

Dr. Virendra Kumar

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Profile Summary

Dr. Virendra Kumar is working as Assistant Professor in the Department of Mechanical Engineering of Harcourt Butler Technical University. He obtained his Ph.D. in Thermal Engineering from the Indian Institute of Technology Delhi. Prior to joining Harcourt Butler Technical University, he worked as Assistant Professor at Kamla Nehru Institute of Technology, Sultanpur, under the Technical Education Quality Improvement Program (TEQIP-III) Govt. of India. His research interest includes ejector design and analysis, rocket-ejector system, ejector refrigeration system, thermo-fluids, turbo-machines, solar Energy, Fluid Mechanics, and Heat Transfer. He has published in more than 26 peer-reviewed International Journals and reputed conferences. He has also received a research grant to Design and analyze the two-stage ejector from NPIU, Govt. of India.

Education

- 2018 PhD, Indian Institute of Technology, Delhi.
- 2009 M.Tech in Thermal Engineering, National Institute of Technology, Silchar, Assam.
- 2007 B.Tech in Mechanical Engineering, Dr. A.P.J. Abdul Kalam Technical University, Lucknow.

Work Experience

- 06/2022- Present Assistant Professor, HBTU Kanpur
- 09/2018-09/2021 Assistant Professor, Kamla Nehru Institute of Technology, Sultanpur
- 09/2015-09/2018 Assistant Professor, K R Mangalam University, Gurugram
- 06/2009-07/2010 Lecturer, Gurgaon College of Engineering, Gurugram

Teaching & Research Interests

- Fluid Mechanics
- Heat Transfer
- Research Methodology
- Turbo-machines
- CFD
- Ejector Design and Analysis
- Rocket-ejector system
- Solar Energy
- Ejector refrigeration system
- Free Jet Flows

Research Grant

- Analysis of supersonic two-stage ejectors. [Grant no. 1-5748651267; funded by World Bank through NPIU-TEQIP-III, Govt. of India under CRS scheme worth 9.59 lakh]

Publications [SCI/SCIE=15; Scopus=5]

2022

1. Virendra Kumar, Anil Kumar, Surendra Kumar Yadav, Anshul Yadav, Lalta Prasad, Jerzy Winczek, "Numerical Analysis on Constant Rate of Kinetic Energy Change Based Two-Stage Ejector-Diffuser System", *Journal of Mechanical engineering*, 68(5), 2022, 368-373. doi [SCI, IF=1.6, ISSN=0039-2480, *Strojniški vestnik*, Q3].
2. L. Prasad, R. Bairwan, A. Yadav, A. Kumar, V. Kumar, J. Winczek: Evaluation of Physical, "Mechanical and Wear Properties of Jatropha Shell Powder Reinforced Epoxy Glass Fiber Composites", *Journal of Natural Fibers*, (2022). [SCIE, IF=5.323, ISSN=1544-0478, Taylor & Francis, Q1].
3. Lalta Prasad, Arvind Kumar, Ritesh Jaiswal, Anil Kumar, Virendra Kumar, Anshul Yadav, "Mechanical Properties of AA6061T6 and AA6351T6 plates joined by friction stir welding", *Material Science and Engineering Technology*, 2022. [Accepted, SCIE, IF=1.034, ISSN=1521-4052, Wiley, Q3]

