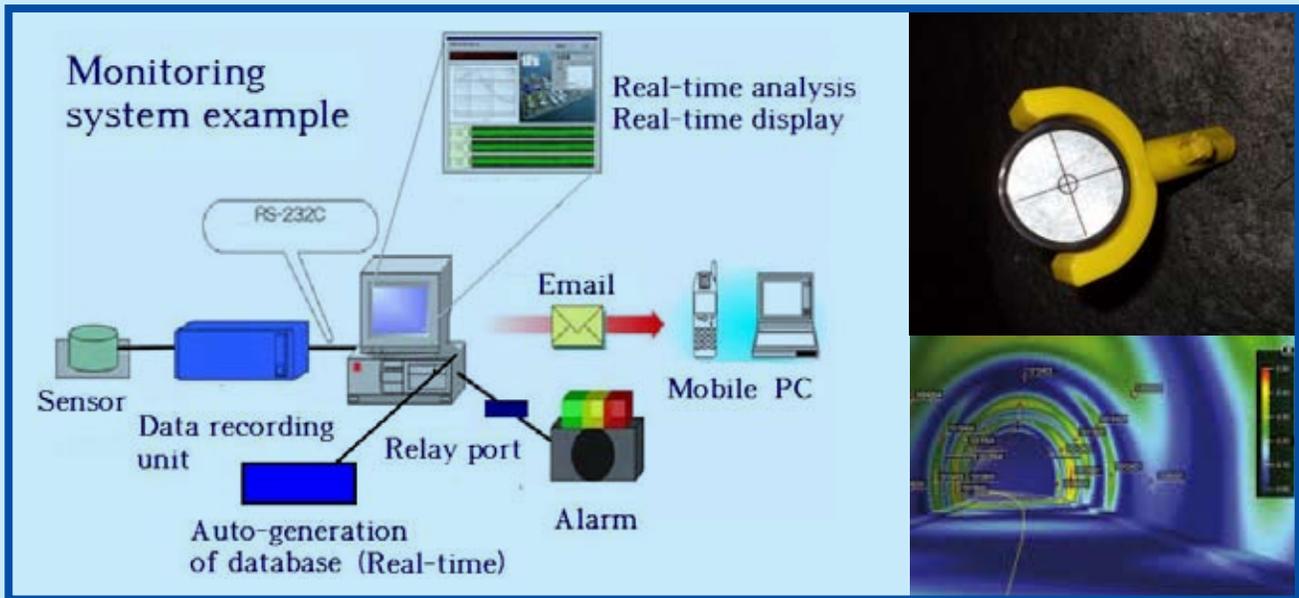


Symposium

ADVANCES IN INSTRUMENTATION,  
GEO-MONITORING AND VALIDATION

23-24 July 2015, New Delhi



Organised by



Central Board of Irrigation & Power



ISRM (INDIA)

Indian National Group of  
International Society for Rock Mechanics

in association with



Indian Geotechnical Society (IGS)  
Delhi Chapter

Co-sponsor



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## INTRODUCTION

Geotechnical engineering involves uncertainties, arising from simplifications which are unavoidable during the design phase, primarily due to limited information about the soil/rock properties and behaviour. It is important to monitor the performance of structures during the construction phase to compare actual loads, stresses and deformations with those anticipated during design.

Establishing a robust geotechnical instrumentation and construction monitoring plan is one of the keys for a successful delivery of any project. Geotechnical monitoring and instrumentation are increasingly becoming popular nowadays for all kinds of Geotechnical works either underground or above ground. Verification of long-term performances, validation of new theories, construction control, warning against any impending failures, quality assurance, and legal protection are some of the many reasons for geotechnical instrumentation. They are not only used in field situations, but in laboratories too. With the recent advances in materials and technology, and the need for more stringent performance control, there had been significant developments in the recent past in instrumentation and monitoring techniques. With the increase in usage of observational methods for large projects there is an increase in requirement of instrumentation, monitoring as well as validation of the design assumptions

The emphasis during the symposium will be on HOW, WHY and WHAT can come out of geotechnical monitoring and instrumentation. The symposium will highlight the advances in instrumentation and monitoring along with case studies on geo monitoring, data management, back analysis as well design validation.

