Tuesday 20 March 2018
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  Atomisation
   Professor Phil Threlfall-Holmes, TH Collaborative Innovation & Visiting Professor at the University of Leeds, (formerly of AkzoNobel)
11:40  Coffee
11:55  Drying and congealing the particle
   Filip Van der Gucht, ProCept
12:45  Spray drying hazards and safe operation
   Mike Halliday, HSD Safety Ltd
13:20  Lunch
14:05  Hands-on laboratory demonstration sessions
   (a) Feedstock/rheology: Professor Andrew Bayly, University of Leeds
   (b) Particle sizing: Dr Tina Bonakdar, University of Leeds
   (c) Drying parameters: Filip Van der Gucht, ProCept
   (d) Atomisation: Dr Phil Threlfall-Holmes, TH Collaborative Innovation & Visiting Professor, University of Leeds, (formerly of AkzoNobel)
   (e) Characterisation of spray dried powders: Professor David York
   (f) Avoiding extreme behaviour of materials: Mike Halliday, HSD Safety Ltd
15:50  Tea
16:10  Spray drying: basic models, energy balance
   Professor Andrew Bayly, University of Leeds
16:40  Scale up of spray drying processes
   Henrik Schwartzbach, GEA
17:10  Water in our world, water in our materials
   Dr Daryl Williams, Imperial College London
17:45  End of day one
19:00  Course Dinner

Wednesday 21 March 2018
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, GSK
10:10 Coffee
10:25 Agglomeration, build-up and the potential for charring in the spray drying tower
   Luis Martin de Juan, Procter and Gamble
11:00 Spray drying of pharmaceuticals
   Andrew Naylor, Upperton
11:35 Application of spray dried materials in the pharmaceutical industry – what, where and how much?
   Andrew Parker, Juniper Pharma Services
12:10 Processing science in an infant milk formulae factory
   Koen van Dijke, Danone
12:45 Lunch
13:30 Hands-on laboratory demonstration sessions
   (a) Feedstock/rheology: Professor Andrew Bayly, University of Leeds
   (b) Particle sizing: Dr Tina Bonakdar, University of Leeds
   (c) Drying parameters: Jim Tyzack and Ben de Schepper, ProCept
   (d) Atomisation: Dr Phil Threlfall-Holmes, TH Collaborative Innovation & Visiting Professor, University of Leeds, (formerly of AkzoNobel)
   (e) Characterisation of spray dried powders: Professor David York
   (f) Avoiding extreme behaviour of materials: Mike Halliday, HSD Safety Ltd
15:15 Tea
15:35 Modelling of the spray drying process using empirical inputs
   Henrik Schwartzbach, GEA
16:10 Cyclone design and operation
   Professor Mojtaba Ghadiri, University of Leeds
16:45 Engineering particle structure and applications
   Professor Andrew Bayly, University of Leeds
17:20 Panel Discussion (all speakers): future challenges and opportunities
17:30 Wrap-up: What would delegates still like covering?
17:40 Networking drinks reception and poster session
18:30 End of day two

Thursday 22 March 2018
Powder finishing, modelling and future developments

08:45 Coffee
09:05 Welcome
   Dr Jim Bullock, iFormulate Ltd
09:15 Managing moisture in practice
   Dr Tobias Kockel, Nestle Ireland
09:50 Product design by fluid bed systems as downstream units of spray dryers
   Henning Falck, Neuhaus Neotec
10:20 Coffee
10:40 Modelling and scale up of spray drying
   Dr Pedro Valente, Hovione
11:10 Future directions in atomisation technologies for pharmaceutical applications
   Dr Pedro Valente, Hovione
11:45 Spray drying process development: combining targeted experiments with a model-based approach
   Dr David Slade, Process Systems Enterprise Ltd (PSE)
12:15 Lunch
13:15 Trouble shooting forum
15:00 Coffee and close