



Civil Engineering Research Bulletin is a quarterly publication of the Department of Civil Engineering, Sri Krishna College of Engineering and Technology, which highlights the Department's major research news, activities and achievements during the preceding quarterly year. The Department's active research programs provide opportunities for students to participate in projects related to Concrete Structures, Alternative Materials, Geopolymer Concrete, Environmental Engineering, Geotechnical Engineering, Structural Analysis, Design and Testing.

The Department has highly qualified and experienced faculty with Specialization in various fields of Structural Engineering, Environmental Engineering, Water Resources Engineering, Geotechnical Engineering, Transportation Engineering and Construction management.

The Department has well equipped laboratories with latest machines and instruments for all disciplines to support the curriculum syllabi and promote research and consultancy. The faculty members are engaged in various research and consultancy activities.

Civil Engineering Department is aiming to partnering with multi disciplinary researchers and industry in the development, demonstration, evaluation, and deployment of new technologies and analysis tools in Civil Engineering. The Civil Engineering faculty and students team concentrates on important issues in Environmental impact, Alternative Concrete materials, Behaviors of Structural components, Fiber reinforced concrete composites, structural optimization, Transportation modeling etc.

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Publications Journals and Conferences

1. **D.Maruthachalam, P.Saravanakumar, K.Divya Dharshini**, “*Experimental Investigation on The Flexural Behavior of Polyolefin Macro-Monofilament Fibre Reinforced High Performance Concrete Beams*”, International Journal of Civil Engineering and Technology, 2017, 8(6), pp. 436-449. (SCOPUS INDEXED)
2. **P.Saravanakumar & D.Maruthachalam**, “*Studies on Structural Behaviour of Recycled Aggregate Concrete with Waste Clay Tiles and Fly Ash*”, International Journal of Civil Engineering and Technology, 2017, 8(7), pp. 544–555. (SCOPUS INDEXED)
3. **D.Maruthachalam, R.Prabhudev, K.R.Keerthiraman**, “*Partial replacement of fine aggregates through household waste ash in concrete*”, International Journal of Chemtech Research, 2017, 10(8), pp.127 – 133
4. **Thaarrini J, Venkatasubramani Ramasamy**, “*Improvements in the Microstructural and Mechanical properties of Geopolymer concrete containing NMF’s of E-wastes as partial replacement of aggregates*”, European Journal of Environmental and Civil Engineering (TECE),DOI: 0.1080/19648189.2017.1357869. (SCI(E) & SCOPUS INDEXED)

5. **S.C.Boobalan, Karthik Raj S, Sandeep R**, “*Experimental Investigation of Fibre reinforced concrete using Hemp fibre and Silica fume*”, International Journal of Research in Engineering and Technology, 2017, 6(6), 112 – 115.
6. **Mithun. V**, “*Application of Earned Schedule Method in Construction*”, International Journal of Emerging Trends in Engineering and Development, 2017, 4(7), pp 26 – 42.

National / International Collaborations

SKCET Civil Engineering and VLAND Consultants PVT. Ltd. Singapore & VLAND’s BEST HUB Pvt. Ltd. signed a MoU on 23.08.2017 to offer a one credit course and Internship Training Programme to final year students.



MoU Signed with VLAND Consultants PVT. Ltd. Singapore & VLAND’s BEST HUB Pvt. Ltd.

Project Proposals Submitted / Approved

Science and Engineering Research Board (SERB) - DST

“Development of low cost fire resistant Geopolymer building materials & Composite boards using NMF’s and E-wastes” – Dr.J.Tharrini and Dr.D.Maruthachalam

National Level Two Day Workshop on “Green Technology for Sustainable Development” - Dr.P.Saravanakumar and Dr.J.Tharrini.

National Level Two Day Workshop on “Environmental Management for Sustainability Challenges and Sustainable Development” - Dr.J.Tharrini and Dr. P.Saravanakumar.

Proposal for Student Projects Scheme, TNSCST 2017-2018

“Use of foundry sand in the manufacture of high strength self - compacting concrete for sustainable green infrastructure construction”, Dr. R. Elangovan, Mr. Arfaz Ahamed Ali, Mr. R. Jagan, Mr. P. Jacent Alfred, Mr. K. Karthik Siva.

“Strength and durability performance of ternary blended recycled aggregate concrete with industrial wastes”, Dr. P. Saravanakumar, Mr. S. Manoj Prabhakar, Mr. M. Bhuvanesh, Mr. K. S. Sujit, Mr. D. Nishanth

“Effective utilization of textile industry effluent in the manufacture of geopolymer concrete paver blocks”, Dr. J. Tharrini, Ms. V. E. Monica, Ms. S. Ramya, Ms. S. Sruthi

“Permeable concrete using geopolymer”, Mr. S. C. Boobalan, Mr. S. Alagurajan, Mr. M. Barathan, Mr. B. Dhanulakshmanan, Mr. K. Gowtham

“Ground water recharging system”, Ms. K. Archana, Mr. D. R. Aravind, Mr. P. Ranjeth kumar, Mr. V. Cibi chakravarthy

“Improving air quality using titanium di – oxide”, Mr. V. Mithun, Mr. V. Sivraj, Mr. J. pragadheesh, Mr. B. Vasanth, Mr. V. S. Manoj

“Aqua Recuperation Process For Effective Treatment of Sewage Disposals” Mrs. K. Divya Darshini, Mr. A. Balakumaran, Mr. C. Prakash, Mr. R. Rubanraj, Mr. G.Vigneswara

“Spatial Modelling of Air Pollution and Its Effect in Madukkarai Region” Ms. G. Preethi, Ms.B.Swathy, Ms.S.Renuga, Ms.Olina Ann Anil, Ms.R.Yuvashree.

