

# ACG Ground Support in Open Pit and Underground Mining Short Course

23–25 August 2017 | Hotel ibis Perth | Western Australia

## Course objectives

This basic course has been developed to cover both the technical and practical aspects of ground support for open pit and underground metalliferous and coal mines.

## Course topics

- Types of ground instability in underground and surface excavations
- Mechanisms of reinforcing and supporting rock
- Bolting alternatives and their relative performance
- Support design techniques, including practical constraints on design
- Support installation methods and minimum standards of installation quality
- Quality assurance programmes
- Support costs and monitoring the support design
- Rockfalls and mine seismicity in underground mines
- Ground support in highly deformable ground
- Case studies from coal and metalliferous mines

Each topic will be illustrated by case history examples from surface and underground mines.

The course is designed to assist mining personnel involved with the design and implementation of mine ground support. Mine managers, mining engineers, mine geologists, mining supervisors and operators, suppliers of mine support equipment, mining contractors and mines inspectors may benefit from attending the course.

## Facilitators



Professor Yves Potvin  
 Director  
 Australian Centre for Geomechanics



Professor Phil Dight  
 Professor of Geotechnical Engineering  
 Australian Centre for Geomechanics

## Course Venue

Hotel ibis Perth | 334 Murray Street, Perth, WA 6000  
 Ph: +61 8 9322 2844 | H1773@accor.com  
 www.ibis.com/perth

## Course programme\*

### Day 1, Wednesday, 23 August 2017

SESSION 1 – INTRODUCTION TO GROUND CONTROL	
08:00	REGISTRATION
08:30	Introduction to ground control <i>Yves Potvin and Phil Dight</i> <ul style="list-style-type: none"> <li>• Rockfall prevention</li> <li>• Dilution control</li> </ul>
10:30	MORNING BREAK
11:00	Introduction to ground behaviour in underground mines <i>Yves Potvin</i>
12:00	LUNCH
13:00	Introduction to ground behaviour in open pit mines <i>Phil Dight</i> <ul style="list-style-type: none"> <li>• Mechanisms and scale of failure</li> </ul>
SESSION 2 – ROCK REINFORCEMENT	
14:00	Ground reinforcement concepts <i>Phil Dight</i>
15:00	AFTERNOON BREAK
15:30	Rock reinforcement <i>Yves Potvin</i>
17:00	CLOSE DAY ONE

### Day 2, Thursday, 24 August 2017

SESSION 3 – SUPPORTING UNDERGROUND MINE DRIVES	
08:30	Reinforcement design <i>Yves Potvin</i>
09:00	Unwedge™ <i>Phil Dight</i>
09:30	MORNING BREAK
10:00	Surface support – shotcrete and mesh <i>Yves Potvin</i>
12:00	LUNCH
SESSION 4 – SLOPE MANAGEMENT AND GROUND CONTROL IN OPEN PITS	
13:00	Slope stability, structural controls and stress <i>Phil Dight</i>
14:00	Slope stabilisation – soft/weak/saprolitic rock <i>Phil Dight</i>
15:00	AFTERNOON BREAK
15:30	Slope stabilisation – hard rocks <i>Phil Dight</i>
16:30	Rockfall <i>Phil Dight</i>
17:15	CLOSE DAY TWO

## Day three programme overleaf

\*This programme was correct at time of printing. For updates visit [www.acg.uwa.edu.au/events/current](http://www.acg.uwa.edu.au/events/current).

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## Contact details

Please print. \*denotes mandatory fields.

\*Title (Mr, Mrs, Miss, Ms, Dr, Prof., Other) \_\_\_\_\_

\*Family Name \_\_\_\_\_

\*First Name \_\_\_\_\_

Preferred Name \_\_\_\_\_

\*Position \_\_\_\_\_

\*Organisation \_\_\_\_\_

\*Mine/Dept \_\_\_\_\_

 \*Postal Address \_\_\_\_\_  
 \_\_\_\_\_

\*Phone \_\_\_\_\_

Fax \_\_\_\_\_

Mobile \_\_\_\_\_

\*Email \_\_\_\_\_

All confirmations/event updates will be sent via email

Registrant contact details are intended to be published in the events authorised attendee list made available to event attendees who may contact you, including electronically.

 I give permission for my details to be included in the event attendee list.

 I give permission for the ACG to send me ACG research, training and/or education information advice, including electronic communications.

 I require an invitation letter for visa purposes (please forward a copy of your passport information page). For more information regarding Australian visas, please visit <http://acg.uwa.edu.au/about-events-and-courses/>

Please notify us below of any special dietary requirements.

Diet \_\_\_\_\_

## DELEGATE CANCELLATIONS

Up to 8 days before course commencement: An administration fee of \$150 will be charged. 7 or less days before: no refund. Non-attendance: no refund. Substitutions will be accepted at any time. The ACG reserves the right to cancel events if insufficient registrations are received.

## Payment

Total payment AUD \_\_\_\_\_

**Payment to be received by 18 August 2017. All bank fees are the responsibility of the registrant.**

ABN 37 882 817 280

## Course programme cont...\*

### Day 3, Friday, 25 August 2017

SESSION 5 – STOPE REINFORCEMENT	
08:30	Cable bolts <i>Yves Potvin</i>
09:30	Review of empirical stope design <i>Yves Potvin</i>
10:00	MORNING BREAK
10:30	Empirical cable bolt design <i>Yves Potvin</i>
12:00	Ground support quality control <i>Yves Potvin</i>
12:30	LUNCH
SESSION 6 – GROUND SUPPORT MANAGEMENT	
13:15	The use of numerical modelling for ground support design <i>Gordon Sweby, Mining Geotechnical Solutions</i>
14:00	Corrosion control <i>Phil Dight</i>
14:45	Shotcrete basics (introductory level) <i>Gary Boon, Sika Australia Pty Ltd</i>
15:15	AFTERNOON BREAK
15:30	Open pit case study <i>Phil Dight</i>
16:00	Discussion
16:30	COURSE CLOSE

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## Ground Support in Open Pit and Underground Mining Course (1710)

23–25 August 2017

	Earlybird Paid by 10 July 2017	Standard Paid after 10 July 2017
Standard	<input type="checkbox"/> 1,980	<input type="checkbox"/> 2,200
ACG Affiliate†	<input type="checkbox"/> 1,760	<input type="checkbox"/> 1,980
Student^	<input type="checkbox"/> 660	<input type="checkbox"/> 880

 † Please visit [www.acg.uwa.edu.au/corp\\_affiliates](http://www.acg.uwa.edu.au/corp_affiliates) to view the list of ACG Corporate Affiliates.

^ Students are required to provide proof of full-time enrolment.

## Payment Options

**EFT is available for payments. Please return this completed form and request an invoice.**

 Email [info-acg@uwa.edu.au](mailto:info-acg@uwa.edu.au)
**Credit Card payments only available online. Please register online at TBA**

Visa and Mastercard are the only cards we accept.

**If you are unable to register online or pay by EFT please phone us on +61 8 6488 3300 to pay by credit card.**