



MODERN BUILDING MATERIALS AN ERA OF 3D MATERIALS

CIVIL ENGINEERING DEPARTMENT NEWS LETTER

2022-23 |JULY - DECEMBER2022|



HOD s Message:



This newsletter published for the year 2023-24 is dedicated entirely to the Aspects of change of various building materials in the old golden era versus modern platinum construction. Current edition is entirely dedicated to various construction materials used in modern days and insight to magnificent structures built by using them

DEPARTMENT VISION

"To enrich the society through Civil Engineering education for socio-economic development and welfare of the people."

DEPARTMENT MISSION

"An integrated development of Civil Engineering Professionals with technological knowledge and managerial skills; possessing environmental, ethical and human values".



Program Educational Objectives

Upon graduation, students of the program will:

- I. To provide basic scientific training to the students so as to solve Civil Engineering problems with scientific outlook rather than mere continuation of traditional practices.**
- II. To provide training in basic engineering sciences so that students apply the concepts of basic engineering sciences to the solution of Civil Engineering problems.**
- III. To train the students in the broad areas of Civil Engineering and inter-disciplinary areas.**
- IV. To mould the students professionally competent with managerial and communication skills.**
- V. To train the students to mitigate natural**



Program Outcomes

- **Graduates will have an ability to apply the knowledge of basic sciences like Physics, Mathematics and Chemistry for the solution of Civil Engineering Problems.**
- **Graduates will have sound knowledge in basic engineering sciences like Engineering Mechanics, Solid Mechanics, Fluid Mechanics to solve Civil Engineering problems.**
- **Graduates will have generalized knowledge in Civil Engineering and interdisciplinary knowledge to design and execute Civil Engineering Projects.**
- **Graduates will have an ability to design and conduct experiments as well as to analyse and interpret data.**
- **Graduates will have an ability to demonstrate knowledge and understanding of engineering and management principles and apply these principles in their profession.**
- **Graduates will have an ability to identify, formulate and solve engineering problems.**
- **Graduates will have requisite knowledge to pursue Post-graduate / Research Programmes and for life-long learning.**
- **Graduates will have computational and drafting skills.**
- **Graduates will be professionally competent with managerial and communication skills.**
- **Graduates mitigate environmental problems and natural disasters like earthquakes, cyclones and floods.**
- **Graduates perform professional duties with environmental, ethical and human values.**
- **Graduates will have broad education necessary to understand the impact of Civil Engineering solutions in global societal context.**

*Shall We see the sd
reflexes of modern
building materials*

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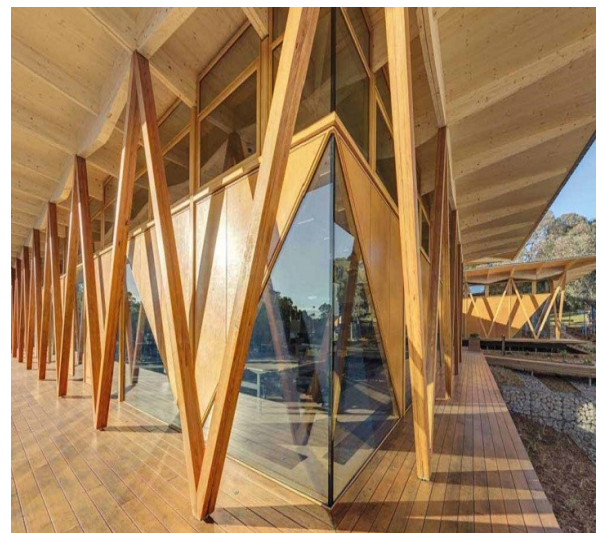
Concrete



Concrete. Not only is this ubiquitous material the most used building material on earth, but it has also long been a key component of modern architecture. While on the positive side its popularity derives from the fact but it can be molded as desired,

Glass

What would architecture be today without glass; without the windows that allow us to maintain our connection to the outside world. Research and development efforts have resulted in the introduction of glass materials that improve things like U value and thermal efficiency, and beyond that there has even been news of efforts to develop 'intelligent' glass.



Journey
in
Knowing
the
Effluence
of
Modern building materials

Internal Research Projects in Progress

Research project on “Removal of dyes from textile waste water by water hyacinth: batch and column studies”, of M. Srikanth Kumar and P. V. S. Maruthi Krishna is in progress.

Research project on “Study on flow properties of fiber-reinforced self-compacting concrete”, of B. Krishna Chaitanya and M. L. N. Krishna Sai is in progress.

Industrial Research Projects in Progress

Research project on “Design and development of chloride resistant concrete” of N. VenkataSairam Kumar, R. Vaishnava Kumar is in progress.

Research project on “Design and analysis of a high rise building with different plan configurations using ETABS software” of B. Krishna Chaitanya and M.L.N. Krishna Sai is in progress.

