CURRICULUM VITAE

VEERSHETTY GUMTAPURE
PROFESSOR,
DEPARTMENT OF MECHANICAL ENGINEERING
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Details of educational qualifications

Examination/ Degree	Board/College/Institute/ University	Subjects/ specialization	Date of passing
B.E.	Gulbarga University Gulbarga	Automobile Engineering	1994
M.Tech,	Indian Institute of Technology Madras, Chennai	Thermal Engineering	1997
Ph.D	Indian Institute of Technology Madras, Chennai	Solar parabolic dish collector for high temperature thermal application	2014

Details of employments:

Organisation/ Institute	Position held	Nature of duties/work	Date of joining	Date of leaving
NITK SURATHKAL	Professor	Teaching and Research	09-10-2023	Till date
NITK SURATHKAL	Associate Professor	Teaching and Research	30-09-2019	08-10-2023
NITK SURATHKAL	Assistant Professor	Teaching and Research	03-01-2011	30-09-2019
NITK SURATHKAL	Lecturer/Senior Lecturer	Teaching and Research	03-01-2001	3-01-2011
NIT CALCUT	Lecturer	Teaching	18-06-1998	02-01-2001

Research Interests: Renewable energy, solar energy conversion, biomass energy, Heat Transfer, CFD,

Profession experience:

Teaching and Research: 27 Years
PhD completed: 7
Ongoing PhD: 4

PhD completed till date: 7

1. Santosh C, " EXPERIMENTAL AND NUMERICAL STUDIES ON THE PERFORMANCE OF POLYETHYLENE- GRAPHENE BASED COMPOSITE PHASE CHANGE MATERIALS FOR THERMAL ENERGY STORAGE" 2019
2. Kiran Kummar D, "EXPERIMENTAL STUDIES ON INTERMEDIATE PYROLYSIS OF LIGNOCELLULOSIC BIOMASS COCONUT SHELLS" -2021
3. Suhas Upadhaya , "PARAMETRIC INVESTIGATION AND OFF-DESIGN SIMULATION OF LOW TEMPERATURE ORGANIC RANKINE CYCLE FOR RESIDENTIAL APPLICATIONS"-2021
4. Jagadish C "PERFORMANCE, COMBUSTION AND EMISSION STUDIES OF A SINGLE CYLINDER DIESEL ENGINE BY DUAL FUEL MODE PROPELLED WITH BIOGAS DERIVED FROM FOOD WASTE" – 2022
5. Rudra Murthy B.V. "THERMO-PHYSICAL AND PERFORMANCE ANALYSIS OF BIO-BASED PHASE CHANGE MATERIAL FOR MEDIUM TEMPERATURE LATENT HEAT THERMAL ENERGY STORAGE APPLICATIONS" -2022
6. Kumara "SOLAR ENERGY BASED DESALINATION SYSTEM USING HUMIDIFICATION- DEHUMIDIFICATION PROCESS'' -2022
7. Mohsin Iqbal Abdul Raheman Sheikh "INVESTIGATION OF WASTE/RECYCLE PLASTIC AS LATENT HEAT THERMAL ENERGY STORAGE MATERIAL" - 2024

List of Publications:

International Journal

1. Lakshmana Naik, **Veershetty Gumtapure**, BV Rudra Murthy (2025), "Experimental investigation of melting and solidification characteristics in a vertical shell and tube latent heat thermal energy storage system with novel directional flow" *Journal of Energy Storage*, 114 (Part A), (2025**), https://doi.org/10.1016/j.est.2025.115768**
2. **TG Shanegowda, CM Shashikumar, Veershetty Gumtapure**, Vasudeva Madav (2025) "Numerical analysis of Savonius hydrokinetic turbine performance in straight and curved channel configurations" *Energy Nexus,* 17, (2025) https://doi.org/10.1016/j.nexus.2025.100382
3. Mohsin Iqbal Abdul Raheman Sheikh, **Veershetty Gumtapure**, Md Ezaz Ahammed (2024) "Numerical analysis of polyethylene based nano-enhanced phase change material in cylindrical storage system" International Journal of Ambient Energy, 45(1), (2024), https://doi.org/10.1080/**01430750.2024.2349882**
4. **TG Shanegowda, CM Shashikumar, Veershetty Gumtapure**, Vasudeva Madav (2024) "Comprehensive analysis of blade geometry effects on Savonius hydrokinetic turbine efficiency: Pathways to clean energy" *Energy Conversion and Management: X*, 24, (2024), https://doi.org/10.1016/j.ecmx.2024.100762
5. Mohsin Iqbal Abdul Raheman Sheikh, Md. Ezaz Ahammed and **Veershetty Gumtapure** (2023) "Thermal behavior of composite phase change material of polyethylene in a shell and coil-based thermal energy storage: Numerical analysis" *Journal of Energy Storage, (SCIE)* 74, Part B, (2023), https://doi.org/10.1016/j.est.2023.109438
6. Jagadish C and **Veershetty Gumtapure** (2022) "Experimental study on the effect of injection timing on a dual fuel diesel engine operated with biogas derived from food waste". *Journal of Energy Resource and Technology, ASME*, 144 (12) (**2022**) 122303 (1-11) https://doi.org/10.1115/1.4054586
7. Rudra Murthy B.V. and **Veershetty Gumtapure** (2022) "T-history analysis of aspect ratio effect on subcooling and solidification behavior of phase change material in vertical glass tubes." *Thermal Science, 26 (1A) 37-47:* https://doi.org/10.2298/TSCI200509326M
8. Rudra Murthy B.V., Kumara Thanaiah and **Veershetty Gumtapure (2022)** "Experimental investigation of shellac wax as potential bio-phase change material for

