Dr. B. M. Swami Punniakodi M.Tech., PhD.,
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OVERVIEW

Computational fluid dynamics is a part of my research in PhD involving process study of a PCM melting. Four research papers on numerical simulation using Ansys fluent and four papers on experimental analysis involving PCM fusion were published in leading Q1 journals during my tenure as a research scholar. The flow and heat transfer analysis were done to find optimal solution for the simulation study. Hence possess good knowledge on solvers and numerical methods in simulation. I successfully defended my thesis on 3rd June 2023, and the research work is appreciated as compact by the doctoral committee members from IIT Madras. I was working in academic for eight years and have proficiency in mechanical engineering subjects like Heat Transfer, Fluid Flow, CFD, and CAD related subjects, respectively, with good demonstration capability. I was into marketing for three years in working with a team and achieve targets each time.

PUBLICATIONS

Journal (Web of Science):

- B M S Punniakodi, R Senthil, "Effect of conical coiled heat transfer fluid tube on charging of phase change material in a vertical shell and coil type cylindrical thermal energy storage", Energy sources, Part-A, 44:4, 8611-8626, 2020. **IF: 2.902**.

- B M S Punniakodi, R Senthil, "A review on container geometry and orientations of phase change materials for Solar Thermal Systems", Journal of Energy Storage, vol. 36, 102452, 2021. **IF: 9.4**.

- B M S Punniakodi, R Senthil, "Experimental study on melting enhancement of phase change material in a vertical cylindrical latent heat storage using a short concentric helical heat transfer tube", Journal of Energy Storage, vol. 14, 102879, 2021. **IF: 9.4**.

- B M S Punniakodi, R Senthil, “Recent developments in nano-enhanced phase change materials for solar thermal storage”, Solar Energy Materials and Solar Cells, vol. 238, 111629, 2022. **IF: 6.9**.

- B M S Punniakodi, R Senthil, N Shah, V K Rathore, “Numerical study on melting of phase change material in a horizontal container using multi heat transfer tubes”, Journal of the Taiwan Institute of Chemical Engineers, vol. 131, 104214, 2022. **IF: 5.7**.

- R Senthil, B M S Punniakodi, D Balasubramanian, X P Nguyen, A T Hoang, V N Nguyen, “Numerical investigation on melting and energy storage density enhancement of phase change material in a horizontal cylindrical container”, International Journal of Energy Research, 1-21, 2022. **IF: 4.672**.

- B M S Punniakodi, H A Kumar, R Kumar, R Senthil, “Experimental study on melting enhancement of phase change material by heat transfer tube orientation”, Journal of Energy Storage, vol 56, part A, 105887, 2022. **IF: 9.4.**

- B M S Punniakodi, R Senthil, “Enhanced heat transfer in a phase change energy storage with helical tubes”, Journal of Energy Storage, vol 58, 106352, 2023. **IF: 9.4.**

Journal:

- B M S Punniakodi, N Kartik, “Fatigue life prediction of leaf spring used in the suspension system of light commercial vehicle”, International journal of trend in scientific research and development, 3 (2), 2019. ISSN 2456-6470.

- D K Mohankumar, B M S Punniakodi, L A M Raj, “Fabrication and performance of natural fibers: bird nest fiber, chicken feather fiber, coconut spathe, jute and banana fiber reinforced with polyester composites for automobile dash-board applications”, International journal on applied engineering and research, pp. 735-739, 2019. ISSN 0973-9769.

- B M S Punniakodi, “Fabrication and analysis of mechanical properties of metal matrix Nano composites using magnesium and CNT as the blending material”, International journal of trend in scientific research and development, 3 (3), 2019. ISSN 2456-6470.

Conference:

- B M S Punniakodi, R Senthil, "Effect of the vertical and horizontal orientation of heat transfer tube on charging of phase change material in a cylindrical container", International Congress on Advances in Materials Science and Engineering (CAMSE2021), NIT Jalandhar, Punjab. 19 July 2021.

- B M S Punniakodi, R Senthil, "Numerical simulation on the influence of heat transfer wall temperature on melting of phase change material in an annular region", International Conference on Energy Conversion and Thermo-fluid Systems (i-CONECTS 2021), NIT Jaipur, Rajasthan. Nov/Dec-21.

- B M S Punniakodi, R Senthil, "Comparison of vertical and horizontal configuration of heat transfer tube in enhancing the PCM melting rate in a horizontal cylindrical container", International Conference in Advances in Mechanical Engineering (ICAME 2022), SRMIST, Kattankulatur, Tamilnadu. 24-26th March 2022.

Research profile:

No. of articles (Web of science)	**No. of citations**	**h-index**	**i10- index**	**Total IF**	**Avg. IF**
8	144	6	6	57.774	7.22175

Google scholar* : *https://scholar.google.com/citations?hl=en&user=AoPo3hsAAAAJ

Linkedin* : *https://www.linkedin.com/feed/