Tushar Choudhary

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Indian Institute of Information Technology, Design and Manufacturing, Jabalpur, NR-2, Flat No. 508, Madhya Pradesh, 482005

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Objective:

I would like to stretch myself beyond all my limits and to create special identity by being innovative in my approach and being extra ordinary in my application.

Areas of Research:

- Thermodynamic modelling, Fuel cell, Hybrid Energy system, CFD, Bio fuels, Energy conversion system, Heat Transfer, Phase change material

Academic Qualification:

Course	Institution	Board /University	Year of Completion	Aggregate (%)
Ph.D*	National Institute of Technology, Jamshedpur	National Institute of Technology	2013-2017	10/10
M.E**. (DESIGN.)	Shri Shankaracharya College of Engineering & Technology	Chhattisgarh Swami Vivekanand Technical University (C.G Govt.)	2011-2013	8.5/10 University Topper **(Gold Medalist)**
B.E***. (MECH.)	Shri Shankaracharya College of Engineering & Technology	Chhattisgarh Swami Vivekanand Technical University (C.G Govt.)	2007-2011	70.75
12th Board	D.A.V Public School,Bhilai	C.B.S.E	2007	68
10th Board	D.A.V Public School,Bhilai	C.B.S.E	2005	60.4

*****Extracted 16 papers from the PhD Thesis titled "Thermal Analysis of Solid Oxide Fuel Cell based Advanced Hybrid Energy Conversion Cycles". Thesis was nominated for the presidential Award.*
*** First rank, University Topper in master and receive Gold Medal by Dr. K. Radha Krishanan, Chairman, Indian Space Research Organization on 2nd convocation.*
**** Placement opener of the batch 2007 and crack the placement package of 40 Lakhs.*

Professional Experience: (8.4 of Teaching including Research)

S. No	Period of Employment		Organization/ Employer	Position Held	Total Experience	Level
	From	To				
1.	9-6-2020	Present	IIITDM Jabalpur	Assistant Professor	2 year, 4 months	(Pay level 11)
2.	12-10-2017	31-3-2020	Vellore Institute of Technology	Assistant Professor	2 years, 8 months, 10 days	(Pay level 10, 11)
3.	3-6-2017	11-10-2020	IIT Bombay	Pos-Doc	3 months,8 days	Stipendiary
4.	1-08-2013	2-6-2017	NIT Jamshedpur	Research Scholar	3 years, 10 months, 2 days	Stipendiary + Research Consultancy
5.	24-9-2017	31-7-2013	RCET Bhilai	Lecturer	1 year, 10 months, 7 days	14500

Subject Taught:

S. No	Period of Employment		Organization/ Employer	Times	Subject
	From	To			
1.	9-6-2020	Present	IIITDM Jabalpur	2	Fluid Mechanics and machine, Thermodynamics, Engineering Drawing
2.	21-7-2017	31-3-2020	VIT University	1,1,2,4	Engineering Mechanics, Engineering Drawing, Thermodynamics, Engineering Graphics, Thermal Engineering system
3.	1-08-2013	2-6-2017	NIT Jamshedpur	1,2,3,2	Advance Thermodynamics, Energy Technology, CFD, FEA
4	24-9-2011	1-08-2013	RCET Bhilai	2,2	Energy Conversion, Basic Mechanical Engineering

Lab developed:

S. No	Period of Employment		Organization/ Employer	Position Held	Subject
	From	To			
1	21-7-2017	31-3-2020	VIT University	Assistant Professor	Thermal Engineering, Thermodynamics, Engineering Drawing, Mechanical Workshop, Heat transfer
2.	1-08-2013	2-6-2017	NIT Jamshedpur	Research Scholar	CFD, FEA, Material Testing
3.	24-9-2011	1-08-2013	RCET Bhilai	Lecturer	CAD CAM, Thermodynamics

Computer Skills:

Operating Systems:	Windows XP, 7, 10, Linex
Software Packages:	C, C++, MS Office

Other Software Packages:	ANSYS ,COMSOL, Pro E, Auto CAD, Solid Edge, MATLAB, Latix
Internet	Operations and its Applications.

