



## **Design and Characterization of Engineered Bearing Surfaces**

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Deadline for manuscript  
submissions:

**30 November 2024**

### **Message from the Guest Editors**

Dear Colleagues,

The design and manufacturing of engineered bearing surfaces plays a crucial role in the performance and reliability of mechanical equipment. The bearings' surface quality significantly impacts their operational efficiency, fatigue life, and overall reliability. Achieving precise and desired surface finishes is essential for optimal performance. The main challenges lie in:

- **Tolerance Control:** Maintaining tight tolerances during manufacturing is challenging due to material variations and process limitations.
- **Surface Integrity:** Achieving desired surface properties (such as hardness, roughness, and microstructure) without compromising bulk material properties is complex.
- **Wear and Friction:** Balancing wear resistance and low friction is critical for prolonged bearing life.
- **Complex Geometries:** Some bearing designs involve intricate shapes, making machining and finishing difficult.

This Special Issue encourages and welcomes original research articles with a significant contribution to numerical, theoretical, and experimental surface analyses. Review articles related to these application areas are also invited.





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Our aim is to encourage scientists to publish their experimental and theoretical results in as much detail as possible. There is no restriction on the length of the papers. Full experimental and/or methodical details must be provided.

There are, in addition, unique features of this journal: Manuscripts regarding research proposals and research ideas will be particularly welcomed; Electronic files or software regarding the full details of the calculation and experimental procedure - if unable to be published in a normal way can be deposited as supplementary material.

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