

Hands-on training on Numerical Analysis of Concrete Gravity Dams

23-24 January 2025, CBIP, New Delhi



Organized by

In association with



Central Board of Irrigation & Power



INTRODUCTION

Concrete gravity dams are vital for water storage, hydroelectric power, and flood control, ensuring stability through their weight covering regulation of river flow, supporting irrigation, and provide durable, sustainable infrastructure solutions. With the increasing complexity of geotechnical and structural engineering challenges associated with design of dam superstructure, checking deformation and stress behaviour of soil and rock foundations, FEM modelling and analysis using advanced software solutions have become crucial in addressing these requirements. This 2-days hands-on training program on analysis of 3D numerical model of concrete dam built over soil and rock foundation is tailored to provide civil engineers, structural and geotechnical experts, and researchers with practical knowledge and skills to understand complex behaviour of concrete gravity dams and its coupled interaction with ground and water reservoirs using modern FEM software tools. Participants will explore key aspects such as modelling, static and seismic analysis, and fluid-structure interaction, gaining hands-on experience to solve real-world engineering problems.

Guided by experienced industry professionals, this training programme offers a comprehensive platform to learn advanced techniques and enhance expertise in dam engineering. Ideal for professionals involved in the planning, design, or implementation of dam projects, this training will enhance their technical proficiency and contribute to building resilient infrastructure.

DATES & VENUE

The Hands-on training using software on “Numerical Analysis of Concrete Gravity Dams” will be held on 23 - 24 January 2025 (Thursday & Friday) at CBIP Conference Hall, (1st Floor), CBIP Building, Malcha Marg, Chanakyapuri, New Delhi

KEY HIGHLIGHTS

- Hands-on training sessions with Midas FEA-NX software, state-of-the-art FEM analysis tool for 2D and 3D structural and geotechnical problems; offering a deep dive into advanced features and functionalities.
- Practical application through real-world case studies to connect theoretical knowledge with practical implementation.
- Interactive problem-solving exercises and expert-led tutorials for an engaging learning experience.
- Comprehensive exploration of key topics, including static analysis of concrete gravity dams with soil/rock foundations, seismic analysis, and fluid-structure interaction

WHO SHOULD ATTEND:

This training programme is ideal for:

- Structural engineers and Geotechnical Engineers involved in the design and analysis of concrete gravity dams.
- Academics and researchers specializing in design, safety analysis and behaviour studies on dam and hydropower structures.
- Project managers and consultants working on water resources and hydropower projects.
- Professionals seeking to advance their skills in dam design and analysis using cutting-edge software tools.

TENTATIVE SCHEDULE

Day 1 : Morning Session:

- Introduction to Midas FEA-NX software and 3D Modelling techniques.
- 3D Modelling of concrete gravity dam with soil/rock foundation system.
- Overview of boundary conditions and material properties.

Afternoon Session:

- Static Analysis of concrete gravity dams with soil/rock foundation.
- Interpreting static analysis results and design considerations.

Day 2 : Morning Session:

- Introduction to Seismic Analysis and Fluid-Structure Interaction for concrete gravity dams.
- Setting up Seismic Loads and boundary conditions for dynamic analysis.

Afternoon Session:

- Performing Seismic Analysis of concrete gravity dams using Midas FEA-NX.
- Interpreting seismic analysis results and evaluating dam performance under dynamic loads

OFFICIAL LANGUAGE

The official language will be in English.

REGISTRATION FEE

All those who wish to participate in the training are expected to register in advance by sending the registration form through email to the organisers along with payment of registration fees.

- The registration fee for participation in the conference is Rs.12,000/- plus GST per participant.
- There would be discounted fee Rs. 10,000/- plus GST per participant, applicable for Members of INCOLD, TAI, ISRM & CBIP.
- 50% discount in the fee will be applicable for Young Participants (upto 35 years of age)
- The Speakers will be exempted from Payment of Registration Fee.

***GST 18% will be charged extra on Registration fee.**

The registration fee includes registration kit, working lunch, tea/ coffee during the event only. The participants will have to make their own arrangement for boarding and lodging, transport, etc. at New Delhi. Registration fee once paid will not be refunded.

Participants are requested to bring their own laptop while attending the class.

