

ISSDDP 2009 SYMPOSIUM PROGRAM

All plenary sessions will be held in LaTrobe Theatre, Melbourne Convention Centre

DAY 1: WEDNESDAY, 15 APRIL 2009

9.00 am	Registration Desk Open		Abstract No
Welcome and Opening Address			
10.00 am	Welcome: Dr Lesley MacLeod (CEO, Dairy Innovation Australia)		
10.05 am	Opening Address: The Hon Kaye Darveniza MLC , Parliamentary Secretary for Regional and Rural Development		
Session 1: Setting the Scene Chair: Dr Martin Palmer (Ingredients & Applications Manager, Dairy Innovation Australia)			
10.20 am	Keynote Speaker: Mr Alan Baldwin (Fonterra, NZ)	Milk Powder Drying: Then, Now, the Future	1
10.50 am	Keynote Speaker: Prof Harjinder Singh (Massey University, NZ)	Controlling Milk Protein Interactions to Enhance Powder Functionality	2
11.20 am	Poster Presenters	Presentation of Poster Summaries	See Page 11
1.00 pm	Lunch in Exhibition Area (You Yangs Room)		
Session 2: Advances in Dairy Spray Drying Systems (Sponsored by Gardiner Foundation) Chair: Mr Paul Ford (CEO, Geoffrey Gardiner Dairy Foundation, Australia)			
2.00 pm	Keynote Speaker: Prof Xiao Dong Chen (Monash University, Australia)	Recent Advances in Spray Drying : An Overview	3
2.30 pm	Dr Tim Langrish (Sydney University, Australia)	Control of Crystallization and Caking in Fluidized Beds	4
2.50 pm	Prof Karim Allaf (University of La Rochelle, France)	Texturing of Skim Milk Powders by the Instant Control Pressure Drop (DIC) Process	5
3.10 pm	Ms Glauce De Souza (Auckland University, NZ)	Viscosity and Fouling in Milk Powder Process Control	6
3.30 pm	Afternoon Tea		
4.00 pm	Keynote Speaker: Mr Jim Kelly (Teagasc, Ireland)	Whey Permeate Drying	7
4.30 pm	Mr Ashley Hoskin (Fonterra, NZ)	Management of Drier Fire and Explosion Risk	8
4.50 pm	Mr Michael Prior (The Fitzpatrick Co., USA)	Dust Explosion Protection in Fine Grinding & Drying of Lactose & Casein	9
5.10 pm	Dr Martijn Fox (NIZO Food Research, Netherlands)	New Developments in Drying including High-Throughput Screening	10
5.30 pm	End of Session		
6.00 - 9.00 pm	Welcome Reception & Presentation of Poster Displays (Sponsored by Department of Innovation, Industry & Regional Development, Victoria) You Yangs Room, Melbourne Convention Centre		

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DAY 2: THURSDAY, 16 APRIL 2009

