

Water Treatment and Reuse: Novel Sewage Treatment for Waste to Power



Fig. 1: Synthetic sewage (left) and treated water (right)

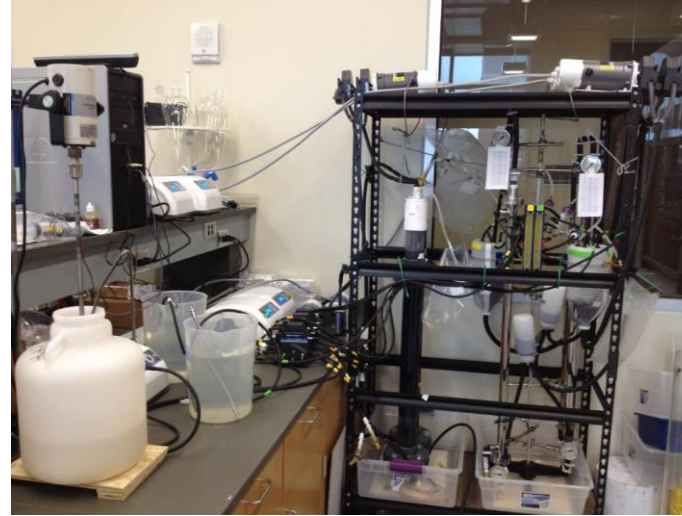


Fig. 2: Bench-Scale BFF AnMBR

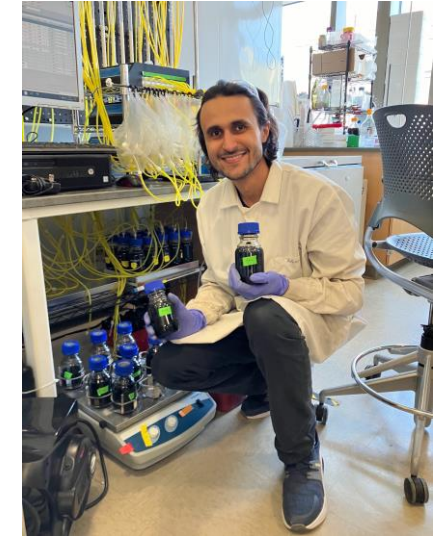


Fig. 3: Ph.D. Student Antonio Martins with microbe samples

R&D Goal

We will replace energy-intensive waste treatment with energy-generating anaerobic biotechnology including nutrient recovery.

Achievements to Date

- Identified beneficial microbes to convert sewage to biomethane for renewable energy generation (Poop to Power!)
- Developed new surface material to grow microbes on that speeds up biomethane production from sewage
- Established startup, ThaneSource Tech., with NSF I-Corps funding to develop commercialization plans
- Completing bench-scale downflow filter anaerobic membrane bioreactor (DFF AnMBR) proof-of-concept testing this summer