Innovative Food Processing Technologies

Using mathematical modelling to design and optimise food processing technologies, such as thermal pasteurisation, freezing, chilling and drying, ultrasound, plasma and radio frequency electrical fields.

Competitive advantage

- Expertise in transport phenomena for the design and optimisation of thermal pasteurisation of liquid foods, and the freezing, chilling and drying of solid foods
- Novel and non-thermal processing technologies, such as radio frequency electric field and ultrasound, to enhance the quality of processed foods
- Use of mathematical modelling to develop new, and optimise existing, processing technologies

Impact

- Increased the quality of coffee brews
- Enhanced the oil yield extraction from oilseeds

More Information

Francisco J. Trujillo

School of Chemical Engineering

T: (02) 9385 5648
E: francisco.trujillo@unsw.edu.au

UNSW Knowledge Exchange

knowledge.exchange@unsw.edu.au

www.capabilities.unsw.edu.au

+61 (2) 9385 5008

Successful applications

- Novel technology to produce coffee brews of enhanced organoleptic properties with the assistance of ultrasound
- Radio frequency technology for the non-thermal pasteurisation of fruit juices
- Ultrasonic process to enhance the oil extraction from oilseeds
- Plasma activated water system for the surface decontamination of red meats

Capabilities and facilities

- Equipment for radio frequency processing, ultrasound processing, high pressure and non-thermal plasma

Our partners

- CSIRO
- Australian Meat processing corporation