

## **Master thesis (M.Sc.)**

### **Study ash-melting tendency of rice straw and rice husk during thermochemical conversion**

#### **Background:**

In the proposed study, the ash-melting behavior of RH and RS will be investigated using blending of RH and RS, water washing and acid leaching strategies. Planned experiments will be performed in lab scale by employing the disintegration method and sieving method. Initial material characterization will be carried out using existing standards for solid biofuels. Remaining ash samples will also be analyzed by ICP-OES or XRF, XRD, visual appearance, and photo-spectrometry. The results will reveal whether the ash melting behavior of RS can be mitigated by blending or pretreatment strategies.

#### **Your tasks:**

- Literature review about ash melting of rice straw and rice husks
- Organizing and conducting a series of experiments in a muffle oven
- Fuel and ash characterization
- Evaluating and compiling the generated data in a scientifically sound way

#### **Our requirements:**

- Bachelor's degree in a relevant topic (e.g. environmental engineering, chemistry, or process engineering) with good English skills
- Experience in laboratory work, planning and conducting of experiments
- Be reliable and focused when working alone or in a team
- Be able to identify and solve problems quickly

#### **We offer you:**

- High level interdisciplinary research at DBFZ Deutsches Biomasseforschungszentrum gemeinnützige GmbH with excellent national and international reputation
- Advanced technical facilities and analysis instrumentations
- A modern and well equipped place to conduct your research
- Place of work is the DBFZ Deutsches Biomasseforschungszentrum gemeinnützige GmbH, Torgauer Str. 116, 04347 Leipzig

The position can be started short-term. Financial compensation cannot be provided. For the lab work (approx. 5-6 months) physical presence at the DBFZ in Leipzig is required while most of the theoretical work can also be done remotely. We look forward to receive your application including cover letter, curriculum vitae, certificates and a valid matriculation certificate. Please send your application directly to [bewerbung@dbfz.de](mailto:bewerbung@dbfz.de) (only one attachment, preferably in pdf format). If you are interested or have further questions, please contact Mr. Hossein Beidaghydzaji, email: [hossein.beidaghy@dbfz.de](mailto:hossein.beidaghy@dbfz.de) and Tel. +49 341 2434-539.

