



भारत सरकार  
जल शक्ति मंत्रालय  
जल संसाधन, नदी विकास  
और गंगा संरक्षण विभाग  
केन्द्रीय जल आयोग  
राष्ट्रीय जल अकादमी



Government of India  
Ministry of Jal Shakti  
Dept of Water Resources,  
River Development & GR  
Central Water Commission  
National Water Academy

दिनांक: .01.2024

सेवा में,

1. The Member (D&R)/Member (WP&P)/Member (RM), CWC, New Delhi
2. The Chief Engineer, CWC (HQ)/The Chief Engineer, Field Offices, CWC
3. All the organisations under DoWR, RD & GR, Ministry of Jal Shakti, New Delhi
4. Engineer-in-Chief, State Water Resources Department / Irrigation Departments/Stat PSUs
5. The Heads of PSUs/Private Companies

विषय: राष्ट्रीय जल अकादमी, केन्द्रीय जल आयोग, पुणे में “ **Use of Advanced Software in Design of Water Resources Structures**” विषय पर प्रशिक्षण कार्यक्रम का आयोजन - नामांकन - के संबंध में।

महोदय/ महोदया,

राष्ट्रीय जल अकादमी में “ **Use of Advanced Software in Design of Water Resources Structures**” विषय पर प्रशिक्षण कार्यक्रम **26 February - 01 March** के दौरान आयोजित किया जा रहा है। इस कार्यक्रम संबंधी प्रमुख बिन्दुएँ पृष्ठांकित (*overleaf*) है। विस्तृत ब्योरा सहित कार्यक्रम विवरणिका (*Program Brochure*) भी संलग्न है। उपर्युक्त कार्यक्रम में निम्नलिखित स है।

Name of Program	Duration & Days	Last date of receipt of nomination/s	Acceptance of Nomination/s	Participants' Profile
<b>Use of Advanced Software in Design of Water Resources Structures</b>	26 February – 01 March 2024	15 February 2024	16 February 2024	The program intends to focus on the middle level and senior level officers of Central and State Govt. Departments, PSU's, Private Organizations, Academic Institutions and NGOs and provides a forum to facilitate learning and discussion on the use of software's for the Design and Analysis of Water Resources structures.

अनुरोध है कि संलग्नक में दिए गए स्तर के अधिकारियों को इस कार्यक्रम से लाभ उठाने हेतु यथाशीघ्र नामित करने का कष्ट करें। केन्द्रीय एवं राज्य सरकारों के विभागों के अधिकारियों के लिए इस प्रशिक्षण कार्यक्रम में भाग लेने हेतु कोई भी प्रोग्राम शुल्क नहीं है। अन्य एजेन्सियों / वर्गों के अधिकारियों के लिए प्रोग्राम शुल्क की जानकारी संलग्न विवरणिका (**Program Brochure, also available at our website**) में दी गई है।

भवदीय

Encl. : As above

एस के दास

निदेशक (अभिकल्प)

एवं कार्यक्रम निदेशक

# 9818707541





भारत सरकार  
जल शक्ति मंत्रालय  
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Government of India  
Ministry of Jal Shakti  
Dept of Water Resources,  
River Development & GR  
Central Water Commission  
National Water Academy

Dated : 01.2024

To

1. The Member (D&R)/Member (WP&P)/Member (RM), CWC, New Delhi
2. The Chief Engineer, CWC (HQ)/The Chief Engineer, Field Offices, CWC
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Sub: Training Program on “ Use of Advanced Software in Design of Water Resources Structures” at NWA, Pune - Call of nominations - reg

Sir/Madam,

A Training Program on “ Use of Advanced Software in Design of Water Resources Structures” is scheduled to be conducted at NWA, Pune during 26 February – 01 March 2024 is planned. Brochure of the program is enclosed. Salient details for this training program are as given below :

Name of Program	Duration & Days	Last date of receipt of nomination/s	Acceptance of Nomination/s	Participants' Profile
<b>Use of Advanced Software in Design of Water Resources Structures</b>	26 February – 01 March 2024	15 February 2024	16 February 2024	The program intends to focus on the middle level and senior level officers of Central and State Govt. Departments, PSU's, Private Organizations, Academic Institutions and NGOs and provides a forum to facilitate learning and discussion on the use of software's for the Design and Analysis of Water Resources structures.

It is requested that **nominations** of the officers of the profile indicated above may please be sent so as to reach NWA by the **last dates as given above**. Complete details (address, email, telephone, mobile, fax) of the nominated officer(s) and the controlling officer(s), name/s of modules may please be provided while sending the nomination/s. There is **no program fee** for participants from **Central and State Govt. departments**. Details of charges for participants from other agencies are given in the website of NWA (<http://nwa.mah.nic.in>) and are also given in the enclosed Program Brochures. Confirmation on acceptance of nomination/s will be sent by fax / published on our web site (<http://nwa.mah.nic.in>) as indicated above respectively.

