

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

Assistant professor (Mechanical Engineering Department, College of Technology)

Sardar Vallabhbhai Patel University of Agriculture and Technology

Guest Faculty (Mechanical Engineering Department, College of Technology)

October 2022 – 21 October 2024

22 October 2024 - Present

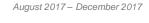
Vidya Knowledge Park (Vidya College of Engineering)

Assistant professor (Mechanical Department)

January 2017 – July 2018

Shri Balwant Institute of Technology

Assistant professor (Mechanical Department)





EDUCATION

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 Jan 2014 - May 2014

Study of design of bowling machine



CERTIFICATIONS

Faculty Development Program (FDP)

28 May 2024 – 2 June 2024

Research Methodology and Patenting ApplicationsB.A. College of Engineering & Technology Jamshedpur, Jharkhand

Keynote speaker Certificate.

June 2013 - July 2013

IIT Roorkee

Conference participation Certificate.

Bharat Heavy Electricals Limited, Ranipur, Haridwar

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

In Lactic Tarities

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	Secured GATE-2019 score of	Secured GATE-2015 score of	Secured GATE-2014 score of
483 with 91.37 percentile.	428 with 89.86 percentile.	618 with 97 percentile.	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.



CONFERANCE 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.