

BACHELOR'S THESIS / MASTER'S THESIS

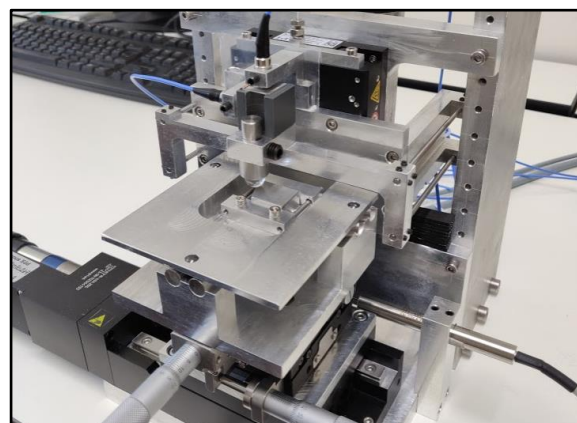
Development of a 3D-Printed Tribometer

Background

Friction and wear tests are hard to standardize as these two phenomena are not material properties, but rather system ones. As such, their measurement is instrument-dependent. Yes, friction measurements change from one machine to the next.

One of the ways that we can obtain better idea about the range of possible friction a material pair can experience is to measure friction on many different machines. However, most of the time, these machines are expensive (>€ 50,000) and running such tests is only accessible to labs that can afford it.

In a newly-started project we are planning on building a 3D-printed tribometer whose design will be easy to share and build in different labs. This will enable the crowd collection of data, and the application of machine learning.



Load-adjustable Tribometer - Friction and Wear Tester. A similar design needs to be 3D printed.

Objectives

The objective of this project is to develop a version of an already-designed tribometer, but this time for a 3D printer. After optimizing the printing parameters, the thesis student will build the tribometer, and conduct tests on it.

For a Master's thesis, the work will be continued by conducting data science studies – for this no previous experience is needed, as we have a ready-to-use platform.

Contact

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Requirements

- Studies in mechanical engineering, materials science or similar
- Previous knowledge in the field of tribology is not mandatory
- Conscientious and independent way of working as well as interest in experimental work are key
- Programming skills could be helpful, but are not a must.

Possible start: immediately

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