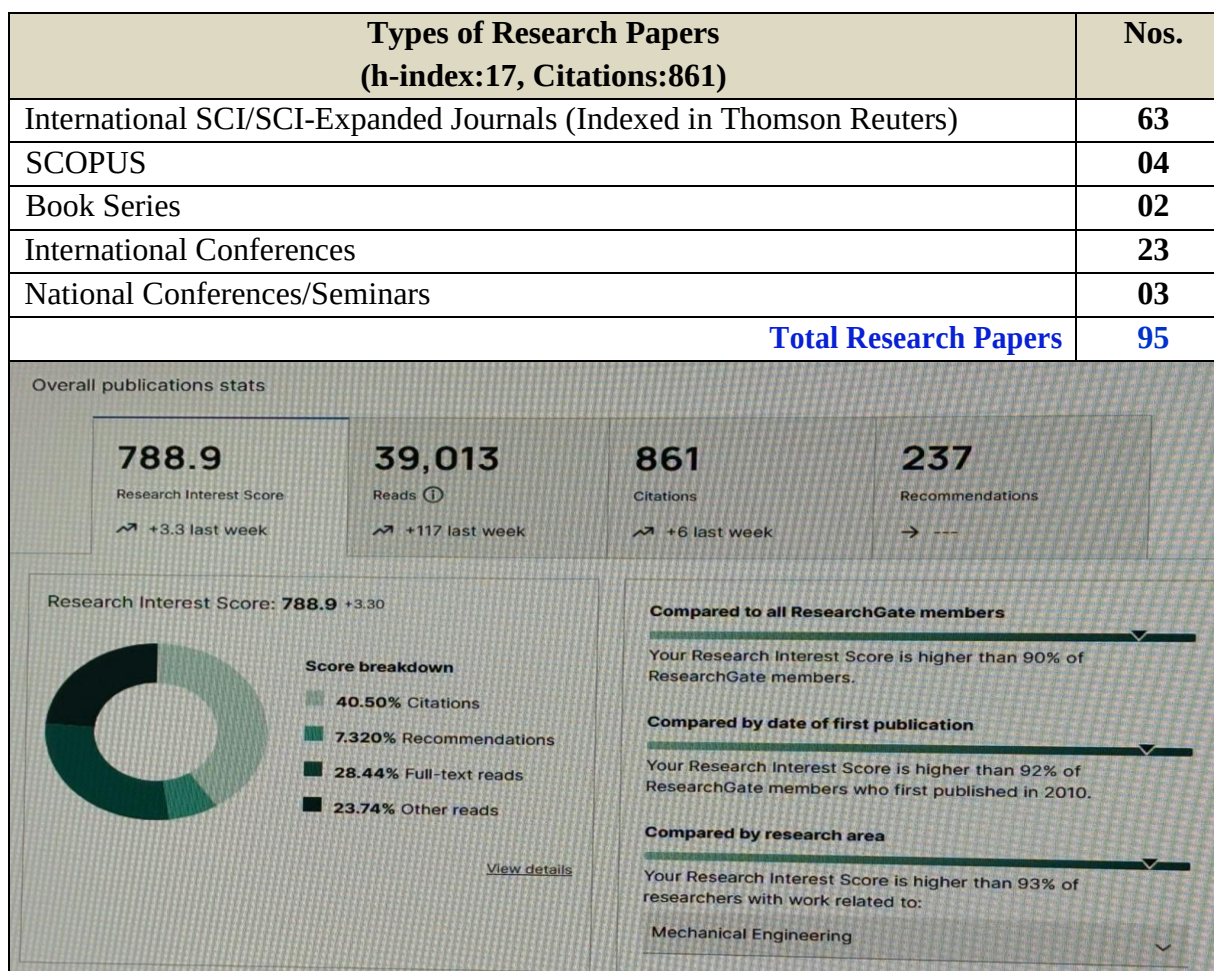


## Publication Details:



## List of Publications in the International Journals:

- Sudharani Panda and **Rakesh Kumar (2024)** Investigation of the effect of dimensional and non-dimensional parameters on the performance of pitch-varied staggered arranged dimple solar air heaters, **Solar Energy**, Vol. 276, Page No. 1-22, <https://doi.org/10.1016/j.solener.2024.112663>, **SCI**.
