**Curriculum Vitae**

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**ESTR CHANDRA SEKHAR B**

Department of Civil Engineering

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| **Personal Information:** |  |  |
|  | Nationality  | Indian |
|  | Place of Birth | Vizianagaram, India |
|  | Date of Birth  | 28th July, 1985 |
|  | Sex  | Male |
|  | Marital Status  | Married |
| **Education:** | Language Known  | English, Hindi, Telugu, Tamil |
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**2009-2017**

Ph. D. with Professor K. Ganesh Babu, Department of Ocean Engineering, Indian Institute of Technology Madras, Chennai, India. *Grade: CGPA 9.5*

**2007-2009**

M. Tech. in Offshore Structures, NIT Calicut, India

*Grade: CGPA 7.15*

**2003-2007**

B. Tech. in Civil Engineering, JNTU Hyderabad, GMRIT Engineering College, Andhra Pradesh, India

*Grade: 1st class with 79 % marks*

**2001-2003**

Higher Secondary (10+2) from Board of Intermediate

 *Grade: 1st division with 82 % marks*

**2000-2001**

Secondary (10th) from Board of Secondary Education

*Grade: 1st division with 71 % marks*

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| **Research Experience:** |  |  |
| **2018-2020** | Research assistant (Post-Doctoral Research) at the University of Quebec, ETS College, Montreal, Canada. **Research area:** *Hydration and corrosion characteristics of nano-modified cementitious composites* *(Graphene and Borophene-based materials).* |
| **2010–2018** | Doctoral research with Professor K. Ganesh Babu, Department of Ocean Engineering, Indian Institute of Technology Madras, Chennai, India. **Thesis titled**: “*Fracture Characteristics of Polymer Modified Ultra High-Performance Structural Composites* ”. |
| **2008–2009** | Project research with Prof. Santosh G Tampi, Department of Offshore Structures, NIT Calicut, India.**Thesis titled:** “*Numerical modelling of overtopping performance of offshore wave energy convector (OWEC) using FLUENT and GAMBIT”*. |
| **2006–2007** | Project research with Prof. V. Chakravarthi, Department of Civil Engineering, JNTU, GMRIT, Andhra Pradesh, India.**Thesis titled:** “*Engineering Properties of Coir Fibre Reinforced Soil (C.F.R.S) – A laboratory case study*”. |
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| **October 2020 - Till date** | Associate Professor, St Joseph’s Engineering College, Vamanjoor, Mangalore. |
| **October 2014 – March 2018** | Assistant Professor, GITAM University Engineering College, Hyderabad, India.  |
|  | **Research Publications:** |

**Teaching Experience: Information:**

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| **No of Journals** | **Quartile** |
| 10 | Q1 |
| 5 | Q2 |
| 4 | Q3 and above |
| **H–index: 10**  | **I10-index–10** |

