Spray Drying and Atomisation of Formulations

Tuesday 31 March – Thursday 2 April 2020

Provisional Programme

Tuesday 31 March 2020
Spray Drying and Atomisation Basics
09:00 Registration and coffee
09:30 Welcome and group introduction – what do delegates want to get from the course? Dr Jim Bullock, iFormulate Ltd
09:40 Introduction to spray drying, how does it compare with other drying techniques, mechanisms and impact of the formulation on process and plant design Professor David York, University of Leeds (formerly of Procter and Gamble)
10:20 Fluid properties and rheology Professor Andrew Bayly, University of Leeds (formerly of Procter and Gamble)
11:00 Coffee
11:20 Atomisation Professor Phil Threlfall-Holmes, TH Collaborative Innovation & Visiting Professor at the University of Leeds (formerly of AkzoNobel)
12:00 Drying the particle Filip Van der Gucht, ProCept
12:30 Modern approaches towards explosion safety in spray dryers Francesca Vincenzi, REMBE
13:00 Lunch
13:45 Hands-on laboratory demonstration sessions
(a) Feedstock/rheology: Soyeb Manga, University of Leeds
(b) Atomisation: Professor Phil Threlfall-Holmes, TH Collaborative Innovation & Visiting Professor, University of Leeds (formerly of AkzoNobel)
(c) Characterisation of spray dried powders: Professor David York, University of Leeds
(d) Single droplet: Professor Andrew Bayly, University of Leeds
(e) Particle sizing: Ben Douglas, University of Leeds
(f) Drying parameters: Filip Van der Gucht, ProCept
15:35 Tea
15:55 Spray drying: basic models, energy balance Professor Andrew Bayly, University of Leeds
16:20 Scale up of spray drying processes Henrik Schwartzbach, GEA Process Engineering A/S
16:50 Water in our World, Water in our Materials Dr Daryl Williams, Imperial College London
17:25 End of day one
19:00 Course Dinner
Wednesday 1 April 2020

Industrial Formulation Case Studies

08:45 Coffee
09:00 Welcome
   Dr Jim Bullock, iFormulate Ltd
09:10 Phase changes in spray drying
   Professor David York, University of Leeds
09:35 Spray drying with two-fluid nozzles; atomisation, scale-up and modelling
   Ian Kemp, Consultant, previously GSK
10:20 Coffee
10:40 Engineering particle structure
   Professor Andrew Bayly, University of Leeds (formerly of Procter and Gamble)
11:15 Spray drying of pharmaceuticals
   Dr Andrew Naylor, Upperton
11:50 Spray Drying an Alternative to Freeze Drying
   Dr Sune Klint Andersen, Jannsen Pharmaceuticals, Beerse, Belgium
12:25 Modelling of the spray drying process using empirical inputs
   Henrik Schwartzbach, GEA Process Engineering A/S
13:00 Lunch
13:45 Hands-on laboratory demonstration sessions
   (a) Feedstock/rheology: Soyeb Manga, University of Leeds
   (b) Atomisation: Professor Phil Threlfall-Holmes, TH Collaborative Innovation & Visiting Professor, University of Leeds, (formerly of AkzoNobel)
   (c) Characterisation of spray dried powders: Professor David York, University of Leeds
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   (f) Drying parameters: Filip Van der Gucht, ProCept
15:35 Tea
15:55 Processing science in an infant milk formulae factory
   Dr Koen van Dijke, Danone
16:30 Spray drying for encapsulation and congealing
   Filip van der Gucht, ProCept
17:00 Trouble shooting forum/expert consultation session and networking drinks reception
18:30 End of day two

Thursday 2 April 2020

Powder finishing, modelling and future developments

08:45 Coffee
09:05 Welcome
   Dr Jim Bullock, iFormulate Ltd
09:15 Agglomeration and build-up in the spray drying tower
   Stefan Egan, Procter and Gamble
09:45 Managing moisture in practice
   Sophie Samain, Nestlé Switzerland
10:20 Coffee
10:40 Product design by fluid bed systems as downstream units of spray dryers
   Henning Falck, Neuhaus Neotec
11:10 Modelling and scale up of spray drying
   Dr Pedro Valente, Hovione
11:40 Future directions in atomisation technologies for pharmaceutical applications
   Dr Pedro Valente, Hovione
12:15 Lunch
13:00 Mechanistic model enhanced digital design and digital operation of spray drying processes
   Dr David Slade, Process Systems Enterprise Ltd (PSE)
13:30 Innovative electrostatic spray dryer
   Dr Audrey Maudhuit, Spraying Systems Co. & Fluid Air
14:05 Tea
14:25 Dryer operation and operational challenges
   George Svonja and Deon Pistorius, Dedert
14:55 Particle separation; cyclones, filters etc
   Professor David York, University of Leeds
15:30 Close of course