- Ashish Kumar, **Rakesh Kumar** and Dheeraj Kumar (2024) Assessment of an indirect solar dryer for small-scale resin production: Energy, exergy, economic (3E), and sustainability analysis, **Sustainable Energy Technologies and Assessments**, Vol. 70, 103950, DOI:[10.1016/j.seta.2024.103950](https://doi.org/10.1016/j.seta.2024.103950), **SCI**.
- Ashish Kumar and **Rakesh Kumar (2024)** Enhancement and estimation of thermo-physical properties of organic-phase change materials (O-PCMs) and their applications in solar thermal technologies: A review, **Journal of Energy Storage**, Vol. 101, 113741, <https://doi.org/10.1016/j.est.2024.113741>, **SCI**.
- Bhim Kumar Choure, Tanweer Alam and **Rakesh Kumar (2024)** Optimization of heat transfer in PCM based triple tube heat exchanger using multitudinous fins and eccentric tube, **Journal of Energy Storage**, Vol. 102, A113981, <https://doi.org/10.1016/j.est.2024.113981>, **SCI**.
- Kundan Kumar, **Rakesh Kumar** and Barun Kumar Nandi (2024) A thermodynamic approach to assess the sustainability of third-generation sunflower waste cooking oil in DICl engine along with exergoeconomic and enviroeconomic perspective, **BIOFUELS**, Taylor and Francis, <https://doi.org/10.1080/17597269.2024.2429051>, **SCI**.
- Kundan Kumar, Barun Kumar Nandi, Vinod Kumar Saxena, **Rakesh Kumar (2024)** Experimental studies of thermal behavior, engine performance and emission characteristics of biodiesel/diesel/pentanol blend in diesel engine, **Alexandria Engineering Journal**, Vol.

- Deepti Ranjan Sahu, Amitava Mandal, **Rakesh Kumar (2024)** Numerical and experimental investigation into the energy distribution in powder mixed EDM, **CIRP Journal of Manufacturing Science and Technology**, Vol. 52, Page No. 229-245, <https://doi.org/10.1016/j.cirpj.2024.05.008>, SCI.
- Uttam Kumar and **Rakesh Kumar (2024)** Theoretical and numerical investigation of wedge and cone nose profiles at supersonic speed, **Numerical Heat Transfer, Part A: Applications**, <https://doi.org/10.1080/10407782.2024.2328764>, SCI.
- Vivek Singh, **Rakesh Kumar**, Abhishek Saxena, Ritvik Dobriyal, Sumit Tiwari and Desh Bandhu Singh (2024) An analytical study on the effect of different photovoltaic technologies on environ-economic parameter and energy metrics of active solar desalting unit, **Energy**, <https://doi.org/10.1016/j.energy.2024.130851>, SCI.
- Dhiraj Kumar, **Rakesh Kumar**, and A Layek (2024) Experimental study for the enhancement of heat transfer characteristics and development of thermal correlations of a roughened solar collector, **Heat Transfer**, <https://doi.org/10.1002/htj.23007>, SCI.
- Ashish Kumar, **Rakesh Kumar**, and A Bhushan (2024) Differential exergy investigation and environ-economic assessment of a dimpled plate and flat plate solar air heater under turbulent conditions, **Applied Thermal Engineering**, Vol. 240, Page No. 1-18, <https://doi.org/10.1016/j.applthermaleng.2023.122299>, SCI.
- Ashish Kumar, **Rakesh Kumar (2024)** Exergetic investigation and Taguchi-based optimization of a modified passive solar still augmented with nano-PCM & fins, **Journal of Energy Storage**, Vol. 78, Page No. 1-26, <https://doi.org/10.1016/j.est.2023.109935>, SCI.
- Dhiraj Kumar, A Layek, A Kumar, **Rakesh Kumar (2023)** Experimental Study for the Enhancement of Thermal Efficiency and Development of Nusselt Number Correlation for the Roughened Collector of Solar Air Heater, **Journal of Thermal Science and Engineering Applications**, Vol. 16, Page No. 210041-210053, <https://doi.org/10.1115/1.4063915>, SCI.
