

Maithili Gokarn's Individual Contribution Page

Fall 2013 Contributions

This semester I am a member of the Anaerobic Wastewater Treatment team.

- Reviewed existing literature and research from the summer .
- Familiarized self with the use of measurement equipments and techniques like Gas Chromatography and Spectrophotometer , by conducting regular gas ,influent and effluent sampling .
- Learnt the use of Process Controller software .
- Reactor construction-cutting and drilling holes in pipes to fit reactor specifications,threaded the pipe holes and fit the pipes with fittings using plumber's tape.
- Set up of the newly constructed reactors by placing them on the stands , attaching the required tubings,valves and pressure sensors , testing the solenoid valves using Process Controller and fixing the pumps to the reactors .
- Conducted tests to characterize the relationship between upflow velocity and bed expansion in order to more accurately control the size of the particle beds in the AFBR reactors
- Inoculation of 6 six reactors and addition of media to the AFBR reactors.
- Data Analysis

Spring 2014 Contributions

This semester I am again a member of the Anaerobic Wastewater Treatment team.

This semester we have divided the team into three sub-teams ,based on our work and results obtained in the fall semester .The three groups are -UASB Team, Aerobic Treatment Team and the Reactor Modification Team. I am a part of the UASB team.

- Last semester the actual methane produced by our reactors was relatively lesser than the theoretically produced methane.
- This semester,changed the process flow such that the UASB receives high strength wastewater resulting in more methane gas production per gCOD destruction.
- Developed methods to test gas tightness and achieve gas tightness by trying different methods- using Teflon tape and para film , change plastic tubing to copper tubing , and finally using epoxy glue on the fittings .
- Developed new frequency of sampling and added pH tests to sampling parameter.