

## **Dr. Lokesh Varshney**

### **List of Research Publications**

1. Kalpana, Varshney, L. and Subudhi, S., 2022. Heat Transfer and Pressure Drop in a Double-Pass Solar Air Heater With Arc-Shaped Artificial Roughness. *Journal of Solar Energy Engineering*, 144(6), p.061002.
2. Haldar, A., Varshney, L. and Verma, P., 2022. Effect of roughness parameters on performance of solar air heater having artificial wavy roughness using CFD. *Renewable Energy*, 184, pp.266-279.
3. Kumar, A., Verma, P. and Varshney, L., 2022. An experimental and numerical study on phase change material melting rate enhancement for a horizontal semi-circular shell and tube thermal energy storage system. *Journal of Energy Storage*, 45, p.103734.
4. Kaul, S., Joshi, T. and Varshney, L., 2021. Analysis of hot air duct between turbocharger and intercooler. *Materials Today: Proceedings*, 43, pp.719-725.
5. Uniyal, A., Prajapati, Y.K. and Varshney, L., 2021. Thermal Performance Studies on a Packed Bed Regenerator Using Wire Screen Matrix Air Heater. In *Proceedings of the 26th National and 4th International ISHMT-ASTFE Heat and Mass Transfer Conference December 17-20, 2021, IIT Madras, Chennai-600036, Tamil Nadu, India*. Begel House Inc..
6. Verma, P., Saxena, A. and Varshney, L., 2020. A critical review on thermo-hydraulic performance of wire screen matrix packed solar air heaters. *Distributed Generation & Alternative Energy Journal*, pp.75-110.
7. Varshney, L., Joshi, A. and Samant, T.S., 2019, May. Performance of a Wire Mesh Packed Solar Air Heater having Discrete Fins. In *ICTEA: International Conference on Thermal Engineering* (Vol. 2019).
8. Joshi, S. and Varshney, L., 2019. Experimental Investigations on a Double Pass Solar Air Heater having Combination of Broken Arc and Staggered Ribs. *International Journal of Applied Engineering Research*, ISSN 0973-4562, vol, 14, pp.121-125.
9. Gupta, A.D., Gupta, A. and Varshney, L., 2019. An Assessment of Fuel from Disposed Plastic Containers for Diesel Engine. *International Journal of Bio-resource and Stress Management*, 10(2), pp.166-170.

10. Gupta, A.D., Gupta Ashish, Varshney, L., and Gupta Yashi, 2019. Thermal Performance Analysis of a Packed Bed Solar Air Heater having Rounded Tip V-Grooved Absorber, *Int. J. of Recent Scientific Research*, Vol. 10, Issue 03 (D), pp. 31408-31412.
11. Bhandari, P., Varshney, L. and Bisht, V.S., 2018. Numerical analysis of hybrid solar water heating system using wire screen packed solar air heater. In *1st International conference on new frontiers in engineering, science & technology* (Vol. 1, pp. 415-1422).
12. Gupta, A.D. and Varshney, L., 2017. Performance prediction for solar air heater having rectangular sectioned tapered rib roughness using CFD. *Thermal Science and Engineering Progress*, 4, pp.122-132.
13. L. Varshney, Rameshwar Kumar Singh, 2017. Heat Transfer and Pressure Drop Characteristics in a packed bed Solar Air Heater. *International Journal of Mechanical Engineering*, 2, 111-118
14. Gupta, A.D., Pratihari, A.K. and Varshney L., 2016. Heat Transfer and Pressure Drop Characteristics in a Rectangular Duct with Roughened Absorber plate having rectangular Transverse Rib using ANSYS, *Int. Journal of Scientific & Engineering Research*, Vol.. 7(12).
15. Kumar Sandeep and Varshney, L., 2015. Effect of Packing Material and its Geometry on Performance of Packed Bed Collector, *Int. Journal of Research in Engineering and Technology (IJERA)*, eISSN: 2319-1163 volume 04 (9), pp. 352-361.
16. Verma, P. and Varshney, L., 2015. Parametric investigation on thermo-hydraulic performance of wire screen matrix packed solar air heater. *Sustainable Energy Technologies and Assessments*, 10, pp.40-52.
17. Varshney, L. and Saurabh Kumar, Thermal Performance Studies on a Packed Bed Solar Air Heater Using V-Grooved Absorber Plate, Accepted for presentation in *1<sup>st</sup> ISHMT-ASTFE Heat and Mass Transfer Conference 2015*, hosted by ISRO, Trivandrum from Dec. 17-20, 2015.
18. Yadav, A.S., Samant, T.S. and Varshney, L., 2015. A CFD based analysis of solar air heater having v-shaped perforated blocks on absorber plate. *Int. Res. J. Eng. Tech*, 2, pp.822-829.
19. Varshney, L., Bhandari, P. and Bisht, V.S., 2014. Performance Evaluation of Hybrid Solar Water Heating System Using Wire Screen Packed Solar Air Heater. *Int. Journal of Engineering Research and Application (IJERA)*, pp.311-316.