Machine/Equipment Skills:

3D Printer, FFT analyzer, Lathe

Training, Certification & Seminars Attended:

- Completed One-month (1/6/2009 to 27/6/2009) Industrial Training from **BSP in 2009.**
- Completed One-month (31/5/2010 to 26/6/2010) Industrial Training from **BSP in 2010.**
- Participated in workshop on **HYDRAULIC** in **S.S.C.E.T.**on9 October 2010
- Completed Training of 120 hours in **PRO-Engineer wildfire 4.0** under training partner of **PTC University, USA, 2009.**
- Completed Training of 120 hours in **AUTOCAD** under training partner of **PTC University, USA, 2008.**
- Completed Training of 60 Days in **SOLID EDGE V20** under training partner of **DCS, Bhilai.**
- Participated in workshop of **Research Methodology Including Mathematical Modeling in Engineering and Applied Sciences** in **R.C.E.T Bhilai from** 24-25 March 2012.
- Participated in workshop of **Application of Advanced Tool Used in Mechanical Engineering Research** in **R.C.E.T Bhilai from** 21-23January 2015.
- One-week short term course training Program on Modeling using Computational Fluid dynamics **CFD and MATLAB at NIT Raipur** from 27-1 June 2016
- Two days **National workshop on Green chemistry and Sustainable Development at NIT Jamshedpur** from 18th -19th March 2017.
- Twenty-one days of **Faculty Development program in VIT University, Tamil Nadu with training of CALTECH** (Collaborative Learning through Technology) 10th-30th June 2017.
- One-week **National Workshop on Advances in Materials, Processing and Characterization at NIT Raipur** from 26th -30th August 2019

Academic Project: Major Project (In Doctorate. PhD)

Project Title:	Thermal Analysis of Solid Oxide Fuel Cell based Advanced Hybrid Energy Conversion Cycles.
Duration:	4 years
Software Requirements:	Ansys, Comsol, MATLAB
Description: The objective of this project is to enhance the electrical and thermal performance of SOFC. In this work parametric analysis has been carried out which significantly affects the fuel cell performance. A novel design has been purposed which have better efficiency with the current running design. In order to verify the work the obtained results are compared with the experimental result and shows good agreement. Moreover, thermal integration has also been carried out with GT based cycle in order to utilize waste heat through cogeneration system.	

Academic Project: Major Project (In Master Degree. M.E)

Project Title:	Experimental and Computed Natural Frequencies of Isotropic, Orthotropic and Laminated Composite Plates
Duration:	6 months

Software Requirements:	Ansys 14.5
Description: The effects of the variations of behavior for different shape of holes by maintaining same length/diameter ratio and hole area ratio are studied. Scope of this project is to find out the vibration analysis of plate with Singularities. The ANSYS software is used for analyzing the plate free vibration under different boundary conditions and different orientation of plate.	

Academic Project: Major Project (In Bachelor Degree. B.E)

Project Title:	Enhancement of Cooling System
Duration:	5 months
Software Requirements:	Auto cad, Pro E
Description: The objective of this project is to enhance the cooling systems in CI engines in order to improve their performance. We have reduced the dimension of current model and create a new one with better, performance and efficiency.	

Patent: National and International

1. **"IMPROVING TO THE HEAT TRANSFER RATE FOR MULTI CYLINDER ENGINE"**, Verma, Tikendra; **Choudhary , Tushar**; Sinha, Shobha; Singh, Thokchom; Ali, M. D.; Afzal, Asif; Rajak , Upendra; Kumar, T. Rajasanthosh; Koten, Hasan and Pallathadka, Harikumar, Patent office Australia, Patent number: **2021102644,** Patent Granted Date:**23/6/2021 (Granted)**

2. **"ADVANCED ISF METHOD BY USING LASER & ADVANCE MECHANISM",** Ajay, Ajay; **Choudhary, Tushar**; Dahiya, Deepak; Dahiya, Mamta; Dhaliwal, Parneeta; Gambhir, Victor; Gillawat, Anil Kumar; Goel, Rajesh; Hiremath, Shivashankarayya; Nayak, Sujata; Sambasivam, Anivel, 2021-05-31, Patent office Australia, Patent number: **2021102997,** Patent filed Date:**31/5/2021,** Patent Granted Date:**13/10/2021 (Granted)**

3. **"A SMART LAMP-POST FOR AIR PURIFICATION",** Ajay, Ajay; Choudhary, Tushar; Dahiya, Deepak; Dahiya, Mamta; Dogra, Namrata; Grover, Seema; Kumar, Brijesh; Mashinini, P. Madindwa; Parveen, Parveen; Sharma, Jyotsna; Singh, Vinay; Soni, Hargovind, Patent office Australia, Patent number: **2021104404,** Patent filed Date:**21/7/2021,** Patent Granted Date:**17/03/2021 (Granted)**

4. **"A SMART LAMPOST FOR AIR PURIFICATION",** Ajay, Ajay; Satti, Tanuj; Dahiya, Deepak; **Choudhary Tushar,** Jangir, Amit; Behura, Arun kumar, Patent office Australia, Patent number: 347383-001, Patent filed Date:**05/8/2021,** Date: **8/10/2021 (Design Accepted and Published, Granted)**