- Sudharani Panda and **Rakesh Kumar (2023)** Combined effect of solar intensity and air mass flow rate on inline spherical dimple based solar air heater during summer season, **Solar Energy**, Vol. 258, Page No. 156-174, <https://doi.org/10.1016/j.solener.2023.05.002>, SCI.
- Bhim Kumar Choure, Tanweer Alam and **Rakesh Kumar (2023)** A review on heat transfer enhancement techniques for PCM based thermal energy storage system, **Journal of Energy Storage**, Vol. 72, <https://doi.org/10.1016/j.est.2023.108161>, SCI.
- Vivek Kumar, Vinod Kumar Saxena, **Rakesh Kumar** and Shravan Kumar (2024) Energy, exergy, sustainability and environmental emission analysis of coal-fired thermal power plant, *Alexandria Engineering Journal*, Vol. 15, Page No. 1-18, <https://doi.org/10.1016/j.aej.2023.102416>, SCI.
- Sudharani Panda and **Rakesh Kumar (2022)** Flow friction and thermal performance of dimple imprinted based solar air-heater: A numerical study, **Numerical Heat Transfer, Part A: Applications**, <https://doi.org/10.1080/10407782.2022.2105066>, SCI.
- Ashif Perwez, **Rakesh Kumar** and A Bhushan (2022) Experimental and numerical study of heat transfer and friction factor characteristics of an inclined elliptical dimple channel having inline and staggered pattern, **Numerical Heat Transfer, Part A: Applications**, <https://doi.org/10.1080/10407782.2022.2105100>, SCI.
- S K Manjhi and **Rakesh Kumar (2022)** Assessments of surface heat flux from rapid temperature sensors at various angles of attack over a plate, **Journal of Thermal Analysis and Calorimetry**, [DOI:10.1007/s10973-022-11341-4](https://doi.org/10.1007/s10973-022-11341-4), SCI.
- A Bhushan, **Rakesh Kumar** and Ashif Perwez (2022) Experimental investigations of thermal performance for flat and dimpled plate solar air heater under turbulent flow conditions, **Solar Energy**, Vol. 231, Page No. 664-683, [DOI:10.1016/j.solener.2021.11.060](https://doi.org/10.1016/j.solener.2021.11.060), SCI.
- Vivek Singh, **Rakesh Kumar**, Desh Bandhu Singh (2022) An investigation on effect of dissimilarity of mass flow rate on hourly, daily and annual efficiencies of double slope type

- solar still included with N similar PVT compound parabolic concentrators, **Desalination and Water Treatment**, Vol. 246, Page No. 36-53, [DOI:10.5004/dwt.2022.27964](https://doi.org/10.5004/dwt.2022.27964), SCI.
- Vivek Singh, **Rakesh Kumar**, R K Sharma, S P Singh, H Sinhmar, D B Singh (2022) An investigation on effect of variation of mass flow rate and number of collectors on yearly efficiency of single slope solar still by incorporating N similar photovoltaic thermal flat plate collectors, **Water Supply**, Vol. 22, Page No. 5126-5148, <https://doi.org/10.2166/ws.2022.183>, SCI.
  - Sudharani Panda and **Rakesh Kumar** (2022) A Review on Heat Transfer Enhancement of Solar Air Heater Using Various Artificial Roughed Geometries, **Fluid Mechanics and Thermal Sciences, Journal of Thermal Engineering**, Vol. 89, Page No. 92-133, [DOI:10.37934/arfmts.89.1.92133](https://doi.org/10.37934/arfmts.89.1.92133), SCOPUS.
  - T Alam and **Rakesh Kumar** (2021) Evaluation of response characteristics of thin film gauge for conductive heat transfer mode, **Transactions of the Institute of Measurement and Control**, Vol. 43, Page No. 687-699, [DOI:10.1177/0142331220960665](https://doi.org/10.1177/0142331220960665), SCI.
  - T Alam and **Rakesh Kumar** (2021) A review on thin film fast response heat transfer gauges, **Review of Scientific Instruments, AIP**, Vol. 92, Page No. 31501-31527, [DOI:10.1063/5.0015932](https://doi.org/10.1063/5.0015932), SCI.
