



## Our Research Partners

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The University of Queensland has an outstanding record of research and teaching in food and related sciences including: agriculture, water management, environmental biotechnology, chemical and process engineering and waste transformation.

### Key research strengths relevant to our fight against food waste include:

#### Production of biopolymers and biocomposites from waste; material design and manufacturing of packaging, film and composites

[Professor Peter Halley](#) and [A/Professor Bronwyn Laycock](#), of the [Translational Polymer Research Group](#) have expertise in polymer chemistry, and materials science; bio/degradable polymers, composites, organic and organometallic synthesis, waste conversion technologies, and pulp and paper chemistry; starch polymer modification, reactive extrusion, film and composite production. The associated [Centre for Advanced Materials Processing and Manufacturing](#) has complimentary expertise in biopolymer production and composite and material design and production with applications in packaging.

#### Waste treatment and resource recovery

[A/Professor Paul Jensen](#) is a research leader in the areas of anaerobic biotechnology and resource recovery in the [Advanced Water Management Centre](#) at UQ. Paul aims to improve sustainability through research and technology development in the areas of waste treatment with a focus on recovery of renewable energy resources, production of bio-fertilisers, bio-plastics and other high value products from wastes and other low value raw materials.

#### Food waste processing with micro-organisms and insects in agricultural systems

[Professor Louw Hoffman](#) and [Dr Peter James](#) from the [Queensland Alliance for Agriculture and Food Innovation](#) (QAAFI) have expertise on entomology in livestock production systems and the use of black

soldier fly and similar systems for protein recycling in waste transformation. [Professor Hoffman](#) and [A/Professor Luis Prada e Silva](#) also have meat science and ruminant nutrition expertise respectively.

#### Life cycle assessment, techno-economic evaluation and environmental impact assessment

[A/Professor Simon Smart](#), of the [Dow Centre for Sustainable Engineering Innovation](#) leads the group that specialises in Life Cycle Assessment (LCA) methodology and techno-economic evaluation; environmental impact assessment and environmental chemistry.

#### Analysis and recycling of organic waste in fertiliser and nutritional extract production

[Professor Susanne Schmidt](#) and [Johannes Biala](#) of the [School of Agriculture and Food Sciences](#) and the [Centre for Recycling of Organic Waste and Nutrients](#) can provide expertise in next generation fertilisers and utilisation of organic wastes.

#### Molecular analysis of plant components; materials-properties of plant tissues and sensory, nutritional and functional properties of plant extracts.

[Professor Mike Gidley](#), [Dr Michael Netzel](#) and colleagues (QAAFI) have expertise in molecular, microscopic and materials analysis of plant tissues, extracts and foods, linked with process development and pilot scale processing, product development and consumer/sensory/nutritional analysis of foods. The team has experience with all major food and extract types.

[www.fightfoodwastecrc.com.au](http://www.fightfoodwastecrc.com.au)