

Preface

”The Structural Failures” monograph contains contributions in the general area of safety in design and construction with the objective to assure safety of all stake-holders involved in the building process, presented at the XXIX conference on “Structural Failures” on 20-24 May 2019 in Międzyzdroje. The monograph consists of two parts. The first part includes papers that were invited by the conference organizers, and the second one includes summaries of the papers full version of which were published in MATEC Web of Conferences.

The papers deal with topics related to causes and consequences of failures, diagnostics and repair and rehabilitation methods. Safety of structures depends on many factors that are influenced by both unpredictable random events and non-random events, including errors in design and construction, inadequate maintenance and negligence by property owners and users of the facilities.

Presented papers present cases studies of failures of metal and reinforced concrete structures, bridge and road structures, churches and historic buildings, and also residential and public buildings. Several studies discuss failures in design and construction of industrial floors. A number of papers deals with diagnostics and safety assessment, and advanced methods of monitoring the technical condition of buildings to prevent construction problems and failures.

Other papers revisit the issues related to safety and durability of prefabricated structures, in particular large-panel buildings, and the assessment of their technical condition and problems related to maintenance and management. A number of failures have been recently observed in historical and sacred structures, mostly resulting from negligence in periodic inspections but also due to design and construction errors during, renovation and repair.

All cases presented in the papers are an excellent lesson and guidelines for designers, investors, administrators and facility managers to prevent failures and promote activities leading to safe construction and operation of building structures.

I would like to wholeheartedly thank the Authors for preparing the interesting papers and to the team of Reviewers for a thorough reviews.

I hope the monograph will be warmly received and it will become a very useful item in the library of designers, constructors, contractors and students of structural design and construction engineering.

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