  - Antariksh Gupta and **Rakesh Kumar** (2021) Modeling Study for Understanding of Fluid Dynamics of Vortex Formation in Tundish Operation, **Transactions of the Indian Institute of Metals**, Vol. 74, Page No. 895–1905, [DOI:10.1007/s12666-021-02281](https://doi.org/10.1007/s12666-021-02281), SCI.
  - Antariksh Gupta, **Rakesh Kumar** and Rajeev Kumar Singh (2021) Assessment of Critical Vortexing Height to Prevent Slag Entrapment During Tundish Teeming, **Metals and Materials International**, Vol. 28, Page No. 1246–1256, [DOI:10.1007/s12540-021-01014-6](https://doi.org/10.1007/s12540-021-01014-6), SCI.
  - Sudharani Panda and **Rakesh Kumar** (2021) A review on effect of various artificial roughness on heat transfer enhancement in a channel flow, **Journal of Thermal Engineering**, Vol. 5, Page No. 1267-1301, [DOI: 10.18186/thermal.978149](https://doi.org/10.18186/thermal.978149), ESCI.
  - S K Manjhi and **Rakesh Kumar** (2020) Comparative Performance of K, E and J-type Fast Response Coaxial Probes for Short-Period Transient Measurements, **Journal of Thermal Science and Engineering Applications, ASME**, Vol. 13, Page No. 31029-31041, [DOI:10.1115/1.4048664](https://doi.org/10.1115/1.4048664), SCI.
  - S K Manjhi and **Rakesh Kumar** (2020) Performance analysis of coaxial thermocouples for heat flux measurement of an aerodynamic model on shock tube facility, **Measurement**, Vol. 61, Page No. 291-298, [DOI:10.1016/j.measurement.2020.108221](https://doi.org/10.1016/j.measurement.2020.108221), SCI.
  - A Narayan, S Narayanan, **Rakesh Kumar**, T Singh, C S Kumar and G Jagadeesh (2020) Hypersonic flow past a spherically blunted nose cone: a computational study, **Progress in Computational Fluid Dynamics An International Journal**, Vol. 20, Page No. 105-111, [DOI: 10.1504/PCFD.2020.106410](https://doi.org/10.1504/PCFD.2020.106410), SCI.
  - Arjun K S and **Rakesh Kumar** (2020) Heat transfer in magnetohydrodynamic nanofluid flow past a circular cylinder, **Physics of Fluids**, Vol. 32, Page No. 045112-045118, [DOI: 10.1063/5.0005095](https://doi.org/10.1063/5.0005095), SCI.
  - V Singh, D B Singh, N Kumar and **Rakesh Kumar** (2020) Effect of number of collectors (N) on life cycle conversion efficiency of single slope solar desalination unit coupled with N identical partly covered compound parabolic concentrator collectors, **Materials Today**, Vol. 28, Page No. 2185-2189, [DOI:10.1016/j.matpr.2020.04.232](https://doi.org/10.1016/j.matpr.2020.04.232), SCI.
  - S K Manjhi and **Rakesh Kumar** (2019) Surface heat flux measurements for short time-period on combustion chamber with different types of coaxial thermocouples, **Experimental Heat Transfer**, Vol. 33, Page No. 282-303, [DOI:10.1080/08916152.2019.1630031](https://doi.org/10.1080/08916152.2019.1630031), SCI.
  - S K Manjhi and **Rakesh Kumar** (2019) Transient heat flux measurement analysis from coaxial thermocouples at convective based step heat load, **Numerical Heat Transfer, Part A: Applications**, Vol. 75, Page No. 200-216, [DOI:10.1080/10407782.2019.1580955](https://doi.org/10.1080/10407782.2019.1580955), SCI.
  - S K Manjhi and **Rakesh Kumar** (2019) Performance assessment of K-type, E-type and J-type



- coaxial thermocouples on the solar light beam for short duration transient measurements, **Measurement**, Vol. 146, Page No. 343–355, [DOI:10.1016/j.measurement.2019.06.035](https://doi.org/10.1016/j.measurement.2019.06.035), SCI.
