A new technique that is able to precisely control the functional properties of particles via a unique spray-drying process. This new spray-dryer system offers opportunity to modify the particulate nature of products for a range of applications.

- Production of particles with unique functionality
- Modular spray-drying for analytical equipment
- Precise spray-drying for high value product formulation
- Low temperature spray-drying for material preservation
- Scalable system

THE CHALLENGE

Current spray-drying technologies only allow for indirect control of particle formation at the inlet of the drying chamber, rather than direct control.

In addition, current spray-drying chambers tend to subject particles to high temperatures that often damage the particles.

Particles resulting from standard spray-drying techniques often are amorphous, which can be highly disadvantageous in certain applications. Options to achieve crystalline particles are currently limited.

As such, there is a need for a spray-drying system that is able to precisely control the formation of particles throughout the entire drying chamber.

THE TECHNOLOGY

The Chemical Engineering team at Monash University, led by Dr Meng Wai Woo, has developed a new technique that is able to precisely control the functional properties of particles via a unique spray-drying process.

This narrow tube spray-drying system is able to generate functional powders via precise control of the drying process. The system is capable of operating with a smaller footprint compared to existing systems and due to its modular design, can be customised.

We have built a laboratory prototype at the university as a proof-of-concept, allowing for validation of this new spray-drying technique.

THE OPPORTUNITY

We are now actively seeking partners in the pharmaceutical, chemical and/or food industries to collaborate in the development and commercialisation of this novel narrow tube spray-drying technique.

Monash has extensive experience in working with organisations towards a solid technical outcome that will enable the business to achieve success in the market place.

KEY CONTACTS

Dr Meng Wai Woo
Senior Lecturer
Monash Chemical Engineering
T: +61 3 9905 9344
E: meng.woo@monash.edu

Jordan Thurgood
Commercialisation Associate
Monash Innovation
T: +61 3 9902 4363
E: jordan.thurgood@monash.edu