Research project on “Experimental analysis of sub and super structure embedded in cohesive and cohesionless soil” of B. KesavaRao and S. V. Satyanarayana is in progress.

Research project on “Condition assessment of existing road network in rural area of Amaravati region constructed on expansive soil”

of P.SamathaChowdary and G. Sanijya is in progress.

Research project on "Analysis and identification of groundwater potential zone and artificial recharge zones for Guntur district, Andhra Pradesh using remote sensing and GIS" of R. Chandramohan, A. Srinivasa Prasad, K. Leela Krishna, B. KesavaRao and Y. Naga Mahesh is in progress.

Research project on "Effect of elevated temperature on concrete using copper slag as partial replacement of fine aggregate" of J. UshaKrantí, P. SamathaChowdary, N. Tejaswini, P. Srilakshmi is in progress.

Research Paper Publications

R. Chandramohan, K. Prakash, B. KesavaRao, and G. Sanijya, "Performance and characteristics of cost-effective natural adsorbents for the removal of fluoride", Oxidation Communication, Vol. 45(3), 570-581, 2022. (Scopus Indexed)

N. VenkataSairam Kumar, J. UshaKrantí, U. V. NarayanaRao, "Resistance of wood ash concrete to sulphuric acid attack", Oriental Journal of Chemistry, Vol. 38(4), 1047-1052, 2022. (Web of Science-ESCI Indexed)

T. Keerthi Sri, S. V. Satyanarayana, N. VenkataSairam Kumar, "Experimental Study on Usage of Wood Ash in Concrete", *Indian Journal of Natural Sciences*, Vol. 13(73), 46017-46021, 2022. (Zoological Records Citation-Clarivate Analytics)

N. VenkataSairam Kumar, R. Vaishnava Kumar, Y. Naga Mahesh, B. Prudhvi Sai, "Flexural strength of waste wood ash concrete at elevated temperatures", *International Journal of Early Childhood Special Education (INT-JECSE)*, Vol. 14(5), 7235-7241, 2022. (Web of Science-ESCI Indexed)

B. Krishna Chaitanya, I. Sivakumar. "Experimental investigation on bond behaviour, durability and microstructural analysis of self-compacting concrete using waste copper slag", *Journal of Building Pathology and Rehabilitation*. Vol.7, Article number: 85, August (2022). (Scopus Indexed).

Paper Presentations in Conferences

B. Krishna Chaitanya, L. N. K. SaiMadupu and S. V. Satyanarayana, "Effect of the crimped steel fibers on fresh and mechanical properties of self-compacting concrete", *International Conference on Innovative and Sustainable Materials*

& Technologies (ICISMT-2022), Aditya Engineering College, October 14-15, 2022.

K. Prasanthi, B. KesavaRao, "Partial replacement of cement with palm oil fuel ash (Pofa) in self compacting concrete", International Conference on Innovative and Sustainable Materials & Technologies (ICISMT-2022), Aditya Engineering College, October 14-15, 2022.

U. V. NarayanaRao, N. VenkataSairam Kumar, "Greener and Sustainable Self-Compaction Concrete: A Review on Performance at Elevated Temperatures", International Conference on Innovative Technology for Smart Construction Materials and Sustainable Infrastructure, V. R. Siddhartha Engineering College, Vijayawada, October 14-15, 2022.

Conferences/ Workshops/Webinars/FDPs Organised

Ten day FDP on "Application of Artificial Intelligence and Machine Learning in Civil Engineering", organized by the Department of Civil Engineering, R.V.R & J.C College of Engineering in association with Indian Geotechnical Society, Guntur Chapter, Oct. 27-Nov. 25, 2022 (Every Thursday and Friday).

R. Chandramohan, organized webinar on “Applications of Machine Learning and AI to Building Information Management (BIM)” by the Department of Civil Engineering, R.V.R & J.C College of Engineering, Chowdavaram, Guntur, Andhra Pradesh in association With Indian Geotechnical Society, Guntur Chapter, (resource person is Mr. M. Ranadheer Reddy, Former Chief Engineer, Roads and Building Department, Andhra Pradesh), July 10, 2022.

Conferences/ Workshops/Webinars/FDPs Attended

N. VenkataSairam Kumar, webinar on, “Quality Control & Quality Assurance in Concrete Construction”, UltraTech Cement Ltd, July 02, 2022.

N. VenkataSairam Kumar, webinar on, “Advances in the use of cement in Precast concrete industry”, UltraTech Cement Ltd, July 09, 2022.

Two day workshop on “Transportation Geotechnics” Organized by the Indian Geotechnical society -vellore chapter and schools of civil engineering (SCE),Vellore Institute of technology (VIT), vellore from 15-16 july 2022.

N. VenkataSairam Kumar, webinar on, “New Techniques for prevention and mitigation of

disasters triggered by earthquake and tsunami”, UltraTech Cement Ltd, July 16, 2022.