1. Bhagithimar, Y., Balasubramanya, M., BB Das, **Bhojaraju, C.\*** 2024. “*Development of sustainable conductive cementitious composite using graphite-coated spent catalyst waste”,* ***Journal of Building Engineering***, 109864. **Q1, I.F. 6.4**
2. Manjunath, B., Mousavi, S.S., Ouellet-Plamondon, C.M. and Bhojaraju, C\**.,* 2023*, “Effect of the ternary blend of Portland cement and coal bottom ash fines on engineering and environmental assessment of concrete”.* ***Construction and Building Materials*** *(Under-revision).* **Q1, *I.F.* 7.4**
3. Kumari, G.J., Mousavi, S.S. and **Bhojaraju, C**.\*, 2023. “*Influence of thermal cycles and high-temperature exposures on the residual strength of hybrid steel/glass fiber-reinforced self-consolidating concrete”*. ***Structures,* 55**, p. 1532-1541. **Q1**, ***I.F.* 4.1**
4. **Bhojaraju, C**., Mousavi, S.S. and Ouellet-Plamondon, C.M., 2023. *Influence of GGBFS on corrosion resistance of cementitious composites containing graphene and graphene oxide*. ***Cement and Concrete Composites***, 135, p.104836. **Q1, *I.F.* 10.5**
5. Manjunath, B., Ouellet-Plamondon, C.M., Das, B.B. and **Bhojaraju, C\***., 2023. *Potential utilization of regional cashew nutshell ash wastes as a cementitious replacement on the performance and environmental impact of eco-friendly mortar*. ***Journal of Building Engineering***, 66, p.105941. **Q1, *I.F.* 6.4**
6. Manjunath, B., Di Mare, M., Ouellet-Plamondon, C.M. and **Bhojaraju, C\***., 2023. “*Exploring the potential use of incinerated biomedical waste ash as an eco-friendly solution in concrete composites: A review”*. ***Construction and Building Materials***, 387, p.131595. **Q1, *I.F.* 7.4**
7. Mousavi, S.S., Dehestani, M., Mousavi Ajarostaghi, S.S., **Bhojaraju, C**. and Nguyen-Tri, P., 2022. “*On post-fire bond strength of steel rebar embedded in thermally-damaged concrete–A review*”. ***Journal of Adhesion Science and Technology***, p.1-41. **Q2, *I.F.* 2.4**
8. **Bhojaraju, C.,** Charrier, M. and Ouellet-Plamondon, C.M., 2021. “*How Admixtures Affect Yield Stresses of Cement*”. ***ACI Materials Journal***, 118. **Q2, *I.F.* 1.7**
9. Mousavi, S.S., **Bhojaraju, C.** and Ouellet-Plamondon, C., 2021. “*Clay as a Sustainable Binder for Concrete—A Review*”. ***Construction Materials***, 1, p.134-168. **Q2, *I.F.* 3.4**
10. **Bhojaraju, C,** Mousavi, S.S, Brial, V, DiMare, M, Ouellet-Plamondon, C.M. 2021 “*The impact of carbon-based nanomaterial additions on the hydration reactions and kinetics of GGBS-modified cements”,* ***Construction and Building Materials***, 303, p.124366. **Q1, *I.F.* 7.4**
11. **Bhojaraju, C,** Mousavi, S.S, Brial, V, DiMare, M, Ouellet-Plamondon, C.M. “*Fresh and hardened properties of GGBS contained cementitious composites using graphene and graphene oxide”* 2021*,* ***Construction and Building Materials***, 300, p.123902. **Q1, *I.F.* 7.4**
12. Mousavi, S.S, Ouellet-Plamondon, C.M, Guizani, L, **Bhojaraju, C**, 2021. “*The effect of air-entraining admixture and superabsorbent polymer on bond behaviour of steel rebar in pre-cracked and self-healed concrete*”. ***Construction and Building Materials,*** 281, p.122568. **Q1, *I.F.* 7.4**
13. Mousavi, S.S., Guizani, L., Bhojaraju, C. and Ouellet-Plamondon, C.M., 2021 *“Application of Superabsorbent Polymer as Self-Healing Agent in Self-Consolidating Concrete for Mitigating Precracking Phenomenon at the Rebar–Concrete Interface*”. ***ASCE's Journal of Materials in Civil Engineering,*** 33*,* p.04021269. **Q1, *I.F.* 4.1**
14. Ganta, J.K., Rao, M.S., Mousavi, S.S., Reddy, V.S. and **Bhojaraju, C**\*., 2020, December. “*Hybrid steel/glass fiber-reinforced self-consolidating concrete considering packing factor: Mechanical and durability characteristics*”. ***In Structures,*** 28, p. 956-972. **Q1**, ***I.F.* 4.1**
15. Patnaik, B., **Bhojaraju, C\***. and Mousavi, S.S., 2020. “*Experimental study on residual properties of thermally damaged steel fiber-reinforced concrete containing copper slag as fine aggregate*”. ***Journal of Material Cycles and Waste Management***, p.1-15. **Q2, *I.F.* 3.4**
16. Mousavi, S.S., Ouellet-Plamondon, C.M., Guizani, L., **Bhojaraju, C**. and Brial, V., 2020. “*On mitigating rebar–concrete interface damages due to the pre-cracking phenomena using superabsorbent polymers*”. ***Construction and Building Materials***, 253, p.119181. **Q1, *I.F.* 7.4**
17. Mousavi, S.S., Mousavi Ajarostaghi, S.S. & **Bhojaraju, C**. 2020. “*A critical review of the effect of concrete composition on rebar–concrete interface (RCI) bond strength: A case study of nanoparticles*”. ***SN Appl. Sci***. 2, p.893. **Q2, *I.F.* 2.6**
18. Mousavi, S.S., Guizani, L., **Bhojaraju, C**. and Ouellet-Plamondon, C.M., 2020. “*Effect of concrete workability on bond properties of steel rebar in pre-cracked concrete*”. ***Proceedings of the Institution of Civil Engineers-Structures and Buildings***, p.1-34. **Q3, *I.F.* 1.5**
19. K. Ganesh Babu and **Chandrasekhar Bhojaraju\*** 2017. “*High-Performance SCCs Containing Fly Ash*” ***Indian Concrete Journal*** 92, p. 57-63. **Q4, *I.F.* 0.22**
20. Binaya Patnaik, Seshadri Sekhar T. *and* **B. Chandra Sekhar**2015 *“An Experimental Investigation On Strength Properties Of Copper Slag Fibre Reinforced Concrete”* ***ARPN Journal of Engineering and Applied Sciences****,* 10*.* **Q4**
21. *G.*Jyothi Kumari. Dr.M.V.seshagiri Rao*,* **B. Chandra sekhar**2015 *“An Appraisal on Mechanical Properties of SCC with Varying Packing Factors” 2015* ***IJSRSET*** *| Volume 1 |Issue 6 | Print ISSN : 2395-1990 | Online ISSN : 2394-4099 Themed Section: Engineering and Technology .*

