

InstaGram  
CIVIL ENGINEERING NEWSLETTER



# AADHARA

SEPT & OCT 2022



skcet\_civil\_engineering GREEN DIWALI 2022



**Featuring**

**STUDENTS SECTION  
FACULTY CONTRIBUTION  
GREEN DIWALI**

# VISION AND MISSION OF THE DEPARTMENT

## VISION

To be a centre of excellence in Civil Engineering Education through full-fledged Learning experience along with research.

## MISSION

To accomplish our vision, we are committed to excel in Civil Engineering Education by providing,

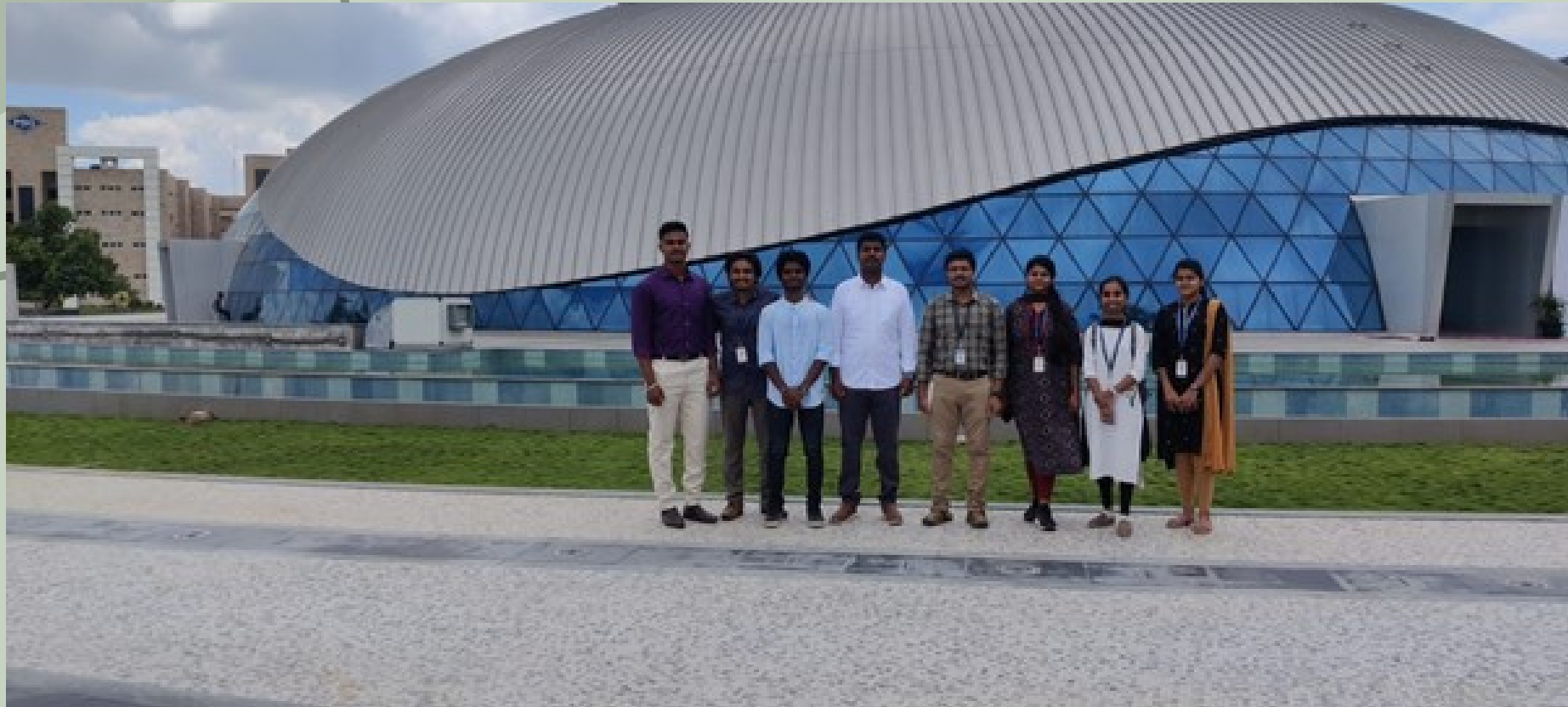
- Faculty experts from all specialization of Civil Engineering to facilitate teaching learning process
- Excellent infrastructure facilities to apply Civil Engineering knowledge and perform societal based research.
- Exposure to latest technologies in Civil Engineering through industry-institute interaction and professional bodies.
- Environs to develop their innovative thoughts, ethics, communication, inter- and intra-personal skills.
- Enthusiasm towards self-learning, social responsibility and entrepreneurship

