
Guest editorial

Tribology for sustainability & reliability

The aim of the special issue is to bring together research results that have been covered a broad spectrum of topics related to “Tribology for Sustainability & Reliability”. This special issue presents significant contributions from researchers around the globe, including those who participated in the International Tribology Research Symposium (ITRS 2020) held online from 5 to 7 November 2020. The registration fee is waived off in ITRS 2020 to promote an exchange of state-of-the-art developments and to attract a good number of researchers across the globe. The ITRS 2020 organizers are highly indebted to the remarkable eminent plenary, keynote and invited speakers for their immense support and encouragement.

This special issue focuses on presentations from industrial professionals, engineers, academicians, scientists, researchers, research scholars and students. The unique contributions from the special issue are to highlight the impact of tribology for sustainability and reliability with new tribological approaches. Such approaches are necessary for overall well-being of human life and for growth of economy. The application of correct tribological practices can protect and enhance the life of plants and machinery, improve efficiency of operations, reduce energy consumption and prevent expensive breakdowns. The papers included in this special issue are discussed about the tribology in methods, analysis, design and materials with a special focus placed on the advances and novelty in relation to existing knowledge. Further, the special issue is an addition to the existing literature on tribology. The special issue presents papers in the field of tribology on the most recent tribological advances, innovations, trends, practical challenges encountered and the solutions adopted for sustainability and reliability.

The demand for quality of life and for growth of economy calls for sustainable and reliable solution strategies of systems and components to tackle these impactful topics. The tremendous potential for further improvement in sustainable & reliable solution strategies may make use of multi-disciplinary approaches unifying different mathematics, science, engineering and social science disciplines. Moreover, the broad list of multi-disciplinary tribological themes covered in this special issue from fundamental to applied research is related to wear, friction, lubrication, tribology in design and manufacturing, green tribology, biotribology and industrial application of tribology. The special issue is contributed to highlighting the impact of tribology for sustainable development and reliability improvement.

The guest editors hope that the special issue topics with the theme of “Tribology for Sustainability & Reliability” make the papers a coherent set that represents a good coverage of the highest quality work. Further, the guest editors hope that the contributions in this special issue provide the reader an insight into sustainability and reliability parameters impacting tribological performance. Finally, we would like to thank Editor, Univ.-Prof. Dr. Carsten Gachot and Associate Editor, Prof. Dr.-Ing Andreas Rosenkranz, Emerald Publishing Group and our esteemed reviewers, for their immense support and contributions to this special issue.

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