

## Curriculum Vitae of Antonio Fioravanti

### STUDIES

1993, Post-PhD grant: "Theatres, constructive and technological aspects".

1991, PhD in Architecture and Building Engineering, with a thesis "Yesterday's and today's theatres".

1985, Master's Graduated (score 110/110 cum laude and thesis published) in Building Engineering at the "Sapienza" University of Rome with the experimental thesis "An ideal stratified hot water storage tank and an integrated plant-solar panel-building-climate energy model". It was one of the first comprehensive models simulating building energy loads in Europe.

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### ACADEMIC POSITION

2021, Habilitation as Full Professor - National Scientific Qualifying examination 2018.

2019, Associate Professor at Sapienza University of Rome - Faculty of Civil and Industrial Engineering.

2014, Habilitation as Associate Professor - National Scientific Qualifying examination 2012.

2007-present, Member of the Board of teachers of "Architecture and Building Engineering" PhD course, Sapienza University of Rome.

2000-present, Researcher/Lecturer of Building Design at the Faculty of Civil and Industrial Engineering - Department of Civil, Building and Environmental Engineering, "Sapienza" University of Rome.

1994-present, Member of several Faculty committees (final thesis, research, examination, Moodle, advanced facilities).

1990 to 2002, Designer and Administrator of Department's LAN and CAAD Laboratory.

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### EDUCATIONAL ACTIVITY

Academic subjects at Sapienza University of Rome:

2019-present, "Building Components Design" (in English) of the Degree Course in Building and Environmental Engineering.

2019-present, "Building Construction and Digital Representation" of a professional degree in Techniques for Building and Environment for Chartered Surveyor.

2018-present, "Comprehensive and Integral Design subject" of the five-year Master degree course in Architecture and Building Engineering;

2018-19, "Building Design" of the Master Degree Course in Civil Engineering.

2006-18, "Architectural design and building technologies II" of the five-year Master degree Course in Architecture and Building Engineering;

2004-06, "Computer science applied to building engineering - ArchitecturalDesktop" of the two-year Master degree course in Building Construction Engineering – Rieti's campus;

2002-06, "CAAD Laboratory" of the three-year Bachelor degree course in Building Engineering – Rieti's site.

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1994-present, Supervisor or Vice-supervisor of several Master degree theses.

At the Sapienza University of Rome, he promotes summer schools on Digital fabrication and teaches in a Master on BIM.

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## RESEARCH ACTIVITY

Main fields of research:

- Systemic architectural and building design – computer-aided methodologies and technologies;
- Collaborative design – theories and applications;
- Prefabricated components and industrialized architecture;
- Typology of architecture – theatres, exhibit pavilions, performance spaces.

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On progress Researches

Scientific Coordinator:

2017-present, "New technologies for management and design on the refurbishment of Building Heritage. Case study of historical and modern buildings: BIM definition of buildings, refurbishment and restoration of buildings, preservation of stone elements, management of Construction sites", funded by the Sapienza University of Rome.

Participant in research programs:

2019-present, "A Distributed Digital Collaboration Framework for Small and Medium-Sized Engineering and Construction Enterprises", funded by the Italian Ministry of University and Research - PRIN (National Interest Research Program); prof. Berardo Naticchia National Coordinator is the Research Coordinator of Rome's Unit. The research is focused on the management of the design and construction process. Another important aspect is the use of blockchain technologies to author the process.

2017-present, "Integration of 'Agents' and BIM for Building design and construction site planning", funded by the Sapienza University of Rome. Agents are applied on an upper abstraction layer to manage on-the-fly constraints, goals and intentions on the building design process.

#### Past Researches

Scientific Coordinator of research programs funded by Sapienza University of Rome:

- 2014, "Collaborative and sustainable design supported by 'Ontologies'. Case study: Façades and visitor spaces in sanitary buildings";
- 2008, "Architecture and Creativity";
- 2007, "The architectural design and the context";
- 2006, "New standards for architectural project documentation".

