School of Chemical and Process Engineering
FACULTY OF ENGINEERING & PHYSICAL SCIENCES

UNIVERSITY OF LEEDS

100% of 2025 respondents said the course was excellent or good.

Spray Drying and Atomisation of Formulations

Tuesday 9 – Thursday 11 June 2026

For full course details or to register visit the course website at:
https://tinyurl.com/SprayDrying-2026

CPD CERTIFIED
The CPD Certification Service

Spray Drying and Atomisation of Formulations

Tuesday 9 – Thursday 11 June 2026

Course Director

Professor Andrew Bayly, School of Chemical and Process Engineering, University of Leeds

About the course

A practical three day course including real industrial case studies, theoretical presentations and demonstrations.

Day one: Spray drying and atomisation basics: Industry and academic experts provide the essential scientific background as well as practical hands-on laboratory demonstrations.

Day two: Industrial formulation case studies: Experienced specialists will show how the science of spray drying has been applied to influence the properties of real formulated products across a wide range of business sectors. Including more laboratory demonstrations.

Day three: Powder finishing, modelling and future developments of spray drying.

During this course participants will have the opportunity to discuss their challenges, questions and problems with a panel of industry specialists through our dedicated trouble shooting forum.

Who should attend?

R&D scientists in industries such as pharmaceuticals, detergents, foods, agrochemicals and pigments who are working in product formulation and who need a broad overview to the subject of spray drying and atomisation.

Scientists and chemical engineers who would value a deeper understanding of how science can be applied to real spray-drying problems.

Process technologists, plant managers, R&D and process technicians who need a thorough practical grounding in the subject of spray drying and how it can influence the properties of formulated products.

Plant and process engineers from contract manufacturers who are seeking process improvements and efficiencies.

University researchers who require a deeper insight into real industrial problems, unmet needs and potential new research themes.

Learning objectives

- Gain an appreciation of how the choice of formulation composition can impact processing and product quality.
- Apply an understanding of how fluid properties, rheology and atomisation performance can have an influence on spray drying.
- Learn how to manipulate drying parameters to influence product microstructure, materials properties and quality parameters.
- Gain an appreciation of the hazards involved in spray drying and how to ensure safe operation.
- Learn how spray drying processes can be scaled up and appreciate the possible pitfalls on scaling up.
- Understand how spray drying principles can be applied to the manufacture of real industrial formulated products for economic and better performing processes as well as improved product performance and quality.
- Gain an insight into how challenges are tackled across different industries.
- Learn how to choose and design appropriate equipment such as atomisers and towers for laboratory, pilot and production-scale spray-drying.

Tuesday 9 June 2026

Spray Drying and Atomisation Basics

09.00 Registration and coffee

09.30 Welcome
Professor Andrew Bayly, Course Director, University of Leeds (formerly of Procter and Gamble)

09.35 Introduction to Spray Drying and Atomisation of Formulations
Professor Andrew Bayly, Course Director, University of Leeds

10.05 Fluid properties and rheology
Speaker to be confirmed

10.35 Coffee

11.00 Atomisation – an introduction
Professor Phil Threlfall-Holmes, TH Collaborative Innovation & Visiting Professor at the University of Leeds (formerly of AkzoNobel)

11.45 Drying the particle
Filip Van der Gucht, PROCEPT

12.15 Particle separation; cyclones, filters etc
Professor Andrew Bayly, University of Leeds

12.45 Lunch

13.45 Hands-on laboratory demonstration sessions
* Feedstock/ rheology
* Atomisation
* Characterisation of spray dried powders
* Particle sizing
* Drying parameters
* Single droplet

15:55 Spray drying: basic models, energy balance
Professor Andrew Bayly, University of Leeds

16:25 Scale up of spray drying processes
Henrik Schwartzbach, GEA Process Engineering A/S

16:55 Water in our world, water in our materials
Professor Daryl Williams, Imperial College London

17:25 End of day one and drinks reception

Wednesday 10 June 2026

Industrial Formulation Case Studies

08:45 Coffee

09:00 Welcome
Professor Andrew Bayly, Course Director, University of Leeds

09:05 Spray drying with two-fluid nozzles; atomisation, scale-up and modelling
Ian Kemp, Consultant, previously GSK

09:55 Engineering particle structure
Professor Andrew Bayly, University of Leeds

10:35 Coffee

11:00 Optimisation of spray drying for amorphous solid dispersions using design of experiments
Katarzyna Fic, Associate Scientist II, Veranova

11:30 Seeing the unseen: advanced characterization of spray-dried powders
Dr Sune Klint Andersen, Jannsen Pharmaceuticals

12:00 Modelling of the spray drying process using empirical inputs
Henrik Schwartzbach, GEA Process Engineering A/S

12:30 Lunch

13:35 Hands-on laboratory demonstration sessions
* Feedstock/ rheology
* Atomisation
* Characterisation of spray dried powders
* Particle sizing
* Drying parameters
* Single droplet

