

Information Bulletin

INTERNATIONAL SYMPOSIUM

ON

**ROCK MECHANICS
&
GEO-ENVIRONMENT
IN MINING AND
ALLIED INDUSTRIES**

12-14 February 2009



Organised by:

**CENTRE OF ADVANCED STUDY
DEPARTMENT OF MINING ENGINEERING
INSTITUTE OF TECHNOLOGY
BANARAS HINDU UNIVERSITY
VARANASI 221005
INDIA**

Introduction

Large scale infrastructural activities are being taken up in the world today. Its manifestations are evident in the form of scaling up of the mining activities, hydroelectric power projects, dams, metros, underground caverns, embankments and slopes and other myriad excavations for the exploration, civil, energy and military purposes. Many of these activities are being conducted at greater depths, extreme stress environments, higher inclinations, extreme temperatures, and in rocks with great variations in physico-mechanical properties, constitutive behaviours and discontinuities. The behaviour of the rock material, the analysis of discontinua and their interplay in the resulting fractured media requires newer tools for its analysis and study. The problem becomes even more complex when liquids and gases, passing through the rock mass, are considered an essential design input. These situations pose a whole gamut of newer challenges for the rock engineers. While Rock Mechanics originally developed through mining, today the civil, energy, exploration and military sectors are enhancing its scope and the understanding. The Geo-environment, which is concerned with the applications of rock mechanics to the problems of environment, has now evolved as an associated field of study. Therefore, this Symposium is being convened to assess and understand the interface of the different aspects of the theory, tools and practices of Rock Mechanics on one hand and the Geo-environment on the other, in the mining and allied industries.

About Varanasi

(www.varanasi.nic.in)

Varanasi is also known as Kashi, or the *city of light*. It is a place of great historical and cultural importance. It is one of the oldest continually inhabited cities in the world. Alive with its tradition, it has always been a centre of contemporary thoughts. Since millenniums, Varanasi has been a renowned seat of learning in theology and physical sciences. Mark Twain, the famous American writer, on visiting the city remarked, "Varanasi (Banaras) is older than history, older than tradition, even older than legend and looks twice as old as all of them put together". Sarnath, the place where Lord Buddha delivered his first sermon, is also renowned for its ancient remains of Buddhist *stupas*, monasteries and temples. It is about 8 km from Varanasi. Its site museum houses some of the prominent sculptures of the Buddhists' era, including the "Lion Capital" of the Mauryan Pillar, which is the National Emblem of India.

About the University and the Institute

(www.bhu.ac.in and www.itbhu.ac.in)

The Banaras Hindu University is the largest residential University of Asia. Developed under ancient Nalanda model, it has two independent campuses of about 1300 and 2700 acres, housing three Institutes, fifteen faculties, and one hundred and thirty five departments. The University was ranked best, amongst all the Indian Universities by the office of the Principal Scientific Advisor to the Government of India. The Institute of Technology is a constituent of the University. In recognition of its continuous excellent performance on all fronts, Government of India has recently decided to convert the Institute to an Indian Institute of Technology.

Centre of Advanced Study

The Department of Mining Engineering, BHU was one of the first few departments in the country to receive UGC Assistance under COSIST and SAP Programme in 1984. Subsequently, the Department was upgraded as a Centre of Advanced Study in the area of Rock Mechanics and Ground Control in 1990. Since 2004, the Centre has been re-strengthened by extending its thrust area to Geo-Environment also.

Communication

Varanasi is well connected by air, rail and road routes, with all the important cities of India. Its distance from New Delhi is about 700 km. Railway Station is 10 km and the airport is 32 km from the University.

Weather

February, the month when the symposium has been scheduled is pleasant with temperature of about 18°C to 20°C in day hours and 15°C to 17°C in the night hours.

Official Language

English will be the official language of the Symposium. However, papers written in Hindi would also be accepted. In such cases the author should also provide the translation of the paper in English.