Patents Filed

Title of the invention: *HIGH PERFORMANCE CONCRETE MIXTURE*

Name of Inventor:

1. **Dr. D. Maruthachalam**
2. S. Karthikeyan
3. E. Nilsimha
4. M. Kishore
5. M.Mariafaustinanish

Application No: 201741022033 A

About the Patent

The present invention provides a high performance concrete mixture that provides internal curing or self curing in the civil constructions. Internal Curing by the addition of Natural fibre is an effective means of conserving huge amount of water required for curing and drastically reducing autogenous shrinkage. Since autogenous shrinkage is a main contributor to early-age cracking, it is expected that internal curing would also reduce such cracking. The present invention proved that that an additional benefit of internal curing beyond autogenous shrinkage reduction is increase in compressive strength. As internal curing maintains saturated conditions within the hydrating cement paste, the magnitude of internal self-desiccation stress is reduced and long term hydration is increased.

Conference / Seminar / Workshop Participated / Presented

Ms.K.Divya Dharshini, Assistant Professor, participated in a National Seminar on “Role of High Performance Materials and its Applications in Civil Engineering”, held during August 12, 2017 at Kongu Engineering College.

Dr.J.Thaarini, Associate Professor participated in CSIR – AMPRI sponsored Industry Institute Enclave 2017 at Hotel Le meridian, Coimbatore on August 09, 2017.

Dr.P.Saravanakumar, Associate Professor participated in AICTE Sponsored Two Days National Seminar on “Emerging Trends in Steel Structures (ETSS-17)”, held during September 21 & 22, 2017 at PSNA College of Engineering Dindigul.

Mr.A.Jesudas and Ms.K.Archana, Assistant Professor attended a two days National Level Workshop on “Low cost sustainable Building Materials and Construction Technologies” at PSG College of Technology on September 22nd & 23rd, 2017.

Dr.J.Thaarini, Associate Professor and 15 Students from Second Year Civil Engineering participated in One Day workshop on “3D Printing”, held at IIT Madras on October 28, 2017.



Dr.P.Saravanakumar attended Two Days National Seminar on Emerging Trends in Steel Structures (ETSS 2017)

Five students of Third Year Civil Engineering have undergone the One Day Workshop on Practical training in Geotextile and Light weight Concrete at SRM University – Kattankulathur, Chennai on October 7 - 2017.

Six students of Final Year Civil Engineering have undergone the 2 Month Summer Fellowship Programme (SFP) at IIT - MADRAS during the period 16/05/2017 to 15/07/2017. The students were paid a stipend of Rs12000.



Consultancy works

The Department is actively engaged in undertaking Consultancy works in the areas of Water quality testing in Environmental Engineering Laboratory, Materials testing in Concrete and Highway Laboratory and Soil Laboratory & Design works in Computer Laboratory.

Research supervisor

- **Dr.D.Maruthachalam** – Anna University
- **Dr.P.Saravanakumar** – Anna University, SASTRA University
- **Dr.J.Tharrini** – Anna University

Professional Body Members

Dr.D.Maruthachalam

- Institution of Engineers
- Life Member of ISTE (MISTE)
- Association of Consulting Civil Engineers [MACCE(I)]
- Member in American Concrete Institute (ACI)

Dr.Elangovan

- The Institution of Engineers
- Institution of Valuers
- Indian Concrete Institute
- Indian Society for Technical Education (ISTE)

Dr.P.Saravanakumar

- Indian Geotechnical Society (IGS)
- International Association of Engineers (IAENG)

Dr.J.Tharrini

- International Association of Engineers (IAENG)

- Indian Society for Technical Education (ISTE)
- Universal Association of Civil, Structural and Environmental Engineers (UACSE)

S.C.Boobalan

- International Association of Engineers (IAENG)

K.Divya Dharshini

- Indian Geotechnical Society (IGS)

R.Vighnesh

- The Institution of Engineers

S.Prabhath Ranjan Kumar

- The Institution of Engineers

- Computers and Concrete, An International Journal – Techno-Press

Dr.J.Tharrini

- KSCE Journal of Civil Engineering
- Construction & Building Materials



**Smt.S.Malarvizhi,
Chairperson & Managing Trustee**

Editors / Reviewers to Journals**Dr.D.Maruthachalam**

- Journal of Earth and Environmental Sciences
- Case Studies in Construction Materials

Dr.Elangovan

- International Journal of Applied Engineering Research (IJAER)

Dr.P.Saravanakumar

- ACI Structural and Materials Journals
- Construction & Building Materials
- Case Studies in Construction Materials
- Materials and Design
- International Journal of Concrete Structures
- Resources, Conservation & Recycling
- Open Access Library Journal (OALib Journal)



Dr.K.Sundararaman,CEO



Dr.J.Janet, Principal

EDITORIAL BOARD

Dr. D. Maruthachalam

Dr. P. Saravanakumar

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