

## Profile Page



Name : Dr Satyender Singh  
Designation : Assistant Professor  
Department : Mechanical Engineering  
Qualification : Post Doctoral Research Fellow: Mutliphase Flow (CMFD) & Microfluidics (Computational Fluid Dynamics Lab., IIT Bombay)  
Ph.D: Thermal and Fluid Engineering  
M. Tech: Computational Fluid Dynamics & Heat Transfer  
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### **Research Interests :**

Computational Multi-Fluid Dynamics (CMFD), Code development on PCM, Microfluidics, Microchannels, Experimental Fluid Dynamics and Heat Transfer, Fluid Flow and Heat Transfer Evaluation of Hydrophobic and Superhydrophobic surfaces, Analytical and Numerical Methods, Design and Optimization of Thermal Systems, Technology for Rural Development.

### **Other Profile Links :**

#### **Google Scholar Link :**

Dr. Satyender Singh [Click Here](#)

#### **Personal Web Link :**

Publons [Click Here](#) Research Gate [Click Here](#) Vidwan [Click Here](#)

### **Journal Publications :**

Year	Journal	Publication
2020	Renewable Energy, 154, 1327-1345	Satyender Singh, Shailendra Kumar Chaurasiya, Bharat Singh Negi, Subhash Chander, Magdalena Nem?, Sushant Negi, Utilizing circular jet impingement to enhance thermal performance of solar air heater.
2020	Journal of Energy Storage 27 101080	Satyender Singh, Thermohydraulic performance of double pass solar thermal collector with inline, staggered and hybrid fin configurations.
2020	Renewable Energy, 145, 1361-1387	Satyender Singh, Experimental and numerical investigations of a single and double pass porous serpentine wavy wiremesh packed bed solar air heater.

2019	Journal of Energy Storage, 21, 713–723	Satyender Singh, Laxmikant Dhruw, Subhash Chander, Experimental investigation of a double pass converging finned wire mesh packed bed solar air heater.
2019	Journal of Energy Storage 25,100896	Satyender Singh, Ankit Singh, Subhash Chander, Thermal performance of a fully developed serpentine wavy channel solar air heater.
2018	Journal of Energy Storage, 20, 316–336	Satyender Singh, Thermal performance analysis of semicircular and triangular cross-sectioned duct solar air heaters under external recycle.
2018	Journal of Energy Storage, 16, 167-186	Singh S, Dhiman P., Analytical and experimental investigations of packed bed solar air heaters under the collective effect of recycle ratio and fractional mass flow rate.
2018	Progress in Computational Fluid Dynamics, 18 (1), 19-32.	Kant K, Singh S, Dhiman P., Fluid Flow and Heat transfer Characteristics within a Rectangular Microchannel Array of Different Manifold Shapes – Modelization and Optimization Using CFD and Response Surface Methodology.
2018	Journal of Renewable and Sustainable Energy, 10, 055901.	Josyula T, Singh S, Dhiman P., Numerical investigation of a solar air heater comprising longitudinally finned absorber plate and thermal energy storage system.
2017	International Journal of Sustainable Energy, 36 (3), 242-258.	Dhiman P, Singh S., Thermal and thermo-hydraulic performance investigation of double pass packed bed solar air heaters under external recycle.
2017	International Journal of Sustainable Energy, 36 (1), 78-100.	Dhiman P, Singh S., Thermal performance assessment of recyclic double-pass flat and V-corrugated plate solar air heaters.
2016	Heat Transfer Engineering, 37, 1302-1317.	Singh S, Dhiman P., Thermal and thermohydraulic efficiency of recyclic-type double pass solar air heaters with fins and baffles.
2016	Renewable and Sustainable Energy Reviews, 53, 1010-31.	Singh S, Dhiman P., Thermal performance of double pass packed bed solar air heaters- A comprehensive review.
2016	Journal of Energy Storage, 5, 33-47.	Singh S, Dhiman P., Exergoeconomic Analysis of Recyclic Packed Bed Solar Air Heater- Sustained Air Heating System for Buildings.
2015	Journal of Solar Energy Engineering, Transactions of the ASME, 138, 011009-7.	Singh S, Dhiman P., Double duct packed bed solar air heater under combined single and recyclic double air pass.
2015	Journal of Solar Energy Engineering, Transactions of the ASME, 138, 011006-9.	Singh S, Dhiman P., Thermal Performance analysis of a Rectangular Longitudinal Finned Solar Air Heater with Semicircular Absorber Plate.
2015	Journal of Energy Engineering, 141, 04014031-11	Singh S, Dhiman P., Using an Analytical Approach to Investigate Thermal Performance of Double Flow Packed Bed Solar Air Heaters with External Recycle.
2015	International Journal of Thermal Sciences, 87, 215-227.	Dhiman P, Singh S., Recyclic double pass packed bed solar air heaters.
2015	Energy and Buildings, 104, 25–35.	Kaushal M, Dhiman P, Singh S, Patel HR., Finite volume and response surface methodology based performance prediction and optimization of a hybrid earth to air tunnel heat exchanger.
2014	Energy, 72, 344-359.	Singh S, Dhiman P., Thermal and thermohydraulic performance evaluation of a novel type double pass packed bed solar air heater under external recycle using an analytical and RSM combined approach.
2013	International Journal of Renewable Energy Technology, 4, 12-18.	Singh S, Dhiman P., A Numerical evaluation of thermal performance of double flow packed bed solar air heaters.
2011	Applied Energy, 12, 189–93.	Dhiman P, Thakur NS, Kumar A, Singh S., An analytical model to predict the thermal performance of a novel parallel flow packed bed solar air heater.

