replacing Analog: Integration of CAD within Architectural Design Process**

Ever since the introduction of CAD, in the early 1980s, as a tool for drafting and modeling, the architectural design process has changed dramatically. Better documents production and coordination in addition to 3D visualization and simulation are obvious advantages that come with this technology. CAD tremendous abilities of organizing and presenting have led to the general believes that traditional drawing technique is dead. While CAD has positively affected the overall performance and quality of the architecture design practice, one still wonder why there is still resistance/pitfall to this technology; or why do architects still reluctant/prefer to explore their initial ideas using pencil and paper? Others believe CAD role is confined to late design stages with early phases being beyond its ability and tolerance.

In order to shed light on these issues, this paper shall examine the effectiveness and the status of CAD integration within the architectural design process. Through literature, interviews, and surveys, it will specify the role of CAD within each stage of the architecture design process. This study is important to clarify what? and where? CAD tools are most effective during the architecture design process and to provide suggestion and recommendations.



**Emma Lopez-Bahut**  
Member, University of Coruna, Spain

## **Jorge Oteiza's Intervention in the Chamber of Commerce in Cordoba (1953-54)**

The collaboration with the different artistic disciplines is a key fact for understanding the development of Spanish architecture in the 50's. The sculptor Jorge Oteiza plays an important role as he collaborated with different architects in their works, and not only with his sculpture but pondering on the architecture and its integration with other arts. Oteiza applies in his sculpture what he learnt in contact with the architecture and, besides, he is able to transfer spatial issues developed in his sculptural works to the architecture.

I study the case of the Chamber of Commerce in Cordoba, which was designed by the architects Rafael de La-Hoz and Jose M<sup>a</sup> Garcia Paredes (1950-1954), as one of the earliest examples of organic architecture in Spain. In this work, the space as the main characteristic of organic architecture and the void as Oteiza's sculptural research, converge in the same building.

This intervention is Oteiza's first experience where his statue has to be defined from an already defined architectural space, which he managed to refocus and qualify in an extreme way. Oteiza works in the under construction building by making four pieces (three sculptures and one counter). By doing this, the result perfectly matches the building.

I consider that there is hybridization between the sculptural and the architectural issue, without maintaining their own characteristics but adopting some of the other discipline. A clear example can be found in the counter, which has a clear function, defines the indoor space and keeps its sculptural qualities. Similarly, the entire building is defined by the presence of these sculptures through their space, shape, light and use.

**Deborah Barnstone**

Professor, University of Technology, Australia

## **Bruno Taut and the Aftermath of the First World War**

"The First World War was ended. Jugendstil, and copying of historic styles in building had been abandoned earlier. Still, many believed and treasured [the idea] that something new had to come after the collapse."

The architect, Max Taut, brother of the more famous Bruno Taut, penned these words looking back on 1918 and 1919 when Germany sat at the edge of war and revolution. Not only did Taut describe the after effect the war had had on many architects and artists but also the general feeling amongst their fellow countrymen. War must lead to disaster and collapse then renewal otherwise the war was in vain. It is commonly held that the experience of the First World War altered the course of avant-garde art and architecture in the Weimar period. Yet there were many different experiences of the war; nor was the avant-garde a monolithic group either before 1914 or afterwards. Few histories discuss specific connections between the events of 1914-1918 and the explosion of creative activity that began as early as 1917 then continued through the 1920s. Certainly the motivations driving the many artists and architects in the Novembergruppe, Arbeitsrat für Kunst, Gläserne Kette, and other radical groups were as diverse as the experiences these artists had during the war. Yet by all accounts the war was a formative experience with a strong effect on all who lived through it whether seen from the vantage point of trenches along the Western Front, the Prisoner of War camps in East Prussia, or the increasingly pressured cities and towns at home. This paper will trace the war experience and postwar response of the important German architect, Bruno Taut, who called the war a "wicked ghost" and "an epidemic of mental disorder." Taut was a leading anti-war activist/agitator who experienced the war on the home front in Magdeburg and was a founding member of many postwar avant-garde groups. The 1914 Cologne pavilion, done with Paul Scheerbart, might prefigure what was to come. His work took a radical turn during the war, however; from the uninspired pragmatism of Falkenberg (1913) Taut turned to the fantasy and speculation of Alpine Architecture (1919), the City Crown (1919) and the Dissolution of the Cities (1920).

**Robert Barnstone**

Associate Professor, University of Technology, Sydney/University of  
New South Wales, Australia

**A New Family of Cements Made from Chemically  
Bonded Phosphate Ceramic Magnesium/  
Phosphate Ceramic Cements**

This new family of cements and mineral coatings are possibly the silver bullet that the sustainable building movement has been seeking. They improve on most of the important qualities of performance for a host of new products in the sustainable building field.

These cements are akin to a mineral based epoxy adhesive. They chemically bond to most materials, with tremendous adhesion properties. They are also quite waterproof but unlike organic compounds, they are non toxic, extremely fireproof and have three times the compression strength of a typical Portland cement.

Ceramic cements are primarily made by combining phosphor, a soil fertilizer, with food grade magnesium oxide, fly ash, and glass fibre for flexural and tensile strength.

New developments by a small group of companies and research institutions have begun to provide the current generation of designers and engineers an important set of tools for new sustainable building products, emergency housing, highway repair and military applications.

The major developments in studying these chemically bonded ceramics have been explored in search of “super cement” for the containment of nuclear waste. These same cements can also be used as a binder for wood, paper or other waste materials.

Like fired, or sintered ceramics, ceramic cements can be formed into roofing tile, wall tile and floor tile. In addition, they can be sprayed on as a hard structural coating, cast in a shake table into panels or used in an injection molding processes. Currently these cements are used in a wide variety of applications, most commonly found in the part of light bulbs that hold the mount to the glass, as dental cements, for military applications as fireproof vertical take of launch pads, as a super concrete for nuclear waste storage, as coatings for industrial floors and emergency housing.

**Didem Bas (Yanarates)**

Associate Professor, TC Istanbul Kultur University, Turke

**Gülay Usta**

Professor, TC Istanbul Kultur University, Turkey

&

**Ferhan Yalçın**

Researcher, TC Istanbul Kultur University, Turkey

## **Experimental Studio Oriented Innovative Thinking Mode: The Case Study of IKU- Interior Architecture for First Year Design Studio**

This study establishes the basic framework of such an educational model for interior architecture students of first and second term design studio at Art and Design School of IKU:

The framework lay out of first term primarily starts to address a form -finding ways of modular units performing to breed within an organizational pattern. For each breeding pattern model, the lay-out to mid-term proceeds to generate their own site, where as the architecture breeds create innovated natural topographic models. So at the sum-up of term lay out, it has been ended by emergence model of architecture which is embodied with its natural environment.

As following the first term layout, the second term initially establishes the unit of study-stations for design students. Through the framework of process, the station unit is also organized in design of hostel unit performing as modular breed of dwelling for design students. Finally the dwelling units are organized in site-pattern as such a settlement which is modularly constituted from unit to unit.

Throughout the whole process proceeds from the beginning to the end of first year, the crucial difficulty has to be overcome is about the control mechanism at experimental studio stages. In order to make it more efficient the feedback is being proposed. On the other hand the innovative thinking is going to evolve over further projects according to the refinement of experimental studio. The paper describes the procedure as dynamics instruction and checkpoint schedule for modified systematic: As the dynamics of studio define 'clarifying components of design problem - assessment components of design solution - scoring components design performance', the checkpoint schedule determines the thresholds for each stage.

At the paper, the case-study characteristic of experimental studio emerges the innovation of design thinking and the out comings of mode have distinguished analysis, are examining. And this regards to

discuss the theoretical and the empirical base at common due to the integration mental pattern for complex thinking of design.

**Mark Brack**

Associate Professor, Drexel University, USA

## **Back to the Future: New Historic Architecture in Datong, Shanxi, China**

Chinese society experienced an astonishing transformation over the past 30 years. The reformed Chinese economic system and the resulting prosperity lifted more people out of poverty than any culture in history. But these changes also led to the well-documented destruction of the environment and some remarkable incongruities in what is still, at least officially, a communist society.

Mao Zedong's version of communism saw little to appreciate in the architectural legacy of his predecessors and his government tore down the remnants of Beijing's great city walls as well as many other venerable sites. In fact, Mao's Cultural Revolution stigmatized practically anything old and led to the wholesale destruction of historical art and architecture, acts that writer Ian Johnson perceptively described as "auto-cultural genocide."

Yet in 2009, Geng Yanbo, the mayor of Datong in Shanxi province started to recreate the enormous wall that had once surrounded the old city, complete with moat and elaborate wooden towers above the wall's gates. He was quoted as being fed up with the city of Xi'an attracting all of the tourists with its magnificent Ming-dynasty walls and other notable historic buildings. A spokesman for the mayor even declared that "cultural resources" were "renewable resources."

Many of the Datong's new historic structures are, in fact, historical fantasies—that is, they are not attempting to recreate documented historic sites but are original designs that used traditional styles and methods of construction to create inauthentic (though generally authentic-looking) historical sites. Perhaps more surprising is the fact that the government decided to destroy actual historic neighborhoods or hutong and replace them with fancier and larger houses oriented towards the commercial and tourist markets. This paper will explore the re-creation of old Datong and analyze the thorny philosophical debates it elicits concerning history, architecture, and urban life in a modern world.

**Nihan Canbakal Ataoglu**

Lecturer, Individual Buildings and Building Types, Turkey

## **New Designs in Circulation Areas and Museums**

Museum concept, dating back to ancient Greeks, started to develop at the end of 17th century when bourgeoisie took up exhibiting their art works in a part of their homes. The phases of museums, at first built for exhibition and protection purposes, can be classified into Pre- Modern Architecture Era, Modern Architecture Era and Post-Modern Architecture Era.

In the traditional museum concept of Pre-Modern Architecture; the real function of museums was to exhibit, protect and store historical art crafts and works of art. Typology of traditional museum plans can be sorted out as sanctuary monuments and palaces. Traditional museum sites are generally built with the restoration of historical buildings and particularly re-utilization of palaces. During Pre-Modern Architecture Era; it is seen that circulation areas of the traditional museum buildings are clearly and precisely contained in plans and sections with regular geometric forms and linear circulation schemes. Circulation areas are leading in these plans in which space organization is stabilized between entrance of the museum and exhibition hall but pre-determined routes cannot answer personal choices and interests.

During the Modern Era, neoclassic architecture designing the traditional museums is quitted due to Bauhaus effect. In the Modern Museum Era, the museum of F. L. Wright's Guggenheim Museum (1959) presented a different perspective on circulation areas and such new buildings as Mies van der Rohe's New National Gallery became a striking museums.

During the Pre-Modern Era of 1970s; new buildings questioning general typologies and offering advances in terms of design and function are started to be built. Pompidou Culture Center (1977) designed by Renzo Piano and Richard Rogers presented a new projection to museum architecture, indoor places and circulation concept, urban sites. Architects not only looked for unattempted block structures but also their quest for unattempted block structures were continued for internal places, too and internal implicit setups were designed using ortographic tools like plans and sections.

In today's museums; new and multiple circulation routes are designed; in which visitors do not read books from beginning to end but choose their own paths and walk through the exhibition as if in a labyrinth on their own. These radical perceptual, spatial changes and spatial scenarios are particularly emphasized in museum buildings. These new spatial arrangements in circulation areas are offering new

spatial experiences with irregular gaps in sections, regular but non-geometric floor plans, vagueness of the borders, striking colors, patterns and materials, differentiated circulation parts (stairs, moving stairways, elevators, platforms, bridges).

In the study; Pompidou Culture Center (1977) which is a landmark in circulation area design's, by giving examples of today's museum buildings, MuseeDorsay (1986) which was transformed into a museum from train station and Jean Nouvel's Quai Branly Museum (2006) which is a recent example of this striking change will be analyzed thorough spatial experiences, observations, syntactic analysis technique and semantic examinations.



**Hernan Casakin**

Senior Lecturer, Ariel University, Israel

&

**Arjan van Timmeren**

Professor, Delft University of Technology, The Netherlands

## **Analogies as Creative Inspiration Sources in the Design Studio: the Teamwork**

This study investigates the use of analogies in architectural design education. Analogy is considered to be a source of inspiration for the conception and development of creative ideas. Reasoning by analogy enables understanding an unknown situation in terms of a familiar one (Holyoak & Thagard, 1995). In architectural design, analogy helps deal with ill-defined problem solving, and enhances creative thinking (Casakin, 2005; 2010; Casakin & Goldschmidt, 2000). These are one of the reasons since analogical reasoning can be crucial in the design studio (Casakin, 2012; Schön, 1983). This educational tool can help students enhance their design thinking, coordinate team actions, communicate information, as well as generate, reflect, analyze, and evaluate design ideas from multiple views. Despite its importance, studies about analogy in design, and in design education in particular, are rather scarce.

In this paper we explore empirically the use of analogy from an architectural design education viewpoint. A main focus will be set to understand the role played by this pedagogic tool in the early phases of the design process. The way that architectural students can be aided to re-experience their designs, and generate innovative projects by means of the creation and application of analogy is an important topic that this study will attempt to address. To this aim, a main focus will be set to understand how design students use analogies in their visual and verbal modes, working individually and as a team.

**Amparo Casares Gallego**  
Professor, University of A Coruña, Spain

## **Carballeiras in Galicia: An Example of Heritage to Preserve**

Today, and from different points of view, we should care these humanized natural sites, the “carballeiras”, a special place with oaks, with dedication because are linked to three fundamental issues: the lack of valid identification symbols for persons living in the privileged first world, the absence of Nature close to citizens inhabiting urban areas, and the planetary loss of biodiversity.

These considerations are the main arguments that show the urgent need to save the few “carballeiras” that still remain with us. In addition, we should state precisely the features that have made the “carballeiras” such a good answer as a place to house and represent a people. The objective is to re-discover the designing rules that should be enforced to achieve again a high quality public space.

Because of the meagre information published on the Galician “carballeiras”, a database comprising 243 records was compiled. Each one includes geographical, ethnographical, historical, legal, and graphical data: drawings and photographs. There is also one concrete proposal to act at the end of each record.

A global view, with references to diverse disciplines centred on the “carballeira”, is presented. Although they are valuable by themselves, its worth is enhanced by close and far realities.