**Under Revision:**

1. Manjunath, B., Mousavi, S.S., Ouellet-Plamondon, C.M. and **Bhojaraju, C\**.,***Boosting cement hydration with boron nitride nanotubes. ***Cement and Concrete Composites***, (Under revision). **I.F. 10.5**
2. Manjunath, B., Mousavi, S.S., Ouellet-Plamondon, C.M. and **Bhojaraju, C\**.,***Unlocking the potential of arecanut husk biochar as a sustainable carbonaceous filler in cementitious composites. ***Construction and Building Materials***, (Under Revision). **I.F. 7.4**
3. Study on the performance of hydrophilic curing agent and environmentally friendly non-pozzolanic filler for the development of self-curing self-compacting concrete ***Environmental Science and Pollution Research.***. (2nd revision) **I.F. 5.8**
4. Investigating the engineering and environmental properties of ternary blended low-carbon concrete for sustainable construction, ***Journal of Material Cycles and Waste Management.*** (under revision) **I.F. 5.4**

**Conference Papers:**

1. *Kodeboyina, G.B., Thotakura, L., Avirneni, D. and* ***Bhojaraju, C****.,* 2023*. Ultra-high Performance Concrete as a Sustainable Structural Composite.* ***In IOP Conference Series: Earth and Environmental Science*** *(Vol. 1149, No. 1, p. 012002). IOP Publishing.*
2. *Ajarostaghi, S.S.M., Mousavi, S.S. and* ***Bhojaraju, C****.,* 2023*. Numerical Investigation the Effects of Cone Diameters on the Flow Pattern and Separation Efficiency in a Cyclone Separator.* ***In IOP Conference Series: Earth and Environmental Science*** *(Vol. 1149, No. 1, p. 012005). IOP Publishing.*
3. *Ajarostaghi, S.S.M., Mousavi, S.S. and* ***Bhojaraju, C****., 2023. Numerical Analysis of Double Stack Blade Savonius Wind Turbine with Secondary Blades.* ***In IOP Conference Series: Earth and Environmental Science****(Vol. 1149, No. 1, p. 012006). IOP Publishing.*
4. **Chandrasekhar, B.** Lucie Banc and Ouellet-Plamondon, C.M 2021. “Influence of mixing sequence on hydration, microstructure and mechanical characteristics of nano clay modified cementitious materials” ***EMI Conference*** 2021.
5. *Binaya Patnaik,* **Chandra Sekhar, B.** andSeshadri Sekhar T.2019 *“Sustainability of Copper Slag as a Building Material under Elevated Temperature”* ***International Conference on Recent Development in Sustainable Infrastructures (Materials &amp; Management) ICRDSI 2019***(Accepted in Springer journal & best paper award).
6. Ganesh Babu, K. and **Chandra Sekhar, B.** 2018 “Sustainable high-performance cementitious composites” Conference: ***International Conference on Emerging Trends in Civil Engineering*** Anantapuramu (Accepted in LNSC journal).
7. Jyothi kumari, G., **Chandra Sekhar, B.** andDr.M.V.Seshagiri Rao2016 *“Study of mechanicalproperties of HSSCC with varying packing factors”* ***Proceedings of Structural Engineering Convention, CSIR-SERC****, Chennai, pp. 1882-1887.*
8. Ganesh Babu, K. and **Chandra Sekhar**, B. 2012. *“Efficiency of Limestone Powder in SCC”* ***MRS Proceedings.*** 1488.
9. Ganesh Babu, K., Durga Prasad, R. and **Chandra Sekhar, B.** 2011. *“An Appraisal of Strength to Water-cement Ratio Relations”* ***XXI Nordic Concrete Research Symposium*** Finland, p. 363-366.
10. K. Ganesh Babu, **B. Chandra Sekhar** and R. Durga Prasad 2011. *“Effect of Temperatures on the Accelerated Curing of Concrete”* ***XXI Nordic Concrete Research Symposium*** Finland, p. 363-366.
11. K. Ganesh Babu, **B. Chandra Sekhar** and R. Durga Prasad (2010) *“Early Appraisal of Concrete Strength for Quality Control”* ***Proceedings of Seventh Structural Engineering Convention,*** Annamali University, Chidambaram, pp. 467-470.

