

**Research Publications by Faculty of Mechanical Engineering Department**

***Dr. G.K. Agrawal***

***Research Publication***

Year 2025	The evaluation of energetic and exergetic performances of solar air heater using traverse wire rib roughness with various gaps — An experimental study, Journal of Engineering and Applied Science (Springer).
	Experimental Investigation of Heat Transfer and Fluid Flow in Solar Air Heaters Using Transverse Wire Rib Roughness with Variable Gaps, Environmental Progress & Sustainable Energy (Wiley).
	The evaluation and development of correlation for heat transfer and fluid flow characteristics in solar air heaters using gapped transverse wire ribs — An experimental study, International Journal of Thermal Sciences (Elsevier).
	Experimental evaluation of exergetic, and sustainability performances in solar air heaters with transverse wire rib roughness with various gaps, Journal of Solar Energy Engineering: Including Wind Energy and Building Energy Conservation (ASME).
	Thermal and thermohydraulic performances of solar air heater using traverse wire rib roughness with various gaps — An experimental study, Solar Energy(Elsevier).

CAY (2024-25)	Numerical analysis of sharp aerospike-induced flow modification for wave drag reduction in hypersonic flow. (n.d.). CAHIERS MAGELLANES-NS, 6(2), 2861–2873.
	Effect of spike geometry on drag reduction for a novel combinational spiked blunt body and counter jet concept in hypersonic speeds. (n.d.). Journal of Computational Analysis and Applications (JoCAAA), 33(6).
	Numerical investigation of flow modification drag reduction technique using sharp spike and counter flow jet of blunt body in hypersonic flow. (n.d.). Revista Electronica de Veterinaria, 25(1), 844–851.

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	Numerical analysis of hypersonic drag reduction on blunt bodies with sharp spike and opposing jet: A flow modification cooling technique. (n.d.). Revista Electronica de Veterinaria, 25(15), 711–718.
CAYm1 (2023-24)	Numerical investigation of hypersonic flow over 60-degree apex angle blunted cone with flat aerodisk spike: A flow modification technique. (n.d.). AIP Conference Proceedings, 2943(1).
	Flow modification cooling technique to reduce aerodynamic wave drag by mechanical cut shape aero-spike for the blunted body at Mach 8.0. (n.d.). AIP Conference Proceedings, 2916(1).
CAYm2(2022-23)	Flow alteration technique to mitigate wave drag by hemispherical aero-spike for large angle blunted cone in hypersonic flow. (n.d.). Materials Today: Proceedings.
	Flow and Performance Characteristics of S- Shaped Diffuser, Vol. 11 No. 02 (2022): CSVTU Research Journal

***Mr. Shyam Singh Kanwar:***

***Research Publication***

CAY (2024-25)	Numerical analysis of sharp aerospike-induced flow modification for wave drag reduction in hypersonic flow. (n.d.). CAHIERS MAGELLANES-NS, 6(2), 2861–2873.
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	Numerical investigation of flow modification drag reduction technique using sharp spike and counter flow jet of blunt body in hypersonic flow. (n.d.). Revista Electronica de Veterinaria, 25(1), 844–851.
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	Flow modification cooling technique to reduce aerodynamic wave drag by mechanical cut shape aero-spike for the blunted body at Mach 8.0. (n.d.). AIP Conference Proceedings, 2916(1).
CAYm2 (2022-23)	Flow alteration technique to mitigate wave drag by hemispherical aero-spike for large angle blunted cone in hypersonic flow. (n.d.). Materials Today: Proceedings.
	Grid-connected transformer-less inverters for photovoltaic systems: Analysis and control. (n.d.). Journal of Optoelectronics Laser, 41(6), 363–373.
	Estimating cooling load and designing an air circulation system for a multi-story workplace building at Rourkela, Odisha. (2022). Journal of Harbin Institute of Technology, 54(10).

