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Educational Qualifications

Doctor of Philosophy (July 2010- June 2015)
Mechanical Engineering
Indian Institute of Technology Kharagpur

Master of Technology (2007-2009)
Mechanical Engineering (Thermal Science and Engineering)
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Bachelor of Engineering (2003-2007)
Mechanical Engineering
Government Engineering College Bilaspur
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Research Area of Interest: Turbulent flow and heat transfer, CFD, Air pollution control, Solar thermal systems, Natural and mixed convection flow

Publications:

Journals:

37. M. Ravi, S. K. Rathore, and S. Murugan, "Experimental studies of CO_2 and NO mitigation using potential adsorbents in a standby power generation unit", **Environmental Science and Pollution Research**, 2025 (Accepted for publication) doi:10.1002/ep.14553

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29. M. Ravi, S. K. Rathore, and S. Murugan, “Preparation and characterization studies of biomass-based adsorbents for CO_2 capture", **Journal of Materials Engineering and Performance**, vol. 33, pp. 5195–5205, 2024. https://doi.org/10.1007/s11665-023-08360-z

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26. S. K. Rathore, C. Mund, and R. K. Sahoo, “Experimental study of heat transfer and frictional characteristics of impinging jet solar air heater with wire-mesh attached to the absorber plate", **Thermal Science and Engineering Progress**, vol.46, pp.102214, 2023, 10.1016/j.tsep.2023.102214

25. M. Ravi, S. K. Rathore, and S. Murugan, “Comparative experimental studies of post-combustion carbon capture using adsorbents in a diesel engine exhaust", **Water, Air, & Soil Pollution**, vol.234, pp.19, 2023, 10.1007/s11270-023-06413-6

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17. M. Ravi, S. K. Rathore, and S. Murugan, “A review on materials and processes for carbon dioxide separation and capture", **Energy and Environment**, vol. 34, no. 1, pp. 3-572023, 2023 10.1177/0958305X211050984

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18. M. Ravi, S. K. Rathore, and S. Murugan “Potential adsorbent for CO2 capture in a CI engine exhaust: An experimental study”, International Conference on Sustainable Energy and Environment (ICSEE-2024), during 23rd – 25th February 2024, Maulana Azad National Institute of Technology, Bhopal, India.

17. M. Ravi, S. K. Rathore, and S. Murugan, “Simulation study of potential adsorbents for CO2 capture using Aspen Adsorption”, International Conference on Advances in Renewable and Green Energy Technology (ICARGET-2023), during 07-08 December 2023, Guru Ghasidas Vishwavidyalaya-Central University, Bilaspur, Chhattisgarh, India.

16. M. Ravi, S. K. Rathore, and S. Murugan “A Comparative Study on Adsorbents for Post-Combustion CO2 Capture in a CI Engine”, National Conference on Waste to Energy, Carbon Capture, Utilization and Storage (NCWECCUS 2023), during December 22-24, 2023, Organized by National Institute of Technology, Rourkela, Odisha, India.

15. M. Ravi, S. K. Rathore, and S. Murugan, “Simulation study of post-combustion CO2 adsorption using adsorbent”, SAE Technical Paper, Issue 2022-28-0318, May 2022, 10th SAE INDIA International Mobility Conference (SIIMC2022), Sustainable Multi-modal Mobility Ecosystem, during October 12-14, 2022, Hilton Embassy Bengaluru Manyata Business Park. 10.4271/2022-28-0318.

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and 3rd International ISHMT-ASTFE Heat and Mass Transfer Conference (IHMTC-2019), December 28-31, 2019, IIT Roorkee, Roorkee, India. 2019

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8. S. Kumar, S. Patil, S. K. Rathore, and A. K. Satapathy, “Investigation of interaction of two negatively buoyancy opposed turbulent wall jet flow in a vertical channel", in Proceedings of the 2nd International Conference on Recent Advancement in Air-conditioning and Refrigeration (RAAR-2019), November 2019

7. M. V. Saini, S. K. Rathore, and S. Chaudhuri, “Numerical investigation of thermo-fluidic transport characteristics of non-Newtonian fluids flowing through wavy channels with a sinusoidal profile", in Proceedings of the International Conference on Innovations in Thermo-Fluid Engineering and Sciences (ICITFES 2020), February 10-12, 2020, NIT Rourkela, NIT Rourkela 2019

6. S. K. Yadav and S. K. Rathore, “Flow and Heat Transfer Characteristics of Turbulent Plane Wall Jet Flow in Presence of Freestream", in Proceedings of the International Conference on Innovations in Thermo-Fluid Engineering and Sciences (ICITFES 2020), February 10-12, 2019, NIT Rourkela 2019

5. S. K. Rathore, A. Pathak, A. Majumdar, and S. Chaudhuri, “Computational investigation of mixed convection heat transfer from laminar offset jet and wall jet", in Fifth International Conference on Computational Methods for Thermal Problems(THERMACOMP 2018), Bangalore, India, July 2018

4. S. K. Yadav and S. K. Rathore, “Flow and heat transfer characteristics of turbulent plane wall jet interacting with coflowing freestream", in Proceedings of the 24th National and 2nd International ISHMT-ASTFE Heat and Mass Transfer Conference (IHMTC-2017), BITS Pilani, Hyderabad, Hyderabad, India, December 2017

3. S. K. Rathore, G. Kumar, R. Verma, and R. Kumar, “Flow and heat transfer characteristics of laminar confined twin slot impinging jet flow over moving flat surface", in Indian Conference on Applied Mechanics (INCAM) 2017, pp.381-382, MNNIT Allahabad, Allahabad, July 2017

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1. S. K. Rathore and M. K. Das, “Low Reynolds number modeling of an offset jet", in International Conference on Applications of Fluid Engineering,20-22 September, 2012, G. L. Bajaj Institute of Technology & Management, Greater Noida., September 2012

Research projects:

- Title: Study of near-wall flow behaviour and conjugate heat transfer characteristics of turbulent plane offset jet and wall jet flow over a heated moving flat plate using low Reynolds-number turbulence model
  Sponsor: SERB, DST, India (Period: July 2017- January 2021)
  Amount: 1393640 INR
  Role: Principal Investigator

- Title: Liquid-liquid flow through horizontal non-uniform cross sections tubes coupled with return bend
  Sponsor: MHRD-AICTE (Collaborative Research Scheme: TEQIP III)
  PI: Dr. Mukesh Sharma, BIT Meshra
  Co PI: Dr. Sushil Kumar Rathore, NIT Rourkela, and
  Dhaneswar Mahto, BIT Meshra
  Amount: 2091000 Rs.
  Duration: July 2019-Sep 2020

I hereby declare that the above written particulars are true to the best of my knowledge and belief.

24-02-2025

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