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A selection of main research projects he participated in

2012-16, "Built Heritage Information Modelling/Management - BHIMM", prof. Stefano Della Torre, national Coordinator, funded by the Italian Ministry of University and Research - PRIN (National Interest Research Program). He is a member of Rome's Research Unit, local Coordinator, prof. Donatella Fiorani. The research's importance and novelty are related to applying and developing BIM platforms to Italian historical heritage. Fioravanti's task was focused on the more advanced aspects of research: knowledge formalization during archaeological site studies using ontologies and inferential rules.

2012-13, "BKM – Building Knowledge Modeling: structuring building knowledge for new generation tools", funded by MAE (Ministry of Foreign Affairs). An Italian-Israelite joined the research program with Technion University at Haifa. It has been studied the relationships between architectural design and the most innovative knowledge model ICT tools. A system prototype has been defined by means of a "mixed" platform made up of current application programs and "ad hoc" software tools.

2005-07, PRIN (National Interest Research Program), "A Model of cross-culture collaboration for integrated design in architecture", funded by the Italian Ministry of University and Research, coordinated among the Universities of Rome - Dept. Architecture and Urban Planning and Dept. IT and System Theory, of Palermo, of Pisa and Turin.

2002-04, PRIN (National Interest Research Program), "An integrated Process/Product model for supporting collaborative building design", funded by the Italian Ministry of University and Research, coordinated among the Universities of Rome, Palermo and Turin.

2001-05, "EuroCadCrete" E.U. Research, in Leonardo program area, sub-project Dissemination of Culture.

2000-02, PRIN (National Interest Research Program), "Knowledge-based object-oriented system to support the collaborative design of complex buildings", funded by the Italian

Ministry of University and Research, coordinated among the Universities of Rome, Palermo and Turin.

1990-1995, "Implementation of building design support system based on knowledge engineering", funded by Italian National Research Council CNR- Building Finalized Project, carried out by the University of Rome together with CARTESIANA Consortium and SUNY the State University of New York.

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#### OTHER SCIENTIFIC ACTIVITY

2015-present, Council member of eCAADe (Education and Research in Computer Aided Architectural Design in Europe).

2011-15, Member of the Board of Ar.Tec. - Italian Scientific Association for promoting Architectural and Building Engineering studies.

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Conference Chair

eCAADe 2017 "ShoCK! - Sharing of Computable Knowledge!" - Rome, 20-22 September.

Conference co-Chair

EuropIA 2011 "Connecting brains shaping the World-> Collaborative Design Spaces" - Rome, 8-10 June.

Ar.Tec. 2011 "Towards a shared technical knowledge of research on building design and construction" - Rome, 16-17 February.

CollABD 2007 - "Collaborative Working Environment for Architectural Design" - Rome, 13-15 December 2007.

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#### PUBLICATIONS

He is the author or editor of more than 115 papers in journals, proceedings, Websites, and monographs. All papers and essays have been submitted by a double-blind peer-review process.

Many papers are present in CumInCAD (<http://cumincad.scix.net/cgi-bin/works/Home>), the most important database of research papers on CAAD in architecture, urban planning, education and construction fields.

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He is a reviewer for several journals and international and national conferences.

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He developed software in the field of CAAD - Computer-Aided Architectural Design.

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2016-present, President of DaaDgroup - Digital advanced architectural Design - a research group at the Sapienza University of Rome - [www.daadgroup.org](http://www.daadgroup.org).

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#### PRIZES

2017, December - "The research that changes" - Venezia - IUAV (Institute of Urban planning and Architecture Venice), 3 PhD winners.

2015, 16 October - 5th Honourable Mention - VisionArtech International Contest 1st edition,  
2015-16 - EXPO Milano - <http://www.visionartech.eu/>;

2010, 18 November - "Sapienza Ricerca" - Sapienza University of Rome.