8.30 am	Registration Desk Open		Abstract No
Session 3: Modelling and Control of Spray Drying Processes (Sponsored by Dairy Australia)			
Chair: Mr Neil van Buuren (Program Manager, Resource Management & Technology, Dairy Australia)			
9.00 am	Keynote Speaker: Dr Peter de Jong (NIZO Food Research, Netherlands)	Drying in a World Without Oil	11
9.30 am	Keynote Speaker: Dr Pierre Schuck (INRA, France)	How to Anticipate the behaviour of Dairy Products to Drying	12
10.00 am	Dr Gilles Vuataz (Nestle, Switzerland)	Supplementing the State Diagram of Milk with Iso-Viscosity Lines	13
10.20 am	Dr Thorvald Ullum (GEA Niro, Denmark)	DRYNETICS™: Modeling of the Spray Drying Process using Empirical Inputs	14
10.40 am	Morning Tea		
11.10 am	Keynote Speaker: Prof Xiao Dong Chen (Monash University, Australia)	Single Droplet Drying tests as a Means of Generating Drying Kinetics	15
11.40 am	Dr Kamlesh Patel (Monash University, Australia)	One-Dimensional Simulation of Co-Current Spray Drying	16
12.00 pm	Prof Xiao Dong Chen (Monash University, Australia)	A Three-dimensional Numerical Study of Gas / Particle Interactions in an Industrial-Scale Spray Dryer	17
12.20 pm	Bart Spuijbroek (Tetra Pak, Netherlands)	Improving Drying Efficiency through CFD Modeling	18
12.40 pm	Lunch		
Session 4: New & Alternative Technologies for the Manufacture of Dried Dairy Ingredients (Sponsored by HB Drying Systems)			
Chair: Mr Warren Cook (Director, Dairy & Drying Technology Ltd, Australia)			
1.40 pm	Keynote Speaker: Mr David Platts (Platts Drievap Engineering, NZ)	The Future of Spray Drying Driven by the Engines of the Past	19
2.10 pm	Keynote Speaker: Dr Andrew Stapley (Loughborough University, UK)	Spray Freeze Drying of Whey Using a Fluidised Bed at Sub-Atmospheric Pressures	20
2.40 pm	Keynote Speaker: Prof Muthupandian Ashokkumar (University of Melbourne)	Ultrasonic Processing of Dairy Products	21
3.10 pm	Afternoon Tea		
3.40 pm	Mr Marcel van den Berghe (HB Drying Systems, Netherlands)	Pre Air Drying on Spray Drying Towers	22
4.20 pm	Ms Marie-Laure Vignolles (INRA, France)	Effect of Drying Kinetics & Solid Fat Content on Surface Composition of Dairy Powders	23
4.40 pm	Mr Winston Wu (Monash University, Australia)	Monodisperse Droplet Formation by Glass Nozzles	24
5.00 pm	Dr David Morton (Monash University, Australia)	Mechanical Surface Modification of Fine Lactose Particles	25
5.20 pm	Mr Hans Kobes (Munters, Netherlands)	Munters Dry Air Method	26
5.40 pm	End of Sessions		
Symposium Dinner - Melbourne Aquarium (Sponsored by Warrnambool Cheese & Butter Factory)			
7.00 - 11.00 pm	Keynote Speaker: Dr Chris Bloore (Dairy Industry Systems Consultant, NZ) Getting Stuck In: Case Studies in the Adoption of New Spray-Drying Technologies		27

DAY 3: FRIDAY, 17 APRIL 2009

8.30 am	Registration Desk Open		Abstract No
Session 5: Functionality & Applications of Spray-Dried Dairy Ingredients (Sponsored by Murray Goulburn) Chair: Dr Peter Hobman (General Manager, MG Nutritionals)			
9.00 am	Keynote Speaker: Prof Mary Ann Augustin (Food Science Australia)	Development of Dairy-Based Encapsulated Ingredient Systems	28
9.30 am	Dr Wei Zhang (Ocean Nutrition, Canada)	Novel Omega-3 Microcapsules Derived from Complex Coacervation and Thermal Gelation of Whey Protein and Gum Arabic	29
9.50 am	Dr Andrew Stapley (Loughborough University, UK)	Denaturation & Loss of Solubility of Whey Proteins during Spray Drying	30
10.10 am	Dr Todor Vasiljevic (Victoria University, Australia)	Properties of Some Commercial WPC's available on the Australian Market	31
10.30 am	Morning Tea		
11.00 am	Keynote Speaker: Dr David Newstead (formerly Fonterra, NZ)	Functional Milk Powders for Recombined Milk Products - Effects of Milk Salts in Relation to Protein Standardisation	32
11.40 am	Dr Michael Lewis (University of Reading, UK)	Role of Ionic Calcium and pH on Heat Stability and Other Physicochemical Properties of Skim Milk Powder	33
12.05 pm	Dr Vijaya Bhaskar Ganugapati (Fonterra, NZ)	High-Protein MPC's & their Applications	34
12.30 pm	Lunch		
Session 6: Analysis & Characterisation of Powder Properties Chair: Dr Mike Weeks (Process Performance Manager, Dairy Innovation Australia)			
1.30 pm	Keynote Speaker: Prof Bhesh Bhandari (University of Queensland, Australia)	Implications of Glass Transition in the Processing and Stability of Dairy Powders	35
2.00 pm	Dr Arnaud Mimouni (University of Queensland, Australia)	Storage-induced Alterations in Rehydrated, High-Protein Dairy Powders	36
2.20 pm	Dr Anthony Paterson (Massey University, NZ)	Comparison of Particle Gun vs. Fluid Bed Methods for measuring Stickiness Point	37
2.40 pm	Dr Sean Hogan (Teagasc, Ireland)	Effect of Protein : Lactose Ratio on Milk Powder Stickiness Characteristics	38
3.00 pm	Afternoon Tea		
3.30 pm	Keynote Speaker: Dr Roderick Williams (Food Science Australia)	Structure Formation in Whey Protein Ingredients	39
4.00 pm	Dr Gregory Martin (University of Melbourne, Australia)	Alterations to Casein Micelles during MPC Manufacture & Reconstitution	40
4.20 pm	Mr Alan Baldwin (Fonterra, NZ)	Cold Water Insolubility of Milk Powder Products	41
4.40 pm	Prof Romain Jeantet (INRA / Agrocampus, France)	Influence of Stirring Rate & Temperature on Micellar Casein Powder Rehydration	42
5.00 pm	Symposium Close		

