



Civil Engineering magnificent structures solving future problems

----Create, Build, Solve

CIVIL ENGINEERING DEPARTMENT NEWS LETTER

2019-20 | JULY –DECEMBER 2019 |



HOD s Message:



This newsletter published for the year 2019-20 is dedicated to structures built and to be built by civil Engineers by solving problems. Current issue deals with structures to be constructed in future by the civil engineering till present where Build, Solve problems that are upcoming in future.



DEPARTMENT MISSION

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



DEPARTMENT VISION

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

PROGRAM EDUCATIONAL OBJECTIVES

- 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/environmental disasters and to inculcate professional ethics and human values.

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, and Fluid Mechanics to solve Civil Engineering problems.
- Graduates will have generalized knowledge in Civil Engineering and inter-disciplinary knowledge to design and execute Civil Engineering Projects.
- Graduates will have an ability to design and conduct experiments as well as to analyze 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.

*WE THE CIVIL ENGINEERS
CREATE BUILD AND
TRY TO SOLVE
PROBLEMS*

!!!!!!!!!!!!!!

Dubai Creek Tower

- *expected to cost USD \$1BN - but for a project with such a high price tag, it wasn't set to deliver much in terms of usable space.*
- *Despite its immense height, the structure would have just 20 floors; housing observation decks, restaurants and a hotel.*
- *But floor area wasn't in the brief for Dubai Creek Tower, and the scheme actually had two much more significant objectives to achieve.*
- *The first was to create another jaw dropping tourist attraction for the city, and the second was to keep the title of "world's tallest structure" firmly in Dubai.*



Foot steps taken
to learn
and gain knowledge
to solve future problems

Conferences/ Workshops/Webinars/FDPs Attended

- G. Sanijya, webinar 'Computer application in structural engineering' Department of Civil Engineering, NRI Institute of technology, Guntur, June 05, 2020.
- G. Sanijya, webinar 'Future trends and technologies in the higher education in context of covid 19' Swarnandhra College of Engineering & Technology, Narsapur, June 08, 2020.
- Syed Syed Ahammed and R. Chandramohan, FDP 'Building information modeling' Andhra Pradesh State Skill Development Corporation, Jun. 29–Jul. 03, 2020.
- N. Venkata Sairam Kumar, webinar 'Sustainable materials and construction technologies' Department of Civil Engineering, B. V. Raju Institute of Technology, Narsapur and The Ramco Cements Limited, July 06–10, 2020.
- P.V.S. Maruthi Krishna, A. Srinivasa Prasad and K. Leela Krishna, International webinar, 'Climate change impact on water resources and environment', Department of Civil Engineering, Andhra University, Visakhapatnam, July 15–19, 2020.
- M. Srikanth Kumar, A. Srinivasa Prasad, P.V.S. Maruthi Krishna, K. Leela Krishna and Syed Syed Ahammed, online STTP 'Soft computing techniques in civil engineering: water resources, structures & transportation applications' AICTE, Department of Civil Engineering, Shri Vishnu Engineering College for Women, Bhimavaram, July 20–25, 2020.
- S.V. Satyanarayana, M. L. N. Krishna Sai and N. Venkata Sairam Kumar, online FDP 'Recent trends and innovations in civil engineering', Department of Civil Engineering, Dr Lanakapalli Bullayya College of Engineering for Women, Visakhapatnam. July 27–31, 2020.
- N. Venkata Sairam Kumar, web lecture on 'Decoding the structural code part II-IS 13920-2016' Ductile Design & Detailing of Reinforced Concrete Structures, STEEL XLS TMT Bars. Aug. 02, 2020.
- N. Venkata Sairam Kumar, AICTE sponsored online STTP 'Computational intelligence in earthquake resistant design' Department of Civil Engineering, Prof Ram Meghe College of Engineering & Management, Badnera, Amaravati, Maharashtra, Aug. 03–08, 2020.
- N. Venkata Sairam Kumar, FDP 'Author's Conclave' Department of Civil Engineering, SRM Institute of Science & Technology, Ramapuram, Chennai, Aug. 11–17, 2020.
- N. Venkata Sairam Kumar, AICTE sponsored online STTP Phase II 'Soft computing techniques in civil engineering' Department of Civil Engineering, Shri Vishnu Engineering College for Women, Bhimavaram, Andhra Pradesh, Aug. 17–22, 2020.
- R. Chandramohan, FDP 'Cyber Security' AICTE Training and Learning (ATAL) Academy, St. Joseph's College of Engineering, Chennai, Aug. 24–28, 2020.
- N. Venkata Sairam Kumar, TEQIP-III sponsored FDP 'Latest advances in concrete technology & construction management (LACTCM 2020)' Department of Civil

Engineering, College of Engineering and Technology, Bhubaneswar, Odisha, Sep. 01–05, 2020.

