



Dr. Nishant Singh

Assistant Professor (Mechanical Engineering, COT, SVPUAT)

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Nationality: Indian
D.O.B.: 01 December 1992

Desiring an Assistant Professor position to synergize a fervor for teaching with a dedication to research, cultivating critical thinking and collaborative skills among students. Devoted to furthering scholarly discourse through significant research endeavors, particularly focusing on engineering fundamentals and computational fluid dynamics. Committed to nurturing student achievement and incorporating research insights into pedagogical approaches to enrich learning outcomes and advance the academic domain.



AREA OF INTEREST

- Thermo-fluid Systems, Fluid Mechanics and Advanced Heat Transfer Methods
- Advanced Thermodynamics, Energy and Exergy Analysis
- Refrigeration and Air-conditioning Technology
- Computational Fluid Dynamics (CFD) for Thermal Applications
- Thermal Energy Storage Solutions
- Solar Water Heating System Development
- Optimization of Concentric Solar Collectors
- Bayonet Tube Design for Enhanced Heat Transfer



EXPERIENCES

Sardar Vallabhbhai Patel University of Agriculture and Technology

22 October 2024 – Present

Assistant professor (Mechanical Engineering Department, College of Technology)

Sardar Vallabhbhai Patel University of Agriculture and Technology

October 2022 – 21 October 2024

Guest Faculty (Mechanical Engineering Department, College of Technology)

Vidya Knowledge Park (Vidya College of Engineering)

January 2017 – July 2018

Assistant professor (Mechanical Department)

Shri Balwant Institute of Technology

August 2017 – December 2017

Assistant professor (Mechanical Department)



EDUCATION

Ph.D.

July 2018 - October 2022

Completed a **Ph.D.** program from **National Institute of Technology Jamshedpur, Jamshedpur** in **Mechanical Engineering**.

Thesis Title- Design, Development, and Performance Analysis of a Solar Parabolic Trough Collector with a Bayonet Tube Receiver.

M. Tech.

July 2015 - June 2017

Completed **Master's** from **National Institute of Technology Jamshedpur, Jamshedpur** in **Thermal Engineering** with an aggregate **CGPA 8.15**

B. Tech.

July 2010 - June 2014

Completed **Bachelor's** from **Meerut Institute of Engineering & Technology, MEERUT** in **Mechanical Engineering** with an aggregate **Percentage 67.64**



MINOR PROJECTS

CFD Analysis of a hydrogen fueled scramjet combustor at different Mach number

July 2016 - May 2017

Study of design of bowling machine

Jan 2014 - May 2014



CERTIFICATIONS

Faculty Development Program (FDP)

28 May 2024 – 2 June 2024

Research Methodology and Patenting Applications

B.A. College of Engineering & Technology Jamshedpur, Jharkhand

Keynote speaker Certificate.

25th National and 3rd International ISHMT-ASTFE

December 2019

IIT Roorkee

Conference participation Certificate.

Bharat Heavy Electricals Limited, Ranipur, Haridwar

June 2013 - July 2013

Industrial Training

Area of training was General awareness in steam turbine manufacturing.

Indian society of heating refrigerating and air conditioning engineers

March 2013

ISHRAE

Conference participation Certificate.

Pfizer Animal Health India Limited, SIDCUL, Haridwar

June 2012 - July 2012

Industrial Training

Area of training was Energy efficiency.

GATE-2020	GATE-2019	GATE-2015	GATE-2014
IIT Delhi	IIT Madras	IIT Kanpur	IIT Kharagpur
Secured GATE-2020 score of 483 with 91.37 percentile.	Secured GATE-2019 score of 428 with 89.86 percentile.	Secured GATE-2015 score of 618 with 97 percentile.	Secured GATE-2014 score of 479 with 93.59 percentile.



TECHNICAL SKILLS

- Skilled in ANSYS FLUENT, MATLAB, AUTOCAD, CATIA, SIGMA PLOT, MINITAB, MS Office, Q-Tools-Pareto Analysis, SPC, FMEA.
- Excellent basic knowledge of Mechanical Engineering Science: Thermodynamics, Heat Transfer, Refrigeration and Air-conditioning, Theory of Machine and Fluid Mechanics.



RESEARCH PAPER

- **Singh, N.**, Sharma, R.V., & Kumar, S. (2023). Experimental Analysis of a Bayonet Tube at Constant Wall Temperature Conditions Under Laminar, Transition, and Turbulent Flow. ASME Journal of Heat and Mass Transfer. April 2023, Vol. 145/ 041802, 1-10.
- **N. Singh**, R. V. Sharma, and S. Kumar, (2023). "Cfd Analysis of Constant Wall-Temperature with Different Materials Bayonet Tubes In Variable Flow Region," Multiscale and Multidiscip. Model. Exp. And Des, Vol. 6, No. 4, pp. 537–551, Dec. 2023.
- **N. Singh**, A. Kumar, V. P. Mourya, R. V. Sharma, and S. Kumar (2022), "A Concentric Parabolic Solar Water Heater with Concentric Tubes: Experimental Analysis", Eur. Chem. Bull. 2022, 11 (6), pp.139 – 149.
- B. K. Das, M. Niraj, and **N. Singh**, (2022). "A Case Study Of Using TPM To Improve Overall Equipment Effectiveness In The Automobile Industry", Eur. Chem. Bull. 2022, 11 (6), pp. 150 – 166.
- **N. Singh**, B. Pratap, and S. K. Kamboj, (2018). "Performance Evaluation of Boiler in 46mw Bagasse Based Cogeneration Power Plant", International Journal of Applied Engineering Research, Vol. 13, No. 6, pp. 149-150.



CONFERENCE PAPER & BOOK PUBLICATION

- Ayush Gangil, **Nishant Singh**, Ram Vinoy Sharma (2022). "Numerical Analysis of Forced Convection in Rectangular Porous Channel." Proceedings of the 1 st International Conference in Fluid Thermal and Energy Systems. June 9-11, 2022, NIT Calicut, Kerala, India.
- **Nishant Singh**, Arpit Kumar, and Parmanand Kumar (2022) "Phase change materials in Solar Water Heating System Technology." 2nd International conference on innovation in mechanical engineering (time2022), February 9-10, 2022, Sharda University.
- **Dr. Nishant Singh**, and Prof. Jaiveer Singh "Fundamentals of thermodynamics" 1st ed., Navya Book House, 2024, ISBN : 978-81-19577-89-7.
- **Dr. Nishant Singh**, Dr. Shalini et.al. "नवीकरणीय ऊर्जा स्रोत" 1st ed. Learning Media Publication, 2024, ISBN : 97-93-91872-62-5.



PATENT

- **Title: " Compound solar heat collector"**

September 2024

Patent No.: 431406-001

Date: 23 September 2024

Description: Developed an innovative design to enhance solar energy absorption efficiency for residential and industrial heating applications.

Role: Inventor; led the thermodynamic and heat transfer Design analysis and optimization phase.



MEMBERSHIP

Member, Indian Ceramic Society (InCerS)

Oct 2022 – Present

As a dedicated member of the Indian Ceramic Society, I have actively engaged in various professional development opportunities, networking events, and collaborative projects within the ceramic and materials science community.