Preface

This special topic volume is a compilation of works contributed by experts from the international scientific community in the field of Wear and Contact Mechanics.

The papers presented in this volume cover different aspects of the current areas of research in Wear and Contact Mechanics using new innovative theoretical, experimental and computational approaches. Numerical formulations are based on the finite element method (FEM) or the boundary element method (BEM) and their variants, i.e., Isogeometric analysis, p-version of finite elements and symmetric Galerkin boundary elements. A number of topics are addressed, such as computational wear and contact modeling with Isogeometric dual mortar methods, treatment of nonmatching interfaces, node-to-surface contact formulations for high-order elements and 3D problems, elastic-plastic contact between hard metal particles, friction in lubricated line contacts, running-in wear and fretting wear computing, frictional contact problems between viscoelastic-solids, frictional indentation of functionally graded materials (FGM), electro-elastic contact modeling, estimation of contact parameters in finite element analysis and high technological applications, as auxetic microstructures modeling and duct-concrete contact interface in high curvature post-tensioned tanks.

The editors would like to thank the contributors of papers, the reviewers and the Key Engineering Materials Editorial Board for helping put together this special issue.

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