

Wednesday 1<sup>st</sup> May, 1.00pm – 2.00pm

Venue: Seminar Rom, Centre for Sustainability, 563 Castle Street

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## Meat processing waste biorefinery for bioenergy and biochemical production

For the first time, an investigation into the viability of utilising biomass waste streams, generated by the meat processing industry, as sustainable carbon resources has been undertaken. We sought to provide an impetus for paradigm transitions from waste disposal to resource recovery thus reducing society's dependence on non-renewable resources. Meat processing biomass waste streams are of significant importance since they are in abundant supply and also constitute a significant waste management challenge in New Zealand.

Biomass conversion technologies investigated were hydrolysis-esterification; anaerobic digestion and hydrothermal liquefaction for biodiesel; biomethane biochar; and biochemical production, since they facilitate biomass transformation in the absence of preliminary high energy drying operations. This research demonstrates that the integration of these technologies has the potential to generate biofuels and biomaterial products while guaranteeing favourable economic performance and environmental performance outcomes; it provides a basis for future application of large scale biorefinery technology for enhanced resource-recovery from high moisture waste streams generated by the meat processing industry.

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