medium temperature solar thermal energy storage applications" *Solar Energy* 231(1), (**2022**), 1002-1014. https://doi.org/10.1016/j.solener.2021.12.019

9. Kumara ,G Veershetty and Gamachisa M (2021) "Thermoeconomic analysis of humidification-dehumidification desalination system using solar energy" *Thermal Science and Engineering Progress* 22, (2021) 1-12. https://doi.org/10.1016/j.tsep.2020.100831
10. Suhas Upadhyaya and **Veershetty Gumtapure** (2021). "Parametric investigation of open-drive scroll expander for micro organic Rankine cycle applications", *Journal of thermal engineering.* 7(5) July, (2021) 1110–1120 https://doi.org/10.18186/thermal.977975
11. Suhas Upadhyaya and **Veershetty Gumtapure** (2021). "Exergoeconomic optimization of low temperature solar driven organic Rankine cycle", *Thermal Engineering* 68 (12), (2021), 916–921. DOI: 10.1134/S0040601521120107
12. Rudra Murthy B.V., Kottayat Nidhul and **Veershetty Gumtapure** "Performance evaluation of novel tapered shell and tube cascaded latent heat thermal energy storage." *Solar Energy*, 24, (**2021**), 377-392.
13. Kumara, **G Veershetty**, D H Ashebir, "Experimental study on desalination system using humidification dehumidification process with baffles in the dehumidifier", *Journal of Engineering Science and Technology*, 15(2), **(2020),** 1-9.
14. Jagadish C and **Veershetty Gumtapure**, "Experimental studies of biogas in a single cylinder diesel engine by dual fuel mode of operation", *Applied Mechanics and Materials*, 895(1), **(2020**), 109- 114.
15. Jagadish C and **Veershetty Gumtapure**, "Experimental studies on cyclic variations in a single cylinder diesel engine fuelled with raw biogas by dual mode of operation" *Biofuels-UK*, 266 **(2020),** 1-11.
16. Jagadish C and **Veershetty Gumtapure**, "Experimental investigation of methane enriched biogas in a single cylinder diesel engine by dual mode" *Energy Sources Part A-Recovery Utilization And Environmental Effects*, 10 **(2020),** 1-15
17. Kiran Kumar Dasari and **Veershetty Gumtapure**, "Intermediate Pyrolysis of Coconut Shells – Economics related to Power Generation", *Advances in Energy Research*, 1 **(2020),** 978- 981.

