

## REGISTRATION FORM

AN INTENSIVE  
SHORT COURSE  
IN...

# Transfer Chute Design

Mr/Ms/Dr: .....

First Name: .....

Surname: .....

Position: .....

Organisation: .....

Address: .....

Postcode: .....

Telephone: .....

Facsimile: .....

Email: .....

Dietary Requirements: .....

PAYMENT OPTIONS:    Credit Card     Visa     Mastercard

Number: .....

Expiry Date: .....

Name on Card: .....

Signature: .....

EFT Please phone for Bank Details

Cheque - Made payable to TUNRA (Please post with registration form)

Please note we do not accept AMEX

This registration form should be forwarded together with payment to:  
TUNRA Bulk Solids  
Newcastle Institute for Energy and Resources,  
The University of Newcastle, Callaghan NSW 2308, Australia  
Tel: +61 2 4033 9055  
Email: danielle.harris@newcastle.edu.au

## GENERAL INFORMATION

### FEES

Early Bird Delegate Registration: \$1600+ GST  
(Before 28 August 2020)  
Delegate Registration: \$1800 + GST  
5 or more delegates receive a 10% discount.  
All fees must be paid prior to the event.

Fees include electronic program notes. Please note  
course presenters are subject to change.

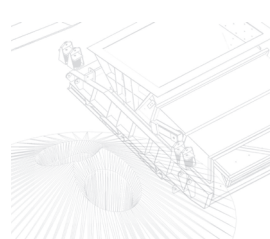
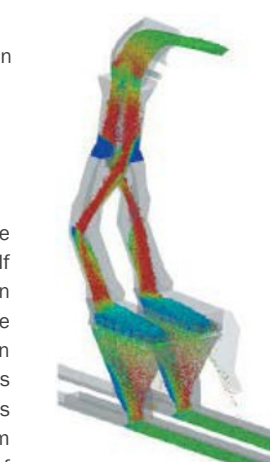
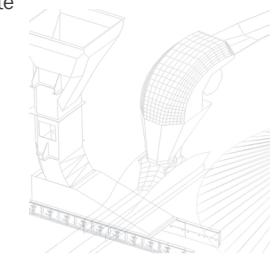
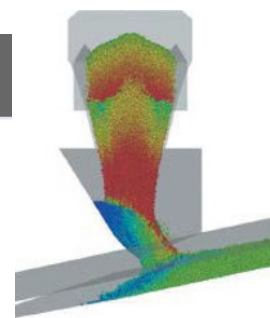
### VENUE

This course will be delivered online.

Given the current global situation TUNRA Bulk  
Solids is still committed to your professional  
development and will be delivering their Bulk  
Materials Handling short course in an online  
environment over three days. If further information  
is required please contact:  
Danielle.Harris@newcastle.edu.au

### 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.



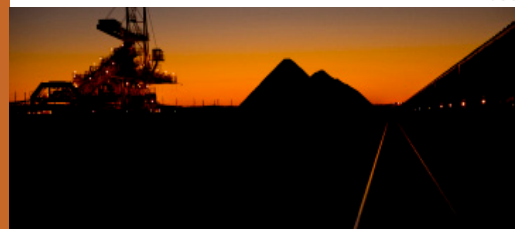
CELEBRATING 45 YEARS

*“Advancing the bulk materials handling  
discipline globally”*

# Transfer Chute Design

Online  
Short Course

21 - 23 September 2020



Presented online from  
THE UNIVERSITY OF  
NEWCASTLE, NSW

## OVERVIEW

### TRANSFER CHUTE DESIGN

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.

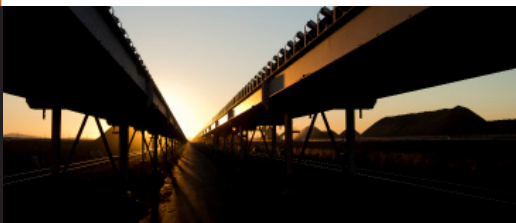
### ABOUT TUNRA BULK SOLIDS

TUNRA Bulk Solids are world leaders in applied and fundamental bulk solids handling research and have been in business for 45 years. TUNRA has built a strong reputation in industry for its professional services and world class research in materials handling and flow properties. TUNRA have completed more than 4,000 projects for over 1,000 companies across Australia and more than 40 countries internationally.

