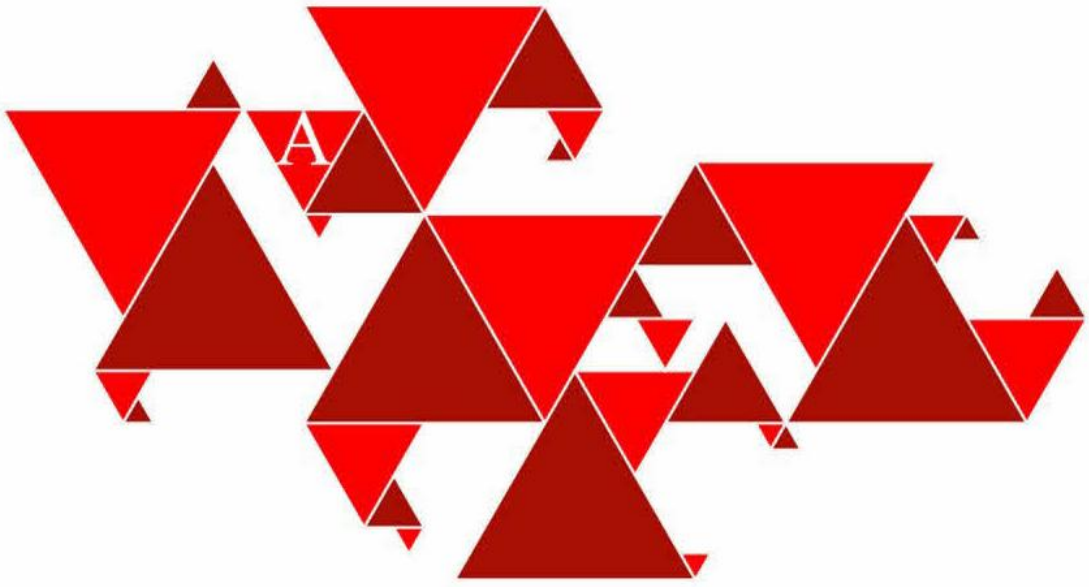
3rd symposium

FORMAL METHODS IN ARCHITECTURE

November 30, December 02 | 2015

ESAP | Escola Superior Artística do Porto, Portugal

BOOK OF ABSTRACTS



David Leite Viana
Franklim Morais
Jorge Vieira Vaz

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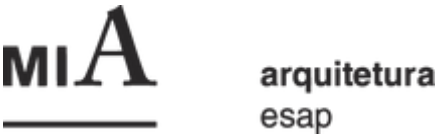
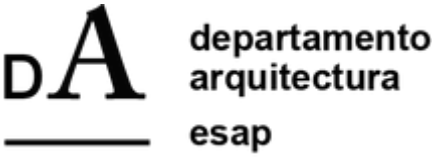
INSTITUTIONAL

The symposium was an initiative between the following departments of ESAP





ORGANIZATION

SCIENTIFIC COMMITTEE

(In alphabetic order)

David Leite Viana
PhD (Escola Superior Gallaecia)

Jorge Vieira Vaz
MArch (Escola Superior Artística do Porto)

José P. Duarte
PhD (Faculdade de Arquitetura da Universidade de Lisboa)

Michael Weinstock
PhD (Graduate School of the Architectural Association School of Architecture in London)

Michele Cannatá
PhD (Escola Superior Artística do Porto)

Paolo Marcolin
PhD (Escola Superior Artística do Porto)

Susana Milão
PhD (Escola Superior Artística do Porto)

Tasos Varoudis
Senior Research Associate (The Bartlett School of Architecture, University College London)

ORGANIZING COMMITTEE

(In alphabetic order)

Catarina Ruivo
MArch (Faculdade de Arquitetura da Universidade de Lisboa)

Cristina Paixão
MArch (Escola Superior Artística do Porto)

Franklim Morais
PhD (Escola Superior Artística do Porto)

Joaquim Flores
PhD (Escola Superior Artística do Porto)

Mafalda Malheiro
MArch (Escola Superior Artística do Porto)

Sérgio Mendes
PhD (Escola Superior Artística do Porto)

KEYNOTE SPEAKERS

(Following the presentation sequence set by the programme)

Tasos VAROUDIS
Senior Research Associate (The Bartlett School of Architecture, University College London)
Beyond the visual field: advances in thinking about and analysing space

José P. DUARTE
PhD (Faculdade de Arquitetura da Universidade de Lisboa)
Inserting new technologies in architectural curricula: from research to practice, and to teaching

GUEST SPEAKERS

(Following the presentation sequence set by the programme)

Sérgio MENDES
PhD (Escola Superior Artística do Porto)
The revision of the Master Plan of the University of Aveiro: a heterogeneous planning management

Cristina RIBEIRO
PhD (Faculdade de Engenharia da Universidade do Porto)
Ontologies: technologies for domain modelling, knowledge re-purposing and knowledge sharing