The keynote lectures will be presented by academic representatives, field experts and instrument developers.

## ABOUT ORGANIZERS

**The Central Board of Irrigation and Power (CBIP)**, since its inception in 1927, is engaged in the dissemination of information regarding recent technological advancements in the disciplines of water resources, dam engineering, tunnels and underground works including mining, rock mechanics, geosynthetics, power and renewable energy. Besides, it provides a forum for exchange of experiences, facilitating flow of technology through the organisation of symposia, seminars, workshops, training courses, both at national as well international levels, in liaison with international organisations.

**Indian National Group of International Society for Rock Mechanics (ING-ISRM)** has been involved in dissemination of information on rock mechanics, mining, rock slope stability and tunnel engineering by organising symposia, seminars, workshops, and training courses, both at national as well as international level, in liaison with international organizations, since its inception in 1991. The Secretariat of ISRM is in Lisbon (Portugal). ISRM has 53 countries as its National Groups, with India being one of them.

**Indian Geotechnical Society (IGS) Delhi Chapter** was established in 1982. The Delhi Chapter is affiliated to parent/national body-Indian Geotechnical Society (IGS), which was established in 1948. This Chapter is very active in disseminating knowledge to the industry and academia. IGS Delhi Chapter main objective is to provide eminent forum to the engineers, scientists, industrialists and others who are actively associated with the geotechnical works to come together to interact and thus to collect, synthesize and collate valuable information

on geotechnical engineering. The Delhi Chapter is the largest Chapter of the Indian geotechnical Society and has a membership exceeding 1000 life members. The Chapter received the best chapter award in 2014.

## TOPICS

- Instrumentation
- Geo Monitoring
- Back Analysis and Validation
- Observational Methods in Geotechnical Engineering

## Sub-topics:

- Foundations
- Deep Excavations and Retaining Systems
- Underground Structures & Tunnels
- Landslides & Disaster Management
- Slope Stability

## WHO SHOULD ATTEND?

Decision-makers and project managers concerned with management of RISK during construction and engineers, geologists, and technicians, involved with performance monitoring of geotechnical features in design and construction of civil engineering projects.

## OFFICIAL LANGUAGE

English will be the official language of the symposium.

## DATES AND VENUE

The symposium will be held at Conference Hall, CBIP Building, Malcha Marg, Chanakyapuri, New Delhi during 23-24 July 2015.

## CALL FOR PAPERS/CASE STUDIES

Papers/Case studies on the topics proposed and allied topics are invited. Intending authors may send the full text of the papers/case studies, latest by **15 June 2015**.

The paper/case study shall contain a descriptive, but brief title, name(s) and affiliation of the author(s), address for correspondence (including fax numbers and e-mail addresses), detailed information about the objective, methods, results and conclusion, to enable a correct appraisal of the suitability of the proposed paper/case study for the Symposium.

The full text of the papers/case studies, not exceeding 08 pages of A4 size, in single space and 10 Point Normal Times Roman Font, both in MS Word and PDF, need to be sent through e-mail only at [uday@cbip.org](mailto:uday@cbip.org). Only original contributions that have not been published or presented at any other forum are acceptable.

At the end of the references, the author(s) must furnish bio data not exceeding 100 words as per sample given below, along with a passport size coloured photograph:

“AAAAAA graduated in Civil Engineering from the University of P P P P P P in 1965. He obtained a Ph.D. in Civil Engineering at the University of Q Q Q Q Q Q. From 1969 to 1980 he worked for R R R R R R, specialising in design and construction of gates at hydro plants. In 1980 he joined S S S S S S Company as Hydraulic Design Chief Engineer, where he worked on civil aspects of the following hydro projects: xxxxx, yyyyyyy and zzzzzz. From 1988 he has been Professor of Hydraulic Engineering at the University of G G G G G G, where he specialises in analysis of model test procedures for hydraulic gates”.

