



ABOUT THE INSTITUTE

National Institute of Technology (NIT), Rourkela, was founded as Regional Engineering College, Rourkela, in 1961. It is a prestigious Institute with a reputation for excellence at both undergraduate and postgraduate levels, fostering the spirit of national integration among the students, close interaction with industry and a strong emphasis on basic and applied research. It has been consistently ranked within the TOP 20 engineering institutes for five consecutive years as per MHRD's NIRF Ranking, Govt. of India

Website www.nitrkl.ac.in



About the Department

The Department of Civil Engineering Started its journey in 1961. Ever since the inception, it has been imparting quality education to undergraduate Students. The department presently Fosters four PG courses. There are about a dozen laboratories with various research and testing facilities. The faculty consists of eminent specialists from diverse fields, and there is a commendable research ambience in the department.

Patron

Prof. K. Umamaheshwar Rao,
Director, NIT Rourkela

Chairperson

Prof. Suresh Prasad Singh
Head, Civil Engineering Department,
NIT Rourkela

Convenors

Dr. Sunil Khuntia
Dr. Soukat Kumar Das



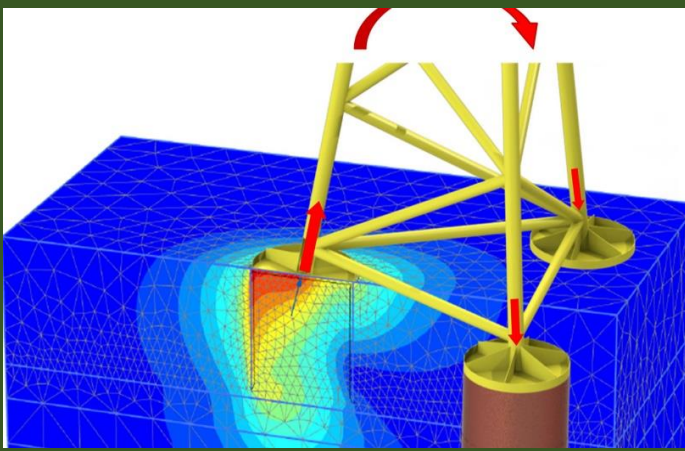
A 5-Day Short Term Course (STC) on

Computer Applications in Geotechnical Engineering (CAGE-2024)

(9 July- 13 July 2024)

(Hybrid Mode)

**Department of Civil Engineering,
National Institute of Technology,
Rourkela**



ABOUT CAGE-2024

The 5-Day STC on Computer Applications in Geotechnical Engineering (CAGE-2024) will cover essential topics including an overview of geotechnical engineering and the importance of computer applications, introduction to fundamentals of numerical methods such as FEM, FDM, DEM and other advanced methods. Participants will learn the concept of applying these methods in various geotechnical problems including soil-structure interaction, slope stability, and tunneling. The workshop will also cover geotechnical analysis for soil mechanics, foundation design problems under various conditions such as seismic, seepage, anisotropy etc. Advanced modeling techniques, including constitutive models for soil and dynamic analysis for earthquake engineering, will be explored. Applications of future trends like AI, machine learning, and sustainable practices will also be discussed.

OBJECTIVES

The 5-Day STC on Computer Applications in Geotechnical Engineering (CAGE-2024) aims to explore the latest advancements and applications of computer technologies in the field of geotechnical engineering. The STC will feature a diverse line-up of speakers, including leading academics, industry experts. A Q&A segment, allowing participants to engage directly with the presenters, will follow each session.

BROAD AREAS OF THE STC

- ❖ Introduction to Computer Applications in Geotechnical Engineering
- ❖ Basics of Geotechnical Analysis
- ❖ Numerical Methods and Modeling
- ❖ Constitutive Models for Soil Behavior
- ❖ Slope Stability and Landslide Analysis
- ❖ Practical Applications and Future Trends like AI and machine learning
- ❖ Carbon Sequestration Modelling
- ❖ Case Studies of Numerical Modeling in Geotechnical Projects

IMPORTANT DATES

Last date for registration	4th July 2024
Confirmation mail	7th July 2024
Workshop dates	9th - 13th July 2024

Convenors

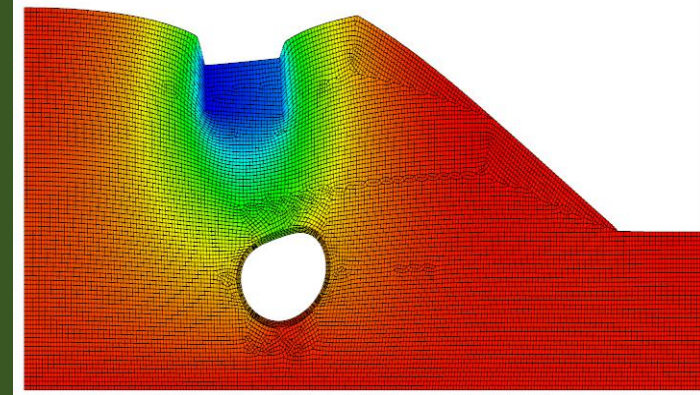
Dr. Sunil Khuntia, Asst. Professor

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Dr. Soukat Kumar Das, Asst. Professor

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Department of Civil Engineering
NIT Rourkela



REGISTRATION

The participant can register in the google form or QR Code



<https://forms.gle/mb9H5aeQT3SL8pG29>

Registration Fee

Research Scholars/ PG / UG Student/ Technical Staff	1000/-
Faculty from Academia	1500/-
Industry Participants	2000/-
Offline Participants	5000/-

Certificates will be issued to participants after the completion of the course.

ACCOMMODATION

Guest House (North Block) as per institute norm and availability on payment basis.

Registration fee can be paid online via NEFT/RTGS/IMPS:

Name: CONTINUING EDUCATION NIT ROURKELA

A/C No.: 101 389 517 84

Bank: State Bank of India

Branch: NIT Campus Rourkela

IFSC Code: SBIN0002109

For more Information, visit

<https://sites.google.com/view/cage-2024>

List of Speakers



Dr. Arghya Das
Associate Professor
IIT Kanpur
FE Modelling of Undrained Cyclic Loading



Dr. Santhoshkumar G
Assistant Professor
IIT Bhubaneswar
Method of Stress Characteristics with Finite Difference Method



Dr. Jagdish Prasad Sahoo
Associate Professor
IIT Kanpur
Stability Analysis of Tunnel using Finite Element Limit Analysis



Dr. Avinash Kumar Singh
Assistant Professor
IIT (ISM) Dhanbad
FE Modelling of Flexible Pavements



Dr. Kaustav Chatterjee
Associate Professor
IIT Roorkee
Assessment of Stability of Geotechnical Structures to Dynamic Loading: Numerical Studies



Dr. Ganesh R
Assistant Professor
IIT Ropar
Application of Neural Computing in Geotechnical Engineering



Dr. Moushumi Mukherjee
Assistant Professor
IIT Mandi
Large Deformation based FE Simulation of Jacked Piles and Influence of Soil Dilatancy Behaviour



Dr. Manoj Kumar Gudala
Post-Doctoral Fellow
KAUST
Geothermal Energy Numerical Simulation



Dr. Varun Kumar Singla
Assistant Professor
IIT Roorkee
Analytical and Numerical Methods for Simulating 1-D Wave Motion in Elastic Medium



Dr. Suman Chakraborty
Postdoctoral Fellow
Argonne National Laboratory, USA
A Molecular Dynamics Perspective of Multi-physics Fluid Systems