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New Trends in Reducing Friction and Power Loss in Bearings

Guest Editor:

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Deadline for manuscript submissions:
closed (30 April 2024)

Message from the Guest Editor

Fluid film bearings are the most common choice for land-based turbomachinery, pumps, and other heavy-duty processing machines. The lifting force generated in the film wedge guarantees the correct operation of these bearings, and with proper lubrication, they can have an almost infinite life. However, large shear stress in the oil is also generated, resulting in a significant power loss. Conversely, rolling element bearings are the best choice for small machines operating at low speed. In fact, reducing friction in the bearings significantly increases the process efficiency. For this reason, considerable effort has been devoted to finding ways to reduce power loss in bearings. Topics of interest include, but are not limited to, the following:

- Fluid film bearings;
- Rolling element bearings;
- Power loss reduction;
- Friction reduction;
- Thermoelastic hydrodynamic lubrication;
- Lubricant additives and friction reducers;
- Fluid film bearings operation optimization;
- New materials;
- Fluid film bearings geometry optimization.

Prof. Steven Chatterton
Guest Editor

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mdpi.com/si/188064

Special Issue

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Message from the Editor-in-Chief

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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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