



Design and Analysis of Air Bearings with Applications in the Design of High-Precision Machines

Guest Editors:

Dr. Siyu Gao

Dr. Chenhui An

Prof. Dr. Kai Cheng

Prof. Dr. Mark J. Jackson

Deadline for manuscript
submissions:

31 October 2025

Message from the Guest Editors

Dear Colleagues,

Air bearings have been widely adopted as support components for high-precision machines in ultraprecision machining, metrology, semiconductor devices, medical treatment, power generation, and other areas. Recent developments in air bearings have seen phenomenal advances in new high-precision machine structures. This Special Issue is dedicated to further exploring the design, optimization, application, and use of air bearings for high-precision machines with extreme working performances.

Original research articles and reviews are requested for this Special Issue of *Machines* that provides an overview of the current state of the art or a roadmap for the future for air bearing technologies and applications. Case studies of industrial practices are also solicited so that the readers of this Special Issue can understand the applied nature of specific precision engineering applications.

Dr. Siyu Gao
Dr. Chenhui An
Prof. Dr. Kai Cheng
Prof. Dr. Mark J. Jackson
Guest Editors





an Open Access Journal by MDPI

Editor-in-Chief

**Prof. Dr. Antonio J. Marques
Cardoso**

CISE - Electromechatronic
Systems Research Centre,
University of Beira Interior,
Calçada Fonte do Lameiro, P-
6201-001 Covilhã, Portugal

Message from the Editor-in-Chief

Machines is an international, peer reviewed journal on machinery and engineering. It publishes research articles, reviews and communications.

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.

Author Benefits

Open Access: free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility: indexed within *Scopus*, *SCIE (Web of Science)*, *Inspec*, and other databases.

Journal Rank: JCR - Q2 (Engineering, Mechanical) / CiteScore - Q1 (Control and Optimization)

Contact Us

Machines Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/machines
machines@mdpi.com
X@Machines_MDPI