

Preface

Special Issue on Up-to-Date Problems in Modern Railways and Optimization in Engineering Structures

The current issue is the fourth part of the Special Issue series in Acta Polytechnica Hungarica, the scientific journal of Óbuda University. In the first three issues altogether, 47 papers are available. The authors come from two continents, Europe and Asia – including nearly ten different countries. The published topics cover a wide range of railway and structure optimization. The topics published belong to the following disciplines, among others: civil engineering, mechanical engineering, and informatics.

Modern railways must address increased capacity, reduced environmental impact, and improved safety measures. Railways must develop innovative solutions to address these constraints as populations grow and urbanization continues. Engineering structure optimization is critical for resource efficiency and infrastructure longevity. Techniques such as optimizing bridge design and building construction can result in cost-effective, resilient, and sustainable structures. Innovative technologies like artificial intelligence and data analytics are critical for optimizing rail networks, predictive maintenance, and passenger safety. Transportation efficiency, safety, and environmental sustainability can be improved by focusing on these critical aspects.

We extend our appreciation to all the authors for contributing to the Special Issue and sharing their research findings with Acta Polytechnica Hungarica.

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It is planned to continue the first four parts of the Special Issue in the future, i.e., further numbers are under preparation in the Acta Polytechnica Hungarica journal.

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Guest Editors