



### About the Campus:

IIT Bhubaneswar strives to offer the best engineering education with unmatched novelties in curriculum. Within a short span of incipience, IIT BBS has made rapid strides towards becoming one of the elite technological institutes of India spurred by sustained creation of knowledge and innovation, through high quality R&D activities and commitment to holistic education as students get exposed to a wide variety of activities through societies and clubs, involving liberal arts, design, dramatics, robotics, music, dance and sports, instilling them with social awareness, a spirit of innovation, entrepreneurship and thirst of discovery. All academic activities of the Institute are being carried out in the campus at Argul, spreading over 936 acres of land of serene and pollution-free academic environment, in the state of Odisha, India. It is located on the feet of the historic and magnificent Barunei Hills.

### About the Department:

The school is having a highly dedicated team of faculty members with a strong passion for furthering the cause of teaching and research. They have outstanding research contribution in their own fields of specialization, the details of which are available in the relevant web pages. They welcome dedicated students for pursuing their cutting edge research and offer state of the art consultancy in the area of Civil Engineering and Infrastructure which strengthens IIT Bhubaneswar's service to the nation.

#### Important Contacts

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Training Program on

# SCHOOL OF EXCELLENCE

IN DESIGN & ENGINEERING (CIVIL AND STRUCTURAL)

January 22 - 25, 2024

Organized by

School of Infrastructure  
Indian Institute of Technology Bhubaneswar

For



#### Coordinators:

Dr. Sarat Kumar Panda  
Dr. Santhoshkumar G



Venue: **SIF, 210**

4MVG+GF9, Kansapada, Odisha 752050


- DAY 1** 09:00 - 09:30 Inauguration
- 09:45 - 10:45 Introduction to FEM using Abaqus
- 11:00 - 13:00 Linear and nonlinear analysis of steel and RCC structures
- 14:00 - 16:00 Analysis of concrete in-filled steel tubular structures by using FEM software.
- 16:15 - 18:15 Analysis of thick and thin walled pressure vessels


- DAY 2** 08:45 - 10:45 Dynamic analysis of steel structures by using FEA software
- 11:00 - 12:00 Concepts on structural health monitoring (SHM)
- 12:00 - 13:00 SHM through case studies for onsite health monitoring
- 14:00 - 15:00 Preamble to prestress concrete and its application to large structures
- 15:00 - 16:00 3D space frame with ball & socket joint for large span
- 16:15 - 18:15 Evaluation of design load for railway and road bridges

- DAY 3** 08:45 - 09:45 Hydrological and geotech. investigation for bridge design
- 09:45 - 12:00 Design of slab/girder/composite bridges
- 12:00 - 13:00 Execution and quality monitoring at construction sites
- 14:00 - 15:00 Rainwater Harvesting methodologies for sustainability
- 15:00 - 17:15 Design of retaining/ counter fort retaining wall
- 17:15 - 18:15 Introduction to ballast less tracks

- DAY 4** 08:45 - 10:45 Assessment and interpretation of material parameters from geotechnical report for structural design
- 11:00 - 13:00 Ground improvement technique to support heavy construction
- 14:00 - 15:00 Conventional field testing methods and issues and alternatives in geotechnical investigation
- 15:00 - 17:15 Introduction to modal analysis
- 17:15 - 18:15 Assessment/Feedback/Valedictory session

 10:45 - 11:00

 13:00 - 14:00

 16:00 - 16:15