

**NATIONAL WATER ACADEMY, PUNE**

**Training Program on  
“USE OF ADVANCED SOFTWARE IN DESIGN OF WATER  
RESOURCES STRUCTURES”  
(14-18 JANUARY 2019)**

**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: \_\_\_\_\_

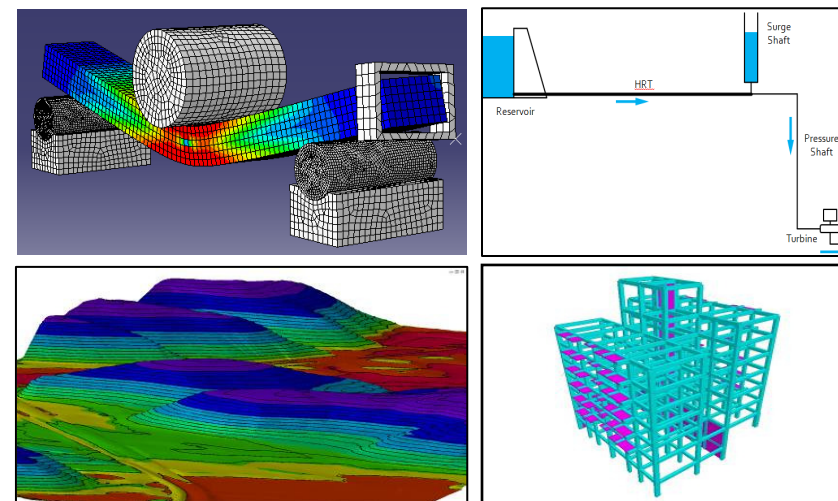
Date \_\_\_\_\_ (Signature and Seal)

Completed Registration Form may be sent to: email [nwa.mah@nic.in](mailto: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  
(14-18 January 2019)**



**Organized by  
National Water Academy 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 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 softwares are available having different capabilities in pre processing, solving and post processing. The training program focuses on use of softwares for advanced design techniques.

ABACUS is a one such general purpose software available commercially, for numerical modeling and has very powerful capabilities in both pre and post processing. ABACUS 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, ABACUS 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 softwares, working with ABACUS 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.

Another software which is proposed to be covered in this training program is WHAMO. Water Hammer and Mass Oscillation System (WHAMO) is used for Transients analysis, for design of water conductor system and surge protection works due to water hammer effects during non-steady flow conditions.

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 ABACUS, STADD-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 MoWR (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.

## 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 14<sup>th</sup> January 2019 and should plan to leave only after 1800 Hrs. of 18<sup>th</sup> January 2019.

## 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 discussions on various crucial issues associated with Environmental Economic and Social Aspects of water resources projects.

## PARTICIPATION

The nomination of the officers fitting the target profile may be sent to the Program Coordinator **latest by 31<sup>st</sup> December 2018**. The nominated officers are requested to start for the program **only after** confirmation of their nomination. The accepted nominations will be displayed on NWA's website on **31<sup>st</sup> December 2018**.

## 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). **Boarding and Lodging charges will have to be borne by participants**. Airport/Railway station pickup/drop will also have to be arranged by the participants themselves.

## WEATHER

During the month of January the average temperature of Pune may be around 15-25<sup>o</sup>C with pleasant climate.

## CONTACT

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

### Shri Manish Rathore

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**E-mail:** nwa.mah@nic.in Website: <http://nwa.mah.nic.in>