### AN INTENSIVE SHORT COURSE IN...

**TRANSFER CHUTE DESIGN**

### GENERAL INFORMATION

#### FEES

- **Delegate Registration:** $2000.00 + GST
  - 5 or more delegates receive a 10% discount
  - All fees must be paid prior to the event.

  Fees include program notes, laboratory sessions (where applicable), lunches and refreshments.

#### VENUE

**NOVOTEL PERTH LANGLEY**

221 Adelaide Terrace 6000 Perth, WA

Tel: +61 8 9221 1200


#### ACCOMMODATION

Delegates are invited to arrange their own accommodation. Accommodation is available at the Course Venue.

#### CANCELLATIONS

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

  In the event of cancellation, a full refund of fees will be made.

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### TRANSFER CHUTE DESIGN

**2 Day Course**

8 - 9 April 2014

Perth, WA

Presented at

Novotel Perth Langley

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**PAYMENT OPTIONS:**

- Credit Card
- Visa
- Mastercard

Number:

Expiry Date:

Name on Card:

Signature:

- EFT Please phone for Bank Details

- Cheque - Made payable to Newcastle Innovation

*(Please post with registration form)*
COURSE OUTLINE

In the field of bulk solid materials handling, transfer chutes are integral components of mines, ports and processing plants. They are typically employed in belt conveying systems when transferring bulk solid material from one belt conveyor to another, or alternatively discharging into storage vessels including silos, bins or ship holds. In other applications, transfer chutes are employed to accelerate bulk solid materials up to belt speed, as in the case of re-directing slow moving material stream from a hopper/feeder onto a fast travelling receiving belt.

The design of transfer chutes is commonly developed to fit within predefined structure where the principles for efficient and reliable flow, based on physical material characteristics, are often overlooked. Such an oversight can result in unfavourable designs associated with blockage, spillage, belt mis-tracking, increased dust emissions and wear. In addition to leading to increased plant down times and productivity losses, any scope for upgrading existing facilities to higher throughputs is also severely hampered.

This course presents current practices in the conceptual design and flow analysis of transfer chute systems. An overview of the crucial bulk solid material properties including tests and procedures for their determination is presented. A number of calibration tests that may be implemented for the selection of characterising modelling parameters will be demonstrated. Application of the continuum analysis technique, Discrete Element Modelling (DEM) and Computational Fluid Dynamics (CFD) is explained through a combination of theoretical approaches, three-dimensional simulations and real-life case studies.

CONTENT

- Overview of the principles of DEM and CFD analysis
- Optimising chute geometry for controlled wear in the flow zone and at the belt feed point
- Basic transfer chute design
- Dynamic modelling of transfer chute mechanics analysis
- Dust control during the transfer and re-direction process
- Transition and discharge trajectory considerations
- Optimising transfer chute design for feeding and transfer
- Practical implementation of continuum mechanics analysis
- Application of DEM and CFD in transfer chute design

OUTCOMES

- Design principles for favourable transfer chute design
- Bulk solid material properties and testing procedures required for design and flow analysis
- Application of material properties in the design process including liner selection
- Influence of bulk solid material and conveyor belt interaction prior to and post transfer
- Transition zone and discharge trajectory considerations
- Chute flow problems due to adhesion and wear
- Dynamic modelling of transfer chute components for optimum accelerated flow

FURTHER INFORMATION

Should you require any further information regarding the course, please contact:
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