# PROGRAMME EDUCATIONAL OBJECTIVES

- 1.To apply knowledge of mathematics, science and engineering to solve existing problems in the area of Structural, Geotechnical, Water Resources, Environmental, Transportation, Urban Planning, Construction Materials and Management in Civil Engineering
- 2.To analyze, design, construct Civil Engineering traditional and modern structures
- 3.To perform investigation on any complicated Civil Engineering problems by conducting research using modern equipments and software tools
- 4.To communicate and develop strong inter- and intra- personal skills to prepare them for placement and higher studies
- 5.To be self-motivated towards lifelong learning and entrepreneurship

# STUDENTS' ACHIEVEMENT

# CEBACA VISIT



**Civil Engineering students attended "Seiyarkria", a knowledge sharing event on Design and Construction of Convention center of PSG institute of Technology and Applied Research organized by CEBACA (Coimbatore Builders and Contractors Association).**

**Design team members Ar. Sangeet Sharma (Architect) , Dr.L. S. Jayagopal (Structural design), Ar . Lakshmi Rajasiddharth (Interiors Landscaping) delivered technical sessions on making of the conventional centre.**

# STUDENTS' ACHIEVEMENT

## NATIONAL SEMINAR PARTICIPATION

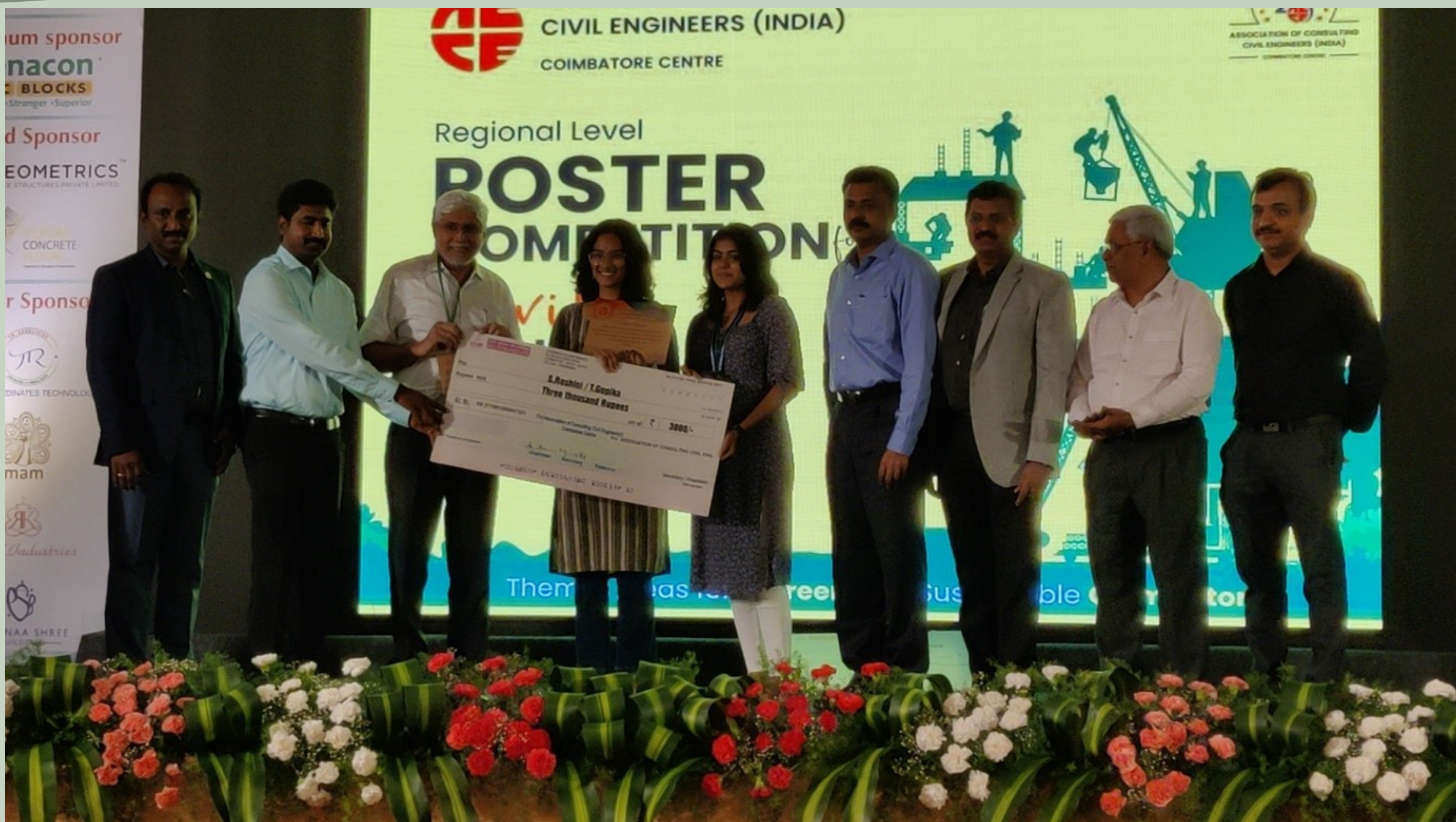


**Civil Engineering Students attended a National Seminar on “Emerging Trends in Smart and Sustainable Infrastructure” organised by Association of Consulting Civil Engineers (India) in association with Ramco Cements held on 30th September and 1st October at The Residency Tower, Coimbatore. Dr. D. Maruthachalam, Professor and Head, Department of Civil Engineering was the Secretary of the organizing committee.**

