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Das Institut für neue Energie-Systeme (InES) ist eines von drei Instituten für Angewandte Forschung der Technischen Hochschule Ingolstadt (THI). Es bündelt die Forschungsaktivitäten in den Bereichen Gebäudeenergiesysteme, Industrielle Energiesysteme, Energiesystemtechnik und Technologietransfer & Internationale Projekte innerhalb der THI. Hervorragende Bachelor- und Masterstudierende haben am InES beste Entwicklungsmöglichkeiten.

**Heat Consumption in German Biogas Plants
Scientific Assistant, Internship, Bachelor or Master Thesis**

Modeling of heat consumption based on measurement data gained from operating biogas plants in a research project

Research Project/ Background:

To increase the utilization of agricultural residues for energy generation in Germany, the project „LaRA - Landwirtschaftliche Rest- und Abfallstoffverwertung“ aims to define process and technical requirements for operating biogas plants. To enable an efficient and low cost fermentation of the lignocellulosic material, the plant operation provides optimization potential in the self-consumption of both electricity and heat.

Aim of work:

The aim of the scientific assistant work is to create a tool/model to examine and evaluate the heat demand of biogas digesters. Based on plant specifications and collected heat data gained from operating biogas plants, the heat demand is to be evaluated in a holistic coherence with further results of the research work.

Tasks:

1. Research in the field of heat generation, demand and losses of operating biogas plants with focus on the biogas digester
2. Collection of measurement data from real operating biogas plants
3. Development of a tool/model to display the heat management of biogas plants
4. Comparison of generation, demand and losses of different biogas plant concepts and digester designs
5. Presentation of the results in a report or thesis

Qualifications:

- Students of study majors with technical background,
- Master students of Renewable Energy Systems with fundamental knowledge in biogas production

Time period:

Pursuant to availability

Mentoring:

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