

**Department  
of  
Civil  
Engineering  
NEWSLETTER  
2024-25**

**Vision of the  
Department**

Committed to carve proficient civil engineers for providing substantial input to cater basic needs of different stratum of society.

**Mission of the  
Department**

**M1:** To provide an excellent teaching learning environment through well designed curricular and co-curricular activities.

**M2:** To develop highly skillful civil engineering professionals to serve up industry and society through valuable resources.

**M3:** To enhance self-learning ability, team spirit and life skills by extracurricular activities.

**M4:** To create research oriented atmosphere amongst students and faculty with the help of project based learning and consultancy.

# SKN Sinhgad College of Engineering, Pandharpur.

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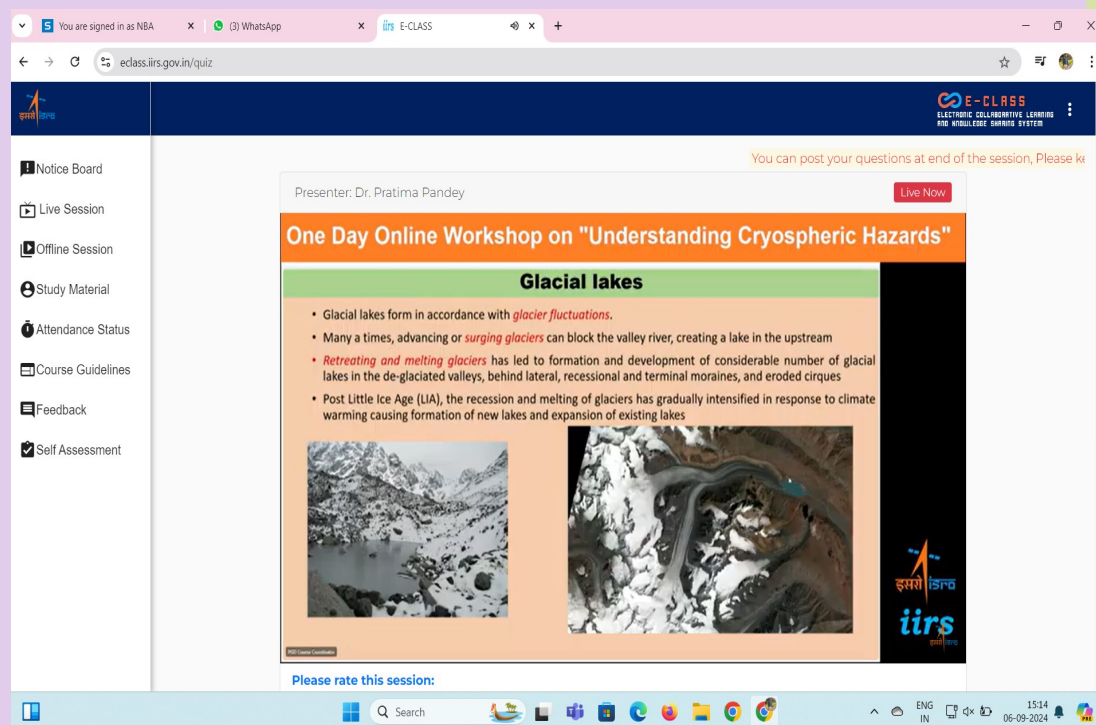


## IIRS Outreach Program

### One Day Workshop on Understanding Cryospheric Hazards

A workshop on Understanding Cryospheric Hazards was organized on September 6, 2024 at S K N Sinhgad College of Engineering Korti, Pandharpur. The principal of the college Dr. Kailash Karande informed that this workshop was completed with great enthusiasm.

This workshop was organized by IIRS/ISRO. Sinhgad College of Engineering Pandharpur is the nodal center of IIRS ISRO and the workshop was organized by this nodal centre. Students of Civil Engineering Department participated in this workshop. To make this workshop a success, Vice Principal Dr. Swanand Kulkarni, Head of Department. Dr. Shriganesh Kadam, Dr. Chetan Pise (Dean Research and Development), Nodal Centre Head Prof. Milind Tondase and all the teachers and non-punitive staff of the college worked hard.