# STUDENTS' ACHIEVEMENT

# POSTER

# COMPETITION



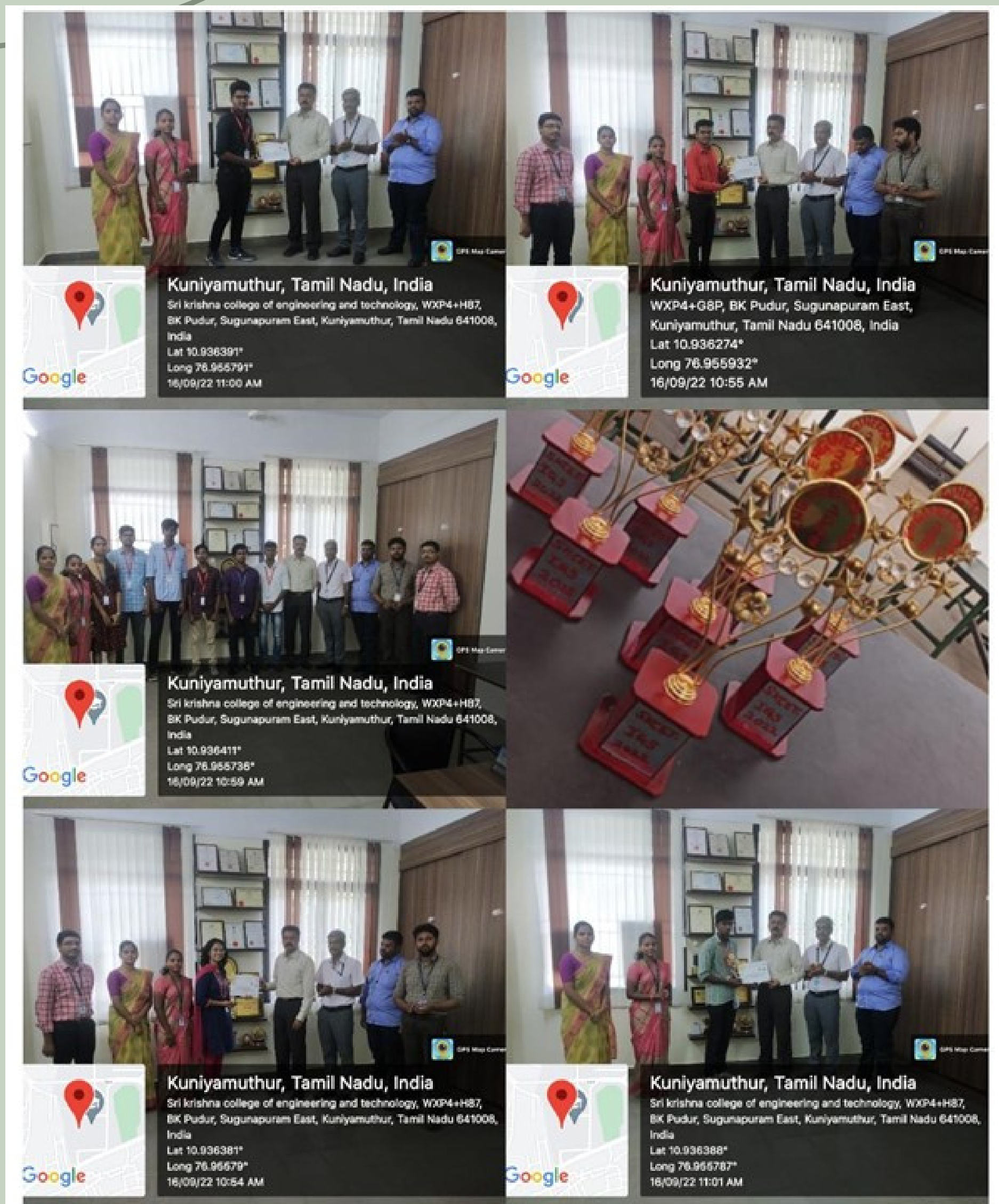
**Civil Engineering Students T. Gopika and S. Roshini have won the third prize in the poster competition for Civil Engineering Students with on the theme of "Ideas for Green and Sustainable Coimbatore" organised by Association of Consulting Civil Engineers (India), Coimbatore centre as a part of Engineer's Day celebration. The students were awarded a certificate of merit and a cash prize of 3000rs.**

# STUDENTS' ACHIEVEMENT ENGINEER'S DAY CELEBRATION



The R&I Cell of Civil Engineering Department organised “Sustainable Innovation Challenge 2K22”. Students exhibited their Innovative Projects in the form of posters and got appreciation from the Jury members, who are field Engineers from SAPL, for innovative ideas and enthusiasm towards their project. Winners are awarded with exciting cash prizes. The celebration was organized by Mr. A. Jesudass.

# STUDENTS' ACHIEVEMENT ENGINEER'S DAY CELEBRATION



**The Indian Geotechnical Society, Student chapter organised several competitions like Geoposter, Geo Snap talk video and Geotechnical Challenge to celebrate Engineer's day 2022. The best performers were provided shields and certificate of merit. The celebration was organized by Dr. R. Chandra Devi.**



# FACULTY CONTRIBUTION

# R&D PUBLICATION



Global NEST

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## Evaluation of the performance of packed bed column for heavy metal ion removal using rice husk powder coated with iron oxide nano-particles

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<sup>1</sup>Department of Civil Engineering, Velammal College of Engineering and Technology, Madurai, Tamil Nadu - 625009, India