5. **"YOGA BED FOR HEALTH TRACKING",** 1. Ajay, 2. Sarita, 3. Tanuj Satti, 4. Aman Kumar, 5. **Tushar Choudhary**, 6. Anivel Sambasivam, 7. Sarika Jain, 8. T. Senthil Siva Subramanian, 9. Sunil Kadyan10. Rajesh Goel, Patent office India, Patent number: **353934-001,** Design Patent filed Date:**30/11/2021,** Date: **14/1/2022 (Design Accepted and Published, Granted)**

6. **"FORMING PLATFORM FOR 6-AXIS INCREMENTAL SHEET FORMING",** 1. Ajay 2. Sarita 3**. Tushar Choudhary** 4. Anivel Sambasivam5. Amit Jangir 6. Brijesh Kumar 7. Mamta Dahiya8. Sangeeta Rani 9. Parveen 10. Rajesh Goel 11. Deepak Kumar, Patent office India, Patent number **356207-001**, Design Patent filed Date:**05/01/2022, (Filed)**

7. **"BIO-PRINTING DEVICE AND SYSTEM FOR WOUND HEALING"**, Name of Inventors: 1)Ajay, 2)Tanuj Satti, **3)Tushar Choudhary**, 4)Ranjit Varma, 5)Virendra Kumar Shrivastava, 6)G. Sayiram, 7)Pallavi Ranjan, 8)Anivel Sambasivam, 9)Ravi Kant Mittal; Publication Date : **19/02/2021**; Patent office India; Patent Application No.**202111006553,** Patent Granted Date:**18/01/2023 (Granted)**

8. **"SOLAR ENERGY MONITORING SYSTEM BY IOT",** Balijepalli, Ramakrishna; **Choudhary, Tushar**; Sinha, Shobha; Sharma, Abhishek; Afzal, Asif; Rajak, Upendra; Dasore, Abhishek; Kumar, T. Rajasanthosh; Hasan, Sameera; Muni, N. Balavenkata 2021-06-12 Patent office Australia, Patent number: **2021103321,** Patent filed Date:**12/6/2021 ,** Patent Granted Date:**24/03/2022 (Granted)**

9. **"A SYSTEM AND A PROCESS FOR RECYCLING WASTE FABRICS"** Rakesh; Ajay, Ajay DR; **Choudhary, Tushar**; Gillawat, Anil Kumar; Goyat, Vikas; Gupta, Anjali; Kumar, Brijesh; Mittal, Ravi Kant; Sharma, Anita; Sharma, Jyotsna; Sharma, Sapna; Shrivastava, Virendra Kumar; 2021-05-24, Patent office Australia, Patent number: **2021102805,** Patent filed Date:**24/5/2021 (Granted)**

10. "**ARTIFICIAL INTELLIGENCE AND IOT BASED SMART HEALTH CARE SYSTEM TO PREVENT AND DETECT ALL TYPES OF LUNG DISEASE AND LEVEL OF INFECTION AND DIAGNOSE AT EARLY STAGE USING DATA MINING,CLOUD COMPUTING AND DEEP LEARNING ALGORITMS**", **Dr. Tushar Choudhary**, Dr.B.Karthiga, Mohammad Shahbaz Khan, GARIMA SHARMA, Vikas Shende, Dr. S. BeskiPrabaharan, Dr.S.JANANI,M.E, Patent office India, Patent number: **202241052551,** Patent filed Date:**14/9/2022 (Published)**

11. **"SWIRLER FOR MICRO GAS TURBINE COMBUSTION CHAMBER",** 1. Abhinav Anand Sinha 2. **Dr. Tushar Choudhary,** 3. Dr. Mohd. Zahid Ansari, 4. Dr. Sanjay, 5. Aman Singh Rajpoot, 6. Himanshu Pachori, Patent office India, Patent number: 387129-001, Patent filed Date: **26/05/2023**

12. **"SMART SUN TRACKING SOLAR PANEL"**, Dr. Abhinav Anand Sinha, **Dr. Tushar Choudhary**, Dr. Sagnika Pradhan, Dr. Sushanta Kumar Sahu, Dr. Vineet Kumar Bhagat, Dr. Pankaj Kumar; Patent office United Kingdom, Patent number: **6335636,** Patent filed Date:**25/12/2023 ,** Patent Granted Date:**10/01/2024 (Granted)**

Sponsored Project: Completed and Ongoing

1. **"Experimental And Computational Analysis of Multi-Pass Solar Air Heater With Energy Storage System"**, Sponsored by IIITDM Jabalpur, Grant No.:PDPMIIITDMJ/DIR.OFFICE/109/2021/08/72, Date 25.08.21, Amount: 5 lakhs, Duration: 2years, Status: Ongoing

