

Giovanna Franco · Anna Magrini

# Historical Buildings and Energy

 Springer

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With Contributions from Simonetta Acacia, Marco Cartesegna,  
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 Springer

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# Preface

The book is the result of a research that started in 2010, when the Rector of the University of Genoa decided to involve the Post-graduate School of Architectural Heritage and Landscape at the same university (directed by Prof. Stefano F. Musso) in the preliminary studies aimed at comprehensive reuse and restoration of the historical complex of Albergo dei Poveri in Genoa. The building was already undergoing a partial restoration and reuse programme, but was incomplete. Since that time, the building's restoration has become an opportunity for various research investigations financed by university, ministerial, and regional funds.

In 2011, a research contract was concluded between the University's Building Development Area and the Post-graduate School of Architectural and Landscape Heritage (under the scientific responsibility of Prof. Stefano F. Musso, School Director, and Prof. Giovanna Franco), to embark upon a research programme on the solidity and state of conservation of the complex, which would serve as a preliminary check for a feasibility study on its full reuse. In January 2013, the same research group (coordinated by Prof. Stefano della Torre, Politecnico of Milano, and, as regards the Genoa unit, by Prof. Stefano F. Musso) obtained ministerial funding, as the research was within the scope of Projects of Relevant National Interest PRIN 2010. The aim was to develop an ICT project for managing the restoration and maintenance of large monumental complexes, with the specific application of a Building Information Modelling (BIM) software for managing historical heritage sites (BHIMM - Built Heritage Information Modelling/Management). In February 2013, the Liguria Region funded a 2-year research project headed "Smart grid: smart management of the historical monumental heritage" jointly with Ansaldo Energia, to ascertain the applicability of solutions for "streamlining" the complex itself, the smart use of energy, and the potentially autonomous energy production inside or around it. The project, under the scientific responsibility of Prof. Giovanna Franco, has been driven forward by Architect Marco Guerrini under the supervision of Engineer Marco Cartesegna (heating consultant, author of technical calculations and their description in Chaps. 7 and 8). Lastly, in 2015 a grant was awarded to University Research Projects

(PRA) to fund research in 2015 on the topic “Heritage and energy” under the responsibility of Prof. Giovanna Franco.

The research opportunity has had an impact on the education of students of the Post-graduate School and the Master’s programme in Architecture, whose work is partially shown in the book.

Only a small part of the whole research is presented in this volume and, specifically, those relating to energy efficiency and the autonomous production of energy inside and outside the complex.

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Italian Ministry of University and Research funded the Relevant International Research Program (PRIN 2010–2011) titled “Built Heritage Information Modeling/Management—BHIMM”, involving six national research units, Politecnico of Milano, Politecnico of Torino, National Research Council of Bari, University of Brescia, University of Rome La Sapienza and University of Genoa.

National coordinator: Stefano Della Torre, Politecnico of Milano.

Scientific responsibility for the University of Genoa: Stefano F. Musso.

Research group of the University of Genoa: Stefano F. Musso, Anna Boato, Giovanna Franco, Lucina Napoleone, Daniela Pittaluga, Rita Vecchiattini, Simonetta Acacia, Marta Casanova and Roberto Babbetto.

Laboratory MARSC, University of Genoa: Gabriella Garello.

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