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Brick and Block Masonry

Trends, Innovations and Challenges

Editors

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Preface

In an ever-changing world, in which innovations are rapidly implemented but soon surpassed, the challenge for masonry, the oldest and most traditional building material, demonstrates that it can meet the increasingly pressing requirements of quality of living, safety, and sustainability.

In the past four decades, the successful series of IB²MAC Conferences has provided a valuable opportunity to share knowledge, experience and information in the field of masonry among researchers and practitioners, masonry industries and building management authorities, construction professionals and educators. This conference will thus represent a unique platform for discussion, networking, sharing new ideas and gaining insights into trends, innovations and challenges related to masonry, in both research and building practice.

The first IB²MAC Conference was held in 1967 in Austin, Texas, USA. Since then, it has been fruitfully organized every three or four years in the USA, England, Germany, Belgium, Italy, Australia, Ireland, Canada, China, Spain, The Netherlands and Brazil.

The 16th edition of the Conference is held in Padova, Italy (June 26–30, 2016) in a country where the exceptional concentration of historic buildings raises the question of how to re-use existing masonry buildings, and where research and practice in the development of novel masonry construction systems have been active for decades. This is definitely the perfect location in which to discuss and disseminate the latest advances in the use of this essential material.

This Book of Abstracts and its USB device contain the full texts of lectures and papers presented at the 16th IB²MAC. The Conference Proceedings include 4 keynote lectures and more than 300 technical papers received from over 40 countries, demonstrating the worldwide interest of the scientific community on the proposed topics. During the conference, some special sessions have been organized on important problems of earthen masonry, bond of composites to masonry, lime mortars, masonry infill walls and RC frames, and results dissemination of INSYSME FP7 European research project.

The submitted papers represent an up-to-date overview and significant novel contributions to the material, testing, analysis, design and verification issues of masonry structures. The topics cover major aspects of eco-materials and sustainability, new construction techniques and technologies, masonry materials and testing, analysis of masonry structures, seismic performance and vulnerability assessment, conservation of historic buildings, masonry repair and strengthening, fire resistance/blast/impacts, building physics and durability, codes and standards, reinforced and confined masonry, masonry bridges, arches and vaults, masonry infill walls and RC frames, bond of composites to masonry, earthen constructions and case studies.

The editors would like to express their thanks to all the authors, keynote speakers, organizers of special sessions and participants for their contributions, the members of the International Scientific Committee and the Review Panellists for their dedicated work, and the Conference Secretariat for their dedicated teamwork. Lastly, but no less importantly, we would like to thank to all the sponsors and supporters of IB²MAC 2016.

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