2. **"Design and Fabrication of Smart Hybrid IOT-Based Solar Dryer for Food Items",** Sponsored by Chhattisgarh State planning commission, Grant No.:नवा रायपुर अटल नगर दिनांक 24/03/2023; क्रमांक 837/F2(SS)-04/रायोआ/नवाचार/2023; क्रमांक 851/रायोआ/लेखा/2022, Amount: 5 lakhs, Duration: 1years, Status: Ongoing

3. **"Design and Development of Indigenous Novel Smart Hybrid Solar Dryer for Food & Argo Industries"**, Sponsored by Madhya Pradesh Council of Science & Technology, Grant No.:

Endt.No. 3846/CST/R&D/Phy.&Engg. And Pharmacy/2022-23, Amount: ₹8,36,000.00, Duration: 2 years, Status: Ongoing.

4. **"Development of Compact Thermo-Electric Generator integrated PEM Electrolyser for onboard Hydrogen Production for Co-firing in Compression Ignition Engine: A Hybrid Approach"**, Sponsored by Science and Engineering Research Board, SERB-CRG, Grant No.: CRG/2023/004717, Amount: ₹47,29,643.00, Duration: 3 years, Status: Ongoing.

Student Supervising

Students Supervising					
S. No.	**Students Name**	**Roll No.**	**Program (Ph.D/M.Tech)**	**Co- Supervisor**	**Status**
1	Abhinav anand sinha	20PMEO04	Ph.D	Dr. Zahid Ansari	Awarded
2	Aman singh rajpoot	20pmee02	Ph.D	Dr. H. Chelladurai	Ongoing
3	Himanshu pachori	20pmee05	Ph.D	Dr.Tanuja Sheorey	Ongoing
4	Abhayjeet kumar Dubey	20pmeo03	Ph.D	Dr. Tushar Choudhary	Ongoing
5	Yugal Vijay Bhaisare	23pmeo08	Ph.D	Dr.Tanuja Sheorey	Ongoing
6	Hari Om Khare	23pmeo03	Ph.D	Dr. Zahid Ansari	Ongoing

Publications: SCI, Scopus, Books and Indexed Journal

My Google Scholar page:https://scholar.google.co.in/citations?user=Q6H54QEAAAAJ&hl=en

1. **Tushar Choudhary**, P.V Joshi, "Effect of Singularities on Natural Frequencies of Square Stiff Plate", Shaastrarth 2013 International Conference, 8th February 2013 to 9th February 2013, Wiley Publication, ISBN NO.978-81-265-4073-0

2. **Book** – Machine Design, Prabhodh Bharti and Company, 2011 by Tushar Choudhary

3. **Book** – Turbo Machinary, Prabhodh Bharti and Company, 2011 by Tushar Choudhary

4. **Book** – Dynamic of Machine, Singh Publication, 2011 by Tushar Choudhary

5. **Book** – Fluid mechanics, Prabhodh Bharti and Company, ISBN: 978-93-81516-81-2, 2011 by Tushar Choudhary

6. **Book Chapter**- Chapter 12, Energy and Exergy Analysis of Solid Oxide Fuel Cell Integrated with Gas Turbine Cycle—"A Hybrid Cycle", Springer Nature, Renewable Energy and its Innovative Technologies , ISBN: 978-981-13-2115-3, 464202_1_En, (12), https://link.springer.com/chapter/10.1007/978-981-13-2116-0_12

7. **Book Chapter**- Chapter 7, Thermoeconomic analysis of Gas turbine cycle, Springer Nature, Renewable Energy and its Innovative Technologies , ISBN: 978-981-13-2115-3, 464202_1_En, (7), https://link.springer.com/chapter/10.1007/978-981-13-2116-0_7

8. **Book Chapter**- Chapter 8, Solid oxide fuel cell Integrated Blade Cooled Gas Turbine Hybrid Power Cycle, "Hybrid Power Cycle Arrangements for Lower Emissions", 2022, ISBN-

13: 978-1032072531 published by CRC Press. https://doi.org/10.1201/9781003213741 **Scopus Indexed**

9. **Book Chapter**- Chapter 5, Integrated fuel cell hybrid technology, "Hybrid Power Cycle Arrangements for Lower Emissions", 2022, ISBN-13: 978-1032072531 published by CRC Press. https://doi.org/10.1201/9781003213741 **Scopus Indexed**