PAYMENT

The payment related to the event is to be remitted either through cheque in favour of "THE COMM FOR INCOLD" or through bank transfer to the following account:

- Name of Bank: Canara Bank, Delhi Diplomatic Enclave, 7/48, Malcha Marg, Chanakyapuri, New Delhi
- Account No. 0157101031509
- MICR Code No. 110015007
- Account Holder Name: "THE COMM FOR INCOLD"
- IFSC Code: CNRB0000157
- Swift Code: CNRBINBBDFS

Bank charges if any, must be borne by the participants and should not be deducted from the amount remitted to the Conference Secretariat.

Last date of receipt of nominations is 23rd January 2025. Spot registration facility will also be available provided prior information is received.

SPONSORSHIP

Scope exists for organizations to be the Platinum Sponsor, Golden Sponsor or Silver Sponsor on lumpsum payment with following attendant benefits:

Platinum Sponsor : Rs. 3,00,000/-	Gold Sponsor : Rs. 2,00,000/-	Silver sponsor : Rs. 1,00,000/-
<ul style="list-style-type: none">• 10 delegate passes for participation in the conference• Company logo on main banner• Circulation of Company Literature• Announcement - Thanking sponsor• Speaking Opportunity• Table Space to display• Invitation to the key person of the organisation as special invitee.• Complimentary Advertisement in the Key Journal Published immediately after the event covering report of the event.• One year complementary Institutional membership of TAI to Platinum sponsor besides other privileges	<ul style="list-style-type: none">• 05 delegate passes for participation in the conference• Company logo on main banner• Circulation of Company Literature• Announcement -Thanking sponsor• Speaking Opportunity• Table Space to display• Invitation to the key person of the organisation as special invitee.• Complimentary Advertisement in the Key Journal Published immediately after the event covering report of the event	<ul style="list-style-type: none">• 03 delegate passes for participation in the conference• Company logo on main Banner• Announcement - Thanking sponsor

SECRETARIAT

All correspondence relating to the training should be addressed to:

Shri A.K. Dinkar, Secretary, CBIP & Secretary General, INCOLD

Shri K.K. Singh, Director (WR), CBIP & Treasurer, INCOLD, E-mail: kksingh@cbip.org

C/o CBIP, Plot No. 4, Institutional Area, Malcha Marg, Chanakyapuri, New Delhi-110 021

Phone: 91-11-26115984 / 26116567; Website: www.incold.co.in

Contact Person: Shri Akshay Kumar, Manager (WR) CBIP, M: 9810291211, E-mail: akshay@cbip.org

Shri Vishan Dutt, Adviser, CBIP, M: 9811431554, E-mail: vishandutt@cbip.org

Shri Puneet Khairal, INCOLD Secretariat, E-mail: contact@incold.co.in

About Training Faculty:



Mr. Vatan Sharma is an expert Geotechnical Engineer with M.Tech (Soil Dynamics) from IIT Roorkee. Specializing in the Tunnelling & Hydropower industry, he leverages Finite Element Method (FEM) techniques to optimize geotechnical designs. His extensive experience covers a range of sectors, including dams, tunnels, slopes, underground structures, and hydro structures. Vatan has provided expert training to professionals in the dams and hydropower sectors, including organizations and large private consultancies such as CWC, NHPC, CSMRS, SJVNL, UJVNL, THDC, SMEC, TCE, L&T, AFRY, Tractebel etc. and other central and state government agencies, showcasing his ability to effectively address complex dam and hydropower engineering challenges.

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REGISTRATION FORM

(Form to be send on contact@incold.co.in)

- Name _____
(First Name) (Middle Name) (Surname)
- Position _____
- Organization _____
Address _____
- City _____ PIN _____
- Mobile No. _____
- E-mail ID _____
- Bank Draft No./ Online Bank Transaction ID _____ dated _____
for Rs. _____ is enclosed.
- I intend to participate in the deliberations of the Workshop.

(Signature)

Place: _____

Date : _____

SECRETARIAT

INCOLD

C/o CBIP, Plot No. 4, Institutional Area, Malcha Marg, Chanakyapuri, New Delhi-110 021

Phone: 91-11-26115984 / 26116567

Contact Person : Akshay Kumar, M : 9810291211 E-mail : akshay@cbip.org contact@incold.co.in

Website : [http// www.incold.co.in](http://www.incold.co.in)