



Journal of Tribology

CALL FOR PAPERS Special Issue on Tribo-Informatics: Toward High-Efficiency Tribology Research

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Special Issue on Tribo-Informatics: Toward High-Efficiency Tribology Research

A tribology system is a complex, time-dependent system consisting of tribo-pairs, lubricants, and external environmental conditions. In order to study the tribo-system, a tremendous amount of information is generated, including contact conditions, load, speed, time, direct signals, coefficient of friction, wear rate, indirect signals, images, noise, temperature, etc. Tribologists analyze the information to understand, predict, and optimize the system. On the other hand, information technology has been experiencing unprecedented developments recently. In particular, artificial intelligence technology represented by machine learning has profoundly innovated many fields, including healthcare, logistics, entertainment, and education through handling information. Tribo-informatics applies advanced information technology based on generated tribo-system information to help researchers and engineers increase efficiency in understanding, predicting, and optimizing the system. The newly established direction has attracted substantial attention in tribology.

Therefore, this Special Issue of the *ASME Journal of Tribology* will provide significant value to the tribology community by highlighting state-of-the-art tribo-informatics, demonstrating specific tribo-applications using advanced information technology, and framing challenges and opportunities for future tribology research in the field. It will attract readers from broad backgrounds and promote problem-oriented innovation for tribologists. The topics of the Special Issue include, but are not limited to:

Topic Areas

- Basic theories and methods of tribo-informatics, information understanding of tribo-system, basic research paradigm
- Information technology, particularly advanced machine learning methods, used in the general machine design field
- Tribo-informatics in predicting direct tribology results, coefficient of friction, wear rate, etc.
- Tribo-informatics in processing indirect signals during the contact process, image, noise, electricity, etc.
- Tribo-informatics in understanding the mechanism under specific tribology behaviors
- Tribo-informatics in optimizing a tribo-system

Publication Target Dates

Paper submission deadline	January 6, 2023
Final decision completed	June 10, 2023
Special Issue publication date	September 1, 2023

Submission Instructions

Papers should be submitted electronically to the journal at journaltool.asme.org. If you already have an account, log in as an author to your ASME account. If you do not have an account, sign up for an account. In either case, at the **Paper Submittal** page, select the [ASME Journal of Tribology](#) and then select the Special Issue **Tribo-Informatics: Toward High-Efficiency Tribology Research**.

Papers received after the deadline or papers not selected for inclusion in the Special Issue may be accepted for publication in a regular issue.

Guest Editors

Dr. Yi Zhu, Associate Professor, State Key Laboratory of Fluid Power and Mechatronic Systems, Zhejiang University, China, yiz@zju.edu.cn

Dr. Zhinan Zhang, Professor, State Key Laboratory of Mechanical System and Vibration, Shanghai Jiao Tong University, China, zhinanz@sjtu.edu.cn

Dr. Farshid Sadeghi, Cummins Distinguished Professor of Mechanical Engineering, Purdue University, USA, sadeghi@purdue.edu