Ends the paper, but rather than finishing the work, it proposes a utility for it. An attempt to define the “carballeira” in its whole complexity is done, trying to include everything found during the work development. I have tried to show the “carballeiras” importance, to imply its need for protection.

From the specific scale, the treatment for each “carballeira”, we reach the universal scale, the treatment for the whole landscape. Landscape which is taken as an existential space, as a space where the personal and collective life gets a meaning of connection and continuity bound both to Nature and to designed space.

**Asli Cekmis**

Researcher, Istanbul Technical University, Turkey

## **A University Campus Design: Revitalizing an Old Power Plant in Istanbul**

This paper introduces the design concept of a university campus which was built on the site of an old power plant in Istanbul. The project is evaluated by addressing how the site redevelopment has been integrated into the city while maintaining its inherent identity. The site is located on the Golden Horn, a natural harbor, which was characterized by industrial facilities as a result of the industrialisation movement that began in the 19th century. Silahtaraga power plant built in 1914 was the first urban-scale power station of the Ottoman Empire. It developed and expanded over time, until it shut down in 1983. Silahtaraga was left intact for 21 years. In 2007, the power plant was converted into "Santralistanbul," the campus of Istanbul Bilgi University. The project is intended to recognize the industrial heritage of the site as well as create a complex that could be used to educational, cultural and art activities.

The entire plant was designed as a campus in a holistic way, on a site of 118 acres, comprising 23 buildings. Most of the production, service, administration and accommodation buildings, workshops and warehouses of the station were preserved. Additional buildings were constructed as the necessity arose. The project can be cited as a successful example within the tradition of deindustrialization and renovation of the Golden Horn because it was treated principally as an urban design project rather than one of repurposing. It still possesses and reflects its former identity, e.g. through the energy museum which was proposed for the two engine houses by also keeping the old generating equipment for display. In addition, it contributes to the gentrification process of the surrounding densely populated unplanned settlements. The campus has also become a popular and lively destination in the city with regard to hosting many events, such as exhibitions in the contemporary art centre which was built on the base of a ruined boiler house.

**Simone Censi**

Ph.D. Student, University of Sassari, Italy

## **Italian and Spanish Architecture in the Postwar**

After the Second World War, Italian and Spanish architects abandon Rationalism to explore new possibilities for architecture. They rethink and renovate the fundamental elements of the project with the aim of establishing a relationship with the place. They don't have an explicit program but they just have a common cultural background made of rationalism, vernacular architecture and Scandinavian architecture.

In the Fifties, after the destructions caused by war, Italy lives an important "Economic Boom" while Spain begins to live in better social and economic conditions. In this period, architecture is called to realize a huge quantity of buildings in a very short time, with poor materials and without an industrialized building process. Italian and Spanish architects get inspired from the conditions and experiment a new architectural attitude. So architects as Gardella, Ridolfi, Albini, Moretti in Italy; Coderch, Cabrero, De la Sota, Bohigas in Spain, observe the local traditional architecture to find the solutions they need in their context. They are helped by reviews like Casabella and Domus which promote this attitude.

Several items are forgotten like the roof garden and the ribbon windows. The shape of the volume is decided according to the traditions and the relationship with the context in order to integrate the building in the city. Buildings are made of local materials and labor forces.

Today, studying the Italian and Spanish themes and architecture means to have a model of working with history and local peculiarities without falling in mimetism or historicism.

**Chun Kwok Chan**

Ph.D. Candidate, The University of Hong Kong, Hong Kong

## **Place-Making in Third Space: An Analysis on the Filmic Imageries of “Shikumen” Architecture in Shanghai**

Lefebvre (1991) argues that space rests upon the physical, mental and social realms, and it is fundamental to our lived experience of the world, and that all experiences are constructed of three interrelated “moments” of space: representations of space (conceived space), spatial practices (perceived space), and representational space (lived space). This study focuses on the representational space (lived space) in the production of “shikumen” architecture, a place-specific vernacular typology that populated the concession areas of Shanghai back in the colonial period.

According to Lefebvre (1991), representational space is the space of everyday life, which can be experienced through the complex symbols and images of its inhabitants and users; it is both a real and imagined space, produced through the uses of symbolism and iconography by filmmakers, photographers, artists and the like. Being the space which the imagination seeks to appropriate and change, this lived space of representation, or Third Space as described by Soja (1996), is thus a “counter-space” embedded with representation of significance and symbolic meanings, awaiting to be unearthed.

In this light, this study validates film as an essential lens to capture the rattling urban and spatial changes of Shanghai, and more specifically, to employ films of Shanghai as the objects of investigation to discern how “shikumen” inhabitants and users symbolized their lived experiences, cultivated meanings and attached feelings to their everyday environments over time, and to understand how the filmic imageries can constitute in the cultivation of a collective identity, and above all, in the making of a place.

**Domenico Chizzoniti**

Senior Assistant Professor, Polytechnic of Milano, Italy

**Letizia Cattani**

Research Assistant, Polytechnic of Milano, Italy

**Luca Preis**

Research Assistant, Polytechnic of Milano, Italy

**Klizia Beggiora**

Research Assistant, Polytechnic of Milano, Italy

&

**Monica Moscatelli**

Research Assistant, Polytechnic of Milano, Italy

## **The Recovery of the Historic Buildings: A Tradition Full of New Foundings**

The aim of this paper is to describe a method to renovate a town centre through its total redraw. This study is based on some theories by Ernesto Nathan Rogers about “environmental pre-existence”, resumed by I. Gardella, F. Albin and C. Scarpa. According to this idea it is important to analyse all the case studies to define the right hypotheses to find the best solution for this problem.

This particular case describes a project to redraw the town centre of Moglia, a little city near Mantova. On 20th May 2013 strong earthquake shocks hit places near Modena and Mantova, damaging and destroying many historical buildings; for example the Church of Saint John the Baptist in the centre of Moglia was seriously damaged. This church was built at the beginning of the 1500 and finished in 1741-1755. During the earthquake shock, a portion of roof fell in ruins and the main walls were seriously damaged; also some other buildings were compromised in their stability, for example the elementary school, the city hall and all historical buildings on XX September Street.

The project is divided into several stages: the analysis of the present condition; the study of the clefts; the estimation of the roofing system; the analysis of load-bearing walls and the study of arch chains. After completing all these analyses, the project goes on with the consolidation of the church and the preservation of the original shell using an internal structure of load-bearing pillars. The next step concerns the reconstruction of the main front; this study considers some examples of renovation in Italy, like Castelvecchio in Verona by C. Scarpa, the St Lawrence's Treasure in Geneva by F. Albin or the Castle Museum of Milan by BBPR. The main front is designed with its original geometry using a simple wood trellis.

**Steven Clarke**

Associate Professor, University of Nevada Las Vegas, USA

## **Agricultural Urbanism: Lessons from the Cultural Landscape of Messinia**

Agricultural urbanism is an emerging movement based around the idea of integrating sustainable food-systems with the design of the urban environment. A food-system includes the infrastructure and processes of feeding a population, from growing to processing, distributing to consuming, and finally, from recycling back to growing. However, a study of the cultural landscape of Messinia, Greece, provides lessons on how food-systems can be successfully utilized in the shaping and making of places.

A case study method is employed in the analysis of a series of places in Messinia, revealing design lessons that are at the foundation of agricultural urbanism. These lessons are then applied to the design of the Las Vegas Food District, a proposed 100+ acre, high-density, pedestrian oriented, regenerative community that has a clear identity with food cultivation at its core. Using a four-storey, mixed-use building typology that includes civic, retail, office, and residential spaces, the building form and landscapes are carefully interwoven to create the Las Vegas Food District. A rooftop urban farm, supported by regenerative infrastructure and agricultural practices, contribute to a sustainable community by providing opportunities in the neighborhood for social engagement, urban regeneration, and a local economy.

As the world's population increases and the amount of farmland shrinks, there must be a shift in how we shape our urban environments. The lessons learned from the cultural landscape of Messina, provides an opportunity to better understand how to successfully integrate food with our urban environments. Food provides the opportunity to restore, invigorate, and transform how we make our communities and cities better places to live, learn, work and play. Addressing these challenges through agricultural urbanism provides the mechanism to shape the city into a distinct place dedicated to food.

**Yrsa Cronhjort**

Researcher, Aalto University School of Arts, Finland

## **Energy Retrofits with TES as an Opportunity for Architectural Regeneration**

Europe is currently facing a growing demand for refurbishment of our existing building stock. In Finland alone the current renovation debt is between 30 and 50 milliard euros (2013) with over one fifth of the housing stock consisting of apartments in concrete buildings from the late 1960's and 1970's. The buildings are typically situated in suburbs, consisting of a homogenous building stock and thus forming a monotonous townscape. The scale is often inhumane, resulting in a subjective feeling of unsafe and unpleasant environments. The buildings themselves are in the need of comprehensive refurbishment interventions with the building facades in particular at the end of their lifespan.

Concurrently, the European Union is aiming for a sustainable growth and future, including the 2020 – targets for a climate friendly development. With regard to the existing building stock the chosen strategy for reducing the energy consumption for buildings in use is to aim at cost and energy efficient improvement and upgrading of buildings. As one response to this need, the timber based element system TES, using prefabricated, large scale timber based facade elements for improving the thermal insulation and energy efficiency of existing buildings, has been developed. The TES-system has been studied within several international, European research and development projects since 2008 and by the end of 2013, 9 pilot building projects have been realized with the method. The energy efficiency target for most of the projects has been an upgrade up to passive house level local definition. The most northern project was realized in 2012-2013 in Oulu, Finland.

From an architect's point of view, The TES-system offers an industrialized option for upgrading both energy efficiency and the architectural quality of our existing building stock. This paper discusses the architectural opportunities of TES based on an analysis of realized cases.



**Macarena De la Vega de Leon**

PhD Student, University of Canberra, Australia

## **The Historiography of Modern Architecture: Twenty-Five Years Later**

Why reopen The historiography of modern architecture? What for? There are two levels in which Tournikiotis' is still a useful research after 25 years: first, when it comes to discussing one of his historians, providing the reader with interesting references which lead to a further study; and, second, when it comes to the study of history and how it is written. In the last chapter, Tournikiotis tries to point out those lessons that should be learnt from his study of the histories. He emphasizes repeatedly how each history presents modern architecture and tries to design the architecture of the present or even the future. Is it the same with the historiography? Is this book, as a discussion on nine different histories, projecting what the historiography should be in the future? What is Tournikiotis' real proposal?

This paper's proposal intends to present how several authors have revisited the history and historiography of modern architecture after Tournikiotis' dissertation (read in 1988) and, especially after its publication in English in 1999. There are two main objectives: to reconsider the impact of Tournikiotis' historiography in further studies on the matter and to provide a bibliography, as complete as possible. In order to fulfill this task it is necessary to rethink, reinvent and reopen modern architecture histories through the work of several authorities in architectural history theory published in books and in the Journal of the Society of Architectural Historians. The historiography of modern architecture is a perfect manual for students to initiate themselves in the study and consideration of the histories of modern architecture (as I did myself). To try to 'complete' it discussing what has been written since seems like a slight addition to what should be considered as a compulsory start point for every research on architectural historiography.

**Ioanni Delsante**  
Assistant Professor, University of Pavia, Italy

## **Pressures of Social and Programmatic Needs on Architecture and Urban Form: Towards a Renewed Approach to Sustainability in the Post-Crisis Era**

The paper investigates the “pressures specific to the twentieth century that combination of program imposes on architecture and urban form” (Holl, 2011).

Financial crisis (2007-2008) and its consequences – not just in terms of urban development – have still not been absorbed/metabolized from urban settlements, also because of still un-solved causes that generated the problem (in terms of economic tools, financial rules, real estate procedures, etc) (Rossi, G. 2011).

Large post-industrial sites’ reuse, under used districts for offices and services, housing districts and urban peripheries represent the result of last decades’ globalization processes, real estate and finance driven processes, property speculation, etc

The complexity of contemporary society implies the creation of new categories of spaces in which design processes are reversed: social forms and communities’ needs provide reason and meaning to architectural transformations.

Participation procedures, contractual communities, re-appropriation processes are some of the tools that through different disciplines could have strong impact on architectural figures and forms.

Design tools and procedure are also rapidly changing: on the contrary of what traditional design processes prescribe, the managing of project scales is changed: the approach "from large to small scale" could be substituted by iterative processes, and urban links or connections derive both from territorial approach and interior spaces’ definition. Urban analysis and design tools should be updated: sections and three of four dimensional design take precedent over plan layouts.

Process reveals itself as more important than mere shapes, and architecture show again its being a science in strong relationship with society.

**Kitapatr Dhabhalabutr**

Assistant Professor, Khon Kaen University, Thailand

## **Low-cost Housing as Driving Force of Collaborative Architectural Design Process: Case study BMK Program, Thailand**

In the world of low-income housing, BMK (Baan Mankong or Secured Housing) program marks a paradigm shift in Thailand housing development because it is understood to be a solution to collaborative architectural process between slum community and external networks. Empowerment has apparently been key subjected when slum housing encourages low-income community access to bases of organizational practice, skill and organizational network. However, the vital knowledge gap does not clearly emphasized is the association between the empowerment, slum upgrading program and collaborative architectural process. Thereby, this paper attempts to establish the linkage of those key subjects.

Case study method is employed to examine the practice of BMK project at Tawanmai community, KhonKaen Thailand between 2003 and 2007, and then flow into the post-BMK developments. This paper utilizes the empowerment approach as theoretical framework for analysis and link those concerned subjects together. Particularly the up-scale of empowerment at the post-BMK period demonstrates the low-cost housing program as powerful driving force of increasing collaborative architectural process. This substantial movement became a platform of scaling up to institutional collaboration at national level. (178 words)

**Lia Dikigoropoulou**

Assistant Professor, New York City College of Technology, USA

&

**Jill Bouratoglou**

Associate Professor, New York City College of Technology, USA

## **Global Interaction into the Traditional Design Studios thru Blogs**

This is a paper on how we try to bring global interaction into the traditional design studio thru blogs. The special teaching methodology used in an advanced design course, looks to enrich a student's experience by increasing the number of contact hours between student and professional critics.