10. **Book Chapter**- An Experimental Study of the Impact of Manganese Dioxide (MnO_2) Blended Fuel on the Performance and Emission Characteristics of a Diesel Engine Proceedings of the International Conference on Sustainable Energy Technologies, 2024, ISBN-978-981-97-1868-9, https://link.springer.com/chapter/10.1007/978-981-97-1868-9 **Scopus Indexed**

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11. Abhinav Anand Sinha, Kriti Srivastava, Aman Singh Rajpoot, **Tushar Choudhary**, Sanjay, "A thermodynamic approach to analyze energy, exergy, emission, and sustainability (3E-S) performance by utilizing low temperature waste heat in SOFC–CHP-TEG system" International Journal of Hydrogen Energy (Elsevier), Vol. 63, 18 April 2024, Pages 1088-1104 2023, **SCI Impact Factor: 7.2**, https://doi.org/10.1016/j.ijhydene.2024.03.194

12. Aman Singh Rapoot, **Tushar Choudhary**, Chelladurai, "Experimental Investigation on Behavior of a Diesel Engine with Energy, Exergy, and Sustainability Analysis Using Titanium Oxide (Tio2) Blended Diesel and Biodiesel", Journal of Enhanced Heat Transfer, **SCI Impact Factor: 2.3,** https://doi.org/10.1615/JEnhHeatTransf.2024051522

13. Abhinav Anand Sinha; **Tushar Choudhary**; Anoop Kumar Shukla, "Thermo-economics, Emissions and Sustainability Comparison of a Novel Hybrid Evaporative Cooled Solid Oxide Fuel Cell-Recuperated Gas Turbine with Conventional System", Process Safety and Environmental Protection (Elsevier), **SCI Impact Factor: 7.8,** https://doi.org/10.1016/j.psep.2024.03.040

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14. Anjali Agrawal, Sujeet Kesharvani, Gaurav Dwivedi, **Tushar Choudhary**, Ritu Verma, Puneet Verma, "Quantifying the Impact of Lockdown Measures on Air Pollution Levels: A Comparative Study of Bhopal and Adelaide", Science of the Total Environment (Elsevier), Vol .909, 20 January 2024, 168595, **SCI Impact Factor: 10.75,** https://doi.org/10.1016/j.scitotenv.2023.168595

15. Abhinav Anand Sinha; **Tushar Choudhary**, Mohd. Zahid Ansari; Anoop Kumar Shukla, "Qualitative-Quantitative Comparative Assessment of Conventional Gas Turbine with Fuel Cell Based Integrated Power Cycle", Environment, Development and Sustainability (Springer), **SCI Impact Factor: 4.9,** https://doi.org/10.1007/s10668-023-04196-8

16. Aman Singh Rajpoot, **Tushar Choudhary**, Hussain Mohamed Chelladurai, Balram Ambadhe, Akhilesh Choudhary, "Thermal and environmental assessment of Botryococcus braunii green biodiesel with nanoparticles using Energy-Exergy-Emission-Sustainability

(3ES) analysis in a diesel engine", Sustainable Energy Technologies and Assessments (Elsevier), Vol. 60, December 2023, 103473, **SCI Impact Factor: 8,** https://doi.org/10.1016/j.seta.2023.103473

17. Vikas Verma; Sivasakthivel Thangavel; Ashwani Kumar; **Tushar Choudhary**, "Ground and solar assisted heat pump systems for space heating and cooling applications in northern region of India – A study on energy and CO_2 saving potential", Sustainable Energy Technologies and Assessments (Elsevier), Vol. 59, October 2023, 103405, **SCI Impact Factor: 8,** https://doi.org/10.1016/j.seta.2023.103405

18. Aman Singh Rajpoot, **Tushar Choudhary**, Hussain Mohamed Chelladurai, Gaurav Dwivedi, "A Novel Comprehensive Energy, Exergy and Sustainability Analysis of a Diesel Engine Powered by Binary Blends of Juliflora Biodiesel and Nanoparticles", Journal of Thermal Analysis and Calorimetry, 1-17, 2023, **SCI Impact Factor: 4.4,** https://doi.org/10.1007/s10973-023-12473-x

19. Aman Singh Rajpoot, Gaurav Saini, Hussain Mohamed Chelladurai, Anoop Shukla, **Tushar Choudhary**, "Comparative combustion, emission, and performance analysis of a diesel engine using Carbon Nanotube (CNT) blended with three different generations of biodiesel, Environmental Science and Pollution Research, 2023, https://doi.org/10.1007/s11356-023-28965-0, **SCI Impact Factor: 5.8**

