Further information and registration

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Presented by DynoConsult

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Organized by

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Supported by

SOCIETY FOR ROCK MECHANICS
& ENGINEERING GEOLOGY
(SINGAPORE)

www.srmeg.org.sg

DYNO
Dyno Nobel

Groundbreaking Performance

Optimal Drill & Blast Techniques for Tunnelling

COURSE INFORMATION

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Groundbreaking Performance

General information

Course objective

The objective of the course is to provide Tunnelling Superintendents, Civil Engineers and experienced underground personnel with an insight into improving the effectiveness of drilling and blasting operations of their projects. The course topics are designed to improve the fundamental understanding of the participants in drilling techniques, blasting safety, explosive characteristics and selection, rock blasting theory, blast design principles, field procedures and modern developments in blasting technology. Each topic will be explained through interactive discussions and practical case studies. This course emphasises the impact of drill and blast results on the overall project economics and presents a systematic approach to drill and blast optimisation, based on the fundamental understanding of key processes and quantitative measurements of key performance indicators. It is our belief that modern technology presents tremendous opportunities and it is our aim to expose the participants to those opportunities, so that they can exploit them to improve their operations.

Facilitated by leading industry experts

The Tunnelling Drill and Blast course is facilitated by Dyno Nobel Asia Pacific Limited, a leader and innovator in blasting techniques. Course lecturers are chosen based on their various areas of expertise and extensive understanding of the industry. You can be assured that you will be trained by the best.
We utilise lecturers from:

- DynoConsult, the technical arm of Dyno Nobel, who are leading blasting process optimisation consultants. They are experts in their fields and their work is regularly published and used as reference material throughout the world.
  These specialists are able to draw on the global resources of Dyno Nobel to deliver new insights in safety, efficiency and productivity.
- Basalt Consulting, who specialise in blast improvement and training programs for the industry.

What you will learn

- Increase your understanding of objectives in different blasting operations, drilling theory, rock blasting theory, blast design principles and the leverage of blast results on overall project economics.
- Learn the latest innovations in drilling and explosives, explosive delivery systems, electronic initiation systems, blast design applications and blast monitoring.
- Discover key insights to improve the effectiveness of drilling and blasting operations at your operations through blast design analysis and blast result interpretation.
- Share in the discussion on the challenges facing other delegates as you explore new methods and ideas in open forums and interactive discussions

Course outline

Day 1: Drill & Blast Theory

- Introduction
- Optimum Drill & Blast
- Drilling Principles & Theory
- Blasting Principles & Theory
- Initiating Systems
- Future Development – Electronic Detonators
- Explosives
- Environmental control

Day 2: Drill & Blast Design

- Explosives Safety
- Tunnelling design
- Shaft design
- Workshop on Perimeter Control
- Future Development
  – Emulsion charge Systems

Course lecturers

Rauf Osterman

Technical Manager, DynoConsult – graduated as a mining engineer in Sweden and spent his first 11 years working in Stockholm for Nitro Consult, a subsidiary of Dyno Nobel. He has participated in many civil-construction tunnelling projects in Stockholm and other large cities. Rauf has been involved with all forms of drill and blast projects, i.e. UG civil, development and production mining, underwater, demolition, sculptures, frozen ground, environmentally sensitive blasting, etc.He currently works for DynoConsult as the technical manager with surface hard rock and underground projects. Rauf has been instrumental in the introduction of long rounds rapid development and development emulsion loading systems in Australia. Rauf is currently involved in the D&B design work for the largest block cave mine in Australia.

Stuart Parsons

Senior Technical Consultant, DynoConsult, specialising in underground blasting.He has over 11 years experience in the mining industry, having worked for a number of mining contractors and owner operators in this time. He has experience in a variety of roles including drill and blast engineer in both surface and underground mines, project engineer and business improvement specialist for a major international mining company. Since joining Dyno Nobel he has been involved in a variety of projects including the introduction of development emulsion delivery systems, perimeter blasting improvements and development blasting audits. Stuart has completed a degree in Mining Engineering from the Western Australian School of Mines.

Steven Combrinck

Technical Consultant DynoConsult – graduated from the Vaal Triangle University of Technology with a National Diploma in Electrical Engineering (Light Current) in 1995. Steven has been working with Electronic detonators for 9 years and has extensive knowledge and experience regarding the application and benefits of converting mine sites from conventional initiation systems to electronic detonators. Steven is experienced in the design, development and qualification of Electronic Detonator Systems. He is currently heading the electronic conversion team covering the East Coast of Australia. He also has a postgraduate diploma in explosive engineering.

Mike Wiggin

Managing Director of Basalt Consulting Pty Ltd – bringing a wealth of experience gained over 30 years in the Mining Industry. Mike has been retained in the recent past by Dyno Nobel to provide customised training for Blasting Optimisation at the Porgera Underground mine, Mt Isa and George Fisher mines and other UG Blasting courses. Before forming Basalt Consulting, he spent five years with Dyno Nobel as the Asia Pacific Manager for DynoConsult and as Chief Mining Engineer.During this period he was involved in a range of open pit and underground mining operations. With four years at Rio Tinto, where he was involved in a number of projects from explosives development and implementation to development and production equipment and scheduling simulators.

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