A similar description should be given for each author. The author(s) need to submit a certificate, along with the text of case study, as per the following format

### CERTIFICATE

The author(s) certify that the paper/case study titled “\_\_\_\_\_” and submitted for consideration for the Symposium on “**Advances in Instrumentation, Geo-Monitoring and Validation**”, to be held in New Delhi, during 23-24 July 2015, is in original and has not been published or presented at any other forum, in the present form. The Author(s) also hereby assigns to the Publisher, The Central Board of Irrigation and Power, Malcha Marg, Chanakyapuri, New Delhi (India), the copyright to the Contribution named above whereby the Publisher shall have the exclusive right to publish the said Contribution in print/electronic form, wholly or in part, in its other technical journals.

*Signature(s)*

Place

Date

The papers/case studies will be reviewed by the Technical Committee as to their suitability for presentation. The case studies accepted for presentation will be notified by. A condition of acceptance of case studies will be that the author, or one of the authors in case of multiple authors, will attend the Symposium and make the presentation.

The papers/case studies accepted for oral presentation will be notified by **30 June 2015**.

### REGISTRATION FEE

The registration fee for participation in the event is as under:

Member of CBIP/ISRM	Indian Rs. 9,000/USD 180 + Service Tax @ 12.36%
Non-Member	Indian Rs. 10,000/USD 200 + Service Tax @ 12.36%
Researcher/ Academicians/ Students	Indian Rs. 5,500/USD 100 + Service Tax @ 12.36%

**In case of 04 or more nominees from an organization, one nomination will be allowed free registration.**

**To avail the concession in the registration fee under Researchers/ Academicians/ Students category, the registration form/request will have to be submitted along with a certificate from the head of the Department/ Institute.**

The registration fee covers the cost of registration kit, proceedings, and lunch and tea in-between the technical sessions. The participants will have to make their own arrangements for travel and stay. No financial support will be provided by the organizers.

The last date for the receipt of filled in registration form is **17 July 2015**. Photocopies of the registration form can be used for additional requirements, if any. Spot registration facilities will also be available, provided the prior information is received.

### SPONSORSHIP/CO-SPONSORSHIP

The Symposium provides an effective opportunity for organisations/ companies to sponsor/cosponsor the Symposium by paying a fee of Indian Rs. 1,00,000/USD 2,000 and 50,000/USD 1,000, respectively. Sponsoring organisations will have the facility to promote their products/services among the participants

besides working discussions with the utility engineers during tea/coffee and lunch intervals.

Following facilities will be extended to sponsors:

Facility	Sponsor	Co-sponsor
Complimentary Registrations	5 representatives	3 representatives
Distribution of promotion literature among the participants	Allowed	Allowed
Table top display of products/services	Allowed	NA
Time for commercial presentation	Allowed	NA
Company name and logo on banners, etc	Allowed	Allowed

### EXHIBITION

The Symposium will provide a very good forum for display of equipment/activities by the agencies involved in equipment manufacturing, construction, etc. The rate for table top display of products is Indian Rs. 30,000/USD 600/- + Service Tax @ 12.36%. One representative of the Exhibiting Agency will be extended one complimentary registration.

### PAYMENTS

All payments can be made by one of the following methods:

- Bank draft/cheque payable at par at New Delhi in favour “Central Board of Irrigation and Power”.
- By bank transfer in favour of “Central Board of Irrigation and Power”, the Secretariat of the Indian Chapter of International Geosynthetics Society, as per details given below:
  - Name and address of Bank: HDFC Bank Limited, 209-214, Kailash Building, 26 K.G. Marg, New Delhi 110 001
  - Account Holder Name: Central Board of Irrigation & Power
  - Account No. 00031110004411
  - Swift Code: HDFCINBBDEL
  - IFSC: HDFC 0000003
  - MICR Code: 110240001

**In case of payments by bank transfer, bank commission, as applicable, will have to be borne by the concerned. The details of such transfer should be mailed to the Symposium Secretariat, to update the payment records.**

### ADDRESS FOR CORRESPONDENCE

All correspondences relating to the Symposium should be addressed to:

