

Courses for Industrial Applications



Getting Started in Particle Technology

Weetwood Hall
Conference Centre
Leeds
West Yorkshire
United Kingdom

3rd – 6th March 2008

Powder Research Ltd

ParticlesCIC





About the Course

Particle processing is of fundamental importance to manufacturing in process industries. More than 70% of products are either sold in the form of powders or pass through a powder stage in their manufacture. Some examples include the personal products, pharmaceutical, chemical, fuels, mineral, nuclear and metal industries.

The importance of understanding powder technology cannot be over emphasized. A basic understanding of the technology of powders can minimize powder handling and processing problems and assist industrial scientists and engineers to improve existing operations.

Learning Objectives

On completion of the course you will have an understanding of:

- A broad understanding of the fundamentals of particle technology including nanotechnology
- Knowledge of working in a particle characterisation laboratory

Course Description

The aim of the course is to provide an extensive overview of the fundamentals of particle technology with the emphasis on concepts and practical problems. The programme is given by specialists who are actively engaged in various areas of particle technology. Though the short course is intensive, there will be adequate time for delegates to meet lecturers and interact informally. The course will be accompanied by a course book and supplementary notes.

The course is intended for those who have recently become engaged or are already working with the handling or processing of powders that have a good understanding of chemical engineering processes. This includes chemists, physicists, pharmacists, mechanical and chemical engineers in the pharmaceutical, food processing, nuclear, chemical, oil, mineral processing, detergent and related industries.

Course Director

Derek Geldart has an extensive career in particle technology and his work has been internationally recognised. He has published many well cited papers and is known world wide for the development of the Geldart Fluidization Diagram where he showed that powders may be classified into four groups according to their fluidization and flow behaviour. Derek's outstanding career was recognised in 1995 at the 8th International Engineering Foundation Conference in Fluidisation where he was awarded a medal in recognition of his contribution to powder technology over the past 25 years. Derek is Emeritus Professor of Powder Technology in the Department of Chemical Engineering at the University of Bradford and Honorary Professor at the Universities of Leeds, Heriot-Watt, Edinburgh and Birmingham. Derek is also Director of Powder Research Ltd.



FOR AL APPLICATIONS

Monday 3rd March 2008

Introduction to particle technology

- What is particle technology?
- Particle size analysis – definitions of size, shape, sampling and methods of measurement
- Characterisation of powders – bulk density, cohesivity, interparticle forces and flowability
- Powder mixing and segregation
- Powder storage and flow from hoppers, mechanical conveying

Tuesday 4th March 2008

Particle processing

- Fluidization
- Size enlargement - tableting/granulation/extrusion/ aggregation
- Size reduction – comminution / milling
- Pneumatic conveying – dense / dilute phase

Wednesday 5th March 2008

Separation processes

- Solid-liquid separation - filtration/settling/hydrocyclones
- Solid-gaseous separation- gas cyclones
- Powder storage and flow
- Nanoparticle technology – production, properties and behaviour

Thursday 6th March 2008

Health & Safety and industrial particle characterisation

- Fire and explosion hazards of powders
- Industrial dust control and health risks
- Setting up and running an industrial powder testing laboratory

Optional visit to ParticlesCIC particle characterisation laboratory at the University of Leeds

Lecturers

Lecturers include Jan Baeyens (Universities of Leuven & Birmingham), Lyn Bates of Ajax Engineering, Simon Biggs (University of Leeds), Yulong Ding (University of Leeds), Derek Geldart (Universities of Bradford, Leeds, Harriot Watt & Birmingham), Mojtaba Ghadiri (University of Leeds), Ian Grimsey (University of Bradford), Norman Harnby (Universities of Bradford, Leeds & Iowa State), Peter Hewitt (consultant), Tom Taylor (consultant) and Mike Weaver of Chilworth Technology Ltd.



ParticlesCIC

Houldsworth Building

Clarendon Road

Leeds LS2 9JT

United Kingdom

Registration Form

Getting Started in Particle Technology

Monday 3rd – Thursday 6th March 2008

The Course Fees are £1450 plus VAT.

Title:

Surname:

First name(s):

Company
or
Institute:

Address for correspondence:

Telephone number:

Fax number:

Email:

Venue and Fees

The course will be held at Weetwood Hall, Leeds which is a short drive from Leeds- Bradford airport.



Delegates wishing to book accommodation can do so by contacting Weetwood Hall directly via the web site www.weetwood.co.uk or by telephoning +44 (0)113 2306000.

The delegate fee for the course is £1450. This fee includes course refreshments and lunch on each day, reception with nibbles and complementary beverages. With course dinner and Martin Rhodes' book (*Introduction to Particle Technology and supplementary notes*).



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