Theme 3: Innovative Membrane Processes

Theme leader: Prof. Huanting Wang (Monash)

Huanting Wang is a Professor of Chemical Engineering and Associate Dean International of Faculty of Engineering. His research is mainly focused on nanomaterials and membranes for sustainable separation and energy technologies.

Project topic: Functional nanoporous membranes for peptide separation

The project aims to develop high-flux, highly selective and durable nanoporous metal organic framework (MOF) membranes for peptides separation.

Potential benefit to the dairy industry

Nanoporous MOFs membranes with a pore size around 2 nm will be functionalized to separate specific peptides from milk proteins. These new membranes are expected to have much higher peptide selectivity than the existing membranes, due to their narrow pore size distribution and specific chemical functionality.
Theme 3: Innovative Membrane Processes

Project leader: A/Prof. Xiwang Zhang (Monash)

Xiwang Zhang is an Associate Professor in Chemical Engineering. His research interests focus on innovative technologies for water and wastewater treatment, particularly high performance membranes and catalytic oxidation. He was the recipient of the prestigious Australian Research Council (ARC) Australian Research Fellowship (2011-2015) and Monash Larkins Fellowship (2013-2015).

Project topic: Novel membranes for high efficient demineralisation of whey waste

The project will develop novel membranes with high permeability of minerals (inorganic salts), and high rejection for recovery of valuable components in whey waste.

Potential benefit to the dairy industry

The new nanofiltration membranes developed in the project will provide an opportunity to achieve high de-mineralisation rate, which will add values to whey products and minimise environment impacts.