20. Abhayjeet kumar, Dubey Jingyi Sun, **Tushar Choudhary**, Madhusmita Dash, Dibakar Rakshit , M Zahid Ansari, Seeram Ramakrishna, Yong Liu, Himansu Sekhar Nand, "Emerging phase change materials with improved thermal efficiency for a clean and sustainable environment: An approach towards net zero", Renewable and Sustainable Energy Reviews (Elsevier), Vol. 182, August 2023, 11342, **SCI Impact Factor: 15.9,** https://doi.org/10.1016/j.rser.2023.113421

21. Anoop Kumar Shukla, Aprajit Jasrotia, Gaurav Dwivedi, **Tushar Choudhary** & Mayank Chhabra "Investigation of Carbon Nanotubes and Titanium Dioxide Doped Biodiesel on the Performance and Emission Characteristics of Four-Stroke Diesel Engine" Lecture Notes in Mechanical Engineering, FLAME 2022, 19–36, https://link.springer.com/chapter/10.1007/978-981-99-1894-2_3 , **Scopus Indexed**

22. Abhinav Anand Sinha, Sanjay, Mohd Zahid Ansari, Anoop Kumar Shukla, **Tushar Choudhary**, "Comprehensive review on integration strategies and numerical modeling of fuel cell hybrid system for power & heat production", International Journal of Hydrogen Energy (Elsevier), 2023, Article in press, **SCI Impact Factor: 7.2,** https://doi.org/10.1016/j.ijhydene.2023.05.097

23. Aman Singh Rajpoot, **Tushar Choudhary**, H. Chelladurai, Tikendra Nath Verma, Arivalagan Pugazhendhi, "Sustainability analysis of spirulina biodiesel and their blends on a diesel engine with energy, exergy and emission (3E's) parameters", Fuel (Elsevier), 2023, Vol. 349, 1 October 2023, 128637, **SCI Impact Factor:7.4,** https://doi.org/10.1016/j.fuel.2023.128637

24. Abhinav Anand Sinha, Mohd. Zahid Ansari, Anoop Kumar Shukla, **Tushar Choudhary**, "Waste Heat Recovery and Exergy-Based Comparison of a Conventional and a Novel Fuel Cell Integrated Gas Turbine Hybrid Configuration", Sustainable Energy Technologies and Assessments (Elsevier), Vol. 57, June 2023, 103256, , **SCI Impact Factor:8,** https://doi.org/10.1016/j.seta.2023.103256

25. Abhinav Anand Sinha, Sanjay, Mohd. Zahid Ansari, Anoop Kumar Shukla, Tikendra Nath Verma, **Tushar Choudhary,** "Thermodynamic Assessment of Biomass-Fueled Solid Oxide Fuel Cell Integrated Gas Turbine Hybrid Configuration", Sustainable Energy Technologies and Assessments (Elsevier), Vol. 57, June 2023,103242, **SCI Impact Factor:8,** https://doi.org/10.1016/j.seta.2023.103242

26. Himanshu Pachori, Prashant V. Baredar, Tanuja Sheorey, Bhupendra Gupta, Vikas Verma, Katsunori Hanamura, **Tushar Choudhary,** "Sustainable Approaches for Performance Enhancement of the Double Pass Solar Air heater Equipped with Energy storage System: A Comprehensive review", Journal of Energy Storage (Elsevier), Journal of Energy Storage, Vol. 65, 2023, 107358, **SCI Impact Factor:9.4**, https://doi.org/10.1016/j.est.2023.107358

27. Aman Singh Rajpoot, **Tushar Choudhary**, H.Chelladurai, Narendra Kumar Patel "Effect of graphene nanoparticles on the behavior of a CI engine fueled with Jatropha biodiesel"," Materials Today: Proceedings (Elsevier), 2023, **Scopus Indexed**, https://doi.org/10.1016/j.matpr.2023.03.785

28. Aman Singh Rajpoot, **Tushar Choudhary**, H.Chelladurai, "Comparison of the effect of CeO2 and CuO2 nanoparticles on performance and emission of a diesel engine fueled with Neochloris oleoabundans algae biodiesel", Materials Today: Proceedings (Elsevier), 2023, **Scopus Indexed**, https://doi.org/10.1016/j.matpr.2023.03.233

29. Abhinav Anand Sinha, Gaurav Saini, Sanjay, Anoop Kumar Shukla, Mohd. Zahid Ansari, Gaurav Dwivedi, **Tushar Choudhary** "A Novel Comparison of Energy-Exergy, and Sustainability Analysis for Biomass-Fueled Solid Oxide Fuel Cell Integrated Gas Turbine Hybrid Configuration", Energy Conversion and Management (Elsevier), Vol. 283,2023, 116923; **SCI Impact Factor:10.4,** https://doi.org/10.1016/j.enconman.2023.116923