Miguel SERRA
PhD (The Bartlett School of Architecture, University College London & Centro de Investigação do Território, Transportes e Ambiente, Faculdade de Engenharia da Universidade do Porto)
Metropolitan spatial anatomies: decoding the morphological structure of the city-region

João V. LOPES
PhD researcher (ISCTE-Instituto Universitário de Lisboa)
A data mining based methodology for the multidimensional study of public open spaces

David Leite VIANA
PhD (Escola Superior Gallaecia)
&
Isabel CARVALHO
PhD researcher (Universidade do Algarve & Universidade Aberta)
A new pedestrian bridge between Vila Nova de Cerveira and Goiàn

José Nuno BEIRÃO
PhD. (Faculdade de Arquitetura da Universidade de Lisboa)
Semantic structure of formal domains and methods for the development of generic grammars

Vítor OLIVEIRA
PhD (Centro de Investigação do Território, Transportes e Ambiente da Faculdade de Engenharia da Universidade do Porto)
An integrated approach to urban form

Daniel MOREIRA
PhD researcher (King's College, University of London)
&
Luís RIBEIRO DA SILVA
PhD researcher (The Institute for the History and Theory of Architecture, ETH Zurich)
Temporal structure in music and architecture: a comparative analysis

Alexandra PAIO
PhD (ISCTE-Instituto Universitário de Lisboa)
Digital processes for collaborative answers in Architecture

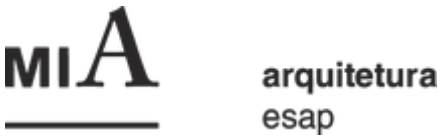
pr11.

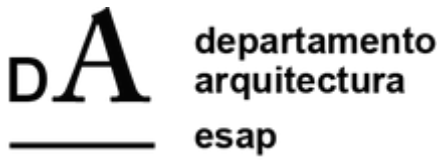
A data mining based methodology for the multidimensional study of public open spaces

João V. LOPES
ISTAR, ISCTE-Instituto Universitário de Lisboa
joint_ventura@hotmail.com

ABSTRACT

Public open spaces can only be apprehended from multiple simultaneous perspectives. Urban morphology traditional descriptive methods have recognized limitations in relating the polymorphic and polysemantic nature of these spaces' attributes, derived from the different standpoints on their formal, historical and geographic idiosyncrasies. Identities and similarities may be disclosed by multivariate statistical analysis and data mining techniques by studying the relations between formal and intangible spatial properties in a multidimensional space. In an ongoing PhD research project we outline a method for the synchronic analysis and classification of the public open spaces, departing from a corpus of 126 Portuguese urban squares, whose analysis is intended to interactively (re)define it. Part of the work done so far is presented: (i) firming the concepts, criteria and attributes to extract; (ii) adaptation and/or creation of new analytical methods and tools; and (iii) research on multivariate analysis, data mining and data visualization techniques.





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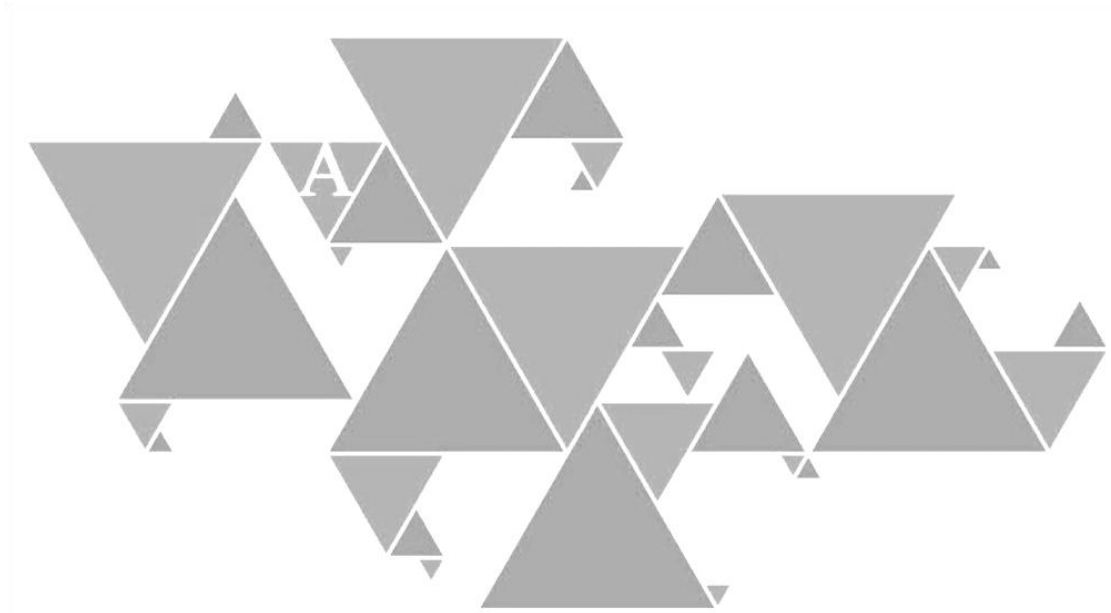

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