

Preface

Ageing is an inherent feature of nature and of all man-made products. Small consumer goods, electronic devices, power plants, electricity grids, infrastructural works and art treasures—all are subjected to ageing. Although the consequences of ageing can be observed everywhere around us and many strategies have been developed to mitigate these consequences, no comprehensive scientific perception of ageing exists today. Moreover, the omnipresence of ageing and the often very slow progress of ageing phenomena are two reasons why we have got used to the obviously unavoidable presence of ageing. Ageing is a matter of fact, and we have to adapt to it. This attitude, however, seems to be changing lately. More and more, ageing is considered a huge financial burden for modern industrialised societies. Ageing of our assets, assets in the widest sense of the word, is a trillion-dollar issue and a burden for the environment as well. But maybe ageing phenomena also offer new and unexpected possibilities! Ageing not only for worse, but also for better. Whether ageing occurs for either better or worse, in both cases we want to be in full control of ageing phenomena. That's where science and research come in and why the initiative was taken to organise an international conference on ageing of materials and structures, AMS'14.

This book is a collection of papers presented during the 1st International Conference on Ageing of Materials and Structures, AMS'14, held in Delft, the Netherlands. Many lessons were learned from all the contributing authors, from the inspiring and lively discussions, and from the fruitful interactions. This book collects only part of the gained knowledge, emphasising central aspects of ageing of materials and structures.

The essential current state of the art on the subject of ageing is captured in the chapters, reflecting various angles and viewpoints. The chapters present the research focus of the authors on ageing phenomena as embodied in a certain field of interest, but encompassing a wide range of materials and structures relevant to a wide range of applications. This book collects current knowledge on ageing within various scientific fields, specifically addressing the interrelation of scientific background and reflection in practical cases. It links fundamentals to valid real-life perspectives.

The AMS'14 conference was the first international event to reflect the importance of ageing of materials and structures worldwide. The conference targeted rising awareness and enhanced recognition of the subject of ageing. This first international conference is considered a path-finding event, where we want to get ageing phenomena in sharp focus and where we articulate the essence and complexity of ageing of materials and structures.

The initiative for this conference was taken by the Ageing Centre for Materials, Structures and Systems, a spin-off of the Delft Centre for Materials of the TU Delft. The AMS'14 was supported by RILEM (the International Union of Laboratories and Experts in Construction Materials, Systems and Structures). The organisers would like to thank all sponsors of AMS'14 and the respected delegates from all over the world for bringing the conference and this book to a successful conclusion.

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Assets

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