Comprehensive laboratory test facilities are available at TUNRA to aid research and consulting activities at the University of Newcastle. TUNRA is committed to forming long term partnerships with business to help them overcome existing handling problems and assist with planning projects to ensure trouble-free plant operation

### THE CENTRE FOR BULK SOLIDS

The Centre for Bulk Solids and Particulate Technologies (CBSPT) is actively involved in both fundamental and applied research on a range of problems associated with bulk solids and particulate technology. Research areas include storage, flow, processing and transportation of bulk solids. It was established in 1995 and supported by the Australian Research Council (ARC) as one of a prestigious handful of national Key Centres of Teaching and Research between the University of Newcastle and the University of Wollongong. The Centre's Newcastle Node is strongly linked with TUNRA Bulk Solids and the Faculty of Engineering & Built Environment at the University of Newcastle.



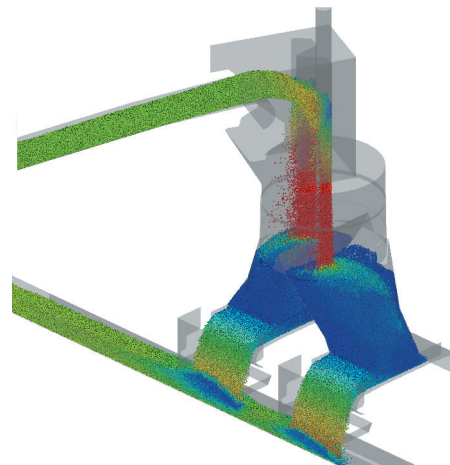
## 3 DAY COURSE OUTLINE

### ABOUT THIS COURSE

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 are applied and presented with results compared to laboratory and full scale tests. The importance of understanding the characteristics of the material handled as the platform for the selection of favourable design criteria and accurate modelling parameters will be demonstrated. Application of the continuum analysis technique and Discrete Element Modelling is explained through a combination of theoretical approaches, three dimensional simulations and real-life case studies

### KEY LEARNING OUTCOMES

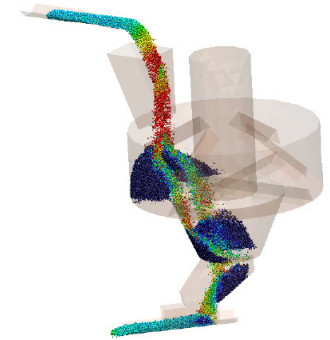
- Design principles for favourable transfer chute design
- Bulk solid material properties and testing
- Procedures required for design and flow analysis
- Application of material properties in the design process including liner selection
- Influence of bulk solid material and conveyor belt interaction prior to and post transfer
- Transition zone and discharge
- Trajectory considerations
- Chute flow problems due to adhesion and wear
- Dynamic modelling of transfer chutes
- Components for optimum accelerated flow
- Optimising transfer chute design for feeding and transfer
- Practical implementation of continuum mechanics analysis
- Dust control during the transfer and re-direction process
- Optimising chute geometry for controlled wear in the flow zone and at the belt feed point
- Overview of the principles of DEM analysis
- Application of DEM and other modelling techniques
- Close the gap in knowledge set of the analysis tools and techniques
- Obtain specific problem solving skills for transfer chutes



## 3 DAY COURSE INFORMATION

### COURSE PRESENTERS

Emeritus Professor Alan Roberts founded TUNRA Bulk Solids in 1975 to facilitate research and consulting services in bulk materials handling. In his long-standing commitment to the bulk handling industry, he developed, guided and led a team of experts at TUNRA Bulk Solids who continue to be at the forefront of the materials handling industry. Following in Alan's footsteps, TUNRA continues to offer professional training courses to industry as a part of their commitment to the continuous improvement of the materials handling field. These training courses are run by a minimum of 3 experts from our engineering group who are specialists in their fields.



### FURTHER INFORMATION

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

TUNRA Bulk Solids  
The University of Newcastle  
Callaghan NSW 2308, Australia

Tel: +61 2 4033 9055

Email: [danielle.harris@newcastle.edu.au](mailto:danielle.harris@newcastle.edu.au)

[www.bulksolids.com.au](http://www.bulksolids.com.au)



THE UNIVERSITY OF  
NEWCASTLE  
AUSTRALIA