

Dr. Akshayveer

PhD, Department of Mechanical Engineering

Indian Institute of Technology (BHU), Varanasi, India

Mobile no.: +91 9838731309, 7579780307

Email ID: akshayveer.rs.mec16@itbhu.ac.in; ak.veer.007@gmail.com

Google scholar profile – (Citation S-129, H-Index-7, I10 Index – 6)

<https://scholar.google.com.tw/citations?user=FNW2FloAAAAJ=en>

Research gate profile – RG Score 19.35, h-index-6 <https://www.researchgate.net/profile>



Objective To associate with multi-dynamic institute, which may provide a platform to update my knowledge & skills in accordance with latest trends in teaching along with research that follows a tradition of anticipating & leading changes.

EDUCATION

- **Ph. D** from Indian Institute of Technology (BHU), Varanasi, India, with 9.00 coursework grade.
Discipline: Mechanical Engineering
Specialization: Thermal and Fluid Engineering
Research Area: Renewable energy/Solar energy, Heat transfer and fluid flow, Design of solar thermal systems, Building heating/cooling, Computational Fluid Dynamics
- **M.Tech** from Motilal Nehru National Institute of Technology, Allahabad, India, with 8.75 coursework grade.
Discipline: Mechanical Engineering
Specialization: Thermal Engineering
Research Area: Shell and tube heat exchanger, Heat transfer and fluid flow, Design of baffles, Computational Fluid Dynamics
- **B.Tech** from Uttar Pradesh Technical University, Lucknow, India
Discipline: Mechanical Engineering
Percentage: 74.86 (Passing year-2014)
- **Intermediate: Science (PCM)**,
Gyandeep Public School –Muzaffarnagar, C.B.S.E
Percentage: 82.2 (Passing year-2009)
- **High School: Science**
Gyandeep Public School –Muzaffarnagar, C.B.S.E
Percentage: 78.4 (Passing year-2007)

PUBLICATIONS

JOURNALS (PUBLISHED)

1. **Akshayveer**, A.Kumar, A.P. Singh, O.P.Singh. Effect of new overhead phase change material enclosure designs on thermo-electric performance of a photovoltaic panel. **Journal of Energy Storage** 46 (2022) 103814(IF-6.583).

2. **Akshayveer**, A.Kumar, A.P. Singh, O.P.Singh. Thermal energy storage design of a new bifacial PV/PCM system for enhanced thermo-electric performance. **Energy Conversion and Management** 250 (2021), 114912 (IF-9.709).
3. **Akshayveer**, A.Kumar, A.P. Singh, O.P.Singh. Effect of Novel PCM Encapsulation Designs on Electrical and thermal Performance of a Hybrid Photovoltaic Solar Panel. **Solar Energy** 205 (2020), 320-333 (IF- 5.742).
4. **Akshayveer**, A.P. Singh, A. Kumar, O. P. Singh, Effect of natural convection and thermal storage system on the electrical and thermal performance of a hybrid PV-T/PCM systems, **Materials Today: Proceedings**, 39 (2020), 1899-1904 (IF- 1.24).
5. A.Kumar, **Akshayveer**, A.P.Singh, O.P.Singh. Investigations for Efficient Design of A New Counter Flow Double-Pass Curved Solar Air Heater. **Renewable Energy** 185 (2022) 759-770 (IF- 8.001).
6. A.P. Singh, **Akshayveer**, A.Kumar, O.P.Singh. Efficient design of curved solar air heater integrated with semi-down turbulators. **International Journal of Thermal Sciences** 152 (2020) 106304 (IF-3.744).
7. A.P. Singh, **Akshayveer**, A.Kumar, O.P.Singh. Strategies for effective cooling of photovoltaic panels integrated with solar chimney, **Materials Today: Proceedings**, 39 (2020), 1950-1954 (IF- 1.24).
8. A.Kumar, **Akshayveer**, A.P.Singh, O.P.Singh. Efficient design of double-pass curved solar air heater. **Renewable Energy** 160 (2020), 1105-1118 (IF- 8.001).
9. A.P. Singh, **Akshayveer**, A.Kumar, O.P.Singh. Designs for high flow natural convection solar air heater. **Solar Energy** 193 (2019) 724-737 (IF-5.742).
10. A. Kumar, A.P. Singh, **Akshayveer**, O.P.Singh. Effect of channel designs and its optimization for enhanced thermo-hydraulic performance of solar air heater. **Journal of Solar Energy Engineering (ASME)** SOL-21-1169 (2022) 1-22 (IF-2.384).
11. A. Kumar, A.P. Singh, **Akshayveer**, O.P.Singh. Performance characteristics of a new curved double-pass counter flow solar air heater. **Energy** 239(2022),121886 (IF- 7.147).
12. A.P. Singh, A. Kumar, **Akshayveer**, O.P.Singh. A novel concept of integrating bell-mouth inlet in converging- diverging solar chimney power plant. **Renewable Energy** 169 (2021) 318-334 (IF- 8.001).
13. A.P. Singh, A.Kumar, **Akshayveer**, O.P.Singh. Effect of integrating high flow naturally driven dual solar air heaters with Trombe wall. **Energy Conversion and Management** 249 (2021) 114861 (IF-9.709).
14. A.P. Singh, A. Kumar, **Akshayveer**, O.P.Singh. Natural convection solar air heater: Bell-mouth integrated converging channel for high flow applications. **Building and Environment** 187 (2021), 107367 (IF- 6.456).
15. A.P. Singh, A.Kumar, **Akshayveer**, O.P.Singh. Performance enhancement strategies of a hybrid solar chimney power plant integrated with photovoltaic panel. **Energy Conversion and Management** 218 (2020), 113020 (IF-9.709).

