

Architecture Anthology I: Architectural Construction, Materials and Building Technologies

Edited by

Jamal M. Khatib

BEng, MEng(Sc), PhD, HonProf_(IMUST), CEng, EUR ING, MICE, MIEI, MOIA,
MEPC, FHEA, MIREC, SMUACSE, PGCert-Ed, PGCert-PjtMgt, Cert-EnvMgt.
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Preface

Stavros Alifragkis and Nicholas Patricios

The papers contained in the series *Architecture Anthology I* are selected from those presented at the Conferences in Architecture, Urban Studies & Planning, Construction and Civil Engineering organized by the Athens Institute for Education and Research (ATINER) held in Athens. The chosen papers have been divided into categories and published in five separate volumes: 1 - Architectural & Urban History & Historiography; 2 - Architectural and Urban Theory; 3 - Architectural Construction, Materials & Building Technologies; 4 - Architectural Education, Research & Practice; and 5 - Sustainable Design. Further series will be published from papers presented at future ATINER Architecture Conferences. The selected papers are those that have been peer reviewed and approved for publication by referees, editors of each volume, and the general editors. It is hoped that the series will be both of interest and of value to academics, scholars, researchers, and practitioners.

The work of the referees and editors is much appreciated for without their volunteer efforts and time expended on reviewing papers and the re-writes by authors the *Architecture Anthology I* series would not be possible. Sincere thank you to the editors of Volume 1: Arthur Chen & Stavros Alifragkis; Volume 2: Nicholas Patricios; Volume 3: Jamal Khatib; Volume 4: Judith Urbano; and Volume 5: Fatih Rifki.

Thank you also to the referees for Volume I: Stylianos Giamarelos, Mark Breeze, Simone Shu-Yeng Chung; Volume 2: Bahga Surinder, Amanjeet Kaur, Aarti Grover, Pankaj Chhabra; Volume 3: Marta Molina Huelva, Hugo Rodrigues, Elisabetta Carattin, Ksenia Piatkowska, Antonella Violano; Volume 4: Sergiu Petrea; Volume 5: Adrian Moleavin, Nirmita Mehrotra, Elham Madadi Kandjani, Christian Kersten Hofbauer.

The process of producing the volumes could not have been undertaken without the valuable assistance of Olga Gkounta, Research Assistant at ATINER.

General Editors

Stavros Alifragkis

Nicholas Patricios

Architectural and Urban History and Historiography: An Introduction

Jamal M Khatib

This book on *Architectural Construction, Materials and Building Technologies* is Volume III in the Architecture Anthology series published by the Athens Institute for Education and Research (ATINER). It contains selected papers presented at the 3rd Annual ATINER Conference on Architecture held in Athens on the 10th to the 13th June, 2013. In total, there are 20 selected papers which have been divided into two categories: *Architectural Technology* and *Building Materials and Construction*. Due to the nature of this volume, overlap between the various categories could not be avoided.

The *Architectural Technology* category includes papers on varied topics - the architecture of tall buildings; ancient materials; enhancing the historical heritage; architecture and wireless communication; effect of incorporation of reinforced concrete in archaeological areas; efficiency of solar shading devices in buildings; lighting design and visual comfort; responsiveness of interior design to external façade; design of contemporary masonry shell; and seismic vulnerability of building heritage. There is one paper on Construction Management which is concerned with variability analysis and risks associated with construction materials acceptance.

The *Building Materials and Construction* category includes papers on the following topics: rheology of polyethylene-modified asphalt binder; thermal characterization of ethylene TetraFluroEthylene ETFE foil; characteristics of waste fillers for solvent free and water-based industrial polymer floors; present serviceability index models for urban highway flexible pavements in Jordan; deflection of pre-stressed reinforced concrete beams with CFRP tendons externally; acceleration response of seismically isolated buildings; and the use of wood-waste and inorganic binder for the development of building materials.

Thanks go to the reviewers of this volume; Marta Molina Huelva, Hugo Rodrigues, Elisabetta Carattin, Ksenia Piatkowska, Antonella Violano.

This volume could not be produced without the assistance and the hard work of Olga Gkounta, Research Assistant at ATINER.