Official Website

<http://www.itbhu.ac.in/min/conferences/rgma>

SYMPOSIUM THEMES

ROCK MECHANICS

Laboratory and in-situ investigations

Mechanics of Rock Breakage

Rock Fragmentation: tools and techniques, options of analysis

Mechanics of structures in and on rocks

Rock-reinforcements and Stabilizations of structures

Modelling and Analysis of Rock Mass Behavior

Underground Space Applications

Mechanics of Extreme workings

IT-enabled Rock Mechanics: Scope of Augmented Reality, Virtual

Reality, Artificial Intelligence, Fuzzy and Artificial Neural

Network

GEO-ENVIRONMENT

Prediction and Management of Ground Vibrations, Flyrocks and Airblasts

Subsidence- prediction and mitigation of its impacts

Impact of mining/ rock excavations on ground water and air

Coal Bed and Coal Mine Methane drainage

Slope stability and land slides

Geo-hazards

Reclamation and closure of mines

IT-enabled Geo-environment

CALL FOR ABSTRACTS

The researchers in the area of Rock mechanics and Geo-environment in the mining and allied industries are requested to send their abstracts on the symposium themes, in accordance with the following guidelines. Original contributions that have not been published or presented at any other forum will be accepted. A certificate to this effect would be provided by the authors.

The abstract shall contain

- A descriptive, but brief title
- Title, name and affiliation of the author(s)
- Address for correspondence (including telephone/fax numbers and e-mail)
- Detailed information about the objective, methods, results and conclusions, to have a fair grasp of the proposed paper.

The abstracts will be reviewed by the Technical Committee regarding their acceptability for the symposium.

REGISTRATION

The registration fee payable by the delegates, including authors, for participation in the symposium is as follows:

	SAARC Countries	Other Countries
Industry & Research Organisations	INR 9000	USD 750
Academic Institutes	INR 6000	USD 600
Accompanying Person	INR. 3000	USD 150

The registration fee covers the cost of registration kit, proceedings, lunch, tea in-between the technical sessions and banquet dinners. The participants will have to make their own arrangements for travel and accommodation. Reservation assistance may be provided through our official travel agents, if requested well in advance. Varanasi has many good quality five star hotels. It also has hotels at all budget range. A limited number of modest accommodations are available on campus, which would be made available on first come first served basis. No financial support will be provided by the organizers for accommodation.

SPONSORSHIP/CO-SPONSORSHIP

The symposium provides an effective opportunity for organizations/companies to sponsor/co-sponsor the symposium by paying a fee of INR 1,00,000 / USD 5000 and INR 50,000 / USD 2500, respectively. Sponsoring organizations will have the facility to promote their products/services among the participants besides working discussions with them during tea/coffee/lunch and dinner intervals. Sponsors can depute five free delegates, whereas co-sponsors can depute two free delegates. Sponsors / Co-sponsors will be permitted to display their products / services during the symposium. They would be entitled to full page advertisement for inclusion in the proceedings. In case of the sponsors, the advertisement may be printed in colour.

PROCEEDINGS

All the papers and the keynote addresses of the symposium will be published as proceedings and will be made available to the registered delegates at the time of registration. A limited space will be made available for advertisements in the proceedings, on first come first served basis.

The tariffs for advertisement are as under

Position	Charge for Advertisement	
	SAARC Countries (INR)	Other Countries (USD)
Back cover page	50,000 (only in colour)	3,000
Second/Third cover page	35,000	2,500
Full page (20 cm x 13 cm)	20,000	1,000
Half page (10 cm x 13 cm)	15, 000	750

The artwork of the advertisements together with the payment is required to be sent before 05 December, 2008. [Material required: Artwork/negative/positive (Hard copy and softcopy) with back-up.]

PAYMENTS

All payments are required to be made by account payee Bank Draft payable to the “RGMA-09” at Bank of Baroda, Banaras Hindu University, Varanasi (India).

CHAIRMAN, ORGANISING COMMITTEE

Professor B.K.Shrivastva
Programme Coordinator,
Centre of Advanced Study
Rock Mechanics & Ground Control and Geo-environment
Department of Mining Engineering
Institute of Technology
Banaras Hindu University
Varanasi-221005
India

KEY DATES

Symposium Dates –

12 February, 2009 to 14 February, 2009

Abstract Submission –

31st October, 2008

Intimation of the Abstract Acceptance –

15 November, 2008

Full Paper submission –

15 December, 2008

ORGANISING COMMITTEE

Patron: **Professor D.P.Singh, Vice-Chancellor, Banaras Hindu University**

Vice-Patrons : **Professor S.N. Upadhyay, Director, Institute of Technology, BHU**

Professor J.N.Sinha, Dean, FET, BHU

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Vice-Chairman: **Professor N.C.Karmakar, Deputy Programme Coordinator, CAS**

