5-day Workshop on
"Finite Element Analysis"
From 18th to 22nd June 2024

REGISTRATION FORM

Name: ……

Designation: ……..……..

Organization: ……

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Correspondence Address: ……..……..

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Tel. (O) ……. (R) ….……..

(M) ……..

E-Mail: ……..……

Registration Fee paid:

Amount ……..

UTRNo.....Date ……

Name of the Bank ……..……

Accommodation Required: Yes / No

If interested in Research writing and Publishing Session only: Yes/No

Date: Place:

Signature:

For Online Registration please follow the link below:

https://forms.gle/8zaJypasWQXAbDyJ8

Account Details:

Name of A/c holder: Director NIT Raipur
A/c No.: 38027633250
IFSC Code: SBIN0002852
Bank & Branch: S.B.I. (NIT Raipur Branch)

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Address for Correspondence

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Five days Workshop on

Finite Element Analysis

From 18th to 22nd June 2024

Organized by

Department of Civil Engineering
National Institute of Technology
Raipur - 492 010 (Chhattisgarh)

In Association With
ISHRAE Raipur Sub Chapter
IGS Raipur Chapter

ISHRAE
RAIPUR SUB CHAPTER

About the Institute:

National Institute of Technology Raipur situated in the capital of Chhattisgarh, has proven to be "avant-grade' in the field of science and technology over past few decades in this region. With sweet memory of foundation ceremony by our president Hon'ble Dr. Rajendra Prasad on 14th September 1956. the institute started with two departments namely Metallurgical and Mining Engineering. Later the inauguration of the Institute building was done by our Prime Minister Hon'ble Pt. Jawahar Lal Nehru on 14th March 1963. From 1st December 2005, the institute has become the National Institute of Technology. It is well connected with Mumbai, Delhi and all metro cities by regular flights and is on the main Howrah-Mumbai railway route. The institute is 5 km from the Raipur railways station and 18 km from airport on NH-6, the Great Eastern Road.

About Department:

The Department of Civil Engineering at NIT Raipur (formerly, Government college of Engineering and Technology) is producing high quality technical manpower; required by various industrial establishments, R&D organizations, Govt. & public establishments and academic institutions since 1958. The Department offers B Tech degree in Civil Engineering and M Tech degree in Civil Engineering with specializations in Water Resources Development & Irrigation Engineering and Structural Engineering. The Department has been offering Ph.D. program in various specializations. The Department also encourages its students to engage in extra-curricular and co-curricular activities, essential for development, nurturing of team spirit, and developing organizational skills. The faculty members of the department are involved in research and consultancy activities, and they continue to enjoy academic leader role in the country. Govt. of India has recognized Civil Engineering Department as State Technical Agency for implementation of its ambitious projects of Pradhan Mantri Gram Sadak Yojana (PMGSY) & National Rural Drinking Water Programme (NRDWP).

Objectives:

- Provide participants with a thorough understanding of FEM principles and their real-world applications, bridging the gap between theory and practice.
- Equip attendees with hands-on experience in Python programming and Abaqus software for FEM analysis, enabling them to solve complex engineering problems.
- Explore innovative methods such as AI/ML integration through Physics-Informed Neural Networks (PINN), preparing participants for future developments in FEM technology.

Theme/Scope:

- Connect foundational FEM concepts with practical applications, emphasizing real-world problem-solving.
- From FEM history to advanced topics like dynamic analysis and machine learning, covering stiffness matrices, 2D elements, and composite analysis.
- Practical sessions with Python programming and ABAQUS software, developing and solving FEM problems.
- Insights from civil and mechanical engineering experts on geotechnical applications, vibration issues, and composite materials.
- Explore machine learning integration with FEM through Physics-Informed Neural Networks (PINN), preparing for future advancements.

Venue: Dept of Civil Engineering, NIT Raipur

Speakers:

Faculties from Civil and Mechanical Engineering from IIT and NIT.

Topics to be covered:

Introduction to FEM
History, Evolution, and Matrix Method with Bar Element

FEM Fundamentals
Necessity, Spring System Assembly, Stiffness Matrix, Boundary Conditions

Python Programming for FEM
Bar and Beam Element Stiffness Matrices

Two-Dimensional Elements
Plane Stress/Strain Elements, Python Coding

Dynamic Analysis
Geotechnical Applications, Vibration Problems

Composite Analysis
Mixed FEM for Laminated Composites

Machine Learning in FEM
Physics-Informed Neural Networks (PINN)

Hands-on in the ABAQUS Software by the experts from the ABAQUS.

Targeted Participants: Civil and Mechanical Engineering

- Students/ Research Scholars
- Faculty members
- Industry Professionals

Registration Fee Details (in INR):

Participants	Amount (in Rs.)
Students/ Research Scholars	850 + 18% GST
Faculty & Industry Delegates	1300 + 18% GST
For Research Writing Session only	170 + 18% GST

Registration fee includes registration kit, tea and lunch during the program. Fee is non-refundable.

Certificates will be issued to the participants only after attending the complete course.