ISSDDP 2009 POSTERS

A summary of all posters will be presented in LaTrobe Theatre, Wednesday 15 April 11.20am - 1.00pm.
Posters will then be on display in the Exhibition Area (You Yangs Room) for the duration of the Symposium.

Author	Title	Abstract No
Dr Sandra Ainsworth (Dairy Innovation Australia)	A Powder Flow Analyser Technique for Determining Flow Properties of Dairy Powders	43
Prof Karim Allaf (University of La Rochelle, France)	Characterization of Cheese Snacks and Expanded Granule Powders Textured by the Instant Controlled Pressure Drop (DIC) Process	44
Prof Bhesh Bhandari (University of Queensland, Australia)	Sorption Behaviour of Lactose & MPC Mixtures	45
Prof Bhesh Bhandari (University of Queensland, Australia)	Changes in Protein Structure & Water-Protein Interactions in High-Protein Milk Powder	46
Mr Shyamal Das (Monash University, Australia)	Understanding Lactose Behavior During Storage By Monitoring Surface Energy Change Using Inverse Gas Chromatography	47
Dr Tuna Dincer (Curtin University, Australia)	Lactose Crystal Structure & Crystallisation	48
Ms Yuan Fang (Monash University, Australia)	Characterisation of MPC Solubility by FBRM	49
Dr Mark Fenelon (Teagasc, Moorepark Food Research Centre, Ireland)	Optimization of the carbohydrate component of model nutritional formulations during processing using statistical mixture design	50
Ms Kim Fyfe (University of Queensland, Australia)	Surface Composition and Structure of Milk Powder Particles of Various Size Fractions	51
Mr Steven Ho (Monash University, Australia)	Fluidisation of Skim Milk Powders as a Function of Moisture Content	52
Dr Sean Hogan (Teagasc, Ireland)	A Novel Technique for Determining Glass-Rubber Transition in Dairy Powders	53
Ms Mithila Jayasundera (University of Ballarat, Australia)	Effect of Proteins & Surfactants on Spray-Drying of Sticky, Sugar-Rich Foods	54
Dr Arnaud Mimouni (University of Queensland, Australia)	Impact of Solvent Properties on Rehydration Kinetics of High-Protein Dairy Powders	55
Dr Pierre Schuck (INRA, France)	Influence of Spray Drying Conditions on Components Space Distribution	56
Mr Yun Yun Xu (University of Queensland, Australia)	Effect of degree of hydrolysis of reconstituted whey protein isolate powder on the surface activity of aqueous solutions	57
Mr Peng Zhu (INRA/Laiterie de Montaigu, France)	REA: A Tool to Improve Drying predictions using the Desorption method	58

Disclaimer:

Details are correct as at 2 April 2009. In the event of unforeseen circumstances, the organiser reserves the right to delete or alter items in the Program.