

23 June 2021 (Wednesday)

7.00pm-8.30pm (SGT) (GMT +8)

Session 3.4 – Advancement in Solids Treatment

Session Chair(s): Pang Chee Meng, PUB, Singapore's National Water Agency (Singapore)

Resource Recovery and the Circular Economy

C. Peot. DC Water (USA)

Presenter is an invited speaker. No executive summary is available

Anaerobic Co-digestion Of Food Waste And Municipal Wastewater Treatment Plant Sludge At Demo Scale

J. Josse, YKK. Koh, XQ. King, J. Low, Y. Gu, J. Oh. Anaergia Inc. (United States)

Supported under TechPioneer Scheme through EDB and PUB, this is the first demonstration project in Singapore to co-digest source segregated food waste (FW) with thickened surplus activated sludge (TSAS) from a municipal wastewater treatment plant (WWTP). The team previously reported that co-digestion exhibited a promising performance with respect to specific biogas yield (SBY), with about 2 times higher SBY than that of pure TSAS digestion. The team has successfully simulated one of the feeding conditions -- Design 2027 of Tuas Nexus and demonstrated that co-digestion of TSAS with FW yields higher gas production and a significantly increased SBY than that of dedicated TSAS digestion only. The team is currently simulating the Design-MML (Maximum Monthly Load) feeding condition of the Tuas Nexus. Based on the preliminary data obtained up to date, the process is stable with significantly increased SBY compared to that of dedicated TSAS digestion only.

Thermal Hydrolysis Process For Enhancement Of Anaerobic Digestion

L. Yu, B. Jeyanathan, SL. Low, Z. Ibrahim, R. Tan, G. Tao, W. Lay, SC. Chua. PUB, Singapore's National Water Agency (Singapore)

Thermal Hydrolysis Process (THP) has been implemented in Jurong Water Reclamation Plant (JWRP) to enhance sludge digestion.

New Technologies And Methods For Optimizing Wastewater Treatment Plant Processes

H. Karaila. Valmet (Finland)

Population growth and the expansion of urban areas has led to significant increases in the volume of waste water and created an urgent need for more effective and affordable wastewater treatment. The removal of solids and subsequent sludge treatment account for some 40 to 50% of the total wastewater treatment costs but traditionally, because of the lack of reliable and accurate measurements, the only way to manage this key part of the process has been manual control based on infrequent laboratory analysis. New measurements and controls for wastewater treatment are now providing solutions for both existing and new treatment plants by improving efficiency and maximizing capacity while saving chemicals and improving worker safety. This paper describes the commercial application of the new measurement technologies and optimization controls from installations in South Africa and Finland.