A blog is a chronological discussion or publication on the world wide world. During the entire semester the students are required to keep all their research and design on a blog. The blogs create a virtual studio culture that connects the students to the professional world.

- Blogs present, organize and protect students work as a digital portfolio
- Become a chronological arrangement of information
- Introduce a new skill of being part of global society
- Expose students to an alternative ways of thinking
- Reinforce writing and promote discussion
- Allows fellow students to see work even when not in the studio.

All of the work of the students from research to design is posted on a weekly basis online. Critics assigned to each student are automatically notified of the student postings and the students are likewise notified when a critic makes a comment.

Some of the Advantages of posting on a blog are:

- Students have access to a design critique 24-7. Not only during studio time.
- Creates a studio at virtually anytime, at any place as long as there is internet access
- The classroom extends beyond the boundaries of the campus
- Get references that we are not familiar with
- Connect students with Professionals throughout the world
- Connects Professors with other Professionals.

A formal dialogue is setup between each design student and professionals who act as critics throughout the semester. The connection of the students and the professional world rarely occurs. This is a unique and innovative way of connecting a design studio with professionals from all over the world.

**Elena Dineva**

Assistant Professor, Higher School of Civil Engineering Lyuben  
Karavelov, Bulgaria

## **Research on the Development of Recreational Opportunities for the Public Space of Equestrian Sport Facilities**

### **Introduction**

Doing Equestrian present in a highly developed technological society has become a modern myth of the "centaur". The rider and the horse in their joint movement have total gravitational orientation, united in a common energy system.

Analysis of the development of public spaces belonging to the Equestrian Sport Facilities and conclusions about their typology. Modern Equestrian facilities are a result of the growing leisure time of people /population/.

Equestrian centers are not only to build functional requirements but for leisure activities and satisfaction of deeply rooted in man and historically determined love for horses.

Analysis of constructed/existing stables on certain criteria and implications for typology.

### **Conclusion**

The examination of the relationship between the human need for contact with nature, mythological connection with the horse and the modern requirements for functional recreation, result in and create sustainable typological models for building new stables.

**Rabia Kose Dogan**

Assistant Professor, History of Architecture and the Built  
Environment, Turkey

## **Rediscovering Turkey-Konya City Centre**

**Pelin Dursun**

Associate Professor, ITU Faculty of Architecture, Turkey

**Ozan Avcı**

Research Assistant, ITU Faculty of Architecture, Turkey

&

**Gulsun Saglam**

Professor, ITU Faculty of Architecture, Turkey

## **Space Making: The Concept of Reinterpretation + Reformation**

Nowadays the city can be described as a new type of agglomeration made of multiplied, diversified, heterogeneous, complex, discontinuous spaces and relationships. For spatial and living characteristics of urban environments, this discontinuity can be explained as being open to continuous transformations and alterations. In a dynamic formation process the city usually explores new possibilities and performs in spaces. It always reinterprets and reforms its own spatial structure with new scenarios. Here, the sticking point is that how does an architect deal with relational information whole and how does he or she transform it into design process in this exploration and space making process.

By emphasizing the concept of “urban renovation and reformation”, aim of this study is to reveal this exploration process in a port city, namely Naples where these spatial transformations are radically experienced. By focusing on the architectural education, it is aimed to evaluate proposals of architecture students on the city of Naples. Here discussions take into account their designs on port of Naples and on the decayed area around Piazza Mercato where is an important city square with its social, cultural and commercial background. The main themes of the projects are to reinterpret of relationships between water and the city; to reintegrate of valuable lands that become deteriorated as they lost their functions and users into existing urban life with new architectural scenarios; to explicate the issues of urban transformation that were restructured in the value process which is dynamic, flexible, multi-faceted.

The process exposes substantial efforts by means of grasping problematic of urban life as a result of disconnection between sea and the city in most coastal cities by taking into account innovative and creative perspectives. These efforts that record an important learning and discovery process are valuable in terms of transforming these knowledge and experiences into architectural practice with future scenarios.



**Chi-Wen Fu**

Student, Chulalongkorn University, Thailand

## **Modular Animal Farms: The Studies of Khun Piramit's Goat Farm in a Muslim Community of Bangkok**

This dissertation is an attempt to introduce modular animal farm to a Muslim community in Bang Kholaem District of Bangkok. Its objective is to improve the ecological system and the living condition of a community that is overcrowded, lacks of hygiene, and needs additional job opportunity. During the period of rapid urbanisation, Bangkok like other metropolis resolved the problem of public health and hygiene by excluding animal farms from the urban area. This created problems for the lower waged workers who want to live a good life as organic products tended to be more expensive than conventional products. My thesis will provide an alternative solution for those who would like to include animal farms to their communities. Bang Kholaem District is chosen because of the existing goat farm of Khun Piramit and the potential of reintroducing the farming network.

The modular animal farm will be applied to the district in three scales to provide a transportable and flexible system to various sites. The urban scale focuses on how the goat farm network influences the community and the overall city. This network includes the selling of goats among farms and individuals, the selling of goat milk to neighbors and restaurants and the possible expansion of goat farm. The second scale explores how the application of the plug-in units work on different constraints in the city. The smallest scale focuses on the details of the material, floor pattern and construction method. The units are easily cleaned and put together. The floor pattern allows a complete separation between liquid and solid wastes as well as from the goat itself. Hoepfully with more time, this system of managing hygiene and animal welfare issues will be able to spread to other parts of the cities.

**Yan Gao**

Assistant Professor, The University of Hong Kong, Hong Kong

&

**Tian Tian Lo**

Professor, The Chinese University of Hong Kong, Hong Kong

## **Integrated Open Source Architectural Design for High Density Housing with Computational Control and Management Engineering the Paradoxes of Chinese Housing Architecture**

The idea of open source architecture is not new. There have been a number of products for single house, and several isolated cases built for collective housing in Germany and Japan, but the theory of practising this idea for high density housing with computation hasn't been described. This research paper aims to outline the theoretical framework of the integrated open source architectural design with computational control and management based on the high density housing research in China, in order to reconcile the paradoxes in the traditional housing design and procurement, e.g. between the future uncertainty and the current determined construction, between the profit-driven efficiency as property investment and the inhabitant environment as community, between the determined process controlled by the minority and the unpredicted consumption by the majority, between the inertia of the existing housing pattern and the increasingly demand change by the diversified society and, between the top-down mechanism with designer's stylistic inputs and bottom-up ecosystems with users' customization. Although more and more architects embrace the power of bottom-up organization, its practice in housing design cannot succeed without the global design curation and management; otherwise it would generate global chaos as housing products is not like fashion products, which can be customized as independent entities. Therefore, high density housing is a collection of individual units based on negotiation between associative customizations. With computational control and automotive manufacture, the open source design will be an iterative process based on real time feedback, resulting an open ended housing design systems that can respond more efficiently to the learned lessons for the next housing versions.

**Ruben Garcia Rubio**

PhD Student, University of Rome Tre and University of Valladolid,  
Italy and Spain

## **Travelling Through Greece. The Greek Influences on Louis I. Kahn's Late Work**

The architecture of Louis I. Kahn changed radically in the 1950s. Such was the transformation that it is difficult to find his mistakable mark in works so different like the miesian Parasol House (1944) or the palladian Fleisher House (1959). All these differences have been widely recognized by leading architectural critics and some of them even venture to place that process of changing while he was at the American Academy in Rome between 1950 and 1951. They are absolutely right in terms of time and place. But the real question arises when they have to establish the reasons for such a radical change in a short stay in Rome. The answer, however, is more difficult....

The three months that Kahn spent in Rome were really intense. His position was a Resident Architect (RAAR). Contrary to what one might think he was more a kind of a college friend than a Professor. His job allowed him to travel and also encouraged him and so Kahn used to do it a lot. Some of those travels were nearby but he also made a far journey that got him to Egypt and Greece. This Mediterranean journey is also known by everyone because of its great drawings. Even some architectural critics point a possible influence of this travel on his late work. But no one has dwelt upon it so far.

The present abstract (as it is a part of my Ph.D. about the influence of this European travel on his work) will try to find the traces of Greece in Louis I. Kahn's late work. Firstly, I will analyze the stage of Louis Kahn at the AAR and especially his Mediterranean trip; secondly, I will go into detail about the lessons were given to Kahn about Greek Architecture; and finally, I will explain how Louis Kahn used the previous lessons on his own architectural work.

**Efstathios Gavotsis**

Engineer in Structures, University of Cambridge, UK

&

**Alice Moncaste**

Director, University of Cambridge, UK

## **Industry and Policy Recommendations for the Improvement of Embodied Energy and Carbon Accounting, Based on a Study during Construction Stage**

Embodied impacts are becoming a highly significant proportion of whole life impacts. Truly zero carbon buildings can only become a reality if embodied impacts are included; for that they must first be measured.

This paper presents a case study of a new school building, carried out during the construction phase. The authors used mixed quantitative and qualitative methods to collect embodied and operational energy and carbon data. The whole life embodied impacts, from product stage through to end-of-life, were modelled to the TC350 Standards using an innovative Excel-based software tool, and the operational impacts through a dynamic simulation incorporating future climate predictions.

The building was a best practice example of low-energy carbon design. It provided an excellent case study in two ways: firstly, the stakeholders were strongly supportive of the research, allowing the authors unusually extensive access to data; secondly, the building was studied during construction, rather than either at an early design stage when only generic predictions can be made, or once completed when much of the detailed information has been lost. These aspects enabled a superior quality of data to be collected.

In spite of this, the case study demonstrates a high level of uncertainty for the calculations at each life cycle stage. This was due to a number of industry-wide issues, including the lack of any systematic method of data collection, published figures for embodied impacts of composite components, and varied boundaries for those figures which were available. For post-construction lifecycle stages there are additional uncertainties to be taken into account.

This paper quantifies these issues through examples and concludes that considerable barriers to measuring embodied impacts remain throughout the construction process. A number of key recommendations are made, in order to gear up the measurement and subsequent reduction of embodied impacts of buildings.

**Esther Giani**

Researcher, Iuav University of Venice, Italy

&

**Giancarlo Carnevale**

Professor, Iuav University of Venice, Italy

## **Enhancing Urban Heritage**

The rehabilitation of historical centres in Italy offers a vast quantity of experiences, though the concept of preserving urban and architectural heritage is quite recent. In fact the same experience does not find place for industrial districts or areas. The scale of intervention is specific to each case as it deals with single artefacts as well as complex building systems, open spaces and urban closeness. The heterogeneity of adopted methods is a result of diverse contextual conditions and, perhaps above all, diverse urban policies. An initial distinction must be made between Monument and Document, thus distinguishing two levels, both equally relevant to the preservation of the identities of a site, though of widely varying origins and – quite often – diverse physical, formal and functional consistency. This text will examine primarily those aspects related to urban morphology, looking at buildings as Vitruvius intended them: *firmitas*, *utilitas* and *venustas*. These notions will, however, be subordinated to superior levels of programming.

Political choices determine what can be pursued, while economic strategies indicate the limits of each intervention; at but not least is the notion of environmental sustainability in its broadest meaning that encompasses issues of energy, economics, function, technology and, above all, society. We will attempt to further narrow the field by considering the rehabilitation of a complex industrial district: the first methodological choice concerns the type of analysis (the reading) adopted to acquire notions useful to the development of a concept design. Architectural debate, in particular in Italy, was witness to the articulated development of diverse positions. A rich selection produced a number of fixed points that will be synthetically referred to. We shall expose the case of Porto Marghera, the Venice industrial district: readings and studies developed within our university research unit and with the help of research-fellow, degree students, phd student.

**Emanuele Giorgi**

PhD Student, University of Pavia, Italy

## **Wellness and Happiness: How and why Architecture Must Contribute to a Cultural Revolution**

The historical period we are going through is marked by sweeping transformations and changes of all the forces that characterized the Western tradition (Capitalism, Christianity, Democracy and Humanism). The Technological Apparatus monopolize the management of contemporary society, changing the human perception of life, wellness and happiness.

So the first aim of the paper is to define what is the meaning of contemporary in the design relationship between Man and Environment. It means to understand what the contemporary Man really needs in a world dominated, nowadays, by individualism and quantity. We have to change our goals, discovering new values such as happiness and quality, changing the concept of prosperity and exploiting the positive potential of the Anthropocene. We must imagine new ways of thinking, redefining our needs, habits and dreams and developing a rational idea of being contemporary.

The second aim of the paper is to defined how the architectural practice can contribute to this cultural revolution that history imposes on us. Firstly we look for historical references before the Scientific Revolution, at the time in which man was not yet "Dominator et possessor mundi" (Descartes) and when the Technological Apparatus still did not order the human behaviour. Then we must look also at contemporary examples that move in the direction of a new relationship between Man and Environment (landscape, community and production). Among these, the most important currents are those that allow new lifestyles (as co-working and co-housing) and those which stimulate the active participation of population in the stages of the projects. From these studies we reach the elements that give us the strength to think again to a reasoned utopia that must lead us to design cities for life, community and well-being.

**Kevin Glowacki,**  
Assistant Professor, Texas A&M University, USA

## **A Comparative Study of Ancient Greek Houses Using Visibility Graph Analysis**

Ancient Greek domestic architecture has been a topic of interest from the perspectives of both ancient literary texts and modern archaeological fieldwork. Scholarship has advanced from a focus on house forms described by Vitruvius and other ancient authors to a fuller awareness of the complexity of the built environment and the contextual analysis of artifacts revealed by stratigraphic excavation. Today, scholars distinguish four main types of house from the Classical and Hellenistic periods: the *prostás* house (which is defined by a narrow portico in front of the main suite of rooms), the *pastás* house (with a wider portico in front of the main suite of rooms), the *peristyle* house (with colonnades around three or four sides of an open-air court), and the *Herdraumhaus* (characterized by a large, architecturally prominent room containing a fixed, central hearth). Not all extant structures, however, fall neatly into one of these categories and there is considerable variation in plan and the location of functionally distinct units (kitchens, dining rooms, bathrooms, workrooms, etc.). Furthermore, while ancient literary sources seem to imply that the existence of gendered spaces was a common feature of Greek houses, a clear division into exclusively male or female quarters is not readily apparent in either the architectural form or artifactual distribution of most preserved domestic structures. This paper employs Visibility Graph Analysis (VGA) to map the values of visual connectivity, integration, entropy, clustering efficiency, control, and controllability that characterize a selection of ancient Greek houses. Such mapping contributes to the study of Greek houses and households by expressing visually the formal dimensions and complexity of domestic architecture, by clarifying the spatial relationships of rooms within each dwelling, and by identifying patterns of potential movement, social interaction, and segregation. Case studies will be drawn from excavations at Athens, Delos, Olynthus, Priene, and elsewhere.

