

ICSA 2013

Second International Conference

Structures and Architecture
24-26 July 2013 Guimarães
PORTUGAL

The international conference that bridges the gap between
architecture and structural engineering

Conference Chair: Paulo J. S. Cruz

ORGANIZED BY



University of Minho
Faculty of Architecture

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contact information

Enquiry about the abstract and manuscript submissions
for the Symposium please contact:

symposium secretariat - TAAE.secretariat@gmail.com



Patrizia Trovalusci



Mario Chiorino

july 24-26, 2013 / international symposium

On the **Tectonics** in Architecture:
between **Aesthetics** and **Ethics**



description

Following the successful experience of the mini-symposium already presented at the ICSA in July 2010, the TAAE2013 symposium expects to bring together architects, engineers and mathematicians from all over the world, to give an heterogeneous look on the aspects of the art of building, focusing the attention on the relations among mechanics, mathematics, structural and architectural design. Although not limited to these topics, the content of sessions will emphasise the following themes: theoretical issues, calculus and algorithms in architecture, various approaches to structural complexity. The symposium will also discuss developments concerning the importance of the Vitruvean firmatas, pointing out the risks arising when the structural instances are neglected.

coordinators

Prof. **Patrizia Trovalusci**

President of Bachelor's Degree course in *Sciences of Architecture*
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Prof. **Mario Chiorino**

Senior professor of Structural Mechanics
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venue

The mini-symposium will be held at the Convention Centre of the Campus of Azurém of the University of Minho in Guimarães, Portugal. Please visit the ICSA 2013 official conference website (www.icsa2013.com) for further details.

deadlines

Prospective authors are invited to submit one page abstract, of no more than 500 words, before **February 15, 2012**. The preliminary acceptance of abstracts will be notified to the corresponding authors by May 15, 2012.

The proceedings will be published by **Balkema** (Taylor & Francis Group), including a book of extended two-page abstracts and a CD-ROM containing the full eight-page papers. These documents are due on **November 15, 2012** and will be reviewed by the organizing committee. Acceptance will be notified before February 15, 2013.

Author instructions to prepare the extended abstracts and the full papers and the copyright transfer form can be found at: <http://www.balkema.nl>.

topics

Topics of applications will include (but not be limited to):

- Between aesthetic of 'complexity' and ethic of construction
- Mathematics, physics and philosophy in the theory and practice of architecture
- Non-linearity in science and architecture

Calculus and Algorithms in Architecture

- Performance-oriented design;
- Algorithms in shape creation;
- Computer modelling and natural phenomena
- Shape resistant structures
- Structural optimization

Approaches to Structural Complexity

- Parametric design as style
- Form finding and form improving in new shapes design;
- From intuition to computation in structural design of big structures and bridges

Traditional Constructions and Architectures

- Architecture of simplicity
- Ethics in design: sustainability as research of a balance between shape and function
- Hystorical architectures

abstract

The abstracts should be submitted to the restricted area of ICSA2013 webpage in electronic form. The text has to be written in English (no more than 500 words).

Please send also a copy to: taae.secretariat@gmail.com.

info

Organizing Committee:

Alessandro Tinelli (*Sapienza* University of Rome)

ICSA 2013 Conference official website:

www.icsa2013.com

TAAE Symposium website (2010 edition):

<http://dsg.uniroma1.it/trovalusci/taae.htm>

objectives

The aim of this symposium is to create a forum to share knowledges about advanced technologies, to promote the understanding of complex and non-linear structures, to explore historical and ontological issues between architecture and structural engineering.



Alvaro Siza, Portugal Pavilion EXPO 98 - Lisboa (photo by Artur Sikora)

This symposium also proposes a line of research based on ethics of constructions, in opposition to the merely celebrative purpose of 'complex' architectures, like the majority of traditional production, and part of the contemporary production, seems to suggest. To this purpose, some considerations will be introduced regarding the relationships among art of building, mechanics of structures, mathematics and architectural design. The main objective is to recover some operative awareness about instruments and methods of architectural composition, to build architectures whose finality is housing improvement, by respecting the constraints dictated by nature and history.

This subject seems very ticklish, above all in a time of 'deconstructed', 'non-linear', or 'virtual' architectures, when architectural design seems to want to redeem from the need of contemplation of single parts of the design process. Ethics in building process becomes much more important today, not only for the unquestionable worth represented by the anthropized environment as human heritage, e.g. the case of exceptional natural events such as earthquakes. Various approaches to structural 'complexity' will be accounted for, focusing attention on the intrinsic elaborateness of architectures inspired by traditional buildings techniques of specific geographical sites. Attention will be paid in presenting examples of architectures related to the constructive traditions of the places they are built in, also regarding the use of techniques already tested in the past times.