



सत्यमेव जयते  
Government of India  
Ministry of Human Resource  
Development



# ROCK MECHANICS: MODERN ADVANCES AND CHALLENGES FOR THE 21<sup>ST</sup> CENTURY

21 – 25 OCTOBER 2019, IIT(ISM) DHANBAD



**DEPARTMENT OF MINING ENGINEERING  
IIT(ISM) DHANBAD  
DHANBAD: 826004, JHARKHAND  
INDIA  
Website: [www.iitism.ac.in](http://www.iitism.ac.in)**

## Overview

Rock mechanics forms part of the much broader subject of Geomechanics, which is concerned with the mechanical responses of all geological materials, including soils. Rock mechanics, as applied in engineering geology, mining, petroleum, and civil engineering practice, is concerned with the application of the principles of engineering mechanics to the design of the rock structures generated by mining, drilling, reservoir production, or civil construction activity such as tunnels, mining shafts, underground excavations, open pit mines, oil and gas wells, road cuts, waste repositories, and other structures built in or of rock. It also includes the design of reinforcement systems, such as rock bolting patterns.

At the end of the course the participant would be developed a thorough understanding and insight on:

- Assessment and Evaluation of the Key Parameters that Govern Rock Mechanics
- Use of Modern Methods for Rock Joints Estimation, Concepts of Stereo Net and Understanding the Different Rock Mass Classification System
- Decision on the Fundamental Steps for Investigations of Slope mass Movement and Selection of Remedial Measures
- Modern Numerical Simulation Technique for Analysing Rock Mass Excavation
- Role of natural fractures in Rock Engineering projects.

<b>Modules</b>	21 October to 25 October, 2019 Number of participants for the course will be limited to fifty.
<b>You Should Attend If</b>	<ul style="list-style-type: none"><li>• You are an engineer or research scientist interested in designing and implementing Rock Mechanics for Mining and Civil engineering application</li><li>• You are geologist or geophysicist interested to learn application of Rock Mechanics in your profession.</li><li>• You are a student or faculty from academic institution interested in learning how to do research on Rock Mechanics or want to work with Rock Mechanics for Mining and Civil engineering application</li></ul>
<b>Fees</b>	The participation fees for taking the course is as follows: Participants from abroad: US \$500 plus 18% GST Industry/ Research Organizations: Rs. 10,000 plus 18% GST Academic Institutions/ Faculty: Rs. 5000 plus 18% GST Students & Research Scholars: Rs. 2000 plus 18% GST The above fee includes all instructional materials, computer use for tutorials and assignments, laboratory equipment usage charges. The participants will be provided with accommodation on payment basis.

## The Faculty

**Professor Giovanni Grasselli** is the NSERC-Energi Simulation Industrial Research Chair in Fundamental Rock Physics and Rock Mechanics at University of Toronto, Ontario, Canada. His research interests are Hydraulic fracturing, Rock mechanics, Influence of fractures on the hydro-mechanical behavior of rockmasses, Flow and transport in fractured porous media, Rock physics visualization techniques (i.e., xray microCT, confocal microscopy), Mining survey & 3D visualization and Rock supports.



**Dr Radhakanta Koner** is an Assistant Professor of Indian Institute of Technology(ISM), Dhanbad. His research interest is Rock Mechanics, Discrete Element Modelling, Remote Sensing and Image Processing.

## Course Co-ordinator

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## Course Registration

### Stage-1: WEB Registration

Please visit: [www.gian.iitkgp.ac.in/GREGN/index](http://www.gian.iitkgp.ac.in/GREGN/index) and create login User ID and Password. Fill up blank registration form and do web registration by paying Rs.500/- on line through Net Banking / Debit / Credit Card. Those who have already been paid, need not pay again. Registration to the portal is one time affair and will be valid for life time of GIAN. Once registered in the portal, an applicant will be able to apply for any number of GIAN courses as and when necessary.

### Stage-2: COURSE Registration

Log in to the GIAN portal with the User ID and Password created. Click on "Course Registration" option given at the top of the registration form. Select the course "ROCK MECHANICS: MODERN ADVANCES AND CHALLENGES FOR THE 21ST CENTURY" from the list and click on "Save" option. Confirm your registration by Clicking on "Confirm Course".

**The last date of registration: October 14, 2019**



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### Registration cum Accommodation Request Form

Name (Capital Letters):

Gender (M/F):

Qualification:

Designation:

Category (Faculty/Scientist/Engineer/Industry Executive/Student):

Organisation:

Mailing Address with PIN Code:

Contact Details: Off:

Res:

Mobile:

Email:

Payment:

DD No:

Date:

DD in favour of "IIT (ISM) SPECIAL FUND" payable at CANARA BANK, Saraidhela Branch, Dhanbad. (IFSC: CNRB0000986). SB Account No: 0986101024892 **OR** NEFT/RTGS (Please furnish the full details if NEFT/RTGS like Name of Account Holder, UTR No./Transaction ID, Name of Bank and Branch, Date and Amount of payment).

IIT (ISM) Guest House / Hostel accommodation required: YES / NO (on payment basis)

Accommodation Charges (Exclusive of Food):

- Rs. 1200/- per day (plus GST 12%) per room in IIT(ISM) EDC
- 50/- per day in Hostel (On sharing basis)

Place:

Date:

(Signature of Applicant)