**Valentina Giacometti**

PhD Student, University of Pavia, Italy

## **Accessibility of Historical Buildings: To Assess, to Design, to Enhance**

The research here presented, developed at the Department of Civil Engineering and Architecture (DICAr) of the University of Pavia, aims to define objective tools able to assess the accessibility level of buildings and environments, both for mobility impaired people and for visual impaired people. In particular, if we consider historical buildings, the main aim is to improve the culture of accessibility as one of the necessary conditions to ensure the conservation and the enhancement of the built heritage. The theme of accessibility, intended as the possibility for all people and in particular people with disabilities to reach, to access and to use environments in conditions of safe and autonomy, is also strongly related to social sustainability and the rights of social and cultural inclusion and participation for all people, without making differences in relation to their abilities, age or gender. For these reasons, the assessment of the accessibility level of buildings and environments could be an incentive to improve the culture of accessibility and to stress the importance to design punctual solutions able to overcome architectural and sensorial barriers. These architectural interventions have to be designed and coordinated in an open-mind view, not focalized on the specific problem, but involving the whole building and urban mobility, in order to create an accessible net. Throughout the breakdown of the building under investigation into defined steps and elements of analysis, the identification of the main accessibility problems results to be clear, simple and objective. The research includes also the development of results communication, because communicating the accessibility level not only to designers and experts but even to all users, could be an incentive on one hand for tourism, and on the other hand for the design and management of the accessibility improvement, ensuring the knowledge of its issues at a global level.



**Silvana Maria Grillo**

Associate Professor, University of Cagliari, Italy

&

**Caterina Giannattasio**

Professor, University of Cagliari, Italy

## **On Site and Laboratory Investigation on the 16<sup>th</sup>-17<sup>th</sup> Century Masonries: The Western Sardinian Coast Defensive Towers**

This study is part of an ongoing research aimed to examine a number of important defence towers situated along the western Sardinian coast, Italy. These towers form part of the historic coastal defence system dating between the beginning of the 16<sup>th</sup> and end of the 17<sup>th</sup> century. These series of fortifications, rich in their historical and architectural quality, were constructed due to the social need for defence. Unfortunately, they are suffering from rapid deterioration of their stone fabric as a result of disuse and abandonment since the 19<sup>th</sup> century when the towers lost their defence purpose. In this paper we present the investigations of the coastal towers on the shoreline between Bosa and Santa Caterina di Pittinuri. They have been studied through the analysis of masonries (ashlars and mortar) by an historical, architectural, technical and petrographical-chemical point of view, through a methodology based on a stratigraphical approach. Specifically, the ashlar blocks used for the construction of the defence towers generally originate from formations of Tertiary calcalkaline volcanic rocks, Miocene carbonatic formations and Quaternary "Panchina Tirreniana" cropping out in the western part of the island. The towers from Bosa to Punta De Foghe are built mainly from volcanic ashlar and lime mortar while further south the fortifications were made mainly of sedimentary rocks.

These masonry samples and ashlar have been studied by mineralogical-petrographic methods with instrumental techniques for the analysis of component materials (OM, X-Ray diffraction), and by wet chemical analysis for the quantitative determination of the binder/aggregate ratio. In fact, the binder/aggregate ratio has a great influence on the physico-mechanical properties of the mortar itself.

The aim of this research is the understanding of the traditional building techniques used during the above mentioned centuries, combining dating strategies, with three different principal objectives:

1. to define the peculiarities of the traditional building techniques used during this period;

2. to increase the knowledge of the constructions and their degradation phenomena to warranty proper restoration;
3. to facilitate, on the basis of acquired data, the dating of other contemporary edifices, especially referring to the so-called 'minor' buildings, which are very often object of improper restoration.

**Mehrdad Hadighi**  
Professor, Pennsylvania State University, USA

## **The Space of Impossible**

**En-Yu Huang**

Assistant Professor, Chinese Culture University, Taiwan

## **Socio-cosmic Realities Represented by the Prescriptions concerning the Orientation of Built Spaces in Chinese Feng-Shui and Indian Vāstu-Shāstra Traditions**

As two of the most age-old and well-known architectural traditions of the world, Chinese Feng-Shui and Indian Vāstu-Shāstra are based on numerous ideas about how to locate, to orient, and to establish 'built spaces', such as cities, villages, palaces, temples, houses and altars, in a correct way, and about how to ensure a proper connection and a harmonious relationship between built spaces and their external environment. These ideas find their expressions in a variety of architectural prescriptions for people to follow when built spaces are going to be planned, designed and constructed.

This paper aims to analyze, in a comparative way, the prescriptions concerning the 'orientation of built spaces', which are found in both Chinese Feng-Shui and Indian Vāstu-Shāstra traditions and in both old texts and modern practice of the two traditions. In general, these prescriptions can be classified into two groups. The first group contains those stipulate that the orientation of a space should be determined according to the spatial system constructed by the 'cardinal points'. The second groups comprises those emphasize that the orientation for a built space should be determined by reference to the 'object dominating the external environment'.

The comparative analysis will be based on the paradigm of 'the global built environment as a representation of realities', which was proposed by Prof. Aart J. J. Mekking from Leiden University for comparative world architecture studies. Within this paradigm, the Three Long-cycle Traditions (the Anthropomorphic, the Sociomorphic and the Physiomorphic) and the Five Shorter-cycle Themes (the Axis Mundi & Cosmic Cross, the Including & Excluding Structures, the Holy & Unholy Zones, the Horizons of Life, and the Boasting Façade) of worldwide architectural representations were developed, some of which will be applied as effective methodological frames in this paper.

**Wan-Wen Huang**

Assistant Professor, Yuan Ze University, Taiwan

&

**Tomoko Kano**

Associate Professor, Teikyo Heisei University, Japan

## **Sustainable Development of Environment, Historical Places and Dwellers' Community in Bergama, Turkey**

"Conservation of Cultural Heritage" does not refer only to protecting of physical and historical properties in historical sites, but also improving environmental context and dwellers' community under the tourism development and globalization impact.

This study attempts to explore the sustainable development and conservation strategies of land, historical places and dweller's community in Bergama, Turkey. "Bergama (Pergamon)", a historical and cultural settlement that is laying on the northwest of the Aegean region with rich Hellenistic, Roman, Byzantine and Ottoman archaeological remains. After Bergama district has been added to the UNESCO's tentative list of World Heritage Site in 2011, Tourism development and globalization have influenced the urban landscape, local communities, dwellers' daily life and even changed the industrial structure. New ideas and strategies of conservation should be considered to withstand the increasing demolition of environmental context, various local house types and cultural identities in Bergama.

The research issues are focused on following 4 points: 1) Urban Landscape and City Axis 2) Historical Holy Route 3) Richness and Hybridism of Dwellers' Community. 4) Citizen Education and Participation. Final explicit proposals are proposed to develop Bergama toward a sustainable development city as a living heritage, which include not only the reading and rewriting of the visible environment and buildings, but also the communication between municipal government and residents.

**Zuzana Humajova**

Ph.D. Student, Slovak University, Slovak Republic

## **Open-Plan Offices – Design and Psycho-Emotional and Health Aspects.**

The mostly negative perception of open-plan offices is world wide known problem. The common practice is to link those negative feelings with the air condition, higher noise rate, lack of daylight and lack of the view to the outdoors. There are several factors, which haven't been researched yet, which as I assume, could have an remarkable influence on the general well-being of the employees in the open-plan offices. The objectives are to examine the influence of the design of furniture used commonly in the open-plan offices on the well-being of the employees and prove the hypothesis, that higher the individualization of the workstation is, the higher are the feelings of well-being of the employees. The individualization of the workstation concerns partition walls of the workstations, table height, storage boxes, individual lighting, materials, colors and possibility to decorate the workstation. The second hypothesis concern the privacy issues. There is an assumption, that the possibility to shield from the colleagues occasionally without changing the room and staying in working in your own workstation and manifest the need of concentration and privacy to the colleagues non-verbally, with the help of the design of the furniture will increase the feeling of well-being in the office and the satisfaction with the work environment generally. These hypothesis are being verified in a case-study in an open-plan office in Bratislava with more than 50 employees on one floor. The results of the study will be virtual models helping to design the furniture for the open-plan offices which will deliver benefits to the well-being of the employees without decrease of their performance.

**Mayyadah Hussien**

Assistant Professor, Petra University, Jordan

## **Exploiting Advanced Technology to Producing Clean Energy in Sustainable Interior Space (Jordan as a Case Study)**

The aim of this study is to exploit some advanced technological equipment that could be used in the Interior spaces as new sources of producing clean energy, and to give some insight on how it can enhance some dynamic functions. It can also provide some aesthetic inspiration in present and future interior designs and use of new sustainable technology with deeply taking into the account producing the clean energy as a source of this development. The theoretical part goes through a brief definition of the new sustainability technologies, home automation system, human - building relationship, reactive & proactive building responses, presence detectors, motion detectors as a reactive building responses, KNX control system as a proactive building responses.

Then the researcher will go through the use of these advanced technologies like a home automation system in Jordan by using descriptive analytical approach, in two case studies (villa. & company in Amman, Jordan). I collect the information of this villa from the engineers works in this company and its owners , then draw many of the important results like "a set of indicators, which includes the application of the ideal usage of sustainable technology as a source to produce the clean energy in the Jordanian interior designs and to provide a healthy environment in the interior spaces and many of tables shone the reduced energy consumption (%) through the sustainable technology in these two case study". then draw conclusions like "Home automation one of the most important sustainable technology, include centralized control of lighting, HVAC (heating, ventilation and air conditioning), appliances, security locks of gates and doors and other systems, to provide improved convenience, comfort, energy efficiency and security" and list of references.

**Minhye Hwang**

Part-Time Professor, Konju National University, Republic of Korea

## **The Implications of Leonardo da Vinci's Usage of 'Infinite' Grid in His Centralized Plans**

This study proposes that the 'infinite' grid found in Leonardo da Vinci's centralized plans is a visualization of human intellect shedding away from metaphysics.

Dominant architectural floor designs of the Renaissance ear were dependent upon the concepts of symbolism, proportion, symmetry and harmony. They were of a spatial concept that defined all physical substances as finite entirety which could undergo segmentation by mathematical or symbolic proportions. Under these circumstances, the contrary act of applying infinite grid on a floor plan - such as done by Leonardo da Vinci - would have two important implications. First, the outward 'expansion' of a centralized plan is significant in the act itself. The possible notion of infinitely expanding into space is left open, despite the fact that it could be hindered at one point, in reference to constructability, usability, and structural functionality. His floor plan is not a finite entirety by a classical definition, but instead stands in a practical light as a space that is expandable according to needs. Secondly, the 'method' of expansion for centralized floor plans is noteworthy. The standard of Leonardo da Vinci's grid method is based solely on the measurements from his geometrical floor plans. His grids does not follow the classical aesthetic concept of proportion, but rather relies on rational deduction.

Nevertheless, it would be false to assume that Leonardo da Vinci's infinite grid method could easily substitute the Cartesian Grid system that appears 140 years later. It is because the absolute form of his centralized floor plan is actually inherent of metaphysics, called as 'perfect form of nature' by L.B.Alberti. It failed to escape the classical boundary of Aristotelian philosophy.



**Woo Bang Kang**

Director, Illhyang Research Institute of Korean Art History, South  
Korea

**Architecturalization of the Forest of the Cosmic  
Trees. New Interpretation of the Five Orders**

The Five Orders is a major theme in European art history, from Greek, Roman, Byzantine, Renaissance, and Baroque art to Islamic art. Having studied the Korean and Chinese orders, and uncovered the formative principles and structure of the symbolism, I have also attempted to find the key to the European orders.

Basing my discussion on the capitals, first, I will uncover the form and symbolism of the acanthus leaves through analysis of the acroteria of Greek temples to confirm their essence, and through comparison with Korean examples.

Second, regarding the origin of the orders, since the rise of civilizations, the Tree of Life, or Cosmic Tree, has been represented in art. The tree is flanked by auspicious animals, or birds and human beings symbolizing the origin of all creation. Metaphysical abstraction of such is the origin of the capital, hence the depiction of auspicious animals, birds and Buddhas in Gandharan art, influenced by Greek art.

Third, the volute, or spiral, is a mystic symbol found in architecture, sculpture, painting, metal work etc. Not only ornamental, they constitute the most important form, that which gives life to all things as seen in the big volute of the Ionic order. Lastly, from the mouth of auspicious animals auspicious energy emanates in various figurative forms, as from the head of Jesus and Buddha images.

By changing the conceptual paradigm of above the terms, a new concept can be established for Greek and Buddhist temple architecture, and the Greek Gods and Buddhist images enshrined in the temples. That is, the temple is microcosm full of auspicious energy as the macrocosm, the god image is also microcosm full of auspicious energy like macrocosm. From the temple the very dynamic energy diffused through the infinite space, the macrocosm. (298 words)

**Burcin Kutsal**

Lecturer, Zirve University, Turkey

## **Traces of Culture in Architecture: Traditional Gaziantep Houses**

Traditional Houses are the most important reflective items of social-cultural characteristics of the region. People with different cultures living in different geographical regions, form their living spaces according to their own cultures. Each culture focuses on specific items for traditional housing design. These items vary according to geographical factors. Geographical conditions affects climate, climate affects culture, culture affects housing design of the region.

Gaziantep traditional houses are the reflected form of Southeast Anatolian culture to house design. Due to hot and dry climate and throughout the year the lack of rainfall in the region, led to using outdoor spaces as courtyard. However, outdoor usage is limited by the concept of “privacy” that plays an important role in traditional housing design. Design of Traditional Gaziantep Houses has been shaped by the approach of protecting of private life and to avoid hot climate effects.