30. Himanshu Pachori, **Tushar Choudhary**, and Tanuja Sheorey. "Analytical study of thermal performance of the solar air heater integrated arc-shape roughness collector." Materials Today: Proceedings, 2023, **Scopus Indexed,** https://doi.org/10.1016/j.matpr.2023.02.448

31. Abhinav Anand Sinha, **Tushar Choudhary**, Mohd Zahid Ansari, and Kriti Srivastava. "A comparative study of the entropy generation by an integrated fuel cell-intercooled gas turbine." Materials Today: Proceedings (Elsevier), 2023, **Scopus Indexed**, https://doi.org/10.1016/j.matpr.2023.02.343

32. Aman Singh Rajpoot, **Tushar Choudhary**, H. Chelladurai, Shivam Mishra, and Vikas Shende. "Performance analysis of a CI engine powered by different generations of biodiesel; Palm oil, Jatropha, and microalgae." Materials Today: Proceedings (Elsevier), 2023, **Scopus Indexed**, https://doi.org/10.1016/j.matpr.2023.02.037 .

33. **Tushar Choudhary**, Tikendra Nath Verma, Mithilesh Kumar Sahu, Upendra Rajak- Sanjay Y "Thermodynamic Sensitivity Analysis of SOFC Integrated With Blade Cooled Gas Turbine Hybrid Cycle", Journal of Thermal Engineering, 2023, Issue, Vol. 9, No. 1, pp. 205–217, **Scopus Indexed,** https://dergipark.org.tr/en/download/article-file/2928422

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34. Abhinav Anand Sinha, **Tushar Choudhary**, Mohd. Zahid Ansari, Sanjay, "Estimation of Exergy-based Sustainability Index and Performance Evaluation of a Novel Intercooled Hybrid Gas Turbine System", International Journal of Hydrogen Energy, (Elsevier), 2022, **SCI Impact Factor: 7.2,** https://doi.org/10.1016/j.ijhydene.2022.10.260

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in Science, Technology &Management for National Development, Proceeding PP 155, NATIONAL CONFERENCE, 29-30 January 2016

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Short-Term Courses/Workshops/Symposiums/Seminars Organized/Conducted:

1. Organized three days, International Symposium on "Additive Manufacturing of Metallic Alloys and Composites: Academic and Industrial Perspective" April 11-13, 2023

Conference[s] Organised/Conducted:

1. iNaCoMM 2021 5th International and 20th National Conference, on Machines and Mechanisms, December 09-11, 2021

Recognized Reviewer of Journals:

- International Communication in Heat & Mass transfer, Elsevier, **SCI Impact Factor 3.971**.
- Applied Thermal Engineering, Elsevier, **SCI Impact Factor 4.725.**
- Energy, Elsevier, **SCI Impact Factor 8.082.**

- International Journal of Hydrogen Energy, Elsevier, **SCI Impact Factor 7.939.**
- Journal of Cleaner production**,** Elsevier**, SCI Impact Factor 7.246**
- Journal of Natural Gas Science & Engineering, Elsevier, **SCI Impact Factor 3.841**
- Aerospace Science and Technology, Elsevier, **SCI Impact Factor 6.499**

Academic Responsibilities:

- Core committee member of Yuva Sangam Phase III, GOI, Ek bharat shreshtha bharat, November 23, 2020, till Dec 07, 2022.
- Hostel Panini Warden at Indian Institute of Information Technology, Design and Manufacturing, Jabalpur, from Oct 21, 2021, till date.
- Hall-III Associate Warden at Indian Institute of Information Technology, Design and Manufacturing, Jabalpur, from Oct 13, 2020, till Sep 30, 2022.
- Member of institute library committee at IIITDM Jabalpur from July 1, 2022, till date.
- Faculty In-charge Sanitization at IIITDM Jabalpur from June 29, 2022, till date.
- Member Core team of Faculty advisors for Institute Counseling Services, from Feb 7, 2023, till date.
- Member of council of wardens at IIITDM Jabalpur Feb 1, 2023, till date.
- Member of Student advisory committee of Senate (SACS) of wardens at IIITDM Jabalpur Feb 2, 2023, till date.
- Faculty In-charge SAE Supra 2022 at Noida.
- Member of institute library committee at IIITDM Jabalpur from July 1 2022 till date
- Department website In-charge at IIITDM Jabalpur
- Faculty In-charge Fluid mechanics and Heat Transfer lab at IIITDM Jabalpur
- Faculty In-charge Automobile lab at IIITDM Jabalpur
- Program Chair In-charge B.Tech Aerospace Engineering at VIT Bhopal University.
- Time table coordinator of School of Mechanical Engineering at VIT Bhopal University.
- Research Coordinator of School of Mechanical Engineering at VIT Bhopal University.
- Curriculum developed for B.Tech Aerospace Engineering at VIT Bhopal University.

