

Master – Thesis

16.05.2023

Effect of different agitator positions in a biogas digester

Description

Different agitator positions and their effect on the flow field and mixing quality in biogas digesters are to be investigated in a transparent model digester filled with a transparent model fluid. A 2D-PIV- System is used to image and calculate velocity vector fields. The system consists of a double-pulse Nd:YAG laser (532 nm) and an sCMOS camera.

First of all a literature review should point out similar studies and help designing meaningful experiments. The resulting flow fields need to be evaluated in Matlab/Python and compared to literature data.

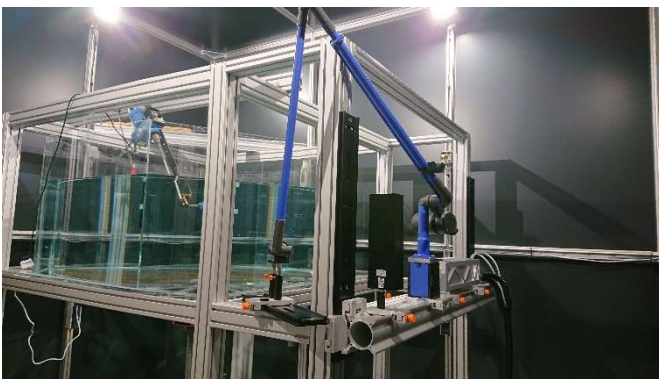


Figure 1: Model digester test rig with PIV; Source: RES

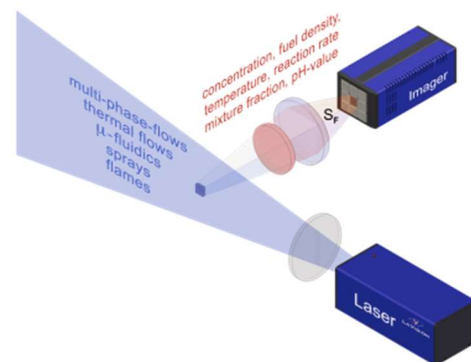


Figure 2: Laser induced fluorescence (LIF); Source: LaVision

If you think you are the right candidate to solve this task please contact me. You can **start the thesis anytime**. Looking forward to get to know you.

Tasks

- Literature research
- Design of the experiments
- Experiments at test rig
- Data evaluation

Requirements

- Basic programming skills (Matlab, Python,..)
- Good practical skills and motivation for works in the tech lab

Contact

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