## Guest Lecture on “Importance of skill development for civil engineer”

In this lecture, Dr. Phatak emphasized the importance of students studying each subject from the second year onwards by observing its practical application in ongoing projects. He also stressed the need for students to stay updated with emerging technologies, such as Building Information Modeling (BIM), which is currently being used in civil engineering and will be widely adopted in the future. Dr. Phatak highlighted that acquiring skills related to this technology is a necessity in today’s times.

The event began with the Saraswati Puja and lamp lighting ceremony, conducted by chief guest Dr. Udaykumar Phatak, Department Head Dr. Shrlganesch Kadam, Dean of Research and Development Dr. Chetan Pise, and Professor Ganesh Lakde. The chief guest was welcomed and honoured by Dr. Chetan Pise with a bouquet.

The program was hosted by Ms. Sumitra Sangolkar, and a vote of thanks was given by Professor Ganesh Lakde. More than 150 students from the Civil Engineering Department participated in this lecture. All the faculty and non-teaching staff of the Civil Engineering Department worked hard to ensure the event's success.

No. of Students Attended: 150.



**MOU with PCERF PUNE**

## SPARKX 2K24

In the Civil Engineering Department of SKN Sinhagad College of Engineering Pandharpur at Korti (Pandharpur) on Friday, September 13, 2024, the state level event "Spark 2K24" was organized by Principal Dr. Given by Kailash Karande.

The event "Spark 2K24" was inaugurated by the Head of Civil Engineering Department Dr. The ribbon was cut by Sriganesh Kadam. More than 200 students from Solapur district and other districts participated in this. Various competitions like quiz competition, poster presentation, model making and ludo were organized in this event. The winners of the model making competition, Sujal Kawade, Sahil Ghalke and Prasad Dokar, as well as Shubda More in the quiz competition and Kumari Tejaswini Khandekar in the paper presentation were awarded cash and certificates by the dignitaries.

To make this program successful, Dr. Yashwant Pawar, Prof. All the teachers and non-academic staff of the civil engineering department including Siddesh Pawar etc. worked hard. The event was moderated by Kumari Tejaswini Khandekar and thanks were given by Kumari Prati Velapurkar.



# Revolutionizing Construction: The Role of Artificial Intelligence

Robotics is transforming civil engineering construction by enhancing efficiency, safety, and precision. Integrating robotic technologies into construction processes addresses challenges such as labor shortages, high costs, and project delays, paving the way for more sustainable and innovative practices.

## Applications of Robotics in Construction

### Autonomous Construction Equipment

Robotic excavators, bulldozers, and graders can operate with minimal human intervention, increasing productivity and accuracy.

Examples include automated earthmoving and grading systems guided by GPS and LiDAR.

### Bricklaying and Masonry Robots

Robots like SAM100 (Semi-Automated Mason) lay bricks with speed and consistency, reducing manual labor and errors.

### 3D Printing and Additive Manufacturing

Large-scale 3D printers construct walls, bridges, and entire buildings using materials like concrete, reducing waste and construction time.

### Inspection and Maintenance Robots

Drones and crawling robots equipped with sensors perform structural inspections, detect defects, and ensure compliance with safety standards.

### Rebar Tying and Assembly

Automated systems handle repetitive tasks like rebar tying, enhancing speed and reducing worker fatigue.

## BENEFITS OF ROBOTICS IN CONSTRUCTION

- **Enhanced Safety:** Robots perform dangerous tasks, reducing the risk of accidents.
- **Increased Productivity:** Automation accelerates project timelines and minimizes delays.
- **Cost Savings:** Reduced labor and material waste lower overall project costs.
- **Precision and Quality:** Robotics ensures consistent and accurate execution of tasks.

## FUTURE TRENDS

- **AI-Driven Robotics:** Integration of artificial intelligence for real-time decision-making and adaptive construction processes.
- **Swarm Robotics:** Use of multiple robots working collaboratively to complete large-scale tasks.
- **Sustainable Construction:** Robotics enables efficient use of resources and promotes eco-friendly practices.



Ms. Swapnali Katare