## Conference Publications :

Year	Conference	Publication
2018	19th ISME Conference on Advances in Mechanical Engineering (Mechanical Systems and Sustainability)	Satyender Singh, Ankit Singh and Laxmikant Dhruw, Heat transfer and fluid dynamics in a developed and undeveloped wavy channel solar air heater

## Book/Chapter Publications :

Type	Title	Publisher	Authors	ISBN/ISSN No.	Year
Book Chapter	Thermal Energy Storage Systems	Nova Science Publishers	Satyender Singh	978-1-53616-827-3	2020

## Research Projects :

Role	Project Type	Title	Funding Agency	From	To	Amount	Status	Co-Investigator
Co-PI	Research	Improving the Conductive Heat Transfer Efficiency of Thermal Base Plate inside a Thermal Vacuum Chamber	ISRO	2020			Ongoing	Prof. Subhash Chander & Dr. Dwesh K. Singh

## Professional Affiliations :

Designation	Organization
Reviewer	Applied Energy, Elsevier.
Reviewer	Applied Thermal Engineering, Elsevier.
Reviewer	Heat and Mass Transfer, Springer.
Reviewer	Journal of Solar Energy Engineering, Transactions of the ASME.
Reviewer	Energy Conversion and Management, Elsevier.
Reviewer	Sustainable Energy Technologies and Assessments, Elsevier.
Reviewer	Engineering Science and Technology, an International Journal, Elsevier.
Reviewer	Heat Transfer - Asian Research, Wiley.
Member	American Society of Thermal and Fluids Engineers (ASTFE).
Reviewer	Desalination and Water Treatment, Taylor & Francis.
Reviewer	Energy Sources, Part A: Recovery, Utilization, and Environmental Effects (Taylor and Francis).
Reviewer	International Journal of Energy Research, Wiley
Reviewer	Energy, Elsevier
Reviewer	Solar Energy, Elsevier
Reviewer	Solar Energy Materials & Solar Cells, Elsevier
Reviewer	Journal of Thermal Science and Engineering Applications, Transactions of the ASME.
Reviewer	World Journal of Engineering, Emerald.
Reviewer	International Journal of Green Energy, Taylor & Francis.
Reviewer	Energy Storage, Wiley
Reviewer	Alexandria Engineering Journal-Elsevier.

Reviewer	Journal of Energy Storage, Elsevier
Reviewer	Journal of Thermal Analysis and Calorimetry (JTAC), Springer
Reviewer	Journal of Building Engineering, Elsevier
Reviewer	International Journal of Heat and Mass Transfer, Elsevier

### PhD Supervised :

Scholar Name	Research Topic	Status	Year	Co-Supervisor
Shailendra kumar Chaurasiya (PhD)	Experimental and Multiphase Computational Fluid Dynamics (MCFD) investigations of PCM integrated solar air heaters	Ongoing	2019	
Subbarao Chamarthi (PhD scholar)	Thermohydraulic performance of curved channel solar air heaters	Ongoing	2018	Prof. Subhash Chander

### PG Dissertation Guided :

Student Name	Dissertation Title	Status	Year	Co-Supervisor
Bharat Singh Negi	Development of Multiphase Computational Fluid Dynamics (MCFD) code for PCM integrated solar collectors	Ongoing	2020	
Laxmikant Dhruw	Thermal performance of converging finned solar air heater	Completed , Currently PhD scholar at IIT Jodhpur	2019	Prof. Subhash Chander
Ankit Singh	Thermal Performance of a Fully Developed Serpentine Wavy Channel Solar Air Heater	Completed , Currently PhD scholar at IIT Jodhpur	2019	Prof. Subhash Chander
Satish Kumar Singh	Performance Analysis of Vapour Compression Refrigeration System With MWCNT Nano Refrigerants	Completed	2019	Dr. Satyender Singh

### Award and Honours :

Title	Activity	Given by	Year
Best Reviewer Award		Sustainable Energy Technologies and Assessments, Elsevier.	2013-2014