Call for a Ph.D. Student

Topic: Wear particle characterization

The Institute of Sensor and Actuator Systems (ISAS) at the Vienna University of Technology (TU Wien) in cooperation with AC²T research GmbH (Austrian Center of Competence for Tribology) offers a 3-year position for a scientific researcher to facilitate a Ph.D. work. Possible starting date is 01.09.2016.

Responsibilities and tasks

The goal of this project is the enhancement of a wear particle measurement method. The employed sensor principles, such as optical detection and microfluidics [1-3], will be further developed and improved for on-line applicability. The proof of concept for this method will be shown by on-line measurement of sub-microscopic metallic wear particles (e.g., in engine oils and emulsions) as well as investigation of the interrelation of wear particles with the wear behaviour of machine components.

We offer

- Professional supervision of the Ph.D. thesis by university and company personnel
- Collegial working atmosphere and the possibility to discuss with experts in many disciplines
- Access to the laboratories and clean room facilities at ISAS and AC²T with excellent support by technical staff
- The opportunity to work with state-of-the-art laboratory equipment and software tools
- The possibility to cooperate with scientific and industry partners in order to develop and apply the particle measurement methods

Salaries and benefits of the position are according to collective labour agreement for project assistants at TU Wien, salary group B1. The student will be appointed for 15h/week at ISAS in Vienna and 20h/week at AC²T research GmbH in Wiener Neustadt. The project work will take place at ISAS and AC²T according to the appointment. Novel microfluidic sample chips will be designed and fabricated at the institute’s clean rooms in cooperation with our technology experts; tribological experiments and wear particle measurements will be performed in the facilities of AC²T.

We expect

- A candidate with a master’s degree (or equivalent) in electrical engineering, physics, or related disciplines
- A highly motivated student who is able to work independently and who is interested and willing to conduct research in the fields of tribology, sensor systems, and microfluidics
- Advanced English skills as well as basic knowledge of measurement technology and software tools (e.g., MATLAB), electronics, optics, chemistry, and microfabrication techniques

Contact

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