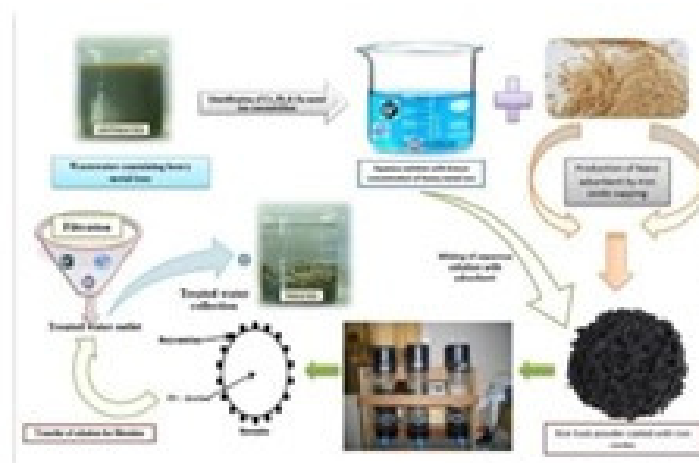
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Received: 22/04/2022, Accepted: 18/07/2022, Available online: 07/08/2022

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<https://doi.org/10.30955/gnj.004331>

### Graphical abstract



### Abstract

The packed bed column study investigated the removal of toxic metal ions (Cr, Pb & Zn) using rice husk coated with iron oxide nanoparticles as an adsorbent material. The chemical fusion process prepared the nanomaterial adsorbent, and iron oxide capping provides stability to the prepared nano adsorbent. The characteristics of prepared nano adsorbents and their stability were examined by SEM/EDX, VSM, XRD, Zeta Potential, TGA & DTA methods. Breakthrough curves confirm the ability to obtain the maximum adsorption under operating conditions of 5, 7.5 & 10 - cm bed heights, 100, 200 & 300 - mg/L of metal ion concentrations and 5, 7.5 & 10 - mL/min of inflow rate of the solutions into the column. The ANOVA & CCD analysis confirms the linearity of actual and predicted values of the amount of adsorption process. Thomas and BDST model studies show the best fit to the regression values for obtaining earlier breakthroughs in the fixed bed column. At the pH of 2.0, the maximum amount of heavy metals adsorption was observed. The maximum desorption rate of the column and adsorbent material was obtained by adding 0.3 N of H<sub>2</sub>SO<sub>4</sub> at 40 minutes average time for all the three metal ions.

**Keywords:** Fixed bed column, rice husk, nano-adsorption, iron oxides, desorption

### 1. Introduction

Eliminating toxic heavy metal ions (Cr, Pb and Zn) in the industrial effluent is critical and requires additional treatment apart from the primary, secondary and biological treatment process. The industrial effluent has various types of heavy metal ions, which creates poisonous effects due to the direct discharge from the industries without any prior treatment. It is necessary to remove/reduce the toxic contaminants in the effluent as a part of mitigation measures (Singha *et al.*, 2011). Many treatment techniques are available to eliminate the toxic pollutants from their source of accumulation. But all those additional treatment technologies require very high capital and investment cost, skilled workers, large space etc., Also, it produces a high amount of secondary sludge, and using highly concentrated acids/chemicals is a major disadvantage (Yogeshwaran *et al.*, 2021). Adsorption is one of the treatment techniques used widely in recent days to remove/reduce the concentrations of toxic pollutants. It is the process that can accumulate the pollutants on the surface of the adsorbent material (Hasfalina *et al.*, 2012). Normally, the adsorbent material is created using organic decomposable wastes such as grape leaves, neem leaves, date seeds, rice hulls etc., (Hezagi *et al.*, 2013). The adsorbent materials are synthesized and converted into activated carbon to obtain more surface area and pollutants onto the adsorbent surface (Priya *et al.*, 2022). This happened due to the Van Der - Walls force between the inner walls of the adsorbent surface and the pollutants (Yunnen *et al.*, 2017). The process of adsorption may be done by batch/column mode of study based on the concentrations of pollutants.