2021

4. A. Kumar, V. Kumar, P. M. V. Subbarao, G. Singhal, S.K. Yadav "Numerical Assessment on Performance of CRMC Single and Two-Stage Ejector: A Comparative Study" *Process Mechanical Engineering*, 236 (1), (2021), 114-125. [SCI, ISSN=2041-3009, IF=1.822, Sage, Q2].
5. S. K. Yadav, K. M. Pandey, R. Gupta, V. Kumar, Numerical study for the influences of nozzle exit position, length of mixing and diffuser sections on performance of CRMC ejectors, *Journal of the Brazilian Society of Mechanical Sciences and Engineering*, (2021) 43:496. [SCIE, ISSN= 1806-3691, IF=2.361, Springer, Q2].
6. Lalta Prasad, Niteesh Kumar, Anshul Yadav, Anil Kumar, Virendra Kumar, Jerzy Winczek, In Situ Formation of ZrB₂ and Its Influence on Wear and Mechanical Properties of ADC12 Alloy Mixed Matrix Composites, *Materials*, 14 (9), (2021), 2141, [SCIE, ISSN=1996-1944, IF=3.748, MDPI, Q2].
7. Sanjeev Kumar, Lalta Prasad, Vinay Kumar Patel, Virendra Kumar, Anil Kumar, Anshul Yadav, Jerzy Winczek, Physical and Mechanical Properties of Natural Leaf Fiber-Reinforced Epoxy Polyester Composites, *Polymers* 13(9)(2021), 1369 [SCIE, IF=4.967, ISSN= 2073-4360, MDPI, Q1].
8. Lalta Prasad, Vinod Singh, RV Patel, Virender Kumar, Anshul Yadav, Physical and Mechanical Properties of Rambans (Agave) Fiber Reinforced with Polyester Composite Materials, *Journal of natural fibers*, (2021) [SCIE, IF=5.323; ISSN= 1544-0478, Taylor & Francis, Q1].
9. Anil Kumar, Santosh Kumar, Nilay Krishna Mukhopadhyay, Anshul Yadav, Virendra Kumar, Jerzy Winczek "Effect of Variation of SiC Reinforcement on Wear Behaviour of AZ91 Alloy Composites" *materials*, 14 (4), (2021), 990 [SCIE, IF=3.748, ISSN 1996-1944, MDPI, Q2].
10. Sanjeev Kumar, Lalta Prasad, Vinay Kumar Patel, Virendra Kumar, Anil Kumar, Anshul Kumar. Physico-Mechanical Properties and Taguchi Optimized Abrasive Wear of Alkali Treated and Fly Ash Reinforced Himalayan Agave Fiber Polyester Composite, *Journal of Natural Fibers*, (2021) [SCIE, IF=5.323, ISSN=1544-0478, Taylor & Francis, Q1].

2020

11. Lalta Prasad, Shiv Kumar, Raj Patel, Anshul Yadav, Virendra Kumar, Jerzy Winczek "Physical and Mechanical Behaviour of Sugarcane Bagasse Fibre-Reinforced Epoxy Bio-Composites" *materials*, 13 (23), (2020), 5387. [SCIE, IF=3.748, ISSN 1996-1944, MDPI, Q2].
12. Lalta Prasad, Manish Upreti, Virendra Kumar, Anshul Yadav, Anil Kumar. "Optimisation of process parameters during WEDM of EN-42 Spring Steel" *SN Applied Sciences*, 2 (2020), 947. [Scopus, ISSN=2523-3971, Springer Nature].

2019

13. Virendra Kumar, P.M.V. Subaarao, G. Singhal, "Effect of Nozzle Exit Position (NXP) on Variable Area Mixing Ejector" *SN Applied Sciences*, 1 (2019), 1473. [Scopus, ISSN=2523-3971, Springer Nature].
14. Lalta Prasad, Aruna Saini, Virendra Kumar "Mechanical Performance of Jute and Basalt Fiber Geo-grid-Reinforced Epoxy Hybrid Composite Material" *Journal of Natural Fibers*, 18(5) (2019), 694-704. [SCI, IF=5.323; ISSN= 1544-0478, Taylor & Francis, Q2].
15. Lalta Prasad, Gaurav Singh, Anshul Yadav, Virendra Kumar, Anil Kumar, " Properties of functionally gradient composites reinforced with waste natural fillers" *Acta Periodica Technologica*, 50 (2019) 250-259. [Scopus, ISSN= 2406-095X, Faculty of Technology, Novi Sad].
16. Prabhat Charasia, Anil Kumar, Anshul Yadav, Virendra Kumar, Lalta Prasad "Heat Transfer Augmentation in Automobile's Radiator using Al₂O₃-Water Based Nanofluid", *SN Applied Science* 1 (2019) 257-264. [Scopus, ISSN= 2523-3971, Springer Nature].