In this study; concept of privacy influencing the design and reflection of this concept to architecture will be discussed on traditional Gaziantep houses. Architectural items, reflecting privacy in traditional housing will be analyzed in two groups. In First group, elements of traditional houses reflecting privacy will be investigated which privacy categories from physical privacy, visual privacy or sensual privacy are included; In Second group; items will be identified as belonging to which category “public, semi-public, semi-private, private”. As a result of this study, level of privacy of Traditional Gaziantep houses will be detected.

**Jean-Francois Lejeune**

University of Miami School of Architecture, USA

**Ruralist Utopia & Modernity in Franco's Spain:  
The Pueblos de Colonizacion, 1939-67**

**Helena Maia**

Director Centro de Estudos Arnaldo Araújo – Escola Superior  
Artística do Porto, Portugal

**Alexandra Trevisan**

Director, CEAA – ESAP, Portugal

**Miguel Moreira Pinto**

Research Fellow, CEAA – ESAP, Portugal

## **On Modern Architecture, Photography and City Readings: Teófilo Rego and the Escola Do Porto**

Since its very beginning, photography has selected architecture as one of its main themes. And along the past two centuries, too often, the first encounter with a building or constructed environment comes from looking at an image, usually a photograph. However, despite its importance, the study of architectural photography is generally underestimated.

This presentation intends to analyze the potentialities of photography as a source of historical and theoretical data, aiming to develop new city readings particularly in the Portuguese context from the 1940's onwards, where the dissemination of photography and modernist architecture coincide.

Predominantly, this paper will address the collaborative project in the field of architectural photography based on the work of the Oporto photographer Teófilo Rego (1914-1993) that documents, among other themes, the work of great figures of portuguese Modernist Architecture – that would be later internationally known as “Escola do Porto” – such as José Marques da Silva, David Moreira da Silva, Januário Godinho, João Andresen, Arnaldo Araújo, Pádua Ramos, Viana de Lima, Ricca Gonçalves, Rogério de Azevedo or Francisco de Oliveira Ferreira

But besides addressing the image of the city of Porto, read through the photographic lenses of Teófilo Rego, that for over two decades worked closely with these architects, we also intend to understand how these images – that served to document and illustrate these architectural works – simultaneously represent the photographer's own look through which he registers its city architecture.

And, by crossing these distinct disciplinary fields, its our intention to promote and enrich the theoretical framework of history of photography in Portugal and the History of Modern Architecture in Porto.

**Estelle Mare**

Professor, Tshwane University of Technology, South Africa

## **The Role of the Second Architect on a Significant Building Site**

This article expounds Edmond Bacon's "principle of the second man (sic!)", formulated in his *Design of Cities* (1967), as a criterion for judging the addition of a further building or additional architectural structures on a significant building site. This thesis basically implies that an architect who designs a new building on a site on which a significant building already exists, or a group of buildings that spatially belong together already exist, should not detract from the merit of the work of the first architect, but should blend the new structure with the old, not necessarily by imitation or copying. This is a test for an architect's creative ingenuity and moral responsibility, because a disharmonious addition or alteration on an architecturally significant site can compromise the setting. In broad terms a site that may be considered as architecturally significant can be demarcated in various ways: it could be an enclosed space, such as most city squares in which an historical building has pride of place; it could be an historical or culturally significance space in which a sense of place has already been established or reinforced architecturally, or homogenous cityscapes in which building regulations regarding materials, construction or design ensure uniform aesthetic norms. In such places the designs of second architects may be considered successful if they do not distract from the primacy of the existing main building or group of buildings that established and conserves the sense of place of the site, but instead enhances the architectural merit and unity of the site. Failure in this respect is blamed on the second architect's intention to dominate the site with his or her new creation.

**Sawsan Saridar Masri**

Assistant Dean, Beirut Arab University, Lebanon

&

**Hisham Arnaouty**

Assistant Professor, Beirut Arab University, Lebanon

## **Architecture Program Accreditation: A Pathway to Graduates International Mobility**

The education of architects as global professionals has been one of the priority goals of the Faculty of Architectural Engineering (FAE) at the Beirut Arab University for many years. It is believed that practice and education are interdependent elements of the profession that, when integrated, enable students, educators, and practitioners to obtain and maintain the knowledge and skills needed to enter and fully participate in the profession, and to achieve design excellence in service to the globalized community.

Therefore, the FAE has developed its curriculum in a positive manner to integrating of education of architecture into practice, meeting the continuing challenges in the era of globalization. The aim of this paper is to evaluate the program using the validation criteria of several architecture accreditation boards.

The main prospect of evaluation is that to achieve a satisfactory balance between theory and practice which implies that the study program addresses the fact that architects cannot limit themselves to conceptual analysis or virtual projects, nor to local and regional practice of the profession. Instead, graduates have the opportunity to reside their education at the crossroads between human, social, and cultural values and the technical capacities of construction of the global world.

**Pasquale Miano**

Associate Professor, University of Naples Federico II, Italy

**Giorgia Aquilar**

Professor, University of Naples Federico II, Italy

&

**Bruna Di Palma**

PhD Student, University of Naples Federico II, Italy

## **Strata and Topographies: The Arduous Interweaving of Archaeology, Architecture and the City**

Archaeological territories and materials constitute potential places of relations between the physical and interpretative levels of the contemporary stratified landscape.

The need for the archaeological discipline to open itself to the contribution of architecture – in relation to the role of the "new" in the conservation and re-signification of the past – focuses on two recurring aspects in the condition of ruins within urban spaces. On the one hand, the overlapping between the archaeologies and later settlements has led to complex urban situations, as the result of the coexistence of different materials, uses and memories, which is extremely interesting for the project. On the other hand, the issues concerning the isolation of archaeological areas in the wider context of the urban public spaces becomes an opportunity to work at the overcoming of the traditional archaeological fence.

The urban and architectural design for archaeological sites – dealing with the intermingling between these themes and the specific conditions of places – tends towards the reconstruction of a tissue of spatial connections, contamination of ages and rewriting of meanings.

The research – developed within the ministerial funding for the National Research Project on the theme "Architectures for Archaeological Landscapes" – has address these issues to the wide volcanic area of the Campi Flegrei, in north-west Naples. The reading of this stratified territories and their urban role highlights the connective potentials of the archaeological tissue, not only as concrete linkages, in which the "pre-existences" – included in a relational net – become transitional places able to mediate in the delicate weaving between urban artifice and landscape. The rediscovery of layers and levels – superimposed or placed below the ground level – determines a new system of connections along the vertical axis of the strata, involving significant urban pieces and focusing on the architectural character of the public space with its many variations and configurations.

**Shadi Nazarian**

Associate Professor, Pennsylvania State University, USA

**The Living Wall:  
An Innovation in the Education of an Architect**



**Riitta Niskanen**

Researcher, Lahti City Museum, Finland

## **007 and Contemporary Sacral Architecture**

The status of the church changed in Finland after the WW2. The Finns began to be secularized. The church tried to take new tasks to fasten itself more intensively on the care of social problems besides the mere spiritual work. Democracy was the slogan of the 1960's. Finland went through a quick urbanization.

This all was reflected in the church and sacral architecture. The special features of the churches, solemnity and hierarchy began to vanish. It could be seen in the architecture competitions of the time. They aroused often polemics that clarifies the state of great changes. Some architects wanted to question the whole institution and its traditions and to create something new.

My paper handles this phenomenon with one example. The Salpausselkä church architecture competition in 1967 in Lahti tried exceptionally to find an idea to a whole suburb and a service center of the area. The competition was won by architect Kristian Gullichsen. His proposal was a variable and flexible center that could be carried out economically and efficiently. Gullichsen's pseudonym was 007. In his perspective drawing of the church he showed Superman pointing a low moderate building.

The debate following this solution however led to a different result. The planning task was finally given to architects who won the third prize. It was said that churches have always been the noblest achievements of architecture and there is no reason to make the traditions banal and to strive for cheap curiosities.

What kind of forces were fighting on the fields of architecture. What kind of arguments kept the traditions alive? What kinds of elements were used to build the church of a modern suburb in the beginning of the 1970's? My paper tries to give answers to these questions.

**Kimberly Nofal**

PhD Student, University of Florida, USA

## **De Stijl All-Sidedness: A Volumetric Theory**

The terms 'all-sided' and 'all-sidedness', which appear in philosophy, politics, art, film and architectural literature of the 20th century, have been largely overlooked and rarely examined by historians and theorists. The etymology but only permeates the sense of neglect by adding confusion and uncertainty. Much of the ambiguity surrounding the terms relies on the multivalence of its uses.

According to Oxford English Dictionary, the German terms all-sided (allseitig) and all-sidedness (allseitigkeit) were first cited in 1691 as describing an inherently spatial reference – one that “completely encircles.” Noted as being rare in usage at the time, the etymology altered in 1751 to convey a sense of 'general' or 'universalism'. The definition transformed once more at the end of the 18th century, this time describing a human character trait called “fully-development”, most notably seen in critiques of Johann Wolfgang von Goethe, discussions of Renaissance men by Jacob Burckhardt(1860), and Friedrich Fröbel's educational explorations(1826).

The onslaught of the Great War (1914-1918) proved the need for a radical revision of the arts in form and language. The term all-sided was employed in many avant-garde manifestoes, commentaries, and critiques spanning Cubism, de Stijl Neoplasticism, and Constructivism where its definition implied more than a physical membrane and challenged the traditional, fixed aspects of volume, mass, and architectural space.

The paper examines the relatively unexplored role of all-sidedness used by de Stijl artisans Theo van Doesburg, Piet Mondrian, JJP Oud, and Gerrit Rietveld and its association to space, volume, perception, dimension, and the mobile participant.

**Michael Obrien**

Professor, A&M University, USA

## **John Nolen and Raymond Unwin: Garden City Collaborators**

The English Garden City Movement, advocated by Ebenezer Howard and the associated town designs by Raymond Unwin were some of the earliest reactions to the environmental degradation and placelessness of the European Industrial City circa 1900. John Nolen (1869 - 1937) was one of the earliest American adopters of the Garden City ideals. Over the course of his career, Nolen designed fifty-five new towns and subdivisions across the United States. Most of these plans had elements that were adapted from Sir Raymond Unwin's principles and spatial conditions to fit the unique cultural landscape of the emerging American middle class. Place-making was one of the central goals of the Garden City. Places, at multiple scales, town, neighborhood, and street distinguished the Garden City from the monotonous and chaotic landscape of most cities.

A unique characteristic of the planned communities and subdivisions by John Nolen (1869 - 1937) is that they demonstrate the potential of integrating landscape architecture, architecture and planning principles to construct an underlying infrastructure of place-anchors, to guide place-making during build-out phases, even when build-out occurred decades later.

Plans designed by Nolen's firm after 1920 characteristically included strong formal elements, central greens, axial boulevards and a hierarchy of spatial conditions extending from the town center to the thoughtful termination of a residential street. These post-1920 plans showed what I am calling "place anchors" that established landmarks at the scale of neighborhood, district, and town.

This paper will present a comparative study of the "as designed" and "as built" conditions of two projects designed in the early 1920's and "built-out" in the competitive post-depression economy of the late 1930's. The projects, in Mariemont, Ohio and at Windsor Farms, Virginia, are the result of John Nolen's unique transformation of Garden City principles to fit the landscape of the emerging American suburb.

**Jose Manuel Pages Madrigal**

Associate Professor & Chairman, Lebanese American University, Lebanon &

Associate Professor, University of Genova, Italy

## **Place within the Architectural Design Pedagogy**

Architectural design pedagogy requires special attention to the relationship between the place and the object to design. The landscape seems to link these two fields. Design can be considered as the hard task to create a new place. Students' approach to the territory as workspace requires a specific attitude. In that case the design proposal would come from the deep knowledge of the place, its characteristics and the rules defining such relationships among their components. Identity signals and territorial composition codes are essential for this comprehensive process.

The analysis of the place and its perception will be preceded by a preliminary task to identify the various components of landscape.

The paper discusses a comparative analysis among several processes developed in some Mediterranean Faculties of Architecture, as a first step of an integrative project among Regional High Education Institutions.

The comparative process starts with free-hand analysis as a previous task to define a territorial master plan. This comparative analysis previews a second step where the proposed tools are into the IT fields.

The conclusions reflect the most interesting topics of the methodology to apply. In that case the free hand and the computer graphics systems can be mixed. A third path could be very helpful to mix them.

**Chiara Piccardo**

Ph.D. Student, University of Genova, Italy

**Andrea Giachetta**

University Researcher, University of Genova, Italy

&

**Adriano Magliocco**

Associate Professor, University of Genova, Italy

## **Performance of Passive Solar Systems in a Case of Retrofitted Buildings**

**Maria Philokyprou**  
Lecturer, University of Cyprus, Cyprus

## **Continuities and Discontinuities in Vernacular Architecture**

Vernacular architecture has been growing over time with continuities, changes, transformations and adaptations to the different social and economic conditions of each period in response to actual needs with the available means of every place. Continuities in vernacular architecture are closely related with space, time and materiality and involve structural, typological, functional and social issues with multiple readings and interpretations. The recent abandonment of a large number of traditional dwellings mainly due to urbanization and the romantic nostalgia towards the past have led to the conservation and reuse of traditional buildings following a different approach compared with previous periods. The previous tactic of segmented partial and on-going maintenance without interrupting continuity and use has been replaced today with an integrated comprehensive and thorough conservation and transformation of a building. Is conservation of vernacular architecture an act of continuity with the past or discontinuity within the context of the existing data and processes? When conserving traditional buildings is it possible to accomplish morphological, structural and social continuity? How is the potential integrity of traditional buildings being achieved? These are some of the questions discussed in this presentation with the focus of seeking a contemporary way of keeping alive and genuine the relationship with the cultural works of the past.

**Nattakul Phouangsombat**  
Student, Chulalongkorn University, Thailand

## **Animistic Architecture: Proposal Development for Bang Pli Market**

Throughout history, the West has generally dominated the study of genius loci. The concept is considered to be universal, yet it's application in Eastern architectural scholarship has been superficial, touching on only the most basic aspects of Eastern culture, most specifically Thai. In Thailand, spirituality has tremendous influence over how Thai's live and especially how space is defined. Despite the wide differences in representation however, there are many points of intersection between the basic principle of genius loci and spirituality in Thai culture. In this paper I will present the interpretation of traditional belief and practices of Thai animism on dwelling in space in comparison with the concept of genius loci. I will also include how these beliefs are interpreted in a modern context in Thailand, and how Thais use these concepts to interact with their spiritual environment. To guide this discussion, this paper will focus on Bang Pli Market, located in Samut Prakan province south of Bangkok, as a case study of how modern Thais are dealing with their spiritual environment. This analysis of domestic spirituality in space can be understood and applied in modern architectural form.

