

## An Intensive Short Course on

# Dust and Fume Control Technology

University of Wollongong  
29 – 30 November 2011



## COURSE OBJECTIVES

This course is aimed at all engineers, operators, technologists, engineering managers, equipment and system suppliers, consultants, designers and those who need a better understanding of the practical and technical issues involved with **Dust and Fume Control Technology**. Whilst the course will cover the essential fundamentals of contaminant control, more emphasis will be placed on **Dust**, due to the wider range of problems experienced in this area.

Both newcomers and experts in the industry will benefit from this course, including the Case Study and Problem-Solving sections. **Note:** course topics will be selected to suit delegate interest, such as:

- The **“Cost of Dust”**
- **Principles of Dust-Fume Control** (definitions; systems; components; health and safety)
- **Dust Properties and Characterisation**
- **Dust Control Options** (suppression, LEV, etc)
- **Minimum Transport Velocities** (design models; particle deposition; effect of particle properties and duct diameters)
- **Hood and Enclosure Design** (capture velocity; efficiency; null point; hoods; pressure loss)
- **Duct Design Techniques** (pressure loss; rough duct design versus inherently balanced system; simple and multiple branch extraction systems)
- **Prime Movers for Dust-Fume Control** (fan types; fan curves fan laws; matching fan and system curves; system effect; blowers)
- **Troubleshooting User Problems** (delegates wishing to seek solutions to particular “dust” problems are encouraged to contribute to this interactive section; tangible course outcomes)
- **Filtration and Scrubbing Technology** (collection efficiency; sizing and selection of systems; factors influencing capital and operating costs; operational aspects)
- **Design of Plant to Minimise Dust Generation** (dust generation mechanisms; minimising dust, entrained air and size of control equipment; simulation and modelling developments)
- **Dust Removal, Collection and Management** (gravity settling chambers; cyclones; additional fabric filter considerations; dust management, including disposal and transportation)
- **New Handling and Conveying Technologies** (minimising or avoiding dust generation mechanisms: conveyor transfers; elevator technology; ship loading; stockpiles; mining)
- **Dust Explosion Hazards and Control** (explosibility characteristics and effect of particle properties; methods of explosion control; principles of explosion venting; identifying and minimising explosion risks)
- **Industrial Case Studies:**
  - minimising dust generation and emissions at the source;
  - pneumatic tanker unloading;
  - wear problems;
  - hot products and processes;
  - dust suppression applications;
  - ROM hoppers; conveyor transfers; mine haul roads; stockpiles and rail wagons.

## COURSE PRESENTERS

**A/Professor Peter Wypych** has been involved with bulk handling, conveying and dust-fume control since 1981 and has published over 300 articles in these areas. He has run numerous courses and workshops around Australia and overseas. He is the Founder and General Manager of the consulting and commercial organisation Bulk Materials Engineering Australia. He has completed over 500 industrial projects for industry all around the world. He is a Fellow of Engineers Australia and also the Chair of the Australian Society for Bulk Solids Handling.

**Dr Leong Mar** is the Manager of the DuPont Australia and New Zealand Technology Centre in Sydney. He has been an integral part of the DuPont Dust Suppression business since its inception and leads the R&D program developing new dust suppression technologies for rail wagons, stockpiles, haul roads and open areas. Leong also leads the dust management consultancy team in DuPont that has completed numerous projects for major mining companies and shipping ports. His efforts have been recognised by the industry through 2 prestigious awards in 2009: Australian Mining Prospect Award for Excellence in Environmental Management; Australian Bulk Handling Award for Dust Control Technology, Application or Practice. Leong's team has also developed various in-house instrumentation and procedures for testing the performance and efficacy of dust suppression products and ambient air monitoring in high dust emission situations such as those encountered in the mining industry.

## FEES

**Registration Fee = \$2500 + GST** (per person). All fees must be paid prior to the event. The Fee includes Course Notes, Tea/Coffee, Lunches and Refreshments (on the evening of the 1<sup>st</sup> day).

## VENUE

### University of Wollongong

Northfields Avenue, Wollongong N.S.W. 2500  
Tel: (02) 4221 3555; Website: [www.uow.edu.au](http://www.uow.edu.au)

## ACCOMMODATION

Delegates will need to make their own accommodation bookings.

## CANCELLATIONS

If you are unable to attend the course, a substitute delegate is welcomed at no extra charge. If notification of withdrawal is received at least 14 days prior to event, 80% of the fee will be refunded. No refunds will be made if notification of cancellation is received 13 days or less prior to the date of the event. The organisers reserve the right to alter or cancel the course due to unforeseen circumstances. In this event, a full refund of fees will be made.

## FURTHER INFORMATION

Further information can be obtained from:

**Peter Wypych**  
**Faculty of Engineering**  
**University of Wollongong**  
Wollongong N.S.W. 2522, Australia

Tel: 02 4221 3491 or Mobile: 0408 964 815  
Fax: 02 4221 4577 or 4221 3101  
Email: [wypych@uow.edu.au](mailto:wypych@uow.edu.au)

## REGISTRATION FORM

(one form per person)

### Dust and Fume Control Technology

Please TICK all relevant Boxes

First Name: \_\_\_\_\_

Surname: \_\_\_\_\_

Position: \_\_\_\_\_

Organisation: \_\_\_\_\_

Address: \_\_\_\_\_

Postcode: \_\_\_\_\_

Tel: \_\_\_\_\_

Fax: \_\_\_\_\_

Email: \_\_\_\_\_

**Tax Invoice:** Please email Rego Form and your Tax Invoice Address details to Peter Wypych.

**Cheque Payment:** Cheque for \$2500 + GST payable to "University of Wollongong" is attached.

**Please debit my Credit Card \$2500 + GST:**

Visa  Mastercard  Bankcard  AmExpress

Card No.: \_\_\_\_\_

Name on Card: \_\_\_\_\_

Card Expiry Date: \_\_\_\_ / \_\_\_\_

Signature: \_\_\_\_\_

**Registration Form and Payment should be sent to:**

**Peter Wypych, Faculty of Engineering, University of Wollongong, Wollongong N.S.W. 2522**

**Tel: 02 4221 3491, Fax: 02 4221 4577**

**Email: [wypych@uow.edu.au](mailto:wypych@uow.edu.au)**