

BLASTING TECHNOLOGY, ROCK FRAGMENTATION AND MINE PRODUCTIVITY

Overview

Fragmentation by blasting represents the first and the most crucial stage in the size reduction process in all mining and excavation operations. Emphasis will be placed case study discussions to demonstrate the use of innovative, user friendly and cost effective technologies for improving the blast productivity as blast productivity affects the mine productivity and economics significantly. The course will elucidate the rock mass characterization techniques, explosives engineering, designing drilling and blasting parameters to achieve safe and optimized post blast results by minimizing the ground vibration, fly rock and air over pressure. Advanced blast monitoring and post blast assessment techniques using modern instruments will add values to the participants. The principals involved in demolition technologies will be discussed.

The course will include the following broad areas:

- ✚ Rock mass Characterization:
- ✚ Explosives Engineering: - Detonation behavior of commercial explosives, Principles of explosives formation, Technical insight into commercial explosives and initiators.
- ✚ Designing the drilling and blasting parameters with case study discussions
- ✚ Fragmentation assessment and prediction with case study discussions
- ✚ Monitoring explosives performances
- ✚ Monitoring the quality of explosives and accessories on random basis with case study discussions
- ✚ Monitoring blast performances with case study discussions
- ✚ Discussion on modern Blast Instrumentation tools with case studies
- ✚ Monitoring Blast Economics on mine basis
- ✚ Discussion on demolition technologies and construction blasting

Modules	Topic- BLASTING TECHNOLOGY, ROCK FRAGMENTATION AND MINE PRODUCTIVITY Duration- December 8- December 19, 2015
You Should Attend If...	The course will be useful for the managers, all mining executives and blasting engineers engaged in any form of drilling and blasting activity. The course content is specially designed to benefit the mining fraternity both from academic and industry to upgrade their skills and knowledge base in blasting technology and research. The inputs drawn from the course would definitely help the participants to plan, design, execute and control the drilling and blasting parameters, explosives loading configuration and initiation pattern to achieve better blasting productivity, mining productivity and economics. The course is aimed to equip participants with real time fragmentation assessment and prediction techniques to monitor the blast performance techno economically.
Fees	Industry/ Research Organizations: INR 30000 Academic Institutions: INR 10000 TEQIP-II approved Institutions: INR 2000 (to be refunded after completion of the course) For the course inclusive of course material is payable by demand draft in favor of "CEP-STC, IIT, Kharagpur" payable at Kharagpur. The course fee will not be refunded unless the nomination is withdrawn 2 weeks before the commencement of the course. The course fee does not include boarding and lodging charges. ACCOMODATION Accommodation for the participants will be arranged in Double Occupancy A/c rooms of New Guest House, IIT Kharagpur on payment basis as soon as the nomination will be received

The Faculty



Professor Bibhu Mohanty: Professor Emeritus, Lassonde Institute of Mining, University of Toronto, Toronto, Canada. He has over 40 years of R&D experience, in both industry and academics and an expert in explosive and blasting technology. Work experience includes in ICI Explosive, Orica Explosives in North America, Chair Professor in U of T, Toronto, Canada.



Professor Debasis Deb: Professor, Department of Mining Engineering, IIT Kharagpur. He has over 25 years of experience in rock mechanics, rock fragmentation and numerical modelling. In his stewardship, several projects have been undertaken in field of rock fragmentation and development of new tools for monitoring of explosives and accessories



Dr. Ajay K. Jha: Associate Professor, Department of Mining Engineering, IIT Kharagpur. He has worked in coal industry for over 25 years in the field of explosive, blasting and rock fragmentation. He has vast experience in offering niche blasting services to CIL, NLC, DFPCL, SAIL, NTPC and an industry expert in explosive technology.

Course coordinator

Dr. Debasis Deb

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Please send the names of your nominees with their designations and addresses to the Course Coordinators **before November 09, 2015 and visit site**
<http://cep.iitkgp.ac.in/iswt> for registration.

<http://www.gian.iitkgp.ac.in/GREGN>