Due to the variations in metal ion concentrations and unpredictable flow rates, the batch mode of adsorption has not been able to provide a good quality of results (Wolowiec *et al.*, 2019). For the large-scale treatment

Saravanan R.V., Yuvaraja R., Andal L. and Yogeshwaran V. (2022), Evaluation of the performance of packed bed column for heavy metal ion removal using rice husk powder coated with iron oxide nano-particles, *Global NEST Journal*, 24(XX),

**Dr. V. Yogeshwaran, Associate Professor, Department of Civil Engineering has published a research article titled "Evaluation of the performance of packed bed column for heavy metal ion removal using rice husk powder coated with iron oxide nano-particles" in Global NEST journal. It is indexed in SCI & SCOPUS with a Impact Factor of 1.475.**

# FACULTY CONTRIBUTION

# R&D PATENT



Office of the Controller General of Patents, Designs & Trade Marks  
Department of Industrial Policy & Promotion,  
Ministry of Commerce & Industry,  
Government of India

## Application Details

APPLICATION NUMBER	202241050786
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	06/09/2022
APPLICANT NAME	1 . Dr.M.R.Ezhilkumar 2 . Dr.V.Yogeshwaran 3 . Mr. A. Jesudass 4 . Mr. S. Sadheesh 5 . Vignesh.T
TITLE OF INVENTION	CAPSULE ROBO TO TRACK THE LEAKAGES IN WATER PIPELINES
FIELD OF INVENTION	CHEMICAL
E-MAIL (As Per Record)	ezhilkumar@skcet.ac.in
ADDITIONAL-EMAIL (As Per Record)	ezhilkumar@skcet.ac.in
E-MAIL (UPDATED Online)	
PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	--
PUBLICATION DATE (U/S 11A)	16/09/2022

**Dr. M. R. Ezhilkumar, Dr. V. Yogeshawaran, Mr. A. Jesudass and Mr. S. Sadheesh, Assistant Professors, Department of Civil Engineering have published a patent on the title "Capsule Robo to track the leakages in water pipelines".**

# FACULTY CONTRIBUTION

# FACULTY

# CERTIFICATION



**Dr. P. Saravanakumar, Associate Professor, Department of Civil Engineering has successfully completed a course on "Introduction to Engineering Mechanics" authorized by Georgia Institute of Technology and offered through Coursera.**

# FACULTY CONTRIBUTION

# FACULTY TRAINING



**Civil Engineering faculty have attended the Training the Trainers program for Naan Mudhalvan Scheme at PSG College of Technology. Experts from L&T EduTech provided training on BIM, High Rise Buildings, Steel Structures and Airports & Metro systems. Students can make use of their Naan Mudhalvan login and gain access to the above courses to improve their technical cognizance.**

# FACULTY CONTRIBUTION

# FACULTY PROGRESSION





**Mr. R. Vighnesh, Assistant Professor of the Department of Civil Engineering has successfully completed assessments based on Green Buildings held by Indian Green Building Council (IGBC) and has become an Accredited Professional. This means he is eligible to assess the green building process for any structure as a third-party examiner.**

# FACULTY CONTRIBUTION

# FACULTY

# PROGRESSION

**CENTRE FOR RESEARCH**  
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CHENNAI - 600 025

  
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Fax : +91-44-2220 5213  
Email : dirresearch@annauniv.edu  
dirresearch@gmail.com

**Dr. C.UMARANI**  
DIRECTOR

Lr. No: SUPR/AR2 Date : 12.10.2022

To  
Dr. Yogeshwaran V  
Assistant Professor  
Department of Civil Engineering  
Sri Krishna College of Engineering and Technology  
Kuniamuthur, Coimbatore-641008

Sir/Madam,

Sub : Ph.D.Programme - Supervisor Recognition - **Approved** - Orders - Issued.  
Ref : Your application for Supervisor Recognition.

\*\*\*\*\*

I am by direction to inform that you are recognized as a Supervisor ( **Ref.No: 4010004** ) for guiding Ph.D. scholars of this University under the faculty of **Civil Engineering**.


Area of Specialization: "**Solid Waste Management, Industrial Wastewater Treatment, Adsorption**"

The functions and responsibilities of the supervisor are described under clause (7) of the Ph.D.regulations of this University and applicable as and when amendments are made to the Regulations from time to time.

