

# Food drying technology short course

## Program<sup>1</sup>

### Tuesday 1st March 2021 – Day 1

<b>8.30 am</b>	<b>Welcome and introduction</b>	
8.45 am	Dried products and their quality	Gordon Young, FoodStream Pty Ltd
9.20 am	Drying systems used in the food industry	Dennis Forte, FoodStream Pty Ltd
<b>10:00 am</b>	<b>Morning Break</b>	
10.20 am	Basic drying theory	Gordon Young, FoodStream Pty Ltd
11.10 am	Water activity: Basic concepts & sorption/desorption isotherms, methods of measurement	Gordon Young, FoodStream Pty Ltd
12.00 pm	Global trends in drying	David Fraser, Buhler Group
<b>12.15 pm</b>	<b>Lunch</b>	
12:45 pm	Water activity: relevance to food stability and the drying process	Gordon Young, FoodStream Pty Ltd
1.30 pm	Principles of mass and energy balances as applied to drying processes (Exercise: Using mass and energy balance techniques to analyse simple drying system)	Gordon Young, FoodStream Pty Ltd
<b>2:30 pm</b>	<b>Afternoon break</b>	
2.50 pm	Principles of psychrometrics, tracing a drying process on a psychrometric chart	Gordon Young, FoodStream Pty Ltd
3.30 pm	Mass & energy balance applied to a more complex drying system : A case study	Gordon Young, FoodStream Pty Ltd
4.15 pm	Dryer Performance Comparison: Mass & Energy Balance	Dennis Forte, FoodStream Pty Ltd
<b>4.45 pm</b>	<b>End of day 1</b>	

1. The following program may be subject to minor change

## Wednesday 2<sup>nd</sup> March – Day 2

8.15 am	<b>Start of day 2 - Review</b>	
8.30 am	Modelling the drying curve (practical measurement/modelling of product drying curve and how it can be used)	Dennis Forte, FoodStream Pty Ltd
9.15 am	The use of dimensional analysis to optimise a drying process (an industry case study)	Dennis Forte, FoodStream Pty Ltd
10:00 am	<b>Morning break</b>	
10.20 am	Specialised drying systems	Darren Gardiner and Henry Sabarez, CSIRO
11.15 am	Design and specification of drying systems	Gordon Young, FoodStream Pty Ltd
12:00 pm	Clextal innovative intensified drying technology	Camille Challard, Clextal Pacific
12.15 pm	<b>Lunch</b>	
12:45 pm	<b>Option 1:</b> Case studies of a range of drying technologies (fluidised bed, heat pump, vacuum/freeze)  Gordon Young, FoodStream and Henry Sabarez, CSIRO	<b>Option 2:</b> Spray drying technology  Darren Gardiner, CSIRO
2:30 pm	<b>Afternoon break</b>	
2:45 pm	Improving efficiency of established drying processes – a case study	Gordon Young, FoodStream and Henry Sabarez, CSIRO
3:30 pm	Drying Process – economic analysis	Dennis Forte, FoodStream Pty Ltd
4:00 pm	<b>Course close</b>	