The traditional practices of animism in Thai culture have always been revolved around nature. Similar to the West's belief in a natural environment created by God, Thai's believe in powerful spirits that govern nature. These spirits in nature have immense influence over the Thai people, defining the rules and regulations of how one should properly inhabit a space. The spirituality of space can be defined by individual objects, commonly seen in "spirit houses," and easily allows the Thai to adapt peacefully and respectfully with both the spiritual elements and the surrounding environment in their lives.

**Ann Pitt**

Associate Professor, Wentworth Institute of Technology, USA

## **Abstract Painting in Architectural Education**

This paper argues that the integration of color theory and abstract painting in the architectural education opens a new awareness that increases the students' critical thinking skills, and provides them with new methods of thought and expression.

Courses exploring color theory and abstract painting are typically not part of an architectural education. These courses explore many space making components that are related to the architectural process of design. Color relationships can be used to create a 3-D field on a 2-D surface. Some colors recede, others advance, all effected by colors which surround them. Abstract painting relies upon the ability to see the essence of an idea using color compositions and leads to increased critical thinking skills, essential for architects.

Hans Hofmann, a twentieth-century abstract expressionist painter and teacher, developed his 'Push, Pull' theories using color aspects and planes. He used his method to create depth and space on a two-dimensional surface of a painting.

Many of Hofmann's teachings can be applied to architecture as well as to painting. This paper examines a course exploring these teachings in relationship to both painting and architecture, and shows that there is a strong connection between the two. It shows how abstract painting can be used to express architectural concepts and open architectural students to a new way of thinking and expressing ideas. In the course, students come to understand the 'push / pull' method of Hans Hofmann and this understanding and use of his method influences their space making in the three-dimensional world of architecture.

The final section shows how these new methods enhance the students' process in their architectural studio projects. Clear examples are included to support this conclusion.



**Alfons Puigarnau**

Associate Professor, International University of Catalonia, Spain

## **Manuscripts of the Early Years of the Greek Architect Isaac Saporta: 1932-1933**

Of Jewish origin, the architect Isaac Saporta was born in Volos in 1910, where he spent his childhood. He studied architecture in Dresden and then travelled around Europe, where he got to know personalities in the intellectual world, formed friendships, and found at the centre of developments in architecture.

He returned to Athens and settled there, marrying Nora Nechama, daughter of the distinguished Thessaloniki lawyer Joseph Nechamas. The war would take Saporta to the mountains as a member of the Resistance and Nora to a German concentration camp. They were reunited in 1945, decided to emigrate and in 1947 left for Atlanta (USA) to begin a new life.

This paper writes the history of Saporta's early years of student in Dresden and his relationship with the members of the GATCPAC (the Spanish representatives at the IV CIAM, On the Functional City) to be celebrated between July 29th and August 1st 1933 on its maritime way between Marseille and Athens.

The primary sources used in this paper (manuscript postcards, letters and reports of 1932-33) are held in different Catalan archives and remain much unknown for the history of the International Movement in Modern Architecture. They unveil to what extent the precocious student of architecture Isaac Saporta (later known as Ike) had begun to understand the naked Modernity of the Archaic period Greek statuary, the Mediterranean simplicity of the un-manipulated landscapes of the Island of Ibiza, and the social problems attached to the most densely populated Fifth District (Chinese Quarter) of Barcelona (attached to the futuristic Le Corbusier urban reform called Pla Macià).

Since 1947 in Atlanta Saporta retained his close ties with Greece and often made visits there. During the last of these he decided to leave his architectural archive to the Benaki Museum. He died in 1998 and this paper will uncover the only (known) pre-1945 manuscripts of him.

**Gabriela Raposo**

Architect Investigator in Theory of Architecture,  
University of Social Sciences of Lisbon, Portugal

## **Endogenous Spatiality in the First Artistic and Architectonic Vanguards of the Twentieth Century: Blurred Boundaries between Constructivism and Modernism**

With this article I want to find out the importance of the user's body and movement for the identity of contemporary architectonic and artistic Space. I believe that the contaminations we assist between these practices, in the first vanguards of the twentieth century, still influence its understanding.

I shall examine the artistic work *Proun Room* (1923), of the Constructivist Russian artist El Lissitzky, and the term *Architectural Promenade* (1928), that the Swiss architect Le Corbusier used referring to the experience of a viewer when circulating through a building. I believe both references witness the above mentioned paradigm, as well as question the motionless contemplative aspects attached to Modernism.

Besides representing a paintings third dimension - demanding from the viewer his mobility through space, in order to apprehend the whole artistic work, Lissitzky creates an architectonic "real space" with sculptural intentions. In a similar way, Le Corbusier's promenade refers to the importance of movement in order to seize a building, and finally learn its habitability.

Therefore, through the analysis of these works - as crossed examples, and the influence both left, has heritage to the comprehension of contemporary Space, I shall identify possible relationships between space and the viewer, not only in an existential, but metaphorical, social and political significant dimension.

The conclusion I intend to approach is whether the boundaries between Space, associated to contemporary art and architecture, are often blurred due to a dialectic relationship between space and observer - where the viewer's existence and perception makes him an, intrinsically involved, generator of Space. Therefore, supporting my argument that, presently, both disciplines - architecture and art - establish interstitial connections observable not only in an aesthetic level but a deeper conceptual one.

**Fatih A. Rifki**

Professor, Montana State University, USA

## **Genesis and Epicenter of Renaissance: Florence versus Istanbul**

The genesis of the Renaissance is primarily credited to the rediscovery of both the writings and the art and architecture of the ancient Greeks, which the Romans emulated wholeheartedly. Most scholars posit Florence as its epicenter and the completion of the Brunelleschi's dome of the Basilica di Santa Maria del Fiore in 1436 as its starting point. This paper first inquires what made Florence the center of the Renaissance instead of Istanbul, where Sinan built the Süleymaniye Mosque, considered to be one of his masterpieces, the main depository of Greek civilization. This comparative inquiry is contextualized on the Golden Ages of the two cities in the early years of Renaissance, first in Florence and subsequently in Istanbul.

As millecinqeento dawned, the zeitgeist of Medieval Europe was experience a pivotal shift changing its focus from the heavens and the divinity to nature and mortals that eventually ushered in the Renaissance. Driven by humanism, individualism, and secularism, peoples' ambitions in life changed from a struggle to secure a place in heaven in afterlife to advancing their position on earth. These "isms" brought forth a desire for a better way of life, which in turn and above all else sparked creativity and invention. But what actually caused this extraordinary epiphany? Was there a similar shifting in peoples perspective in Istanbul?

The Renaissance began around the mid-15th century and its initial evolution lasted well into the 1600s. One is tempted to ask and the paper attempts to answer, if it is a mere coincidence that the fall of Constantinople to the Ottoman Turks took place within this time period and was this a major factor in explaining why the Renaissance was initiated in the lands of the Catholic Church where Florence was an eminent city.

During the Renaissance, artists, philosophers, and architects were highly influenced by Classical Greek and Roman counterparts. This was due largely in part by the influx of Classical Greek and Roman literature. A lot of which came from Constantinople after its demise to the Muslim Turks. Constantinople, being the cultural center that it was, contained a plethora of these writings, and in an attempt to protect them from the Turks, people migrating west from Constantinople brought with them many of the documents that had been kept there. However, there is little evidence that the Ottoman scholars were aware of these resources except the immovable pieces, neither is there any

evidence of sharing of the ideas that emerged out of these. Thus it is an enigma to witness the similarities between the cultures of the east and the west in general and in the architecture of Brunelleschi and Sinan. The paper identifies these similarities and speculates the factors that may have yielded them.

**Elena Romano**

PhD Student, University of Pavia, Italy

&

**Alessandro Greco**

Associate Professor, University of Pavia, Italy

## **Rehabilitation of Historic Buildings with Special Reference to the Typological, Technical and Energetic Aspects of Collective Residences. A Method to Requalify the Student Residences**

This paper describes one of the investigation of the activities proposed by the research group active in the Laboratory STEP (Science and Technology for Building and Planning) of the Department of Civil Engineering and Architecture at the University of Pavia to improve technical – energetic performance of student residences managed by EDiSU (Organization for the Right to University Study).

Pavia is a small town (about 65,000 inhabitants) in northern Italy whose the University has a history of over 650 years; the life of the city is so closely linked to that of the University, attended by over 22.000 students, many of whom come from other regions and from other States. To this demand for temporary residentiality, the EDiSU responds by offering around 1,400 beds in 10 student residences located in the city, some of them in the centre of the city and others in more suburban areas. Among these student residences some have historical origin, such as Castiglioni (1429), Cairoli (1783) and Fraccaro (1800), that result to be inadequate under the typological, technical and energetic aspects.

The aim of this work is the definition of a useful tool for assessing the condition of a collective residence based on objective parameters through which define the possible actions on the same.

The assessment tool is organized in thematic areas, requirements and indicators to which are assigned different weights depending on the different incidence. For each thematic area are identified the requirements that must be met, and its system of indicators, which are associated the scores; the tool returns an overall score, determined by the sum of the partial scores for each thematic area. The different scores can determine the strategies and action priorities for the improvement of functional and energy performance of the building.

**Shapira Ruth**

Lecturer, Tel Aviv University, Israel

## **Metamorphosis Housing Architecture and Values: The Tel-Aviv Experience**

The vast Israeli public housing project of the 1950's was a product of planning theories prevailing at the beginning of the 20<sup>th</sup> century: the Bauhaus, Le-Corbusier and the Russian constructivism. The Masters provided the toolbox for immediate housing solutions based on social values: the simple building form, standard and low-cost, balancing the built with the un-built areas for the use of the social-public space, equal and decent.

The fast privatization process of the last 30 years going along with globalization and open capitalist economy have turned the housing unit from an amenity into property. New towns and neighborhoods have been constructed in an up scaling standard and form. But, throughout the older town centers, most of the buildings' envelopes, now 50-60 years old, still remain though their content and essence have undergone, and are still undergoing, deep changes. More than that, with the upraising land value there is a growing demand of urban renewal of entire neighborhoods, in the form of massive intensification and change of scale and architecture.

The Tel Aviv metropolitan area is the focal zone of these processes often occurring sporadically and opportunity pending.

The paper's goal is to examine the metamorphosis the housing project has undergone over the years, to disclose the debate on the urban form, architecture, social and value consequences of these changes and to present some new urban design toolboxes that have been experienced with in Tel Aviv and two of its satellite towns, dealing with fragmental intensification and the retrieving the public space, the milieu of social interaction: revealing opportunities, working in four-dimensional networks, using multi-level systems, all that with the help of available tools within the law, the enforcement capabilities and the local habituations.

**Elham Saffarzadeh**

Assistant Professor, Shahroud Azad University, Iran

## **Cross-Fertilization of Cultures and its Role in Formation of Venice: A Comparative Study between Isfahān and Venice in Early Middle Ages**

In early Middle Ages, when the lands to the east embodied the perceived location of paradise for the post barbar Europe, city of Venice came to acquire a hybrid identity infused with Eastern characteristics and was influenced by Oriental culture in all artistic fields. The question raised by this research is that if the structure of the city has also been influenced by the Oriental cities.

In a comparative study, using historical findings and the information derived from analysis of two cities urban form, a series of similarities has been clarified: The coexistence of religious buildings with those of royal power in the heart of the city (at a time when cathedrals were still outside the cities); the association of important functions with trade (at a time when markets were still held outside the walls); the juxtaposition of commercial, religious and civic functions (which was a defining feature of the mercantile city); the grouping of corporations into zones, aligning craft workshops and gathering each craft in its own space (the characteristic layout of the bazaars, too); and the provision of structures for foreign traders: all are similarities which verify the influence of Oriental cities in Islamic era on Venice development, that reinforces the Orientalist's theory which believe Venice has created an identity for itself out of Oriental culture, to compensate the lack of ancient Roman past.

**Zafer Sagdic**

Assistant Professor, Yildiz Technical University, Turkey

## **Searching of the Concept on 21<sup>st</sup> Century Architecture**

The contemporary architecture focuses on searching of the concept before giving attention to context since the 1980`s, before thinking on functional needings and / or aesthetical preoccupations. As Baudrillard referred on his theorem simulacr and simulation that today is the era of seeking to interrogate the relationship among reality, symbols, and society. Thus, most of the subjects that are related with life today are given to us as the piece of a great scenery of "the modern life" by authorities, and moreover than this, today`s life is formulating under the effects of the neo liberal economies.

In the architectural field thus, "the hearth" of the projects are not formulating according to the basic architectural principles and guidelines, but it is focused on searching of the concept on architectural projects which would be the best-sellers.

Thus, the paper will have the crtitical overview to 21st century "architectural fiction" which has a zoom on conceptual creating of projects, while discussing important various architectural examples from all over the world.



**Gregory Saldana**  
Faculty, University of Michigan, USA

## **Learning from Saarinen**

The focus of this paper is the curtain wall system of the Research Administration Building (RAB) located at General Motors Technical Center (GMTC) and the relationship between manufacturing and design during the early formation of mid century modern architecture.

The historic context of General Motors and the Technical Center leading up to the commission of the project will be described including the varying roles of Eliel and Eero Saarinen prior to construction and the related efforts of the Detroit architecture firm Smith Hinchman & Grylls. Eero Saarinen's understanding of the automobile industry influenced the design for each of the 25 campus buildings. The architect celebrated the precision of the automobile manufacturing industry through the design and implementation of an assembly of metal and glass curtain wall components.

While the curtain wall may appear to be a simple arrangement of pieces, further investigation reveals a highly articulated assembly of preassembled and on-site assembled components. This is expressed through a primary steel and secondary aluminum structure designed to hold the expanse of glazing and porcelain panels. The porcelain panels were the first of their type and influenced by the production and manufacturing of military aircraft prior to and during WWII. Early performance of the curtain wall proved unsatisfactory as water penetration challenged the architect and owner with finding a solution. Study of historic records indicates a rubber gasket was developed and tested by GM as a solution to the problem.