- *N. Venkata Sairam Kumar, webinar ‘Case studies related to structures’ ICI Vizag centre and Ultra Tech Cement Limited, Sep. 07, 2020.*
- *R. Chandramohan, FDP ‘Geospatial Technologies for Smart Cities Development’ ATAL Academy, Kumaraguru College of Technology, Coimbatore, Oct. 19–23, 2020.*
- *A. Srinivasa Prasad, P.V.S. Maruthi Krishna, K. Leela Krishna and M. Srikanth Kumar, online FDP ‘Applications of remote sensing & GIS in water resources’, Department of Civil Engineering, N.I.T. Andhra Pradesh, Oct. 19–23, 2020.*
- *N. Venkata Sairam Kumar, webinar ‘Repair and rehabilitation of structures’ ICI Vizag centre and UltraTech Cement Limited, Oct. 22, 2020*
- *P.Samatha Chowdary, AICTE sponsored STTP ‘Advances in construction and project management’ M. S Department of Civil Engineering, Chandubhai S. Patel Institute of Technology, Charotar University of Science and Technology (CHARUSAT), Changa, Gujarat, Oct. 26–31, 2020.*
- *N. Tejaswini, A. Naga Sai and G. Sanijya, FDP ‘Recent advancements in special concretes’ Department of Civil Engineering, Gudlavalleru Engineering College, Gudlavalleru, Oct. 26–31, 2020.*
- *A. Naga Sai, STTP ‘Advance construction technics in low-cost civil structures for modern living’ Department of Civil Engineering, KKR & KSR Institute of Technology & Sciences, Guntur, Nov.05–10, 2020.*
- *N. Venkata Sairam Kumar, webinar ‘Plagiarism in research’ Anjuman Institute of Management and Technology, Belagavi, Nov. 10, 2020.*
- *Y. Madhavi, G. Naga Venkat, B. Krishna Chaitanya, N.Venkata Sairam Kumar, A. Naga Sai, G. Sanijya and Syed SyedAhammed, STTPPHASE-I ‘Repair & rehabilitation of structures’ Department of Civil Engineering, RVR & JC Engineering College, Guntur, Nov. 16–21, 2020.*
- *N.Venkata Sairam Kumar, International webinar ‘Structural retrofitting refurbishment and rehabilitation’ Department of Civil Engineering, Jaypee University of Engineering and Technology, Guna. Nov. 28, 2020.*
- *N. Tejaswini, B. Krishna Chaitanya, N.Venkata Sairam Kumar, G. Sanijya and Syed SyedAhammed, STTPPHASE-II ‘Repair & rehabilitation of structures’ Department of Civil Engineering, RVR & JC Engineering College, Guntur, Nov.30–Dec. 05, 2020.*
- *B. Yellamanda Rao, online FDP ‘Role of structural engineers towards sustainable structures’ Department of Civil Engineering, Shri Vishnu College of Engineering for Women, Bhimavaram, Dec. 11–12, 2020.*
- *B. Kesava Rao, FDP ‘Finite element analysis using MATLAB & Abaqus’ Departments of Mechanical and Civil Engineering, IIT Jammu, Dec. 27–29, 2020.*

Student Activities/Chapters

- *Indian Geotechnical Society (IGS) student chapter conducted the following webinar lectures*
 - *Webinar lecture on 'Improving geotechnical investigation reliability by logging through borelog app' Mr. Ashish D Gharpure, Managing Director, GENSTRU Consultants Pvt. Ltd, Pune, India, July 06, 2020*
 - *Webinar lecture on 'Design and construction of railway formations' Mr. Rajesh Kumar Shekhawat, Senior Professor (Projects), Indian Railway Institute of Civil Engg., Pune, July 16, 2020*

Courses Completed

- *J. Usha Kranti, 'Pre-Commissioned Course (PRCN Course SW-106 & DC SW-77) at Officers Training Academy (OTA), Gwalior, Madhya Pradesh and commissioned as LIEUTENANT, Sep. 14–Dec. 12, 2020.*