18. Rudra Murthy B.V., **Veershetty Gumtapure**, "Thermo-physical analysis of natural shellac wax as novel bio-phase change material for thermal energy storage applications", *Journal of Energy Storage,* 29 **(2020),** 298- 310.
19. Santosh C, **Veershetty Gumtapure**, Arumuga Perumal D. "Numerical analysis of composite phase change material in a square enclosure" *Advances in Energy Research,* 1, (2020), 359- 370 .
20. Rudra Murthy B.V., **Veershetty Gumtapure** (2019) "Thermal property study of the fatty acid mixture as Bio-phase change material for solar thermal energy storage usage in domestic hot water application," *Journal of energy storage,* Elsevier, 25 (2019)
21. Suhas Upadhyaya, **Veershetty Gumtapure**, "Parametric Analysis and Thermodynamic Optimization of Organic Rankine Cycle for Low Grade Waste Heat Recovery" *Indian Journal of Environmental Protection, 39 (6): 556-567 (***2019***).*
22. Suhas Upadhyaya and Veershetty Gumtapure (2019). "Parametric Investigation of Organic Rankine Evaporator for Low Temperature Applications", *The Journal of Engineering Research (TJER*), 16 (2): 130-141.
23. Kiran Kumar Dasari and **Veershetty Gumtapure**, "Activated carbon-based dye-sensitized solar cell for development of highly sensitive temperature and current sensor" *IOP Publishers, Mater. Res. Express* ***6 (*2019*) 085531.*** https://doi.org/10.1088/2053-1591/ab23b7.
24. Santosh C, **Veershetty Gumtapure**, D. Arumuga Perumal "Computational Investigation of Bounded Domain with Different Orientations Using CPCM" *Journal of Energy Storage, Elsevier Publishers. Vol. 22, 355-372,* 2019. **https://doi.org/10.1016/j.est.2019.02.018.**
25. Santosh C, **Veershetty G** and D.A. Perumal, "Characterization of Linear Low-Density Polyethylene with Graphene as Thermal Energy Storage Material" *IOP Publishers, Mater. Res. Express,* Vol. 6, 065511, 1-9, 2019. **https://doi.org/10.1088/2053-1591/ab0e36**.
26. Santosh C, **Veershetty G** and D.A. Perumal, "Preparation and characterization of nanoparticle blended polymers for thermal energy storage applications" *AIP Conference Proceedings* 2057, 020028 (2019). **https://doi.org/10.1063/1.5085599**.
27. Santosh C, **Veershetty G** and D.A. Perumal, "A Review on Thermal Energy Storage Using Composite Phase Change Materials", *Recent Patents on Mechanical*

Engineering, Vol. 11 (4), 298-310, **2018***, Bentham Science Publishers.* doi:10.2174/2212797611666181009153110.

28. Santosh C, Arumuga Perumal D, **Veershetty Gumtapure,** "Numerical studies for charging and discharging characteristics of composite phase change material in a deep and shallow rectangular enclosure" *IOP Conf. Series: Materials Science and Engineering 376 (***2018***) 012059.* doi:10.1088/1757-899X/376/1/012059.
29. Suhas Upadhyaya, **Veershetty Gumtapure**, "Thermodynamic analysis of organic Rankine cycle with Hydrofluoroethers as working fluids", *IOP Conf. Series: Materials Science and Engineering 376 (***2018***) 012026, doi:10.1088/1757-899X/376/1/012026.*
30. Kumara and **Veershetty G** "Humidification Dehumidification Desalination Using Solar Collectors" IOP Conf. Series: Materials Science and Engineering 376 (**2018**) 012025. doi:10.1088/1757-899X/376/1/012025.
31. K.S. Reddy, **G. Veershetty,** T. Srihari Vikram, "Effect of wind speed and direction on convective heat losses from solar parabolic dish modified cavity receiver", *Solar Energy*, (**2016)**,131, 183-198.
32. K.S. Reddy, T. Srihari Vikram, **G. Veershetty,** "Combined heat loss analysis of solar parabolic dish – modified cavity receiver for superheated steam generation", *Solar Energy*, (**2015)**, 121, 78-93.
33. K. S. Reddy, Sendhil Kumar Natarajan, **G. Veershetty,** "Experimental performance investigation of modified cavity receiver with fuzzy focal solar dish concentrator", *Renewable Energy*, (**2015)**, 74, 148-157.
34. K. S. Reddy and **G. Veershetty**, "Viability analysis of solar parabolic dish stand-alone power plant for Indian conditions", *Applied Energy*, (**2013)**, 102, 908-922.

International Conferences

1. Mohsin Iqbal Abdul Raheman Sheikh and **Veershetty Gumtapure,** "Numerical investigation of polyethylene based composite phasechange material in shall and coil thermal energy storage" *7th International Conference on Nanoscience and Nanotechnology ICONN- 2023 SRM, University, India.*, 27-28th March 2023

2. Mohsin Iqbal Abdul Raheman Sheikh and **Veershetty Gumtapure**, "Numerical investigation and geometrical variation of latent heat thermal energy storage system"

   International conference on recent advancement in modeling and analysis of thermal storage system, National Institute of Technology, Karnataka,Surathkal, India, 10-12th May 2023.