The nominated officers are requested to start for the program only after getting confirmation/ acceptance of their nomination from NWA.

Yours faithfully,

Encl : As above

Sd/-

**S K Das**

Program Director

# 9818707541



413311/2024/NWA-PUNE

**NATIONAL WATER ACADEMY, PUNE**

**Training Program on  
“USE OF ADVANCED SOFTWARE IN DESIGN OF WATER  
RESOURCES STRUCTURES”  
(26 FEBURARY-01 MARCH 2024)**

***REGISTRATION FORM***

Name (in capitals): \_\_\_\_\_

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

Organization: \_\_\_\_\_

Responsibilities (in brief): \_\_\_\_\_

Full Postal Address: \_\_\_\_\_

Tel Nos.(with STD Code) : \_\_\_\_\_

Fax No: \_\_\_\_\_ Mobile : \_\_\_\_\_

E-mail: \_\_\_\_\_

Whether require accommodation at NWA complex ?

YES / NO

Date

(Signature of the participant)

***SPONSORING AUTHORITY***

Full Postal Address: \_\_\_\_\_

Tel Nos.(with STD Code) : \_\_\_\_\_

Fax No: \_\_\_\_\_ Mobile : \_\_\_\_\_

E-mail: \_\_\_\_\_

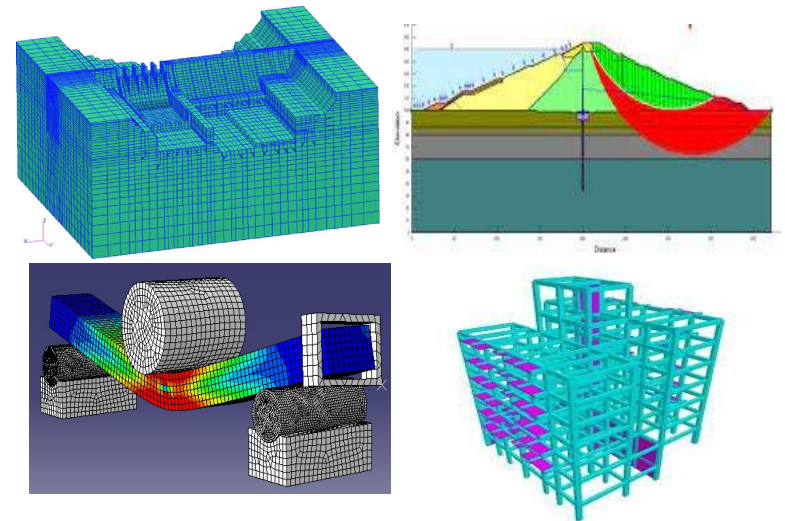
Date

(Signature and Seal)

*Completed Registration Form may be sent to: email nwa.mah@nic.in or Fax : 020-24380110*

**Government of India  
Ministry of Water Resources,  
River Development & Ganga Rejuvenation  
Central Water Commission**

**Training Program on  
USE OF ADVANCED SOFTWARE IN DESIGN  
OF WATER RESOURCES STRUCTURES  
(26 Feb - 01 March 2024)**



*Organized by*  
**National Water Academy Pune**

## 413311/2024/NWA-PUNE

### INTRODUCTION AND OBJECTIVE

The Design and Analysis of Water Resources structures is one of the most important aspects of Water resources development having profound bearing on the cost, capacity and maintenance of the structures. Model studies of these structures are important to gain insight into the behavior of the structure under complex loading conditions and material properties. Numerical modeling or mathematical simulation has become a viable and cost-effective alternative to physical modeling. Commercially available software mostly use of the Finite element Method for simulation. These software have made this complex looking method very easy and simple to use for the user. Various general and special purpose software's are available having different capabilities in pre-processing, solving and post processing. The training program focuses on the use of software's for advanced design techniques.

**Abaqus** is one such general purpose software available commercially, for numerical modeling and has very powerful capabilities in both pre and post processing. **Abaqus** offers tools for creating any kind of 2D or 3D geometry required as a base for creating FE models. With its advanced surface creation capabilities, one can virtually create any complex geometry.

Being a general-purpose simulation software, **Abaqus** can be used for any problem of FEA. In fact, the steps to be followed for FE modeling (Geometry creation, meshing, applying boundary conditions, solving, interpretation of results) being same across all the software's, working with **Abaqus** will give the participants, basic knowledge and skills required to work with any kind of simulation software. The emphasis is to give sufficient hands on to each participant along with classroom sessions and demonstrations.