JOURNALS (COMMUNICATED)

1. **Akshayveer**, Amit Kumar, Ajeet Pratap Singh, O.P Singh. Effect of extended non-rectangular PCM enclosure designs on thermo-electric performance of a PV panel. **Journal of Cleaner Production** (Under review) (IF-9.297).
2. **Akshayveer**, Amit Kumar, Ajeet Pratap Singh, O.P Singh. Behaviour of novel design of non-rectangular PCM enclosure for PV/PCM systems under variable boundary and ambient conditions. **Journal of Cleaner Production** (Under review) (IF-9.297).

CONFERENCES

1. **Akshayveer**, A.Kumar, A. P. Singh, O.P. Singh. Effect of overhead-type rectangular PCM enclosure on thermo-electric performance of PV/PCM module. **VI International**

Conference on Sustainable Energy and Environmental Challenges (VI SEEC-2021), December 27-29, 2021, India.

2. **Akshayveer**, A.P. Singh, A.Kumar, O.P.Singh. Effect of energy storage design of PCM enclosure on PV/T module. ISHMT-ASTFE, **Heat and Mass Transfer Conference (IHMTTC-2019)**, December 28-31, 2019, IIT Roorkee, India.
3. **Akshayveer**, A.P. Singh, A.Kumar, O.P.Singh. Effect of natural convection air-flow channel on the electrical and thermal performance of photo-voltaic thermal system integrated with phase change materials (PV-T/PCM) systems. **ICSEP-2019**, KIIT Bhubaneswar, India.
4. A.Kumar, **Akshayveer**, A.P. Singh, D. K. Singh, O.P.Singh. Performance enhancement of a solar still by using water-based hybrid nanofluid. **Fluid Mechanics and Fluid Power Conference (FMFP-2021)**, December 27-29, 2021, BITS Pilani, Pilani Campus, RJ, India.
5. A. Kumar, **Akshayveer**, A.P. Singh, D. K. Singh, O.P.Singh. Performance enhancement of a curve solar air heater by using phase change material. **VI International Conference on Sustainable Energy and Environmental Challenges (VI SEEC-2021)**, December 27-29, 2021, India.
6. A.P. Singh, **Akshayveer**, A.Kumar, O.P.Singh. Effect of double-pass flow on thermo-hydraulic performance of a curved solar air heater with circular ribs. ISHMT-ASTFE, Heat and Mass Transfer Conference (IHMTTC-2019), December 28-31, 2019, IIT Roorkee, India.
7. A.P. Singh, **Akshayveer**, A.Kumar, O.P.Singh. Strategies for effective cooling of photovoltaic panels integrated with solar chimney. **ICSEP-2019**, KIIT Bhubaneswar.
8. A.Kumar, A.P. Singh, **Akshayveer**, O.P.Singh. Effect of perforation shapes on dissipation characteristics of perforated filters. ISHMT-ASTFE, **Heat and Mass Transfer Conference (IHMTTC-2019)**, December 28-31, 2019, IIT Roorkee, India.

WORKSHOPS AND CONFERENCES ATTENDED

1. A Short term course on 'International Workshop on Solar Thermal Energy Storage', December 2021 at, IIT Roorkee, India.
2. A Workshop: 'Understanding research metrics & How to find relevant journals to publish in', September, 2021 at IIT (BHU), India.
3. A short term course on 'Thermal Energy Storage for Effective Energy Management', Feb. 2020 at IIT – Kanpur, India.
4. A short term course on 'Research Writing and Publishing', September, 2019 at IIT (BHU), India.
5. A Short term course on 'Modelling Energy Systems using CFD', July 2017 at IIT (BHU), India.
6. A Workshop on 'Nano-fluids and its Engineering Applications' (Six days) November 2017 at IIT (BHU), India.
7. Short term course on 'Basics of Computational Fluid Dynamics: Theory and Programming', (Three days) July 2017 at IIT (BHU), India.
8. A short term course on 'Product Design and Innovation using CFD and FEM', December 2016 at IIT (BHU), India.
9. Short term course on 'Computer Aided Engineering: Applied CFD and FEM', October 2016 at College of Engineering Cherthala, India.

EXPERIENCE

- Research experience (during my PhD work)
-
-

SKILLS

- Programming: C, FORTRAN, MATLAB, Python and Machine Learning
 - CFD Solver: Star CCM+, ANSYS-Fluent (Multiphysics, Turbulent, Heat and Mass Transfer, Solidification and Melting, Multiphase).
 - Meshing: HyperMesh
 - Design Software: Solidworks, Solid Thinking Inspire, Ansys Design Modeler, Ansys Space Claim. Engineering Equation Solver | F-Chart Software/R-software/Latex/Lyx
-

ACHIEVEMENTS

- A national conference on 'Critical heat flux and multi-phase flow' jointly organized by IIT BHU and IIT Bombay, 2018. (Student coordinator)
 - 'Design and Topology Optimization using Finite Element Method', December 2017 at IIT (BHU). (Student coordinator)
-

PERSONAL INFORMATION

Father's Name: Jitendraveer Baliyan

Mother's Name: Anita Devi

Date of Birth: 24/05/1993

Address: Vill-Mukandpur, P.O – Mukandpur, P.S – Titawi, Dis-Muzaffarnagar, State- Uttar Pradesh

Nationality: Indian

Language Known: Hindi, English

REFERENCES

Name: Dr. Om Prakash Singh

Designation: Associate Professor, Mechanical Engineering Department, IIT (BHU) Varanasi-221005, India

Email: opsingh.mec@iitbhu.ac.in

Contact No: 9816661166

Name: Dr. Shrawan Mishra

Designation: Assistant Professor, School of Material Science & Technology, IIT (BHU) Varanasi-221005, India

Email: shrawan.mst@iitbhu.ac.in

Contact No: 9129113336