K. Leela Krishna, one-day online IP Awareness/Training program under “National intellectual property awareness mission” Organized by Intellectual Property Office and MoE's Innovation Cell, India, Aug. 11, 2022.

N. VenkataSairam Kumar, webinar on, “The Critical Foundations of signature bridge, Delhi”, UltraTech Cement Ltd, Aug. 20, 2022.

N. VenkataSairam Kumar, 7-day international lecture series on, “Building resilient communities across global landscapes and their technological advancements”, organized by Department of Geography, Sophia Girls College, Ajmer, Rajasthan, Aug. 22-28, 2022.

N. VenkataSairam Kumar, webinar on, “Monitoring the lifecycle of concrete structures using Piezo sensors”, UltraTech Cement Ltd, Aug. 27, 2022.

N. VenkataSairam Kumar, webinar on, “Applications of fibres in concrete”, QcreteReadymix (India) Pvt Ltd, Sep. 02, 2022.

N. VenkataSairam Kumar, webinar on, “Relevance & importance of ESG (environment social responsibility & governance) for

sustainable development goals of organization”, UltraTech Cement Ltd, Sep. 03, 2022.

N. VenkataSairam Kumar, “Material characteristics & structural applications of engineered cementitious materials”, UltraTech Cement Ltd, Sep. 10, 2022.

N. VenkataSairam Kumar, a five-day faculty development programme on “Multidisciplinary and Modelling approaches in Civil Engineering practices”, organized by Department of Civil Engineering in collaboration with “DST-Centre of Excellence, Department of Geology, Sikkim University, Sikkim” and “ICI-Indian Concrete Institute”, Vijayawada, Sep. 13-17, 2022.

A. Srinivasa Prasad, K. Leela Krishna, M. Srikanth Kumar, P. V. S. Maruthi Krishna attended two-day online workshop on “Research Methodologies and scientific publishing” organized by Bapatla Engineering College, Bapatla, AP, October 28-29, 2022.

K. Leela Krishna, M. Srikanth Kumar, R. Chandramohan, 10 day Online FDP, “Application of Artificial Intelligence and Machine Learning in Civil Engineering”, organized by Department of Civil Engineering, R.V.R & J.C College of Engineering, Chowdavaram, Guntur, Andhra Pradesh in

association With Indian Geotechnical Society, Guntur Chapter, Oct. 27- Nov. 25, 2022 (Every Thursday and Friday).

N. VenkataSairam Kumar, webinar on, "Engineering Perfection: Noida Twin Towers Demolition", UltraTech Cement Ltd, Nov. 12, 2022.

N. VenkataSairam Kumar, webinar on, "Water Audit", UltraTech Cement Ltd, Dec. 03, 2022.

N. VenkataSairam Kumar, webinar on, "Performance based specifications for concrete structures", UltraTech Cement Ltd, Dec. 17, 2022.

N. VenkataSairam Kumar, webinar on, "Construction of 440m long Dobra Chanthi suspension bridge", UltraTech Cement Ltd, Dec. 31, 2022.

Guest Lectures Delivered

M. Rama Rao, 'Machine Learning in Geotechnical Engineering', Department of Civil Engineering, Dhanekula Institute of Engineering & Technology in collaboration with DST Centre of Excellence, Department of Geology, Sikkim University and ICI (Indian Concrete Institute), Sep. 17, 2022.

Guest Lectures Organized

Guest Lectures conducted by Department:

- Guest lecture on “Reclamation & Ground Improvement of Soft Marine Clay” by Dr. N. Kumar Pitchumani, Director, AECOM India Pvt. Ltd., Chennai, October 15, 2022.
- Guest lecture on “Quality Control and Construction of Flexible Pavements” by Dr. K. Sitaramanjaneyulu, Former Director, CRRI, December, 2022.

IGS Student Chapter organized a Guest Lecture

- Guest lecture on “Engineered Barriers for Subsurface Pollution Control: Landfill Liners and Cutoff Walls” by Prof. Krishna R. Reddy, Professor of Civil & Environmental Engineering, Director, Sustainable Engineering Research Laboratory & Geotechnical & Geo-environmental Engineering Laboratory, University of Illinois at Chicago, July 23, 2022.

Civil Engineering Association Activities

- Civil Engineering Association conducted competitions in Five Events viz., Technical Paper Presentation, Technical Quiz, Auto CAD Techie, Essay writing and Treasure Hunt as part of Engineers Day celebrations on 15-09-2022 and distributed cash prizes to top performers of each event.

Industrial Tours & Short Visits

- *B. Tech Semester IV [Second Year] (A, B & C Sections) students visited Srísailam right bank power house, Srísailam dam and veligonda tunnels Srísilam, Kurnool from 10/09/2022 to 11/09/2022.*

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