Today the RAB functions much like it did during the 1950's. The curtain wall remains intact with relatively normal surface deterioration as do the majority of the buildings designed by Eero Saarinen over 60 years ago. In an effort to prepare collegiate students of architecture to perform responsible and informed acts of conservation in their future careers, related on site instruction at GMTC has been conducted over the past 2 years by the author. This includes review of historic documents, utilization of manual and digital recording methods following guidelines established by the Historic American Building Standards (HABS) for documentation of historic and existing conditions.

**Alicia San-Antonio-Gonzalez**

PhD Student, University Politecnica of Madrid, Spain

**Mercedes Del Rio Merino**

Professor, Technical University of Madrid, Spain

**Mariano Gonzalez Cortina**

Professor, Technical University of Madrid, Spain

**Rocio Santos Jimenez**

PhD Student, Technical University of Madrid, Spain

## **Feasibility of Recycling Cdw as Raw Material in Gypsum Composites**

On average, Europe generates around 890 million tonnes of construction and demolition waste (CDW) per year and only 50% of these CDW are recycled. This is far from the objectives determined in the European Directive for 2020 and aware of this situation, the European Countries are implementing national policies to prevent the waste that can be avoidable and to promote measures to increase recycling and recovering. In Spain, 70% of CDW are ceramic waste and polymer waste, and the measures taken for its recovering has been the development of a CDW reusing guide as raw material for the manufacture of mortar, concrete, brick and lightweight aggregates. However, there is still not enough information on the possibility of incorporating CDW materials in the manufacture of gypsum or plaster products.

Therefore, the objective of this study is to analyze the feasibility of incorporating ceramic waste from construction sites and expanded polystyrene (EPS) waste, obtained from construction packaging, separately in a gypsum matrix through testing different samples and ensuring regulation's requirements. In addition, results are compared, and improvements are proposed in order to optimize the properties of the resulting materials.

Results show that it is possible to incorporate up to a 50% of ceramic waste over the weight of gypsum without changing its basic properties, with this addition it can obtained a 7% increase in surface hardness and a 23% reduction of capillary water absorption. On the other hand, with the addition of EPS, a 50% reduction of density and a 25% improvement of thermal behavior can be obtained. All these results will help establishing a CDW reusing measures database, which will be developed by the Universidad Politécnica de Madrid to help promoting the reduction of environmental impact caused by the construction sector.

**Monica Säter**

Researcher, University of Technology, Sweden

## **Swedish Theory of User Centred Lighting Design**

This paper concerns the development of lighting science theoretically and practically in Sweden. The development started with the work of professor emeritus Anders Liljefors at KTH 30 years ago. 15 years later Håkan Fransson, Anders Liljefors and Monica Säter together developed the topic further at the Department of lighting science at Jonkoping University. The work is still ongoing but now outside Jonkoping University and is concerned updated theory, methods and processes and didactics in lighting design. The approach is based on the interaction of man, light, colour and space and handle reality according to the need of the user and the changes in daylight. The development opposes the common approach in recommendation from ISO about 500 Lux for everybody and all the time. Instead a more natural approach is developed mimicking daylight at the place where the user lives. The user is seen as an individual and the design of the lighting application is done in connection to the indoor contrast situation. The ambient light is divided from the task lighting to ensure an individual experience of visual comfort. Buildings uses a lot of energy today. A scientific goal today is to develop technical solutions that decrease the use of energy in buildings close to zero. By that, theory, methods, processes, and goals need to be defined and used in the most possible energy efficient way. In the same time need the application meet goals according to the user's needs psychologically, physiologically and visually in a well functioning way. Here the development in Sweden is useful and have the possibility to show in what way this can be done.

**Sergei Sena**

Head, Moscow Center of Museum Development, Russia

## **The Masterpiece of Constructivism in the Steppe**

During 1920-30 a new administrative buildings - so-called Houses of Soviets were built in regional and national centers of the former Soviet Union. Most of them were by famous Moscow or Leningrad architects.

On the main square of Elista, the capital of the Republic of Kalmykia, we still can see the former House of Councils built by the project of architect Ilya Golosov. Since 1970 it houses the Kalmyk State University. Since 1974 the building has the status of a Federal landmark.

The Kalmyks are the result of joining on the Lower Volga part of nomadic Oirat tribes from Western Mongolia. In 1609, they took Russian citizenship. The Kalmyks were serving in the Russian army and their Regiments were the first to enter Paris in 1814. Autonomous region of Kalmyks was formed in 1920.

In 1927 the government of the Russian Federation have determined the list of buildings that need to be built in the new administrative center. Number 1 was the building for public authorities.

Initially the project was commissioned by the famous Moscow architect Boris Velikovsky, but in 1929, the design was transferred to Ilya Golosov, also known as "Russian Le Corbusier".

The building designed by Golosov in a steppe was like "sculpture" which does not affiliated with traditions: neither the temporary dwellings of the nomadic nor Buddhist architecture. He erects an urban dominant, turning a simple intersection in the main square of the future city. Golosov creates a dramatic combination of geometric volumes with a Central tower. He uses only simple forms and excludes color.

Despite a number of alterations it remains one of the main building in the city and reminds us a revolution in the architecture of the 1920-s and attempts by means of architecture to create a new way of life.

**Bahram Siavashpor**

Assistant Professor, Hakim Sabzevari University, Iran

## **The Role of Personal Characters on the Residential Space Light**

The purpose of this research is to increase knowledge of architecture in relation to the interests of users. Particularly this is an attempt to examine the relationship between the character of the people and intensity of light. Therefore, in a simulated environment, we asked 100 students to respond to few questionnaires: a personality Inventory; a questionnaire about the amount of light; and a questionnaire about the color of the light. Data were analyzed with the Spss software. This study showed that a significant relationship exists between the character and the amount of light.

**Katarina Smatanova**

PhD Candidate, Slovak University of Technology, Slovakia

## **Role of Public Space and Urban Interventions in Segregated Areas - Ghettos and Urban Slums. Case Study of Roma Concentrations in Slovakia**

Segregation consists of different aspects: spatial, economic, social, while in most of the cases, the spatial segregation is a materialization of the other two. In typologies of urban structure, segregation is reflected in 4 different forms: 'fortresses' of the powerful elites, enclaves of culturally different residents, slums (or informal settlements) and excluded ghettos. All of these are areas that are somehow demarcated from the rest of their surroundings and therefore disrupt the life in the city, village or landscape in which they are located.

In Slovakia, patterns of residential segregation have recently emerged in the form of gated communities of the richest and emerging enclaves of migrant especially around capital city Bratislava. However, what are often forbidden by academics as well as designers, are areas in which most of the population consist of people of Roma ethnicity, so called 'Roma concentrations'. These areas display signs of ghettos, urban informal 'slum' settlements merging with some of the cultural enclaves. They lack basic infrastructure, access to water, electricity and suffer from high levels of unemployment, illegality and crime. In last 6 years number of people living in such settlements have increased of more than 80 000 people (almost 7% of Slovak population) and has an evolving trend.

Proposed paper attempts to analyze the possibility of delivery of good public spaces as a tool for poverty amelioration, improving negative consequences of segregation and regulation of illegal development in these areas. From the perspective of cases of Roma concentrations in Slovakia, paper aims to shift current debates and practices focusing on improvement of life in these settlements by delivery of new housing to regulation of development and transformation by designing a good, connecting public spaces and examination of possibilities of incorporation of participatory designing and planning practices to the current rigid system of zoning plans.

**Pimchanok Sriruttrakul**

Student, Chulalongkorn University, Thailand

## **A Phenomenological Study in Genius Loci: Implication for Architectural Design (Case Study, Talad Noi, Bangkok, Thailand)**

Talad Noi, one of the heritages district in Bangkok, Thailand, is an interesting urban space due to its long history, development and characteristic of a living community. It was a former shipyard and port area of maritime trade in early Rattanakosin period. It became a place where Chinese merchants and crews drop off and settled. The ways of living were strongly embedded their lives and it developed a unique character of Thai-Chinese community in this area. The uniqueness from both tangible and intangible heritage shows the true identity of the old town that influenced by Chinese culture, religion and history.

However, the Genius Loci of Talad Noi is decreasing due to the modern way of living. The local residences' lifestyle has encourages the physical transformation of streetscape and the community in Talad Noi, which conduces the disappearance of the community and identity, enlightened Genius Loci.

The study will be expanding architectural understandings, which based on the idea of spirit of place. It would appear that 'sense of place', and 'character' are distinct and operated in different level; Genius Loci being understood as a sum of all physical and symbolic values in the environment. The study is aimed to apply Norberg Schulz's approach to architecture, focuses on exploration of Talad Noi character through phenomenological aspect.

The outcome makes a contribution to understanding of how space and its elements inspire, support and sustain the person-environment interaction. It presents an attempt to restore the lost genius loci qualities of Talad Noi in order to maintain people's collective memory of this old community through architectural approach, and to re-direct the future development for the district in a more balanced way.

**Paulo Tormenta Pinto**

Assistant Professor, ISCTE-University Institute of Lisbon, Portugal

**Joao Paulo Delgado**

Researcher, ISCTE-University Institute of Lisbon, Portugal

&

**Catarina Diz de Almeida**

Research grant holder, DINÂMIA-CET'IUL, ISCTE'IUL, Portugal

## **Conservative Modernity in the Magazine the Portuguese Architecture and Ceramics and Edification (Reunited) - The Impact of the New Industrial Materials in the Architectural Debate, 1935-1945**

Between 1935 and 1945, the 3rd series of The Portuguese Architecture and Ceramics and Edification (Reunited) mirrored the social and intellectual context of the era. It sought to cover Portuguese architectural and industrial production at the threshold of the dictatorship of the Estado Novo.

This monthly magazine was eclectic and resulted from the merger of two publications. Its contents in one hand, displayed confidence in new materials, in industry, in modern functionalism, on the other hand it revealed the fear of losing a romantic "Portuguese feeling" expressed in the construction of the mythical Portuguese House.

Particularly, the editorials all embodied the paradox of the modern culture in Portugal. They express conservative positions opposed to the stream of the time when the renting building was the city protagonist and field of experimentation of the new technologies of that period.

The Portuguese Architecture and Ceramics and Edification (Reunited) was mainly funded by the ceramic industry, also a set of companies of materials and components used in the building construction industry sponsored the magazine. In the different sections of the magazine it's possible to understand how the new materials, such as the concrete or concrete derivatives (but not only), were presented to the reader's communities, and how these materials had impacted in the expression of the "Bread & Butter" architecture of that period. Through the magazine is possible to understand several conceptual conflicts between the architectural expression associated to the former ceramic industries, and the international architectural expression - for instance the tile roof versus the terrace screen asphalt roof - more connected to the modern movement.

This research includes also an analysis of the graphic design advertisement of the industrial materials, which main goal is to figure



out the atmosphere in what the companies communicated with architects and building construction technicians.

**Ching-pin Tseng**

Assistant Professor, Shu-Te University Taiwan, Taiwan

## **Narrative and the Substance of Architectural Spaces: The Design of Memorial Architecture as an Example**

The causality between function and architectural form was an orthodox factor in the process of architectural design, as well as a determinant for the discourse of spatial content in the functionalist architecture, yet, by the 1950s, this doctrine of modern architecture was challenged by a changing social context. In the discussion of the relation between the formal elaboration of spaces and the setting of programmes, Bernard Tschumi explores the constant interaction and correlation between the formal construction of spaces and the complex activities and events that take place within them. On that account, the paper argues that the creation of architectural Spaces and meaning may not necessarily rely on causal relations with function or conventional programme. In terms of the design of memorial architecture, it is essential to re-examine what spatial content can be, and how this content can be generated or what thing can be thought of as the substance of the architecture.

Because narrative is related to events or stories that had happened or have been happening in cities and in our everyday lives, it can be suggested that the construction of narrative in architecture may stem from people's collective memories of historical events, events in an urban context and urban experiences, from which the content of architectural projects or spatial implications can be generated. Thus, the paper will explore the sources of spatial narratives as well as the means of introducing and transforming narratives into architecture through the study of some select memorials, Daniel Libeskind's and Peter Eisenman's design projects for examples. In these museums or memorials, the architects intend to convey the history and memory of Jewish people and the Holocaust mainly through architectural compositions and their spatial languages. It is thus important to discuss the relationship between the construction of spatial narrative and the substance of architectural spaces. As narrative is an abstract composition of past events or images of related places, the paper will finally discuss how narratives or memories can be represented through spatial languages and representational media, and what the limit of the visitor's spatial interpretation of the related narratives will be.

**Inci Uzun**

Assistant Professor, Dokuz Eylul University, Turkey

## **Shopping Center as a Public Space in Turkey**

Public spaces are gathering places which can have different specialized functions. Open or enclosed, temporary or permanent, spaces of commerce have always been significant for public life of traditional and contemporary Turkish cities.

Mid 1980's has been a milestone in Turkish economy in terms of liberalization. This caused many social and spatial changes, including the ones in architecture and urban context of commercial space. In 1989, first "shopping mall" has been introduced and followed by many others in two decades. First shopping centers were "big boxes" built in metropolises with a modest growth in number, but in recent years they increased rapidly in number and spread whole country in different spatial schemes and names like "lifestyle centers".

Shopping centers are now used as popular public spaces in Turkey, but public space notion of these places is obscure. In this paper, shopping centers of Turkey will be discussed in public space and consumption frame and the effects of these concepts on users' functions and perceptions will be evaluated through selected ones.

**Juanita Gamez Vargas**

Assistant Professor, University of Oklahoma, USA

&

**Carlos Reimers**

Assistant Professor, The Catholic University of America, USA

## **The American University President's House: A Discourse on the Architectural Preservation of an Iconic Structure in Higher Education**

The paper discusses the problems associated in preserving the figure of presidential houses/mansions in US universities. Crisis is seen here in the antagonist relationship between the physical presence and symbolic role of this institution on university campuses on one hand, and the political hardships of keeping presidential houses updated to contemporary uses and needs in the midst of declining state and federal financial support on the other.

Historically the American university president's house was the president's residence while in office, but also hosted visiting scholars, dignitaries, and other guests. Campus traditions and ceremonies such as Open House, Parent's Day, celebrations of athletic events, faculty retirements, alumni and graduation centered around the House. In addition, the president's house was the symbolic pride of the campus community. So much so that the House was available for public tours, hosting a wide range of ceremonial events from visiting dignitaries to weddings. The House symbolized the prestige of the university and higher education nation-wide.