- S K Manjhi and **Rakesh Kumar (2019)** Transient surface heat flux measurement for short duration using K-type, E-type and J-type of coaxial thermocouples for internal combustion engine, **Measurement**, Vol. 136, Page No. 256–268, [DOI:10.1016/j.measurement.2018.12.070](https://doi.org/10.1016/j.measurement.2018.12.070), SCI.
  - R Goswami and **Rakesh Kumar (2019)** Transient heat fluxes measurement analysis from platinum based thin film gauges in open and closed cavities, **Numerical Heat Transfer, Part A: Applications**, Vol. 76, Page No. 576-592, [DOI:10.1080/10407782.2019.1644903](https://doi.org/10.1080/10407782.2019.1644903), SCI.
  - A Narayan, S Narayanan, **Rakesh Kumar**, T Singh, C S Kumar and G Jagadeesh (2019) Control of Aerodynamic Drag and Heating of Nose Cones Through Taper Spikes, **Journal of Spacecraft and Rockets**, Vol. 56, Page No. 1-12, [DOI:10.2514/1.A34250](https://doi.org/10.2514/1.A34250), SCI.
  - Ashif Perwez and **Rakesh Kumar (2019)** Thermal Performance Investigation of the Flat and the Spherical Dimple Absorber Plate Solar Air Heaters, **Solar Energy**, Vol. 193, Page No. 303-323, [DOI:10.1016/j.solener.2019.09.066](https://doi.org/10.1016/j.solener.2019.09.066), SCI.
  - Ashif Perwez and **Rakesh Kumar (2019)** Heat transfer performance investigation of the spherical dimple heat sink and inclined teardrop dimple heat sink, **Numerical Heat Transfer, Part A: Applications**, Vol. 76, Page No. 73-86, [DOI:10.1080/10407782.2019.1612676](https://doi.org/10.1080/10407782.2019.1612676), SCI.
  - Sanjeev Kumar Manjhi and **Rakesh Kumar (2019)** Conduction based standardization of K-type coaxial thermocouples for short duration transient heat flux measurement, **Advances in Mechanical Engineering**, [DOI:10.1007/978-981-15-0124-1\\_63](https://doi.org/10.1007/978-981-15-0124-1_63), Springer Book Series.
  - Alam T and **Rakesh Kumar (2018)** Radiation based calibration of thin film gauge for transient measurement, **Measurement**, Vol. 128, Page No.352-361, [DOI:10.1016/j.measurement.2018.06.057](https://doi.org/10.1016/j.measurement.2018.06.057), SCI.
  - Rishikesh Goswami and **Rakesh Kumar (2018)** Dynamic calibration of temperature sensors from light rays for transient measurement, **Thermal Science**, Vol. 23, Page No. 1901-1910, [DOI:10.2298/TSCI170303198G](https://doi.org/10.2298/TSCI170303198G), SCI.
  - A Narayan, S Narayanan and **Rakesh Kumar (2018)** Numerical investigation of hypersonic flow past a spherically blunted nose cone, **Springer**, Vol. 26, Page No. 239-249, [DOI:10.1007/978-981-10-5329-016](https://doi.org/10.1007/978-981-10-5329-016), SCI.
  - S K Manjhi and **Rakesh Kumar (2018)** Stagnation point transient heat flux measurement analysis from coaxial thermocouples, **Experimental Heat Transfer**, Vol. 31, Page No. 405-424, [DOI:10.1080/08916152.2018.1431738](https://doi.org/10.1080/08916152.2018.1431738), SCI.
  - Arjun K S and **Rakesh Kumar (2018)** Optimization of micro pin-fin heat sink with staggered arrangement, **Journal of Thermal Science**, Vol. 22, Page No. 2919-2931, [DOI:10.2298/TSCI161221202A](https://doi.org/10.2298/TSCI161221202A), SCI.
  - Alam T and **Rakesh Kumar (2018)** Heat flux measurement analysis from thin film gauge in convective heat transfer mode, **Transactions of the Institute of Measurement and Control**, Vol. 41, Page No. 64-73, [DOI:10.1177/0142331217752041](https://doi.org/10.1177/0142331217752041), SCI.
  - Ashif Perwez, Shreyak Shende and **Rakesh Kumar (2018)** Heat Transfer and friction factor characteristic of spherical and inclined teardrop dimple channel subjected to forced convection, **Experimental Heat Transfer**, Vol. 32, Page No. 159-178, [DOI:10.1080/08916152.2018.1485786](https://doi.org/10.1080/08916152.2018.1485786), SCIE.
