

## DEPARTMENT OF CIVIL ENGINEERING



**" Transforming Engineering Students into Industry-Ready Professionals "**



# ***DEPARTMENT OF CIVIL ENGINEERING***

## **PROGRAMME SPECIFIC OUTCOMES**



**PSO1:** Plan, Analyse and Design sustainable infrastructure.

**PSO2:** Build, manage and maintain construction projects adhering to the highest quality and safety standards.

**PSO3:** Apply innovative and emerging technologies and tools to solve real world civil engineering problems for society.

## NEWS AND EVENTS

### ***SUCCESSFUL WORKSHOP ON FLOOD DISASTER RESILIENT HYDRAULIC DESIGN FOR BRIDGES EXPOSED TO CLIMATE CHANGE***

A momentous event unfolded at the 114-B Board Room in Block 4 of the Department of Civil Engineering Sharda University on the 16th of June 2023. The workshop titled "**Flood Disaster Resilient Hydraulic Design for Bridges Exposed to Climate Change**" proved to be an enlightening and impactful experience for all attendees.



#### **Keynote Speaker's Expertise:**

##### **Prof. (Dr) Rakesh Kumar**

The distinguished keynote speaker, Prof. (Dr) Rakesh Kumar, a luminary in the field of hydraulic engineering and climate resilience, captivated the audience with his profound insights.



#### **Acknowledging Contributions:**

The success of the workshop would not have been possible without the collective efforts of the Department of Civil Engineering, the organizing team, and the dedicated participants. **Prof. (Dr) Rakesh Kumar's** expertise lent a unique dimension to the event, enriching the discourse and leaving a lasting impact.



## NEWS AND EVENTS

### ***Empowering Ideas: Unveiling the Impact of Sanctioned Seed Fund Schemes"***



Dr. Sufyan Ghani

**TITLE : REMOTE SENSING-BASED PREDICTION OF SOIL MOISTURE AND ITS IMPACT ON THE ENGINEERING PROPERTIES OF SOIL FOR WESTERN UTTAR PRADESH.**

**TITLE: "DURABILITY ASSESSMENT OF DIFFERENT BLENDED CONCRETE SUBJECTED TO COMBINED ENVIRONMENTAL AND MECHANICAL LOADING USING NDT TECHNIQUES."**



Dr. Tushar Bansal



Dr. Dayanand Sharma

**TITLE: "CONVERSION OF DRY LEAVES INTO BIODEGRADABLE PLATES AND ASSESSMENT OF THEIR DEGRADATION RATE IN A CONTROLLED IN-VESSEL COMPOSTER."**

## NEWS AND EVENTS

### ***Innovative Contribution to Geotechnical Engineering: New Book Chapter Explores Plasticity-Based Liquefaction Prediction***

**Title:** Plasticity-Based Liquefaction Prediction Using Support Vector Machine and Adaptive Neuro-Fuzzy Inference System.

**Authors:** Sufyan Ghani and Sunita Kumari

**Publisher:** Springer, Singapore

**Published in :** Lecture Notes in Civil Engineering

**Brief Description:** The book chapter takes on the formidable challenge of predicting liquefaction susceptibility in soil layers – a crucial aspect of geotechnical engineering that impacts the stability of structures in earthquake-prone regions. Sufyan Ghani and Sunita Kumari's research introduces a novel approach that leverages Support Vector Machine (SVM) and Adaptive Neuro-Fuzzy Inference System (ANFIS) techniques to enhance the accuracy of plasticity-based liquefaction assessment.

### ***Celebrating the Publication of a New Patent***

#### **Patent Published for Innovative Composter Invention**

**Invention Title :** "A Composter for Organic Waste."

**Application No.** 202311021936

**Inventors:** Dayanand Sharma, Kunwar Durg Vijay Singh Yadav, and Rajnikant Prasad.

#### **Patent Published for "A System for Treatment of Greywater and a Method Thereof"**

**Invention Title :** A System for Treatment of Greywater and a Method Thereof.

**Application No.** 02311036041

**Inventors:** Rajnikant Prasad and Dayanand Sharma.

## NEWS AND EVENTS

### ***Celebrating Research Excellence with New Published Paper***

**1. Title of Paper-** Recommendation of RILEM TC 281-CCC: Test method to determine the effect of uniaxial compression load and uniaxial tension load on concrete carbonation depth.

**Author-** Dr. Tushar Bansal

**Journal-** Materials and Structures (2023) 56:121

**DOI-** <https://doi.org/10.1617/s11527-023-02203-y>

**2. Title of Paper-** Comparative Study of machine learning methods to predict compressive strength of high-performance Concrete and model validation on experimental data.

**Author-** Dr. Tushar Bansal

**Journal-** Asian Journal of Civil Engineering

**DOI-** <https://doi.org/10.1007/s42107-023-00836-6>

**3. Title of Paper-** Report of RILEM TC 281-CCC: effect of loading on the carbonation performance of concrete with supplementary cementitious materials — an interlaboratory comparison of different test methods and related observations.

**Author-** Dr. Tushar Bansal

**Journal-** Materials and Structures (2023) 56:110

**DOI-** <https://doi.org/10.1617/s11527-023-02190-0>

**4. Title of Paper-** Modelling Soil Compaction Parameters Using an Enhanced Hybrid Intelligence Paradigm of ANFIS and Improved Grey Wolf Optimiser.

**Author-** Dr. Sufyan Ghani

**Journal-** Mathematics 2023, 11, 3064

**DOI-** <https://doi.org/10.3390/math11143064>

**5. Title of Paper-** Effect of plant density and hydraulic retention time on phytoremediation of greywater using water hyacinth and validation of its optimized result using artificial neural network.

**Author-** Dr. Dayanand Sharma

**Journal-** The Canadian Journal of Chemical Engineering

**DOI-** <https://doi.org/10.1002/cjce.25027>

## NEWS AND EVENTS

### ***Patent Granted for Groundbreaking Invention***

#### **Patent Granted for Environmentally Friendly Barbecue Grill**

**Invention Title :** Environmentally Friendly Barbecue Grill

**Application No.** 202111018465

**Inventors:** Dr. Gaurav Saini, Nishant Kumar, Abhishek Kumar

### ***Student Membership at RICS***

**Taking a Systematic Approach towards Bridging the Skill-Gap in the Industry**

- 1- Creating Awareness:** Students to be provided with relevant workshops, enabling them to identify areas and jobs of their interest.
- 2- Industry interface:** Regular interactions and guest lectures by leading Industry professionals to make the students aware about career and growth opportunities in specific pathways.
- 3- Assistance** will be provided to Students to identify key areas, in which they can gain more knowledge and develop expertise.

#### **It All Begins here: RICS Student Member**

The best part is that the Student Membership comes to the students  
ABSOLUTELY FREE OF COST!!

Join here: RICS Students; url: (<https://www.rics.org/uk/surveying-profession/join-rics/rics-student/>)

## ***NEWSLETTER TEAM***

#### **STUDENT EDITORS**

Nadim Ahmad  
Thokchom Joya Devi  
Roberta Robert  
Prajeet Baudel

#### **FACULTY MEMBERS**

Dr. Satya Prakash  
Mr Sunil Saharan  
Ms. Sukalpaa Chaki

For any suggestions and queries,  
Mail us @ :  
[news.cessu@gmail.com](mailto:news.cessu@gmail.com)