

## PhD Position – Condition monitoring of lubricated gears

<b>Research Topic</b>	Condition monitoring of lubricated gears
<b>Institute</b>	Ghent University, Belgium
<b>Departments</b>	EMSME - Dept. of Electromechanical, Systems and Metal Engineering
<b>Discipline</b>	Experimental Tribology
<b>Research Group</b>	Soete Laboratory.
<b>Funding</b>	4 years – 100% occupancy rate
<b>Statute</b>	PhD Student
<b>Min. Requirements</b>	Master of Science in Mechanical Engineering
<b>Assets</b>	Experience with tribology or condition monitoring

### Job description

**Context** – Condition monitoring of gears is extremely important in a number of industrial applications including wind turbines and automotive. A plethora of diagnostics indicators, based on signal processing and machine learning applied on indirect measurement techniques (e.g. acceleration, sound, rotational speed, etc.) have been proposed to monitor the damage evolution in gears but rarely are compared with a direct damage measurement based on camera images. In this project simultaneous direct (via a visual sensor) and indirect measurements will be captured and the effectiveness of novel indirect diagnostic indicators will be evaluated based on the ground truth.

**Your tasks** – The envisioned PhD focusses on the development of a condition monitoring strategy for lubricated gears based on a visual camera based system. The PhD student will be involved in the design of the setup, data acquisition, labelling and interpretation of the data.

### Your profile

1. You hold a Master degree in (Electro-)Mechanical Engineering.
2. You have a strong motivation for conducting scientific research at a high level.
3. You possess good analytical, and technical skills
4. You have affinity with Tribology.
5. You take responsibility for the development of your project in a well-structured, thorough way, and you're able to solve problems independently. You display creativity in solving problems, generating ideas or finding new ways of working.
6. You have an open personality and willing to contribute to the team and participate in didactic projects.
7. You have excellent communication skills in English, both orally and written.

### Contract

1. The PhD-project starts at earliest at May 1<sup>st</sup> 2021.
2. We offer an 100% research position for 48 months (4 years). After probation period of 12 months, a fixed-term contract will be offered on condition of positive evaluation.
3. The salary and appointment terms are consistent with the current rules for PhD degree students. The net salary for a starting PhD student (unmarried) is about €2000,-.
4. The scholarships for the PhD degree are subject to academic approval. The successful candidate will be enrolled in the doctoral program of Ghent University (<http://www.ugent.be/doctoralschools/en>).

### Application



To apply, please complete the application form at <https://forms.gle/Ksvrdt3nx38xKGvT8> . Your application will be taken into consideration on condition that all fields in the application form are completed properly.