Theme 4: Modeling for process optimisation

Theme leader: Dr. Meng Wai Woo (Monash)

Meng Wai Woo is a Senior Lecturer in Chemical Engineering. He has extensive experience modelling the spray drying process and in using the Computational Fluid Dynamics (CFD) modelling technique for the industry.

Project topic: Better control of agglomeration in spray dryers

The agglomeration of semi-dried particles and returned fine particles is an important aspect in the spray drying of dairy particles. This project will develop a computational fluid dynamics predictive platform for agglomeration inside spray dryers.

Potential benefit to the dairy industry

The dairy industry can potentially use this platform to optimize and control the structure of agglomerates formed in their spray dryer. This will have significant impact in controlling the flowability and dissolution behaviour of the spray dried powder.
Theme 4: Modeling for process optimisation

Project leader: Dr Meng Wai Woo (Monash)

Project topic: Multiscale modelling platform for membranes
This project will develop a multi scale predictive platform to model membrane filtration, from molecular scale modelling to equipment-scale fluid dynamics simulations.

Potential benefit to the dairy industry
The multi scale predictive platform can be used to develop and choose suitable membranes for specific separation applications. Computational fluid dynamics can be used to numerically evaluate efficient membrane design.