**Mr. V.K. Kanjlia**

*Secretary*

Central Board of Irrigation & Power  
Malcha Marg, Chanakyapuri, New Delhi 110 021, India

**Contact Persons:**

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**Mr. Uday Chander, Senior Manager**

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+91 98719 95996 (Mr. A.C. Gupta) Fax : +91-11-2611 6347

E-Mail : uday@cbip.org; cbip@cbip.org

# BRIEF PROFILE OF SPEAKERS



**Dr. Sunil S. Basarkar** is presently working with ITD Cementation India Limited, with specialized engineering division engaged in pile constructions, deep retaining structures, ground improvements, drilling, grouting and variety of geotechnical engineering execution.

He is a graduate in Civil Engineering from REC Rourkela (1986), post graduate in Geotechnical Engineering from Pune University (1989) and PhD in Pile foundations from IIT Bombay in 2004. His research area addressed to rock socketed piles of Mumbai region, with special reference to current design practices and economic proposals.

He has field experience of 11 years in areas of geotechnical engineering and Teaching and Research experience of 16 years. He has designed and coordinated several pile foundation projects, deep excavation support systems and ground improvement schemes using stone columns.



**Mr. Sripad R Naik** is a graduate in Mining Engineering from NIT, Surathkal in 1990 and acquired his masters from IT, BHU. Currently he is pursuing his PhD from NIT, Surathkal. Mr. Sripad joined NIRM in the year 1992 and presently he is Head, Numerical Modelling Department. He has expertise in numerical modelling and instrumentation in the areas of mining and civil engineering. He has worked on many challenging problems in the area of hydroelectric projects, coal mine method of working and instrumentation and subsidence modelling.



**Dr. Atul Nanda** has over 30 years of academic, research and industry experience in geotechnical engineering. He has a B.Tech in civil engineering from IIT Bombay and Ph.D in geotechnical engineering from Virginia Tech USA.

Presently he is Head (Technology) of the subsurface group in Engineers India Limited responsible for the engineering of the Strategic crude oil storage projects in rock caverns. He has worked on over a 100 projects covering refineries, petrochemicals, pipelines, ports, offshore and underground storage. Before joining EIL he was a senior research fellow at CERMES, ENPC, Paris, France for 2 years.

He is chairman of the Indian Geotechnical Society (Delhi Chapter) and a member of the Governing Council of ISRM (India). He has over 70 international and national publications in journals and conferences and recipient of several awards in geotechnical engineering.



**Dr. P.K. Rajmeny**, after graduating in mining engineering from M.B.M. Engg. College, Jodhpur (**Gold Medalist**), joined Hindustan Zinc Ltd. in 1979. After serving mine planning and production for about 10 years, he switched over to Rock Mechanics in 1989. He post graduated from ISM, Dhanbad in 1994 and **Doctorate** in 2000 in Rock Mechanics.

Since 2007, Dr. Rajmeny is serving Geotech aspects of Rampura Agucha mines, and has been recognized for his rich technical contribution to Indian mining Industry, and was conferred "**National Geoscience Award**" of Government of India, in 2009. He has **book published** on blasting "Blast Design- Theory & Practice" in 2006 and more than 15 international papers and 20 national papers at various forums. He is currently heading Rock Mechanics for Hindustan Zinc Ltd.



**Mr. Ravi Sundaram** did his M. Tech. in 1980 from IIT Delhi and has 35 years experience as a consulting engineer. He started his career with McClelland International Limited (USA) at Dammam, Saudi Arabia. He is a founder director of Cengrs Geotechnica Pvt. Ltd. His interests include soil investigations, pile foundations, ground improvement, load tests, etc. He has published about 35 technical papers that reflect his experience in geotechnical engineering practice.

He was Chairman of Delhi Chapter of the Indian Geotechnical Society during 2009-2011. He is a member of the Academic Council of the University of Petroleum and Energy Studies, Dehradun.



