



Facoltà di Architettura / June 11/13, 2015
International Workshop

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



Contact Information

secretariat: TAAE.secretariat@gmail.com
coordinator: patrizia.trovalusci@uniroma1.it



Patrizia Trovalusci

dedicated to **Kenneth Frampton**

Description

Following the successful experiences of the mini-symposia already presented at the ICSA in 2010 and 2013, the TAAE Roma 2015 workshop 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 workshop will also discuss developments concerning the importance of the Vitruvean firmitas, pointing out the risks arising when the structural instances are neglected.

TAAE website (2010, 2013 editions):

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

Coordinator

Patrizia Trovalusci

Prof. of *Solids and Structural Mechanics*

Coordinator of Bachelor's Degree course in *Sciences of Architecture*

Faculty of Architecture - *Sapienza* University of Rome

Department of Structural and Geotechnical Engineering

via A. Gramsci, 53 00197 Rome, Italy

Info

For any information, please contact the workshop secretariat at the following address: taae.secretariat@gmail.com.



Topics

Topics of applications will include (not limited to):

Theoretical Issues

- 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
- Historical architectures

Scientific Committee

Lucio V. Barbera (Roma-Sapienza); Pepa Cassinello (Escuela Técnica Superior de Arquitectura de Madrid); Mario A. Chiorino (Politecnico di Torino); Luigi Gambarotta (Università di Genova); Daniela Esposito (Roma-Sapienza); Stefano Lenci (Politecnico Marche); Giuseppe Strappa (Roma Sapienza); Maier Giulio (Politecnico Milano); Enzo Siviero (Venezia-Iuav); Giuseppe Rega (Roma-Sapienza), Patrizia Trovalusci (Roma-Sapienza).

Local Committee

Patrizia Trovalusci; Masiani Renato (Vicar Vice-Rector of Sapienza); Giovenale Anna Maria (Dean of the School of Architecture); Desideri Augusto (Director of Structural and Geotechnical Engineering Department); Anna Del Monaco; Alessio Lupoi, Spartaco Paris; Manuela Raitano; Antonella Romano, Roberto Panei; Alessandro Tinelli.

Objectives

The aim of this workshop 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.



This workshop also proposes a line of research based on ethics of constructions, in opposition to the merely celebrative finalities of 'complex' architectures, as contemporary international production seems to be defined. 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.