Convener: **Sanjay Kumar Sharma, Reader in Mining Engineering**

Treasurer: **Dr.C.S.Singh, Research Officer, CAS**

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IISC, Bangalore

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Centre of Mine Environment, Indian School of Mines University,
India

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University of Wollongong, Australia

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Shri C. S. Gundewar

Controller General, Indian Bureau of Mines, India

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Chairman, Coal India Limited

Shri N. C. Jha

Director (Technical), Coal India Limited

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Director, National Institute of Rock Mechanics, India

Dr. Amlendu Sinha

Director, Central Institute of Mining and Fuel Research, India

Shri Murari Ratnam

Director, Central Soil & Materials Research Station,
New Delhi

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Professor Dr.-Ing. W. Wittke
Aachen

Dr Eda Freitas de Quadros

IPT, Brazil

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Royal Institute of Technology (KTH), Stockholm, Sweden

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Institute of Rock and Soil Mechanics, Chinese Academy of Sciences,
China

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Associate Professor, Colorado School of Mines USA

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Imperial College, London, UK

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AGH University of Science and Technology, Kraków, Poland

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Chief Consultant, ATEs India

**International Symposium on Rock Mechanics and Geo-environment in Mining and Allied Industries (RGMA-09),
12-14 February, 2009**

REGISTRATION FORM

(To be filled in BLOCK letters preferably typed)

- 1. Delegate** _____
 (Surname) (First Name) (Prefix Prof./Dr./Mr./Mrs./Ms.)
 Mailing Address _____

 City _____
 State _____
 Country _____ PIN _____
 Phone _____ Fax _____
 E-mail: _____

2. Accompanying Person (s)

- (i) _____
 (ii) _____

3. Passport details (Only for foreign delegates)

Name	Passport No.	Date of Issue	Place of issue	Valid till date
1.				
2.				
3.				

4. Registration Fee

Delegate	USD/INR
Accompanying Person(s)	USD/INR
Total	USD/INR

5. Arrival Details

Arrival at Varanasi	Departure from Varanasi
Date	Date
Flight/Train No.	Flight/Train No.
Time	Time
From City	To City

- 6. Bank Draft No.** _____ **dated** _____ **for USD/INR**
 _____ **drawn on bank** _____ **is enclosed/is**
being sent separately.
Dated _____ **Signature** _____



**International Symposium on Rock Mechanics and Geoenvironment in Mining and Allied Industries (RGMA-09),
12-14 February, 2009**

IMMEDIATE RESPONSE PROFORMA

(Please tick () Appropriate Box)

Name _____

Address _____

Phone _____ Fax _____

E-mail _____

- | | | |
|---|--------------------------|--------------------------|
| 1. I/we wish to submit a paper/papers. | Y | N |
| If yes, please give title(s) | <input type="checkbox"/> | <input type="checkbox"/> |
| (i) _____ | | |
| (ii) _____ | | |
| 2. I/we shall participate in the symposium and present the paper/papers | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. I/we shall participate but not present a paper | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. I shall need assistance for hotel accommodation at Varanasi | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. I shall be accompanied by spouse | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. We wish to | | |
| * Sponsor | <input type="checkbox"/> | <input type="checkbox"/> |
| * Cosponsor the symposium | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. We wish to send an advertisement for insertion in the proceedings | <input type="checkbox"/> | <input type="checkbox"/> |

Date _____

Signature _____



The Department of Mining Engineering at Banaras Hindu University pioneered the graduate, post graduate and doctoral research in the mining engineering in India. Many of its illustrious alumni are holding important positions in the country and abroad. The Department is well recognized as a leading centre of research in mining engineering in general and rock mechanics & ground control and geo-environment in particular. The Department regularly received generous grants from government funding agencies and the industry for accelerating its R & D.

As a mark of the recognition of the significant contributions made by the Department in the area of 'Rock Mechanics and Ground Control', the University Grants Commission (UGC), Government of India, New Delhi selected it under its Special Assistance Programme (DSA) in 1984. It was, subsequently upgraded as the Centre of Advanced Study in the thrust area in 1990 – the only department to have acquired such recognition in this area. It was further strengthened in CAS Phase – III by including Geo-Environment in its thrust area. The CAS vis-a-vis the department therefore has dedicated itself to strengthen the teaching, research and outreach programmes in the thrust area and rendering valuable service to the mining and construction industry. Its laboratories are well equipped with the state of the art equipment and software. The faculty associated with the centre is competent to take up the newer challenges of the industry.