**Dr. Surya Parkash** did graduation and post-graduation with honours school from Centre of Advanced Study in Geology at Panjab University, Chandigarh in 1989 and 1990. He obtained Ph.D. in earth sciences from IIT, Roorkee in 1998. He did specialized trainings on Geohazards Risk Management from University of Geneva, on Aseismic Design and Construction from Institute of Earthquake Engineering & Engineering Seismology (IIZIS), Macedonia and Risk Management and Insurance from Middle East Technical University, Turkey. He worked for Central Building Research Institute from 1990 to 1998, specializing in the area of landslide studies and management. From 1999 to 2003, he worked as Scientist at Wadia Institute of Himalayan Geology where he established the geotechnical laboratory. He was Director, Community Based Disaster Risk Management Society during 2004 and 2005 where he specialized in integrating science, society and disaster management. Presently he is Head, Knowledge Management & Communication Division and Team Leader for "World Centre of Excellence on Landslide Disaster Reduction" at National Institute of Disaster Management, Ministry of Home Affairs, Government of India, New Delhi.



**Dr. Altaf Usmani**, completed his B.Tech & M.Tech from AMU Aligarh and Ph.D from IIT Delhi in 2007. Since then he has been working as a Lead Geotechnical Expert in the field of design of underground structures for storage of crude oil. Within a short period of last seven years Dr. Usmani has published around 40 papers in international/national journals and international/national conferences, covering both soil mechanics and rock mechanics challenges. Dr. Usmani is a recipient of "Young Geotechnical Engineer Award 2010" from the Indian Geotechnical Society and "Best Paper Award on Underground Space Technology" in 2013 from Indian Society for Rock Mechanics and Tunneling Technology.

Dr. Usmani has organized a vast number of national and international conferences in Delhi region and delivered invited lectures at institutes like JUIT Shimla, CRRRI and AMU Aligarh. Dr. Usmani is Hon. Secretary of Indian Geotechnical Society, Delhi chapter and is also the co-editor of IGS Delhi Chapter newsletter published bi-annually which provides information about the events and activities of the IGS Delhi Chapter and knowledge sharing.



**Dr. Manoj Verman** is a specialist in tunnelling and rock engineering with 33 years of extensive experience with infrastructure projects in India and overseas. He graduated in Civil Engineering from Punjab Engineering College, Chandigarh in 1980 and obtained his Masters and Ph.D. in Rock Mechanics from IIT Delhi and University of Roorkee respectively. He has published over 75 papers and is currently writing two books.

With international recognition and proven track record in his core areas of rock engineering and underground structures, he is currently an independent consultant focussing on these areas. His international positions include Vice President on global Board of ISRM (2011-2015) and President, International Commission on Hard Rock Excavation (since 2011). On national front, he is currently the President of Indian National Group of ISRM and Vice President of Indian society of Engineering Geology.

## Symposium

# ADVANCES IN INSTRUMENTATION, GEO-MONITORING AND VALIDATION

23 - 24 July, 2015

New Delhi, India

## REGISTRATION FORM

(To be filled in block letters preferably typed)

1. Name of Participant \_\_\_\_\_  
(Surname) (First Name) (Prefix Prof./Dr./Mr./Mrs./Ms.)

Designation: \_\_\_\_\_

Name of Organisation: \_\_\_\_\_

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. Payment details

• Registration Fee INR/USD

• Sponsorship/Co-sponsorship/Exhibition/Charges INR/USD

**Total** INR/USD

5. Arrival Details

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

6. Payment details:

(i) Bank Draft/Cheque No. \_\_\_\_\_ dated \_\_\_\_\_ for USD/INR \_\_\_\_\_ drawn on Bank \_\_\_\_\_  
\_\_\_\_\_ is enclosed/is being sent separately.

(ii) Payment has been transferred to CBIP Account No. 00031110004411, with HDFC Bank, on \_\_\_\_\_

Dated \_\_\_\_\_

Signature \_\_\_\_\_

### Notes:

- Registration Form duly filled in, together with necessary payments to be mailed to Mr. V.K. Kanjlia, Secretary, Central Board of Irrigation and Power, Malcha Marg, Chanakyapuri, New Delhi 110 021.
- Last date for the receipt of the registration forms is **17 July 2015**. Spot registration facilities will also be available, provided prior information is received.