Lab Developed:

- Fluid mechanics and machines at IIITDM Jabalpur
- Mechanical workshop at VIT Bhopal University
- Heat Transfer lab at VIT Bhopal University

Event Conducts:

- Successfully organized Alumni meet of NIT Jamshedpur 1985/1987,1992 batch at NIT JSR **(Coordinator)**
- Successfully organized 3 days National Workshop on Android Application Development VIT Bhopal University on 16-18 March 2018. **(Coordinator)**
- Successfully organized 1 days National Workshop on Stress management Bhopal University on 16-18 March 2018. **(Coordinator)**
- Successfully organized 2 days National workshop on RC Aircraft design for B.Tech students at VIT Bhopal University on 6-7 April 2018.**(Convener)**
- Successfully organized 2 days National workshop on Artificial Neural Network using MATLAB at VIT Bhopal University on 18-19 October 2019. **(Co-Convener)**

Achievements, Awards, Recognition& Extra Curricular:

- **Placement opener of the batch 2007** and crack the placement package of **40 Lakhs.**

- University Topper in M.Tech and receive **Gold Medal** by **Dr. K. Radha Krishanan**, Chairman, Indian Space Research Organization on 2nd convocation.
- Receive **MHRD Fellowship** for complete PhD duration.
- Secure **1TH Runner up** position In Volleyball (Team Event) At Agaltara (state level).
- Participated In Various Interschool Sports Tournament.
- Participated in workshop of **HYDRAULIC** in **S.S.C.E.T.**
- Participated at Several cultural activities in school and college level.
- Reduce **30kg weight** in 103 days in year 2006.
- Selected as **Logistics Secretary** of mechanical branch for the session 2010-11.
- Participated in various tech fest organized in various colleges.
- Successfully organized 2 days National workshop on RC Aircraft design for B.Tech students at VIT Bhopal University and **revenue generated of 94000**.
- Recognized a**s outstanding contributor in reviewing as Reviewer by Applied Thermal Engineering Elsevier January 2018**

Personal Skills:

- Hard work, leadership, Good communication skill.

Research statement:

Current research

- ✓ Thermal Analysis of Fuel cell Based Gas Turbine Hybrid cycle.
- ✓ To develop more efficient Hybrid gas turbine-based power plant cycles with perfect utilization of waste heat.
- ✓ Performance analysis of Third Generation Microalgae Biodiesel with nano additives.
- ✓ Experimental and Computational Analysis Of The Solar Air Heater Equipped With A Thermal Energy Storage System.
- ✓ Thermodynamic modeling of the fuel cell integrated system with hydrogen production

Direction of research

- ✓ Successful Thermal Integration of fuel cell system with other system in order to utilize the waste heat.
- ✓ To explore the performance characteristics of Third Generation Microalgae Biodiesel with nano additives
- ✓ To develop an alternative means of power generation using renewable energy.
- ✓ Using CFD, second law optimization or Entropy generation Minimization of component as well as system level analysis can be done and develop a new line of research particular in the field of second law optimization.

Teaching Vision Statement:

- ✓ I will spark the mind of my students with a practical and computational learning environment.

- ✓ To achieve effective teaching I will Reduce math or science anxiety and improve their conceptual learning by developing a conceptual framework which allows them to integrate and organize new knowledge and information into a coherent structure.
- ✓ I will encourage my students to become entrepreneur and develop potential of leadership quality in them.
- ✓ I will be creating knowledgeable leaders who have ability to take their own decisions and rise with their community.

Personal Profile

- Motto of Life : "One who fears being conquered is sure of defeat".

- Date of Birth : 29-11-1988.
- Gender : Male.
- Father name : Shri Purshottam lal Choudhary.
- Father's Occupation : Agricultural Farming.
- Mother tongue : Hindi.
- Nationality : Indian.
- Marital Status : Unmarried.
- Languages : Hindi, English & Chhattisgarhi.
- Hobbies : Playing Sudoku, Outdoor games, Body building & dancing.

References:

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1.	**Dr. Sanjay (Professor), NIT Jamshedpur**	Phone :+91-9430738551 E-mail :sanjay.me@nitjsr.ac.in
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3.	**Dr. Sipi Dubey (Dean), RCET, Bhilai**	Phone :+91-9406350006 E-mail :drsipidubey@gmail.com
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I hereby declare that the above information's are true to best of my knowledge.

PLACE: IIITDM JABALPUR

DATE: 29/03/2024

Tushar Choudhary.