Similarly, another software **STAAD** or (**STAAD-Pro**) is a structural analysis and design computer program. It is the structural engineering professional's choice for steel, concrete, timber, aluminum, and cold-formed steel design of virtually any structure including buildings, power houses, culverts, tunnels, bridges, piles, and much more through its flexible modeling environment, advanced features, and fluent data collaboration.

**Geo-Studio** is analysis-based software in which we can perform various types of analysis related to Geotechnical studies. Geo-Studio is capable of solving complex problems using finite element method of analysis. Stability analysis of dams is also carried out on software and factor of safety is obtained from it. Variation in structural parameters like upstream and downstream slope, reservoir head at upstream, transition filters, type of rock toe drain, berm width and its effect on phreatic line and ultimately seepage through the dam body. Seepage analysis is done by using the Geo-studio software.

With the above objective in view, the NWA is organizing a training program on **“Advanced Design Techniques Using Software”** to provide an insight into the various issues involved.

### PROGRAM CONTENTS

The program will comprise of classroom sessions, case studies and related field visits and will cover the following topics:

The program will cover numerical modeling with ABAQUS, Geo-Studio and STAAD-PRO software including solid modeling, advanced surfacing techniques, meshing for 1-D, 2-D and 3-D models, creation of boundary condition sets, solving the mathematical model and visualization of results using post processor. Case studies on Water resources structures will be presented to demonstrate the application of mathematical modeling in WR sector. The participants will analyze a real-life problem related to WR structure simulation.

### PROGRAM FEE

There is **no program fee** for participants from **Central and State Govt. departments**. Charges for participants from other categories are:

Category	Description	Fee in Rs.(per participant)
A.	Central/State/Local Government Depts. including their autonomous bodies:	Nil
B.	'Not for Profit' Central and State PSUs	Nil
C	Recognized academic institutions, NGOs	1,500/-
D.	Central and State Public Sector Undertakings	10,000/-
E	Private Companies, individuals	15,000/-

- Discounts applicable : (a) 50% for PSUs of MoJS (no group discount);
- (b) For others – 20% discount for 3-4 participants; 30% discount for 5 or more participants from the same organization.

For modalities in respect of payment of fee, please refer to our website or contact the Program Coordinator. Programme fee is accepted only in demand draft. In favor of Deputy Director(A&C), NWA, Pune

### RESOURCE PERSONS

The resource persons for the program would be subject experts, from NWA, CWC & CWPRS.

### DURATION

The participants are expected to report for training by the 0930 Hrs. of 26<sup>th</sup> February 2024 and should plan to leave only after 1830 Hrs. of 1<sup>st</sup> March 2024.

### VENUE

National Water Academy, Khadakwasla, Sinhagad Road, Pune-411 024.  
(for more info on NWA, visit <http://nwa.mah.nic.in>)

### TARGET GROUP

The program intends to focus on the middle level and senior level officers of Central and State Govt. Departments, PSU's, Private Organizations, Academic Institutions and NGOs and provides a forum to facilitate learning and discussion on the use of software's for the Design and Analysis of Water Resources structures.

### PARTICIPATION

The nomination of the officers fitting the target profile may be sent through email to [nwa.mah@nic.in](mailto:nwa.mah@nic.in) at the latest by 15<sup>th</sup> February 2024. Confirmation on acceptance of nominations will be sent by email and also will be uploaded on NWA website by 16<sup>th</sup> February 2024. Nominated/Sponsoring officers may please indicate their Fax No./Mobile No. and E-mail address for timely information on this account. All participants may report the training on 26<sup>th</sup> February 2024@ 0930 Hrs and plan their return journey on 1<sup>st</sup> March 2024 after 1800 Hrs. All participants will have to reach the venue of training and plan their return journey on their own.

### LOCAL HOSPITALITY

NWA has a self-contained residential campus, and out-station participants would be provided with accommodation in the NWA Hostel as per the availability. Lodging & boarding charges as per government rates (about Rs.275/- per person per day) will have to be borne by the participants. Participants may also make their own stay arrangements if they wish. Airport/Railway station pickup/drop will also have to be arranged by the participants themselves.

### WEATHER

During the month of February, the average temperature of Pune may be around 15-30°C with pleasant climate.

### CONTACT

For **sending nominations** or for any information, please contact:

**Shri S K Das**

Director and Program Coordinator National Water Academy, CWC, Khadakwasla, Sinhagad Road, Pune – 411 024. Tel: 020 - 24380476, Fax: 020-24380110

**E-mail:** [nwa.mah@nic.in](mailto:nwa.mah@nic.in) Website: <http://nwa.mah.nic.in>

