

Universität Stuttgart

Institut für Feuerungs- und Kraftwerkstechnik
Prof. Dr. techn. G. Scheffknecht

Ausschreibung

**Masterthesis/
Student
research
project**

Stuttgart, 23.03.2022

Design and evaluation of a thermal dryer for particulate matter sensors

Thematic background:

A lot of research has been done to avoid the negative effect of high RH on particulate matter sensor readings. Our investigated approach consists in a low-cost thermal dryer that evaporates the water molecules before entering into the sensor. Some prototypes have already been tested. New prototypes should be designed optimizing the temperature profile and the dryer efficiency.

Aim of the work:

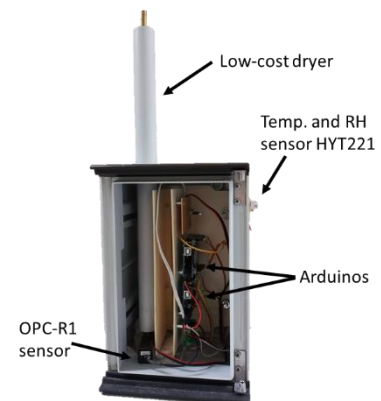
The aim is to investigate the temperature profile of a low-cost thermal dryer and the construction and test of a new prototype based on the previous research already done.

Method:

- Literature review of previous work
- Temperature tests of the current dryer and CFD simulations
- Design and construction of a new prototype
- Evaluation of the new prototype
- Report writing and presentation

Requirements:

- Basic knowledge in CFD and heat transfer
- You like working with electronics and microcontrollers
- You like building things, Lego...
- Work independently, reliable and structured.
- Report in English or German



Start: May/June or under agreement with supervisor

For questions/application:

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