3. Jagadish C and **Veershetty Gumtapure.** "Influence of raw biogas operated in a single cylinder diesel engine by dual fuel mode". *International Symposium on Advanced Materials for Industrial and Societal Applications (NMD ATM-2019) at Hotel Uday Samudra, Kovalam, Trivandrum, (*13-16 November **2019**).
4. Santosh Chavan, **Veershetty Gumtapure**, D A Perumal "Effect of geometry on heating and cooling characteristics for thermal energy storage- A Computational Study" *12th International Conference on Thermal Engineering: Theory and Application (ICTEA-2019) Gandhinagar, India.* (February 23-26, **2019)**.
5. Kiran Kumar Dasari, **Veershetty Gumtapure, "**Intermediate Pyrolysis of Coconut Shell: isolated Fractions of Bio-Tar" *12th International Conference on Thermal Engineering: Theory and Application (ICTEA-2019) Gandhinagar, India.* (February 23-26, **2019)**.
6. Kiran Kumar Dasari, **Veershetty Gumtapure,** "Intermediate Pyrolysis: chemical Characterization of Coconut Shell Bio-Oil" *Third International Conference on Sustainable energy and Environmental Challenges, IIT Roorkee*. December, 18-21, **2018**).
7. Santosh Chavan, **Veershetty Gumtapure**, D A Perumal "Preparation and characterization of nanoparticle blended polymers for thermal energy storage applications" *Second International Conference on Polymer Composites* (ICPC-2018), *National Institute of Technology Karnataka (NITK), Surathkal*. (December 15–16, **2018)**.
8. Jagadish C, **Veershetty Gumtapure,** "Experimental investigation of methane enriched biogas in a single cylinder diesel engine by dual mode" *International Conference on Advance* Materials, Energy and Environmental Sustainability (ICAMEES-2018), UPES, Dehradun, India (December, 14-15, **2018**).
9. Santosh Chavan, **Veershetty Gumtapure,** D A Perumal, "Melting and Solidification Characteristics for Thermal Energy Storage Applications –A computational study"**,** *Second International Conference on Recent Trends in Materials Science and*

Technology 2018 (ICMST 2018), Indian Institute of Space Science and Technology (IIST), Thiruvananthapuram, October 10-13, ***2018.***

10. Santosh Chavan, D A Perumal, **Veershetty Gumtapure** "Numerical studies for charging and discharging characteristics of composite phase change material in a deep and shallow rectangular enclosure" *International Conference on advances in Manufacturing Materials & Energy Engineering (IConMMEE2018), Mangalore Institute of Technology & Engineering, Moodbidri-574225 (March, 2-3,* **2018***).*

11. Kumara, **G Veershetty**, "Humidification Dehumidification Desalination Using Solar Collectors" *International Conference on advances in Manufacturing Materials & Energy Engineering (IConMMEE2018), Mangalore Institute of Technology & Engineering, Moodbidri-574225 (March, 2-3,* **2018***).*

12. Suhas Upadhyaya, **Veershetty Gumtapure**, "Thermodynamic analysis of organic ranking cycle with hydrofluoroethers as working fluids" *International Conference on advances in Manufacturing Materials & Energy Engineering (IConMMEE2018), Mangalore Institute of Technology & Engineering, Moodbidri-574225 (March, 2-3,* **2018***).*

13. Kiran Kumar Dasari, **Veershetty Gumtapure**, "Intermediate Pyrolysis of Coconut Shells: Economics Related to Power Generation" *6th International Conference on Advances in Energy Research (ICAER)* ***2017****, Department of Energy Science Engineering, IIT Bombay, Powai Mumbai, Maharashtra, India, 400076 (December 12-14* ***2017****).*

14. Santosh Chavan, **Veershetty Gumtapure**, D A Perumal, **"Numerical analysis of composite phase change material in a square enclosure"** ***6th International Conference on Advances in Energy Research (ICAER)*** **2017,** *Department of Energy Science Engineering, IIT Bombay, Powai Mumbai, Maharashtra, India, 400076 (December 12-14* ***2017)****.*

15. Jagadish C, **Veershetty Gumtapure,** "Experimental studies of biogas in a single cylinder diesel engine by dual fuel mode of operation", *International Conference on green trends in mechanical engineering sciences,* MCE- Hassan, (October 3-5, **2017**).

16. Suhas Upadhyaya, **Veershetty Gumtapure**, "Simulation of Solar ORC system for small scale power generation", *PROCEEDINGS OF 6th INTERNATIONAL ENGINEERING SYMPOSIUM – IES 2017,* Kumamoto University, Japan. March 1-3, 2017

17. K. S. Reddy and **Veershetty Gumtapure**, Flux distribution and field analysis of CSP collector, *ISES Solar World Congress 2011*, August 28 to September 3, 2011, Kassel, Germany, 3830-3839 (**2011**).

18. K. S. Reddy and **Veershetty Gumtapure**, Flux distribution of 20 m^2 fuzzy focal solar parabolic dish concentrator. *International Conference on Advances in Energy Research*, December 9-11, 2009, IIT Bombay, 386-391.

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