Attempts made
by faculty
to solve future problems

Research Paper Publications

- *S. Srikanth, Sd. O.Ballari, U. M. Shree Raksha, Ch.Bala Rama Krishna and B. Krishna Chaitanya, 'Road crossing behaviour of pedestrians at uncontrolled intersections' International Journal of Future Generation Communication and Networking, Vol. 13(3),2990–3001, 2020.*
- *R.Chandramohan, B.Kesava Rao and G. Sanijya, 'Spatial - Temporal analysis on land use and land cover changes in Amaravathi, Andhra Pradesh using GIS' International Journal of Advanced Research in Engineering and Technology, Vol. 11(7), 150–156, 2020.*
- *J. Usha Kranti and K Chanakya Srinivas, 'A comparative study of compressive strength and split tensile strength on effect of size of coarse aggregate in hybrid fiber reinforced concrete with different grades' International Journal of Advanced Engineering and Technology, 4(2), 32–35, 2020.*
- *J. Usha Kranti and N Venkata Sai Manikanta, 'Experimental analysis of steel slag concrete under the influence of micro silica and determination of strength characteristics' International Journal of Advanced Engineering and Technology, 4(2),27–31, 2020.*
- *G. Naga Venkat, K. Chandramouli, Ezazahmed and V. Nagendra Babu, 'Comparative study on mechanical properties and quality of concrete by part replacement of cement with silica fume, metakaolin and GGBS by using M Sand as fine aggregate' Materials Today Proceedings doi:<https://doi.org/10.1016/j.matpr.2020.10.819>*
- *A. Naga Sai and Ravi Ramadoss, 'A review on role of additives and pozzolanic materials in ancient structures' Materials Today: Proceedings. <https://doi.org/10.1016/j.matpr.2020.09.173>.*
- *J. Usha Kranti, A. Naga Sai, A. Rama Krishna and K. Srinivasu, 'An experimental investigation on effect of durability on strength properties of M40 grade concrete with partial replacement of sand with copper slag' Materials Today: Proceedings, Nov. 9, 2020. <https://doi.org/10.1016/j.matpr.2020.09.767>.*
- *N.Venkata Sairam Kumar, 'Performance of crushed rock dust concrete exposed to sulphuric and hydrochloric acid solutions', IOP Conference Series, Materials Science and Engineering, Vol. 988, Dec. 2020. <https://doi.org/10.1088/1757-899X/988/1/012021> (Scopus; Web of Science indexed).*
- *N.Venkata Sairam Kumar, 'Flexural strength of crushed rock dust concrete at elevated temperatures', IOP Conference Series, Materials Science and Engineering, Vol: 988, Dec. 2020. <https://doi.org/10.1088/1757-899X/988/1/012016> (Scopus; Web of Science indexed).*
- *N.Venkata Sairam Kumar, 'Crushed rock dust as filler material in concrete', Materials Today: Proceedings, Nov. 2020. <https://doi.org/10.1016/j.matpr.2020.10.256> (Scopus; Web of Science indexed).*

- *N. Venkata Sairam Kumar, 'Effect of sulfuric and hydrochloric acid solutions on crushed rock dust concrete' Dec. 2020. <https://doi.org/10.1016/j.matpr.2020.10.691> (Scopus; Web of Science indexed).*
- *M.L.N.Krishna Sai and K.S.Sai Ram, 'Performance of axially loaded reinforced concrete rectangular columns strengthened with GFRP strips' Materials Today:Proceedings, Dec. 4, 2020. <https://doi.org/10.1016/j.matpr.2020.10.454> (Scopus indexed)*

