

**Process systems engineering in a land of milk and Manuka
–dairy real-time quality research in New Zealand**

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Abstract:

After a brief introduction to Chemical and Materials Engineering at The University of Auckland, New Zealand (NZ), focusing particularly on Process Systems Engineering, research on the Process Systems Engineering of food, in particular milk powder is described.

Food processing is an industry that is of primary importance to many economies, and especially NZ where many products have a clean, green and/or healthy image that is important to their final market. It is a diverse industry that ranges in business scale from small, even iconic brands to large enterprises of global reach. Food processing involves the chemical and physical processing of materials from the nano to the macro scale to produce food products of desired properties, structure and function. Industry drivers can be categorised under headings of product quality and traceability, process costs, and product safety and production sustainability, with inputs to these processes from consumer trends, regulatory requirements, resource costs, seasonal variations, weather conditions and new technology.

The modern approach to supporting and enhancing the food processing industry entitled Real-time Quality is primarily described in this talk. This is built on Process Systems Engineering and Process Analytical Technology approaches and includes a move to traceability as opposed to minimum variance in production. Current work into the real-time prediction of milk powder functional properties is described.

Bio:

Prof. Brent R. Young is Head of the Chemical and Materials Engineering Department at The University of Auckland. He holds the position of Chair in Food Process Engineering, and is Director of the Industrial Information and Control Centre. He is Chair of the Food and Health Programme.

He received his BE (1986) and PhD (1993) degrees in Chemical and Process Engineering from the University of Canterbury. Prof. Young was previously an Associate Professor in Chemical and Petroleum Engineering at the University of Calgary (1998-2005) and a Lecturer in Chemical Technology at the University of Technology, Sydney (1991-1998). He is a Fellow of the Institute of Chemical Engineers United Kingdom and of the Institution of Professional Engineers NZ. He has co-authored over 200 refereed publications including the book "A Real-time Approach to Process Control", published by John Wiley (2nd Edition, 2006). He was Engineers Australia John A. Brodie medallist for the best paper in the discipline of chemical engineering presented at CHEMECA for 2008 and 2009. He has been awarded the Caltex Australasian Award of Excellence in Chemical Engineering for Teaching in 2014.

CPSE Seminar room, RODH C615, Roderic Hill Bldg, Chemical Engineering department
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This event is free and open to the public. No registration is required.

Refreshments before the seminar in CPSE Common room (top floor Roderic Hill Bldg).



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