

# Powder Course 2009

*on*

## Bulk Solids Handling

13<sup>th</sup> Tuesday to 16<sup>th</sup> Friday October 2009

*Arranged by*

Department of Particulate Science and Technology  
(**POSTEC**), Telemark Technological Research and  
Development Centre (**Tel-Tek**)

*at*

Telemark University College (Høgskolen i Telemark),  
Porsgrunn, Norway

### Objectives:

This course provides a detailed introduction to the subject of Bulk Solids Storage, Flow & Conveying and it also demonstrates the importance of powder flow properties measurement and applications. Powder Course is aimed at engineers, plant operators, technologists, engineering managers who need a better understanding of the practical and technical issues in the various areas of storage, flow and conveying of bulk solids.

### Content:

The Powder Course is mainly based on the principles of powder technology. It covers flow patterns and characteristics; strength and flow properties of bulk solids related to silo design; mass flow and funnel flow conditions; analysis of wall pressure on silos; characterisation of powders based on their component particles and bulk behaviour; powder mixing and homogenization; particle size reduction and classification; fundamentals of powder transport; selection criteria for pneumatic conveyers; design and optimisation of pneumatic conveying systems. The relevant demonstrations and laboratory visits will also be included where applicable.

### Practical Information:

The course will be held at Telemark University College ([Høgskolen i Telemark](#)) from 13<sup>th</sup> Tuesday to 16<sup>th</sup> Friday October 2009. Lectures will start at 0900 hrs and last until 1600 hrs. There will be a lunch break of 1 hr (1200 – 1300) each day with coffee/refreshments breaks. The lunch and refreshments will be provided.

Participants should arrange their own accommodation. Accommodation is available at [Hotel Vic](#); Skolegata 1, N-3901 Porsgrunn, Norway. An early arrangement for it is recommended.

### Course Fees:

The fees include registration, lecture notes, demonstrations, lunches and refreshments.

1 day: NOK 5000/=

2 days: NOK 8000/=

3 days: NOK 10000/=

Whole course: NOK 12000/=

The invoices will be sent to the participant after they registered for the course.

## Course Materials:

Complete lecture notes will be provided with a USB memory stick and printed handouts on lecture slides will also be distributed.

## Program:

Date	Time	Subject	Lecturer
13.10.09	0900-1200	Particle characterisation	Franz Otto von Hafenbradl
	1300-1600	Bulk characterisation	Franz Otto von Hafenbradl, Songxiong Ding & Gisle G. Enstad
14.10.09	0900-1200	Particulate solids storage, flow & modelling: Part I	Gisle G. Enstad
	1300-1600	Particulate solids storage, flow & modelling: Part II	Gisle G. Enstad
15.10.09	0900-1200	Powder transport: Fundamentals	Chandana Ratnayake
	1300-1600	Powder transport: Applications & modelling	Chandana Ratnayake
16.10.09	0900-1200	Powder Mixing & Segregation	Songxiong Ding & Gisle G. Enstad
	1300-1600	Comminution & classification	Songxiong Ding

## Registration:

The participant can register by filling the form available in next page and sending back to us with the given contact details.

## Registration Form:

Name: .....

Position: .....

Organisation: .....

Address: .....

Telephone: .....

Facsimile: .....

Email : .....

The Registration Form should be sent to:

Liv Axelsen

Teknologisenteret

Kjølnes ring 30

N-3918 Porsgrunn

Norway

Tel: +47 35574131

Fax: +47 35574140

Email: [liv.axelsen@tel-tek.no](mailto:liv.axelsen@tel-tek.no)

## Further Information:

Should you require any further information regarding the course, please contact Liv or one of us with shown contact details

Prof. Gisle G.  
Enstad

Dr. Chandana  
Ratnayake

Dr. Songxiong Ding

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