2018

17. Virendra Kumar, Gaurav Singhal, PMV Subbarao "Realization of novel constant rate of kinetic energy change (CRKEC) supersonic ejector" *Energy* 164 (2018): 694-706. [SCI, IF=8.857, ISSN= 0360-5442, Elsevier, Q1].

2015

18. Prasad, Lalta, B. L. Salvi, and Virendra Kumar "Thermal degradation and gasification characteristics of Tung Shells as an open top downdraft wood gasifier feedstock" *Clean Technologies and Environmental Policy* 17.6 (2015): 1699-1706. [SCI, IF= 3.636, ISSN=1618-9558, Springer Berlin Heidelberg, Q2]

2013

19. Virendra Kumar, Gaurav Singhal, and P. M. V. Subbarao "Study of supersonic flow in a constant rate of momentum change (CRMC) ejector with frictional effects" *Applied Thermal Engineering* 60.1 (2013): 61-71. [SCIE, ISSN= 1359-4311, IF=6.465, Elsevier, Q1].

2010

20. K.M.Pandey, Virendra Kumar "CFD Analysis of Twin Jet Flow At Mach 1.74 with Fluent Software, *International Journal of Environmental Science and Development*, 1 (2010), 423-428. [Scopus, ISSN=2010-0264].

Conference Proceedings [Scopus=6]

1. Virendra Kumar, Surendra Kumar Yadav, Anil Kumar, Anant Prakash Agrawal, Numerical Assessment of Supersonic Variable Area Ejector Performance of Two-stage compared to Single-stage, *Material Today: Proceedings* (2022) [Accepted Scopus, ISSN=2214-7853, Elsevier].
2. S. K. Yadav, K. M. Pandey, V. Kumar, R. Gupta "Computational analysis of a supersonic two-stage ejector" *Materials Today: Proceedings* (2020) [Scopus, ISSN=2214-7853, Elsevier].
3. S. K. Yadav, V. Kumar, K. M. Pandey, R. Gupta "Development of the Constant Rate of Momentum Change (CRMC) variable area nozzle" *Material Today: Proceeding* (2020) [Scopus, ISSN=2214-7853, Elsevier].
4. Ashiwani Kumar, Virendra Kumar, Anil Kumar, Binayaka Nahak, Rajesk Singh "Investigation of Mechanical and Tribological Performance of Marble Dust 7075 Aluminium Alloy Composites", *Materials Today: Proceedings* (2020) [Scopus ISSN=2214-7853, Elsevier].
5. Tamanna, Moin Uddin, Virendra Kumar, Vinod Kumar Yadav "Comparative study of the VINCI Robot's arm end effector matrix using Python and MATLAB", *Materials Today: Proceedings* (2020) [Scopus, ISSN=2214-7853, Elsevier].
6. C. P. Singh, R. V. Patel, A. Yadav, A. Kumar, V. Kumar "Fabrication and evaluation of physical and mechanical properties of jute and coir reinforced polymer matrix composite, *Materials Today: Proceedings* (2020) [Scopus, ISSN=2214-7853, Elsevier].

Book Chapters [Scopus=2]

1. Prasad, L., Mohan, L., Raturi, H. P., Kumar, V. "A Comparative Study on Mechanical and Dry Sliding Wear Behaviour of Al 7075-T6 Welded Joints Fabricated By FSW, TIG and MIG" Innovative Design, Analysis and Development Practices in Aerospace and Automotive Engineering (I-DAD 2018), Vol. 2., 499-506. [Scopus, Publisher: Springer, ISSN= 978-981-13-2717-9].
2. Abhishek Sharma, Surendra Kumar Yadav, Anshul Yadav, Virendra Kumar, Anil Kumar "Comparison of Static and Harmonic Response of Structural Steel and Aluminium Alloy Automotive Shock Absorbers" Advances in Materials Processing and Manufacturing Applications: Proceedings of iCADMA 2020, Springer Singapore, Vol. 1., 241-249, [Scopus, Publisher: Springer, ISBN=978-981-16-0909-1].

Journal Editorial Board Member

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