

Internship / Bachelor thesis (B.Sc.)

Validation of an operational method for screening of carbon monoxide off-gassing from wood pellets

Background:

Carbon-monoxide off-gassing from wood pellets is a reoccurring issue that in some unfortunate cases has resulted in the loss of human life. With the proper safety measures, however, it is a controllable risk and preventative measures are typically taken by proper identification of high risk areas and the equipment of personal with e.g. CO detectors.

A further preventative measure can be the screening of wood pellets samples for the off-gassing characteristics. While this can be approached with high accuracy in specialized laboratories via sophisticated methods an operational method resulting in reliable results in minimal time is also required. An outline of such an operational method is available and some performance data as well. However, in order to potentially make this method an international standard (ISO) further validation regarding e.g. equipment to be used, measurement duration, repeatability and reproducibility are paramount.

Tasks:

- Creating a validation matrix from the most relevant parameters affecting the output of the method
- Organizing and conducting a series of experiments together with technical staff
- Evaluating and compiling the generated data in a scientifically sound way

Requirements:

- The candidate should have finished his/her undergraduate studies in a relevant topic (e.g. environmental engineering, chemistry, agricultural engineering, process engineering),
- Should be experienced in laboratory work, planning and conducting of experiments and statistical analysis,
- Be reliable and focused when working alone or in a team, and
- Be able to identify problems quick, come up with solutions and ways to implement them

We offer you:

- A unique insight into the field of solid biofuels and its most current research issues
- First hand experiences with safe-handling and quality management of wood pellets
- A modern and well equipped place to conduct your research

General information:

- The position can be filled as of January 2nd, 2017, remains vacant until an appropriate candidate is found and is without compensation
- For the lab work (approx. 3 months) physical presence at the DBFZ in Leipzig is required while most of the theoretical work can also be done remotely (may not apply to mandatory internships as required by some Universities)

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