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Total experience (in years): 25

**Research area:** Structural dynamics, Cold-Formed Steel Structures, Sustainable materials, FRP Composites.

**No.ofPh.D guided:** 7

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### Recent Publications:

- Ganesan, C., Joanna P.S., ‘Modeling the residual strength and fatigue life of carbon fiber composites under constant amplitude loading’, *Mechanics of Advanced Materials and Structures*, 2020, 27(21), pp. 1840-1848 (Web of Science)
- Divahar, R., Aravind Raj, P.S., Sangeetha, S.P., Joanna P.S. , ‘Experimental, analytical and numerical studies on concrete encased trapezoidally web profiled cold formed steel beams by varying depth-thickness ratio’, *Frontiers of Structural and Civil Engineering*, 2020, 14(4), pp. 930-946(Web of Science)
- Aravind Raj, P.S., Divahar, R., Sangeetha, S.P., Joanna P.S., ‘Quasi-static cyclic load performance of encased concrete-filled steel tubular with steel loops joint using sustainable concrete’, *Asian Journal of Civil Engineering*, 2020, 21(7), pp. 1259-1267(Scopus)
- P.S.Joanna, T.S.Parvati, Jessy Rooby, R.Preetha ‘A study on the flexural behavior of sustainable concrete beams with high volume fly ash’ *Elsevier-Materials Today: Proceedings*,2020 (Scopus)
- Parvati T S, Joanna P.S, “Behaviour of Beam-Column Subjected to Reversed Lateral Loading” *KSCCE Journal of Civil Engineering*, Volume 22, Issue 7, 2018,pp 2464–2468. (WOS)
- C.Ganesan and Joanna P.S, ‘Fatigue Life and Residual Strength prediction of GFRP Composites: An Experimental and Theoretical approach, *Latin American Journal of Solids and Structures*’,15(7), 72, 2018( (Scopus & WOS)
- Divahar R. and Joanna P.S ‘Numerical Simulation and Experimental Investigation on Static Behaviour of Cold-Formed Steel Beam with Trapezoidally Corrugated Web by Varying Depth-Thickness Ratio’, *Asian Journal of Civil Engineering*, 2018, 19(2), pp. 121-137(Scopus ).

### Funded Research Project Executed:

As Principal Investigator, completed a funded project titled 'Development and Characterization of High-Volume Fly Ash Concrete for Structural Applications' funded by Department of Atomic Energy, Mumbai, with a grant-in-aid of Rs. 25 lakhs. This project was executed in collaboration with the Civil Engineering division of Indira Gandhi Centre for Atomic Research, Kalpakkam.

### Patent Granted:

- Cold-formed Steel Beam with Encased Braced Web for Earthquake Resistant Constructions. (Indian)

- A cold-formed steel I-beam system with twin rebars in web and encased with fly-ash concrete. (International)
- Quasi-static cyclic load performance testing method of encased concrete-filled steel tubular with steel loops joint. (International)

**Patent Published:**

- Earthquake Resistant Cold-formed Steel Beams with fly Ash Concrete Encased Trapezoidal Corrugated Web (Indian)
- Moment Resisting Connection for a Long Cantilever Building with Concrete core Wall.
- Double Skinned Beam-Columns with outer cold-formed steel and inner GFRP tubes for Seismic regions.
- Earthquake resistant cold formed concrete filled double skin tubular beam- columns strengthened with GFRP wrapping.