15:25 Tea

15:45 Processing science in an infant milk formulae factory
Jewe Schroeder, Danone

16:15 Trouble shooting forum/expert consultation session

17:00 End of day two

19:00 Course Dinner

Thursday 11 June 2026

Powder finishing, modelling and future developments

08.45 Coffee

09:00 Welcome
Professor Andrew Bayly, Course Director, University of Leeds

09:05 Fire and explosion hazards of spray drying
Dr Stephen Puttick, Syngenta

09.40 Agglomeration and build-up in the spray drying tower
Stefan Egan, Procter & Gamble

10.20 Managing moisture in practice
Dr Tobias Kockel, Nestlé Switzerland

11.00 Coffee

11.30 Engineering solutions to dryer operational challenges
Deon Pistorius, Dedert International

12.10 The impact of dehumidified air on spray drying – Case study
Gesine Harms, Kerry

12.40 Lunch

13.30 Modelling and scale-up of spray drying
Dr Pedro Valente, Hovione

14.00 Spray drying sustainability
Gesine Harms and Tobias Kockel

14.45 Tea and close of course

Please note, although we remain devoted to the programme specified, we reserve the right to vary the programme in detail if required to do so by factors beyond our control.

What our previous delegates say:

"The course offers a fantastic overview of the basics of spray drying, with a hint as to the deep complexities underpinning the technology, and isi supported by a true wealth of experts in the field covering numerous industries and specialities."
– Mark Macdonald, Euroapi

"The spray drying course offers a wide breadth of knowledge from first principles and highly theoretically modelling of atomization to scaling up and challenges of large scale operation."
– Joshua George, Dedert International

View the full programme and book your place online at https://tinyurl.com/SprayDrying-2026

Further information

Course Fees

The following course fees include the cost of tuition, course materials, lunches and light refreshments:

£1200 VAT exempt – Tuesday 9 – Thursday 11 June 2026

Venue

The course venue will be within the Faculty of Engineering and Physical Sciences at the University of Leeds. The University campus is a 20 minute walk from Leeds city train station.

Parking on and around campus is very limited, and we recommend using public transport where possible. The nearest public car park is Woodhouse Lane (LS1 3HQ).

Accommodation

Delegates are responsible for arranging their own accommodation, if required. A list of nearby hotels will be provided with the joining instructions.

Course Dinner

The course dinner, included in the course fee, will take place at a Leeds city centre restaurant on Tuesday evening. The dress code is smart casual.

How to Book

Please book your place for this course through our secure Online Store, using debit or credit card, following the instructions below:

1. Visit our Online Store at: http://store.leeds.ac.uk
2. Select Conferences and Events in the left-hand navigation bar and 'CPD Faculty of Engineering and Physical Sciences'
3. Select the relevant course, click on 'Book Event' and complete your booking details

You will receive an automatic confirmation email within 24 hours of your booking.

Get in touch

Harriet Oakley – Course Coordinator
CPD, Conference and Events Unit
Faculty of Engineering and Physical Sciences
University of Leeds

T: +44 (0)113 343 2494
E: cpd@engineering.leeds.ac.uk
W: https://eps.leeds.ac.uk/short-courses
CPD, Conference and Events Unit, University of Leeds

Terms and conditions for booking

Payment

Payment by debit/credit card should be made at the time of booking via the Online Store. If for exceptional reasons you are unable to book and pay online a purchase order document will be required to support a manual booking process. Our standard payment terms are 30 days from date of invoice however payment must be made prior to attendance. Attendance may be refused if payment has not been received.

Changes made by the University of Leeds

The course programme may have to be re-scheduled or the speakers changed for reasons outside our control. The University of Leeds reserves the right to cancel or postpone a course, in which case fees will be refunded in full. In the event of cancellation, the University will not be held liable for delegates' travel or accommodation expenses.

Where a delegate cancels a registration

For cancellations made within seven days of booking: a full refund is payable unless the course starts within the next seven days, in which case the full fee is payable and no refunds will be made.

For cancellations made after seven days of booking: written cancellations received up to 15 working days before the course will be subject to an administrative charge of 20% of the total fee. Within 15 working days of the course the full fee is payable and no refunds will be made.

For non-attendance: the full fee is payable and no refunds will be made. Appropriate course materials will be sent to the registered delegate.

In the event of cancellation, the University will not be held liable for or refund any incurred travel or accommodation expenses. Substitutions may be made at any time.

Data/Privacy

Your right to privacy is important to us. We will only use your information to provide information on our CPD courses and relevant events. We will not pass your details on to any other organisations. The ways in which your personal data may be used when you provide it to us are defined in our Privacy Notice at https://eps.leeds.ac.uk/privacy.

If you have opted in to receive details of future CPD courses from us you can unsubscribe at any time by emailing us at cpd@engineering.leeds.ac.uk and your details will be removed from our database.