The traditional role of the president's house has started to fade due to the more frequent economic hardships on higher education and the advancement of technology. The interior and structure of the houses has become functionally outdated. As a consequence, the contemporary discussion on the preservation of university houses centers on whether to update or demolish these structures. Renovations are usually very expensive endeavors that cause administrative fear of campus and public outcries on the more efficient utilization of shrinking budgets. Boards and trustees hesitate in keeping the House and are terrified of expending funds in keeping them. As a result, presidential houses deteriorate as they become less usable and inconvenient to adapt to today's university needs. What should institutions do and how can architects assist in this discussion? The paper will identify the challenges in preserving President's Houses in US campuses and provide recommendations from an architectural and political perspective in saving these iconic structures.

**Atanas Vassilev**

Assistant Professor, Higher School of Civil Engineering Lyuben  
Karavelov, Bulgaria

## **Atrium Space as the Basic Communicational Fundamental Factor in Material Architecture and Urban Environment**

I. Introduction. In modern building complexes the atrium is the unifying core in the overall architectural composition. The atrium dominates with its size and central position, around which unite all functional units. The atrium doesn't have a clear direction in the horizontal. Its spatial orientation is antigravitational, as a symbol of human activity to overcome the natural dependencies.

II. Analysis of the atrium space.

1. Topological distinctness of the atrium space - centripetal architectural composition.
2. Morphological distinctness - symmetrical shape.
3. Typological distinctness of the atrium space.

III. Conclusion. In the design of architectural objects there is always a hierarchy of the individual functional units. This hierarchy is subject to the internal communicational needs of the building to connect socialized utilitarian public spaces. Atrium space is the communicational element uniting all diverse functional directions and directs them upward against gravity in the space of an ideal sphere of human spirituality.

**Kaitlin Veenstra**

Graduate Student, University of Cambridge, UK

## **Traditional Refurbishment as ‘Future-Proofing’ our Built Environment**

The built environment is one of the largest contributors to global emissions and climate change, responsible for approximately forty percent of the world’s annual energy consumption. In response, architects have gone to great lengths to achieve substantial reductions in operating energy and carbon footprint in new constructions. There is still a missing component in this practice, however: an acknowledgement of the need for our structures, like our lifestyles, to adapt to the changing environment around us. Many standard energy simulations and assessments focus solely on performance in current climate conditions, neglecting that a building’s lifespan is significantly longer, and that the external climate conditions may change significantly in that time as well. The term ‘future-proofing’, as defined by researchers at the University of Cambridge, encapsulates this concept. Traditional buildings, constructed before 1920, have already withstood the test of time and proven the success of certain passive design strategies in accommodating various programmatic needs and services without reliance on mechanical systems. Studies have shown that these buildings on average use less energy per square meter than their contemporary counterparts without sacrificing occupant comfort. This paper will demonstrate the value of refurbishing traditional non-domestic structures for resource conservation, energy efficiency, and their inherent adaptability to external environmental fluctuation through a case study in Cambridge. The ultimate aim is to make a case for refurbishment as our most effective path to not only reducing emissions, but toward ‘future-proofing’ our built environment to last longer and function effectively in an unforeseen and increasingly variable global climate. The unpredictability of the future should be seen as a challenge to push the boundaries of sustainable architecture beyond the immediate to more holistically fit the definition of “meet the needs of the present without compromising the ability of future generations to meet their needs”.

**Paola Villoria Saez**

PhD Student, Technical University of Madrid, Spain

**Mercedes Del Río Merino**

Professor, Technical University of Madrid, Spain

**Antonio Rodriguez Sanchez**

Professor, Technical University of Madrid, Spain

&

**Jaime Santa Cruz Astorqui**

Professor, Technical University of Madrid, Spain

## **Analysis of the Effectiveness and Viability of Construction Waste Management Measures: A Spanish Study**

Currently, the construction and demolition (C&D) waste collection system in Spain is done in a decentralized manner by each sub-contracted company and therefore effective waste management should be enforced. In this sense, several countries have published Manuals and Guides in order to assist construction agents to implement good environmental practices in their work. However, stakeholders still have a wide range of best practices that can be implemented and therefore the most effective ones need to be assessed. Indeed, the main goal of this research study is to assist construction stakeholders in making a decision on C&D waste management procedures. The present research work presents an in-depth study of previous literature regarding best practices for C&D waste management, and also carries out a survey conducted among the construction agents in order to identify the most commonly used best practice and to assess their viability and effectiveness. The methodology provided can be applied to obtain new assessments for other particular areas with other index values, representing their specific characteristics. The results obtained show the index value measuring the weighted importance of each best practice analyzed in order to help construction stakeholders to make a decision between the wide range of possible C&D waste measures. These results will ensure a sustainable waste management procedure throughout the construction process, and promote zero waste generation buildings. In addition, the implementation of these best practices will benefit not only the environment, but also the company, as it encourages cost reductions and improves the company's image towards the environment.

**Wei-Ju Wang**

Assistant Professor, Shu-Te University, Taiwan

&

**Hui-Chun Tseng**

Graduate Student, Shu-Te University, Taiwan

## **A Typological Study on Traditional Houses in Malaysia, Vietnam and Japan – A New Approach to Cultural Understanding**

During the long turn study on house types in Southeastern China, we found that the house types transplanted to the immigrant communities from their hometowns and the derived types are only found in the new settlements, not back at home. The causes about such derivation can be concluded that:

- 1) Housing types should not be identified or defined through a single concept such as spatial relation or form.
- 2) There is a possibility to separate the "spatiality" containing latent significance in spatial arrangement and "substantiality" containing superficial interests of living.

The methodology proposed in earlier research about "Typological Schemata System" of traditional Han houses in Taiwan and Fujian area. There are six layers in this system: "default schema", "base schema" and "operation schema" of the spatial layers, and "form tactics", "building tactics" and "surface program" of the material layers. And we call it the Genetic Code of Types

In the study on Vietnam traditional houses lately, there are three major base schemas generalized: <Single Unit>, <Cluster>, and <one-way Extension>. These types are entirely different to the <progressing> and <double-direction extension> types in Han houses. But in Malaysia we found a considerable number of <one-way Extension> houses that developed along the central axis, and <Cluster> is more commonly seen in traditional Malaysian and Japanese houses.

In this study, we record and analyze the distribution of the house types of <Cluster> and <one-way Extension> in these three countries, according to the analysis, we can discover the relative connotations in spaces with the schema established in our previous research, and look for the possibilities of an cultural anthropological approach from the distribution of Genetic Codes.



**Eric Weber**

Assistant Professor, University of Nevada-Las Vegas, USA

## **The Crucible of Construction: Designing and Building the UNLV Solar Decathlon House**

In Fall 2011, the University of Nevada - Las Vegas School of Architecture's David G. Howryla Design - Build Studio began development of UNLV's entry into the U.S. Department of Energy Solar Decathlon 2013, an international, university-based competition to design solar-powered housing prototypes. The design team's primary goal was not the creation of a workable engineering model; instead, the team explored how technology can be a tool that assists people to reconnect with materiality, texture, light, and time, creating opportunities for memorable experiences.

As the only university located in the Mojave Desert, one of the most extreme environments in North America, UNLV was offered a unique opportunity to demonstrate leadership in developing innovative responses to arid climates, and finishing in 2nd-place overall underscored our team's abilities. As many parts of the world are experiencing significant climate change-related water shortages, our responses to these issues can have impacts beyond the Las Vegas region.

The harsh environment, exceptional dryness, and intense contrast of sunlight and deep shadows have a profound impact on how we perceive and inhabit the desert. Team Las Vegas made material selections that reflect these challenges by choosing natural, durable materials that age well in the desert, while allowing the passage of time to be recorded in their surfaces, recording the processes of change as positive contributors to the building's character.

Knowledge is not acquired through passive transmittance and receiving of information; one gains true understanding through active formulation. It is through active participation in the creation of knowledge that it truly becomes one's own. The crucible of construction uncovers difficulty, reveals deficiencies in designers' understanding, and underscores the need for effective communication of design intent. These lessons will be invaluable for both the participating students and for the faculty as the Design Build Studio begins work on future projects.

**Wah Sang Wong**  
**Associate Professor, University of Hong Kong, Hong Kong**

## **Stupa, Pagoda and Chorten – Origin and Meaning of Buddhist Architecture**

This paper discusses the Indian Stupa, the Han Pagoda and the Tibetan Chorten, all three being an important typology of Buddhist Architecture. The Stupa in India first built in the fifth century BCE to house the Buddha's relics was later used as symbolic or commemorative purposes. Then Buddhism which started in India reached China at the Han Dynasty (67CE). Together with the literature of teachings came the need for architecture to receive the holy relics as well as to establish educational institutions for Buddhism. So this is the beginning of Buddhist architecture in China.

With the fusion of Indian Stupa and the Han culture and technology, pagodas were formed. These buildings find their shapes and sizes in great variety as they appeared in different places. How these forms relate to the philosophy of Buddhism will be discussed.

On the other hand, Buddhism was disseminated directly into Tibet in the seventh century CE. Indian Stupas were also transformed through local culture and technology into Tibetan Chorten with different forms. These can be placed within temples or individually.

This article will explore the different meanings of these Stupa, Pagoda and Chorten in the context of the philosophy of Buddhism which can refer to the mundane world and the ultimate enlightenment.

**Ping-Sheng Wu**

Assistant Professor, National Cheng Kung University, Taiwan

## **A Study on the Formation and Demolition of Tainan City Walls in Taiwan by Digital Representation (1875-1945)**

This study attempts to represent the formation and demolition of Tainan city walls by digital way. After nearly three hundred years of transformation, Tainan City, an oldest city in Taiwan, has stacked together the urban contexts of different time periods. From the preliminary foundation in the period of Dutch occupation and Koxinga Zheng Chenggong's governance to the city walls construction under Qing's rule, the decline of bustling activities was due to changes in geographical, political and economic aspects. Until 1875, the map, entitled "Taiwan Prefecture Street Map", was firstly drawn with modern measurement technology. Subsequently, more accurate maps, especially the cadastral maps made in the 1920s during the Japanese colonial period, appeared and became the important bases for the study of Tainan City. Therefore, these maps have been used as important documents for reconstructing historical Tainan. However, maps drawn in different periods still have errors in size, which are not easy to integrate and hence a research limitation. Therefore, it is necessary to carry out digitization work for researching Tainan City in order to make it accurate and reliable.

Base on the aforementioned, this study will firstly refer to relevant historical materials of Tainan city such as the building materials, the spatial structure and the changing of historical events; Secondly, by using and integrating the Japanese quick-measuring maps, cadastral maps, topographic maps and GIS correction systems, Tainan City and its walls could be reconstructed as a 3D model; Thirdly, with this representation of Tainan City, it will discuss the urban policies and describe the demolition stages during the Japanese colonial period. By this approach, it is hoped to explore the spatial transformation of Tainan City from 1875 to 1945.

**Roberto Tomas Yanez Pacios**

PhD Student, University of Alicante, Spain

**Victor Echarri Iribarren**

Professor, University of Alicante, Spain

**Ángel Benigno González Avilés**

Teacher, University of Alicante, Spain

&

**María Isabel Pérez Millán**

Teacher, University of Alicante, Spain

## **Graphic Representation and Military Architecture: The Trace of the Fuenterrabía Fortifications in the Current City**

Fuenterrabía, one of the most outstanding strongholds of the Basque Country, has historically been a strategic checkpoint on the land crossing between France and the Iberian Peninsula. Due to its military interest, it was many times besieged between the sixteenth and nineteenth centuries for its possession and territorial control, main reason for the extraordinary importance of the development in its fortification system. Military engineers developed continuous fortification projects to adequately resist the advances in artillery and siege warfare tactics. This progress also affected the urban development, including the social and economic living standards of its inhabitants. This paper attempts to analyse the relationship between the evolution of the fortress and the urban development of Fuenterrabía through the recovery of the missing trace of its fortifications at its present location. By precise graphic overlays and research on the perfection of the outlines in historical drawing, the different traces of fortifications can be accurately determined, anticipating the location of foundations and buried vaults, as well as an urban evaluation of the proposals that were never executed.

**Derya Yorgancıoğlu**

Assistant Professor, Istanbul Kemerburgaz University School, Turkey

## **The Changing Social Responsibilities of the 21<sup>st</sup> Century Architect and the Implications for the Profession and Education of Architecture**

Today most cities in Turkey are facing drastic physical and social changes due to the implementation of big-scale urban architectural projects. The concepts of urban development, urban transformation or urban renewal became topics of discussion not only in academic and professional circles, but also in public circles, since citizens' interest on urban affairs is increasing considerably. As academicians, professionals and citizens, today we find ourselves at a crisis arising from a politically motivated transformation of urban space in the country. Events such as Gezi Park protests in Istanbul or student protests against the road construction project implemented by Ankara Municipality across the campus of Middle East Technical University are striking examples of a growing public reaction against the negative results of urban policies and projects developed by governmental authorities. While encouraging the displacement and polarization of some groups of society, these urban policies and projects often negate the significance of spatial and social variety evident in real urban experience.

All these developments call for reconsideration of the role and responsibilities of the architect today both as a practitioner and an intellectual. In the 21st century, the architect should be more aware of the responsibilities towards the society and the city. This entails undertaking a role of a coordinator or conciliator between citizens and politicians, and between practitioners of professions who play important roles in the creation of built environments. The human factor needs to be taken as primary interest of architectural design processes. The architect should concern social and natural problems in the creation of human-centered environments, and aim at contributing the development of a culture of living together in these environments.

This paper underlines the changing social role and responsibilities of the architect in the 21st century, and examines their implications both for the education and profession of architecture. In this paper following questions are raised: Isn't it evident that on the part of education the most important challenge is the need for the cultivation of values and attitudes along with the development of specialized knowledge and technical expertise for the students of architecture? Don't we need to establish an ethical ground for learning architecture and practicing the profession? Won't opening channels for dialogue and collaboration for

design-centered professions help better understand each other? How can architects establish an awareness of professional ethics? How can architects become more eager to take active roles in urban planning and administration processes?