Paper Presentations in Conferences

- *N. Venkata Sairam Kumar, 'Sustainable use of waste crushed rock dust as filler material in concrete' International conference on Advanced Materials Behaviour and Characterization, Mattest Research Academy, Chennai, July18–23, 2020.*
- *M.L.N.Krishna Sai and K.S. Sai Ram, 'Performance of axially loaded reinforced concrete rectangular columns strengthened with GFRP strips' International Conference on Advanced Materials Behaviour and Characterization, Mattest ResearchAcademy, Chennai, July 18–23, 2020.*
- *N. Venkata Sairam Kumar, 'Performance of crushed rock dust concrete exposed to sulphuric and hydrochloric acid solutions' International Concrete on Recent Developments in Material Science and Applications, Department of Mechanical Engineering, Chennai Institute of Technology, Chennai, Sep. 25–26, 2020.*
- *N. Venkata Sairam Kumar, 'Flexural strength of crushed rock dust concrete at elevated temperatures' International Concrete on Recent Developments in Material Science and Applications, Department of Mechanical Engineering, Chennai Institute of Technology, Chennai, Sep. 25–26, 2020.*
- *K. Leela Krishna and A. Srinivasa Prasad, 'Best compromised multi-purpose reservoir operating policy under conflicting objectives by fuzzy linear programming' National Conference on Emerging Practices and Innovations in Civil Engineering (EPIC 2020), S.R.K.R. Engineering College, Bhimavaram, Oct. 26–27, 2020.*
- *N.Venkata Sairam Kumar and S.V. Satyanarayana, 'Effect of elevated temperatures on the flexural strength of crushed rock dust concrete' 2nd International Conference on Recent Advances in Materials and Manufacturing (ICRAMM 2020), Department of Mechanical Engineering, Velalar College of Engineering and Technology, Erode, Tamil Nadu, India, Nov. 20–21, 2020.*
- *B. Krishna Chaitanya and Ilango Sivakumar, 'Influence of waste copper slag on flexural strength properties of self-compacting concrete' 2nd International Conference on Recent Advances in Materials and Manufacturing (ICRAMM 2020), Department of Mechanical Engineering, Velalar College of Engineering and Technology, Erode, Tamil Nadu, India, Nov. 20–21, 2020.*
- *G. Sridevi, A. Shivaraj, G. Sudarshan and M. Rama Rao, 'Effects of soil structure interaction on the embankment resting on different soils subjected to strong earthquake*

ground motions’ Indian Geotechnical Conference (IGS-2020), Andhra University College of Engineering, Visakhapatnam, Dec. 17–19, 2020.

- *N.Venkata Sairam Kumar, ‘Effect of sulfuric and hydrochloric acid solutions on crushed rock dust concrete’ 2nd International Conference on Manufacturing, Material Science and Engineering, Department of Mechanical Engineering, CMR Institute of Technology, Hyderabad, Dec.18–19, 2020*
- *J. Usha Kranti and P.Ch.SanjeevaRao, ‘Study on strength of concrete by partial replacement of fine aggregate by copper slag’ International Conference on Recent Development in Sustainable Infrastructures: Research and Practices (ICRDSI-2020), School of Civil Engineering, Kalinga Institute of Industrial Technology (KIIT), Deemed to be University, Bhubaneswar, Odisha, India, Dec. 19–21, 2020.*

➤ Conferences Proceedings

- *K.Leela Krishna and A. Srinivas Prasad ‘Best compromised multi-purpose reservoir operating policy under conflicting objectives by fuzzy linear programming’ Pandit Publications, ISBN: 978-93-89044-24-9.*

Guest Lectures Delivered

- *N. Venkata Sairam Kumar, ‘Fire and concrete structures: part I’ AICTE sponsored online STTP phase-II on ‘Repair and rehabilitation of structures’, Department of Civil Engineering, RVR & JC College of Engineering, Guntur, Nov. 30–Dec. 05, 2020.*

Research Projects in Progress

- *M. Srikanth Kumar and P.V.S. Maruthi Krishnawere sanctioned Rs. 40,000/- for their research project proposal on ‘Removal of dyes from textile wastewater by water hyacinth: batch and column studies’.*
- *B. Krishna Chaitanya and M. L. N. Krishna Sai were sanctioned Rs. 40,000/- for their research project on ‘Study on flow properties of fiber-reinforced self-compacting concrete’.*

Patient filed

- *N.Venkata Sairam Kumar, 'Method for Compressive Strength Determination of Crushed Rock Concrete' Application No.202041057020 A, Dec. 29, 2020.*

Awards/Appreciations

- *M. Rama Rao (LF-0547), was elected as 'Individual Member' in IGS – Executive Committee Elections for the term 2021–2022, which was held on Oct. 22, 2020.*
- *IGS- Guntur chapter has been awarded the IGS-Appreciation certificate in recognition of their outstanding contribution for conducting numerous online technical activities for the benefit of students and the work related to student's chapters*

Jeddah Tower

- *In 2013, the first skyscraper to stand a kilometre tall.*
- *If completed, that scheme would have taken the title of world's tallest building away from Dubai's 828-metre Burj Khalifa.*
- *While it may feel like a lot of effort to build such an enormous structure just to retain a title, having the world's tallest building in your country can actually be a strategic economic boon.*
- *Dubai's Burj Khalifa is an internationally recognized icon that has long been credited for putting the city on the map.*
- *It's also helped to bring nearly 20 million visitors and the USD\$30 billion they spend to the city each year.*



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structures solving future
problems:

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