**Books Published:**

1. **Chandrasekhar B***,* Ganesh Babu K, Ouellet-Plamondon, C.M “Novel Sustainable Concepts and Technologies in Engineering (NSCTCE 2022)” IOP Series.

**Conferences Organized:**

1. An international conference titled “Novel Sustainable Concepts and Technologies in Engineering (NSCTCE 2022)” during the period of Aug 2022.

I was privileged to organise the "Novel Sustainable Concepts and Technologies in Engineering (NSCTCE 2022)" international conference. This conference aimed to discuss the latest trends and advancements in sustainable development. We were honoured to have 12 keynote speakers from India and other countries who shared their valuable insights and research findings on civil engineering. The conference had over 50 full-length presentations, which led to productive discussions and knowledge sharing among the participants. We take pride in our contribution towards promoting sustainable development for the betterment of society.

1. National Conference titled “Recent Trends in Civil Engineering” in collaboration with the Department of Science and Technology (DST) in Feb 2015.

**Funding Projects:**

1. Awarded a sponsored project from **SERB -TARE** from Govt. of India 2024-2026. Titled “*Development of Self-Sensing Cementitious Composites using Nano-Tailored Spent Catalysts for Enhanced Structural Health Monitoring” -* (sanctioned).

**Other Information:**

**Other Relevant Information:**

1. **Early Career-Research award (50,000/- Rupees)** from St. Joseph Engineering College, Mangalore, Feb, 2024.
2. Awarded the **first prize at KBU, NITTE** **(1 lakh rupee)** for my presentation on developing modified cementitious materials and nanomaterials for sustainable development. This achievement highlights my expertise in creating innovative and environmentally-friendly solutions for the construction industry in 2021.
3. Apart from thesis work, also worked on various research-based consultancy projects, such as
* Studies on the Effects of Aging Residual Life of Concrete Elements of FBR Structures – IGCAR.
* Quality assessment of Nagarjuna oil corporation limited Cuddalore – largest oil refinery in south India.
* Design of general cargo berths for Vedanta – Visakhapatnam port

under the guidance of Prof. K. Ganesh Babu at Department of Ocean Engineering, IIT Madras.

1. Contributed in Book (2017) titled as “*High Performance Self-consolidating Cementitious Composites*” and acknowledged as “thank the efforts of Mr. B. Chandrasekhar, Ph.D. scholar, particularly for his contribution in shaping this book in the present form through his several unending objective discussions and also more importantly through his untiring effort to help in processing and producing most of the graphs and nomograms into the present form that really make and standout as the hallmark of this book”.
2. **Secured third prize** on a paper titled “*Influence of Coir Reinforcement on Engineering Properties of Silty Clay Soil*” at STEPCONE-07, GMRIT, Rajam, AP.

**References:**

**References:**

**1. Prof. K. Ganesh Babu 2. Prof. Santosh G Thampi**

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Indian Institute of Technology Madras National Institute of Technology Calicut

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**3. Claudiane Ouellet Plamondon**

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ETS Montreal, University of Quebec

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