***Mr. Praveen Kumar Kujur***

***Research Publication***

CAY (2024-25)	Numerical analysis of sharp aerospike-induced flow modification for wave drag reduction in hypersonic flow. (n.d.). CAHIERS MAGELLANES-NS, 6(2), 2861–2873.
CAYm1 (2023-24)	Nil
CAYm2 (2022-23)	Reverse engineering of functionally graded objects: A B-spline based heterogeneous numerical modelling approach using MATLAB. (2022). Journal of Harbin Institute of Technology, 54(7).

***Mr. Sandip Kumar Sahu***

***Research Publication***

CAY (2024-25)	Numerical analysis of sharp aerospike-induced flow modification for wave drag reduction in hypersonic flow. (n.d.). CAHIERS MAGELLANES-NS, 6(2), 2861–2873.
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CAYm1 (2023-24)	Nil
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	Reverse engineering of functionally graded objects: A B-spline based heterogeneous numerical modelling approach using MATLAB. (2022). Journal of Harbin Institute of Technology, 54(7).

***Mr. Satish Kumar Gavel***

***Research Publication***

CAY (2024-25)	Numerical investigation of flow modification drag reduction technique using sharp spike and counter flow jet of blunt body in hypersonic flow. (n.d.). Revista Electronica de Veterinaria, 25(1), 844–851.
	Numerical analysis of hypersonic drag reduction on blunt bodies with sharp spike and opposing jet: A flow modification cooling technique. (n.d.). Revista Electronica de Veterinaria, 25(15), 711–718.
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CAYm2 (2022-23)	Flow alteration technique to mitigate wave drag by hemispherical aero-spike for large angle blunted cone in hypersonic flow. (n.d.). Materials Today: Proceedings.

***Mr. Uday Khakha***

***Research Publication***

**Research Publications by Faculty of Mechanical Engineering Department**

CAY (2024-25)	Numerical analysis of sharp aerospike-induced flow modification for wave drag reduction in hypersonic flow. (n.d.). CAHIERS MAGELLANES-NS, 6(2), 2861–2873.
	Numerical investigation of flow modification drag reduction technique using sharp spike and counter flow jet of blunt body in hypersonic flow. (n.d.). Revista Electronica de Veterinaria, 25(1), 844–851.
CAYm1 (2023-24)	Nil
CAYm2 (2022-23)	Parametric study on four station ball mill for synthesis of ultrafine powders. (n.d.). Materials Today: Proceedings. 2023/4/28
	Estimating cooling load and designing an air circulation system for a multi-story workplace building at Rourkela, Odisha. (2022). Journal of Harbin Institute of Technology, 54(10).
	Reverse engineering of functionally graded objects: A B-spline based heterogeneous numerical modelling approach using MATLAB. (2022). Journal of Harbin Institute of Technology, 54(7).

***Mr. Avinash Ranjan Patnaik***

***Research Publication***

<b><i>CAY (2024-25)</i></b>	<i>Numerical analysis of sharp aerospike-induced flow modification for wave drag reduction in hypersonic flow. (n.d.). CAHIERS MAGELLANES-NS, 6(2), 2861–2873.</i>
<b><i>CAYm1 (2023-24)</i></b>	Nil
<b><i>CAYm2 (2022-23)</i></b>	<i>Flow modification cooling technique to reduce aerodynamic wave drag by mechanical cut shape aero-spike for the blunted body at Mach 8.0. (n.d.). AIP Conference Proceedings, 2916(1).</i>
	<i>Estimating cooling load and designing an air circulation system for a multi-story workplace building at Rourkela, Odisha. (2022). Journal of Harbin Institute of Technology, 54(10).</i>

***Dr. B.S Chawla***

***Research Publication***

<b><i>CAY (2024-25)</i></b>	Nil
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<b><i>CAYm1 (2023-24)</i></b>	<i>Statistical Modelling for Ergonomic Assessment of Lathe Machine Operators A Sustainable Approach to Assess the Impact of Occupational Health Hazards, CRC Press, 13(2024)</i>
<b><i>CAYm2(2022-23)</i></b>	Nil