20. Verma P. and Varshney L., 2014. Effect of operating parameters on the performance of wire screen matrix packed solar air heater, *Int. Journal of Advances in Engineering & Technology*, ISSN 22311963, Vol. 7, pp. 263-273.
21. Varshney, L., Pratihari, A.K. and Saini, J.S., Simple Method for Determination of Extinction Coefficient of Wire Screen Matrices and its Proper Selection for Packed Bed Solar Air Heaters, *11<sup>th</sup> ISHMT-ASME International Heat & Mass Transfer Conference*, IIT, Kharagpur, Dec. 27-30, 2013.
22. Varshney, L., and Saini, J.S., 2009. Effect of Bed Parameters on the Performance of A Packed Bed Solar Air Heater, *Proc. of International Conference on Energy Engineering (ICEE-2009)*, Paper No. EEM 325, Pondicherry Engineering College, Puducherry.
23. Varshney, L., Sachin Baluni, Arun Kumar and Anujay Singh Negi and Investigation on the Performance of a VCR Engine and Development of an Algorithm for Optimum Compression Ratio, *Proc. of National Conference on State of the Art Technologies in Mechanical Engineering, STEM 2007*, 29-31 Oct. 2007 at College of Tech., Pantnagar, pp. 433-439.
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25. Varshney, L. and Saini, J.S., Finite Difference Method for Performance Estimation of a Packed Bed Solar Air Heater, *Proc. Of the Conference on Computer Aided Design and Manufacturing: A Global Perspective*, MED, TIET Patiala, April 8-9,2005, Paper No.149, pp.1-8
26. Varshney, L. and Ansari, F.A., 2003. Design on simple and reliable experiments for precooling studies. *Journal of food science and technology (Mysore)*, 40(2), pp.183-186.
27. Varshney, L. and Saini J.S. , Effect of Extinction Coefficient on Thermal Performance of Packed Bed Solar Air Heater, Heat and Mass Transfer 2002, *Proc. of Fifth ISHMT-ASME International Heat & Mass Transfer Conference*, Science City, Calcutta, pp. 1408-1413, Jan. 3-5, 2002.
28. Varshney, L. and Saini J.S., Analytical Studies on a Cross Flow Type Wire Mesh Packed Solar Air Heater, *Fourth ISHMT-ASME International Heat & Mass Transfer Conference*, Institute of Armament Technology, Jan. 12-14, 2000, pp. 1045-1049.

29. Varshney, L. and Saini, J.S., 1998. Heat transfer and friction factor correlations for rectangular solar air heater duct packed with wire mesh screen matrices. *Solar Energy*, 62(4), pp.255-262.
30. Varshney L. and Saini J.S., Performance Tests on a Solar Air Heater Packed with Wire Mesh Screen Matrices, *Proc. National Solar Energy Convention*, Solar Energy Society of India, Mechanical and Industrial Engineering Department, University of Roorkee, Roorkee, Nov. 30-Dec. 2, 1998, pp. 67-74.
31. Varshney, L., Effect of Ethanol- Gasoline and Methanol- Gasoline Blend on Performance and Emissions of the Engine, *Presented in Workshop on University-Industry Collaboration*, G.B. Pant Univ. of Ag. & Technology, Pantangar, March 1-2, 1993.
32. Varshney, L. and Singh, Rameshwar Kumar, Heat Transfer and Pressure Drop Characteristics in Packed Bed Solar Air Heater, accepted for the *12th IIR Gustav Lorentzen Natural Working Fluids Conference*.
33. Gupta, A.D, Varshney, L., Application of CFD in Performance Evaluation of Solar Air Heater, Presented in *Second All India Seminar on Advances in Engineering and Technology for Sustainable Development*, November 25-26, IEI, Pantnagar Local Center, Pantnagar