  - Arjun K S and **Rakesh Kumar (2018)** Heat Transfer by Porous Pin Fins and Nanofluid in Rectangular Minichannels, **MECHANIKA**, Vol. 24, Page No. 50-55, [DOI:10.5755/j01.mech.24.1.17284](https://doi.org/10.5755/j01.mech.24.1.17284), SCIE.
  - Amardeep and **Rakesh Kumar (2018)** Studies on use of Orange Peel oil and ethanol in an Unmodified Agricultural Diesel Engine, **Energy Sources**, Vol. 56, Page No. 181-1827, [DOI:10.1080/15567036.2018.1549160](https://doi.org/10.1080/15567036.2018.1549160), SCIE.

- Sanjeev Kumar Manjhi and **Rakesh Kumar (2018)** Numerical investigation for convective based transient heat flux measurement with CNT based coaxial thermocouple, Computational Methods for Thermal Problems, [Issue No. 223309](#), Page No. 705-709, SCOPUS.
- Rishikesh Goswami and **Rakesh Kumar (2018)** Design Fabrication and Static Calibration of Thermocouples and Thin Film Gauges, **Materials Science and Engineering**, Vol. 377, Page No. 1-7, [DOI:10.1088/1757-899X/377/1/012207](#), SCOPUS.
- Arjun K. S. and **Rakesh Kumar (2017)** LBM Analysis of micro convection in MHD Nanofluid flow, **Journal of Mechanical Engineering Research and Developments**, Vol. 63, Page No. 426-438, [DOI:10.5545/sv-jme.2016.4248](#), SCIE.
- A Narayan, S Narayanan and **Rakesh Kumar (2017)** Hypersonic flow past nose cones of different geometries: a comparative study, **Journal of Simulation**, Vol. 94, Page No. 1-16, [DOI:10.1177/0037549717733051](#), SCIE.
- Arjun K. S. and **Rakesh Kumar (2017)** Performance index in MHD duct nanofluid flow past a bluff body at high Re, **Journal of Mechanical Engineering**, Vol. 63, Page No. 235 – 247, [DOI:10.5545/sv-jme.2016.4258](#), SCIE.
- Ashif Perwez, Shreyak Shende and **Rakesh Kumar (2017)** Forced convection based heat transfer analysis of spherical dimple and protrusion surface in turbulent flow, **Transactions of the Canadian Society for Mechanical Engineering**, Vol. 41, Page No. 771-786, [DOI:10.1139/tcsme-2017-511](#), SCIE.
- N Sahoo and **Rakesh Kumar (2015)** Performance assessment of thermal sensors during short duration convective surface heating measurements, **Heat Mass Transfer, Springer**, Vol. 52, Page No. 2005-2013, [DOI:10.1007/s00231-015-1694](#), SCI.
- A Narayan and **Rakesh Kumar (2015)** Comparative numerical analysis of heat flux measurement over an aerodynamics vehicle surface, **Journal of Applied Engineering Research**, Vol. 10, Page No. 30725-30744, [ISSN: 0973-4562](#), SCOPUS.
- **Rakesh Kumar** and N. Sahoo (2013) Dynamic Calibration of a Coaxial Thermocouple for Short Duration Transient Measurements, **ASME International Journal of Heat Transfer**, Vol. 135, Page No.124502-124509, [DOI:10.1115/1.4024593](#), SCI.
- **Rakesh Kumar**, N. Sahoo and V. Kulkarni (2011) Conduction based calibration of handmade platinum thin film gauges, **International Journal of Heat and Mass Transfer**, Vol. 55, Page No. 2707-2713, [DOI:10.1016/j.ijheatmasstransfer.2012.01.026](#), SCI.
- **Rakesh Kumar**, N. Sahoo, V. Kulkarni and A. Singh (2011) Laser based calibration technique for thin film sensors for short duration transient measurements, **ASME International Journal of Thermal Science and Engineering Applications**, Vol. 3, Page No. 44504-44509, [DOI:10.1115/1.4005075](#), SCI.

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