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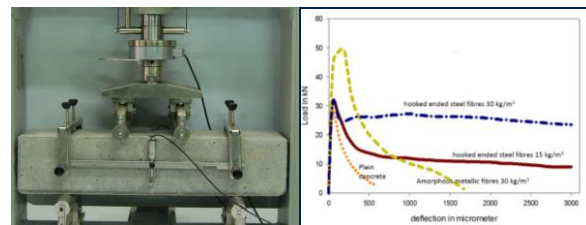
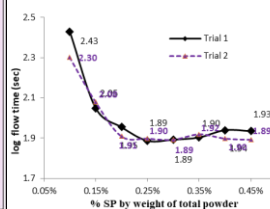
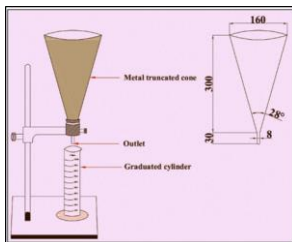
Research Interests

- Physical and mechanical characterization of construction materials and systems
- Developing sustainability concrete systems by utilizing local and waste materials
- Long-term performance of construction materials
- Modelling and design of construction materials and systems

Brief Summary of Profile

With above 10 years of under graduate teaching and over three years of research experience, her academic profile is well rounded, with over 18 publications in refereed international journals and conferences. She has successfully completed a sponsored research, funded by DST and has been part of many consultancy projects in collaboration with IIT Madras as well as at IIT Palakkad. Her research is directed towards development of comprehensive models for some of the emerging material technologies. Her Ph. D thesis won the INAE Innovative Doctoral Thesis Award as well as the Indian Concrete Institute (ICI) (Chennai Centre) – UltraTech Award – 2016 for Outstanding Thesis in the field of Concrete in Tamil Nadu for the year 2016. Analytical part of her research involve developing suitable material models to be incorporated in complex structural systems so as to predict structural behaviour, leading to obtaining optimum solutions.

Overview of research in material characterization



Marsh cone test for Cement-SP compatibility

Load –deflection curves of FRC with approx. 0.5% of various fibres

Projects

- Development, Characterization and Prototype Application of High Performance Fibre Reinforced Concrete, DST-WOS A, Rs. 17,00,000/-, 2015 – 2018
- Checking and Vetting of Design Solution for FRC Flooring Submitted by Durafloor Concrete Solutions LLP, Durafloor Concrete Solutions LLP, Rs. 1,50,000/-, 2018

Recent Publications (full list of publication at <https://iitpkd.ac.in/people/sknayar>)

Nayar, S. K., and Gettu, R., (2017) Design Methodology for Fibre Reinforced Concrete Slabs-on-grade Based on Inelastic Analysis, Indian Concrete Journal, Vol. 91, No. 3, pp 26-36

Premavathy, A., **Nayar, S. K.**, Jeyanthi. R, Ravindra Gettu, Manu Santhanam, Pascal Boustingorry and Shyam Sundar G., (2018) Assessment of a Methodology for Formulation of Robust Self-Compacting Concrete Mixes, Proceedings of the 3rd R.N. Raikar Memorial International Conference and Gettu-Kodur International Symposium on Advances in Science and Technology of Concrete, 14-15 December, Mumbai, India.