**It is to be noted that, "Supervisors working in the recognized R&D Centre of Industries/non-recognized research Departments of Engineering College/Architecture Schools situated within Tamil Nadu shall function only as Joint Supervisor".**

I request you to adhere strictly the Ph.D. regulations (available in <https://cfr.annauniv.edu/research/instructions.php> ) when you start guiding the scholars.

Further for any correspondence in future quote **4010004** for reference.

  
DIRECTOR 12/10/22

Copy to:

The Head  
Department of Civil Engineering  
Sri Krishna College of Engineering and Technology  
Kuniamuthur, Coimbatore-641008

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12/10/22

**Dr. V. Yogeshwaran, Assistant Professor, Department of Civil Engineering has been recognized as a supervisor (Ref. No: 4010004) for guiding Ph.D. scholars at Anna University. Solid waste management, Industrial wastewater treatment, and adsorption are the areas of specialisation.**

# OTHER SIGNIFICANT EVENTS

## GUEST LECTURE



**Civil Engineering Association and IIC, Department of Civil Engineering organized a Guest Lecture on "Valuation of Assets" at BS-03 Seminar Hall on 14th September 2022. Er.Pichaiya Subramaniam, Valuer and Chartered Engineer, Chief Executive Officer, Pichaiya Associates, Coimbatore was the resource person.**

# OTHER SIGNIFICANT EVENTS

## GUEST LECTURE



The Civil Engineering Department of Sri Krishna College of Engineering and Technology organised a Guest Lecture on "Anti-ragging Awareness Programme" for all department students. The speaker was Mr. S. Anbu Chezhiyan, Advocate, Coimbatore. The guest lecture created awareness among the students to have cordial relationship between senior and junior students and the importance of filling anti-ragging affidavit. The resource person also discussed about the legal issues, ethical values in academic life.



# OTHER SIGNIFICANT EVENTS

## GREEN DIWALI



The Civil Engineering students of Sri Krishna College of Engineering and Technology, along with social club – “Eagai” and Eco Green club – “Mannvaasam” celebrated a Green Diwali with tribal school children and people at Government middle school, Kondanur on 20th October 2022. 40 students and faculty members conducted various events in the school following the theme of celebrating a Green Diwali. Awareness sessions on rainwater harvesting, air pollution, plastic pollution, tree plantation drive, games for students; teachers, and tribal dance shows were conducted.

# OTHER SIGNIFICANT EVENTS

# GREEN DIWALI



# GREEN DIWALI



**"If you have much, give of your wealth; if you have little, give of your heart. " has been the single point agenda of EAGAI - Social Club.**

**"We have been celebrating Green Diwali with the support of our college, department, students and intra departmental club like Manvaasam - Eco green club. This event has been organised for the past Four years in places like Dhumanur, Kondanur and Panapalli government schools located near Anaikatti, Coimbatore. The various events we conduct in Green diwali are mainly to provide awareness of using crackers and giving them knowledge of celebrating the "Festival of lights" in an environmentally friendly manner by using green crackers. The activities are providing lunch and sweets for the children, conducting games, cultural dance, singing and finally distributing seed pencils, prizes and gifts."**

**Mr. S SADHEESH  
FACULTY COORDINATOR - EAGAI**

# CONVOCATION B2017 - 21



**SRI KRISHNA COLLEGE OF ENGINEERING AND TECHNOLOGY**  
Coimbatore - 641008



**20<sup>th</sup> Graduation Day**



## Chief Patron

**Smt. S. Malarvizhi**  
Chairperson and Managing Trustee,  
Sri Krishna Institutions.

## Patron

**Dr. K. Sundaraman,**  
CEO, Sri Krishna Institutions.

## Co-Patron

**Dr. J. Janet,**  
Principal, SKCET

## Faculty Editor

**Mr. D. Maruthachalam,**  
HoD/Civil Engineering.

**Mr. R. Vighnesh,**  
Assistant Professor,  
Civil Engineering

## Student Editor

**Mr. H. Sujan,**  
3rd Year Civil Engineering..