



# PhD Thesis / Dissertation

Working title: **RDE Brake Wear Particle Sensor**

**In cooperation with:**

**AVL List GmbH and Volkswagen AG**

## Description of the Project:

Non-exhaust emissions are nowadays the dominant share of particle emissions in traffic. Airborne brake and tyre wear particles can be associated with numerous harmful influences on living beings and the environment. Latest research suggests that brake wear includes ultrafine particles, which are known to penetrate deep into the lungs of mammals. In the FFG funded project OPAL we aim to investigate sensor systems for the measurement of brake wear particles for real driving emissions. The sensor shall be able to differentiate between different classes of particles and be usable for on-board operation and measurements roadside. By the sensor technology it should become possible to quantify brake wear emissions under real driving conditions, and furthermore clearly discriminate from background concentrations and other emission sources.

## Goals:

- Identify sensor technology based on literature study
- Realize lab demonstrator setup, verify operation and characterize behavior
- Improve sensor system for operation under RDE conditions and verify operation

## Organizational:

- Requirements: Master's degree in physics, electrical engineering, telematics/ICE or similar
- Start/Duration: now / 3 years
- Employment: full time, no teaching obligations

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