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TECHNICAL UNIVERSITY



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Algirdas Juozapaitis, Alfonsas Daniūnas and  
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## Preface

Traditional International Conference *Modern Building Materials, Structures and Techniques* has been organized since 1991 when the very first forum organized by the Faculty of Civil Engineering of Vilnius Gediminas Technical University was held in Vilnius, Lithuania. Starting from the 4<sup>th</sup> Conference (1995), it has been joined by the Lithuanian Academy of Sciences. Since 2001, the International Association for Bridge and Structural Engineering (IABSE, Lithuanian group) has become an official partner of the Conference. Starting from 2004, the Association of European Civil Engineering Faculties (AECEF) and the European Council of Civil Engineers (ECCE) have also become the official partners of the Conference. The European Civil Engineering Education and Training Association (EUCEET) has joined the Conference organizing team in 2016 and Lithuanian Association of Civil Engineers entered the organizers group in 2019. 13<sup>th</sup> International Conference *Modern Building Materials, Structures and Techniques (MBMST 2019)* took place in Vilnius, Lithuania, on 16–17 May 2019.

Civil engineering, as one of the core fields in technological sciences, determines the development of industry, energetics and transport as well as makes a direct impact on the safety and quality of human life. The creation of modern building materials and structures, along with the application of the most advanced technologies and methods of calculation, research and assessment, defines the design, construction and safe operation of buildings, bridges and other civil engineering objects.

The organizers continue the tradition of the previous conferences, which is to organize a Conference on multiple branches of the science of civil engineering. The presentations were delivered in four general sections: Structures, Materials, Techniques and Mechanics. In addition to a discussion on scientific problems, the Conference allows sharing the theoretical and practical training experiences gained by both experts in civil engineering and scientists from universities across the world.

Traditional conferences usually focus on the most important issues of the science and industry of civil engineering. Thus the presentations in the Conference were related to various topics which include but not limited to building materials and production technology, innovative analysis and design methods for bridges and building structures, the behaviour and design of concrete, masonry, glass, steel, timber and composite structures, the stability of steel and composite structures, the repair, renovation and strengthening of structures, geotechnics, construction technology and organization, decision making, decision support systems and management in construction, building information systems, facility and real estate management.

The Scientific Committee of the Conference has selected 113 papers submitted for oral or poster presentation. The scientists from more than 20 countries worldwide contributed. This issue of *Conference Proceedings* contain full texts of the papers presented at the 13<sup>th</sup> International Conference *Modern Building Materials, Structures and Techniques*.

The chairpersons of the Conference would like to use this opportunity for expressing sincere appreciation to distinguished keynote speakers and to all the authors of the articles for their significant contributions. We are very thankful to the members of the Scientific Committee for acting as paper reviewers. We are also deeply grateful for the members of the Organizing Committee for their technical assistance.

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