RESEARCH QUESTIONS / PROBLEMS:
- Anaerobic digestion of plant matter, which contains complex structure, leads to low biogas production
- Microbial communities involved in the process is not well understood because of the complexity of the population and their metabolic pathways

METHODS:
- Corn stover was pre-treated with effluent for 7 days followed by anaerobic digestion with swine waste at 55ºC for 21 days
- Microbial community analysis was carried out using 16S metagenomic sequencing

RESULTS / FINDINGS:
- Thermophilic pre-treatment of corn stover with effluent proved to be an efficient method to enhance the biodegradability of corn stover
- Abundance of bacterial and archaeal communities had a direct correlation with the digester performance and biogas production

SIGNIFICANCE / IMPLICATIONS:
- Anaerobic digestion of agricultural and animal wastes with proper pretreatment and control of microbial community is sustainable for management of wastes and production of biofuel