

Curriculum Vitae

Dr. Gaurav Dwivedi

Assistant Professor

Centre of Energy

MANIT Bhopal

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Relevant core courses

Internal Combustion Engine, Alternative Fuel, Renewable Energy Technology, Small Hydro Power

Research Interests

Internal combustion engines, Bioenergy and biofuels; Biomass Energy Systems; Energy Simulation and Modeling; Optimization of biodiesel production; Stability studies of biodiesel; Cold Flow Properties of Biodiesel; Designing testing of hydro mechanical equipments, Small hydropower plant, renewable energy systems.

Academic Background

2012 – 2016 Doctor of Philosophy

Indian Institute of Technology Roorkee, Roorkee, India

Thesis: Stability and Cold Flow Properties of Pongamia Biodiesel

2009 - 2011 Master of Technology

Indian Institute of Technology Roorkee, Roorkee, India

Thesis: Performance Evaluation of Diesel Engine Using Karanja oil and its biodiesel

Project: Feasibility of Solar Thermal Power Plant of 1 MW (Calculation of various parameters for the establishment of solar thermal power plant of 1MW)

2002 - 2006 Bachelor of Technology

Mechanical Engineering

Amritsar College of Engineering and Technology, Punjab Technical University

Final Year Project: Design of stitching machine increasing the gear ratio to obtain higher speed

Honors and Awards

- ❖ MHRD Scholarship in PhD. (2012-2016)
- ❖ MHRD Scholarship in M. Tech. (2009-2011)
- ❖ **GATE 2009, 2012**
- ❖ Certificate of Appreciation (2008): Educational Improvement of Institution
- ❖ **Young Scientist Award** in Renewable and Sustainable Energy at ICGTEPC-2014 at NIT Trichy- 2014

Professional Experience

July 2006 – July 2009

Lecturer, Department of Mechanical Engineering at KCCEIT Nawanshahr, Punjab, India

Aug 2011 – Jan 2012

Assistant Professor, Department of Mechanical Engineering at KCCEIT Nawanshahr, Punjab, India

Jan 2012- June2012

Assistant Professor, Mechanical Engineering at NIT Jalandhar, Punjab, India.

March 2016- April 2018

Assistant Professor, Mechanical Engineering at Amity University, Noida, UP

May 2018- May 2019

Assistant Professor Sr., School of Mechanical Engineering, VIT University, Vellore

PhD Student:

Current Student-6

Completed-1

M.Tech Student

Completed-13

Current Student-3

Workshop & Conference Organized

- 1- Coordinator in Online **Five Days Workshop on Future Trends in Green Technology (22June-26June, 2020)** organized by Energy Centre, MANIT Bhopal.
- 2- Coordinator in **One Day Awareness Programme on Energy Conservation (APEC) (2nd March 2020)** organized by Energy Centre, MANIT Bhopal.
- 3- Coordinator in **Five days workshop on Application software for smart energy system (20th – 24th January 2020)** organized by Energy Centre, MANIT Bhopal.
- 4- Coordinator in **Online International conference on Innovation in Clean Energy Technology (ICET2020) (27-28 Aug 2020)**
- 5- **Coordinator** of five (05) day workshop on **Recent Trends in Clean Energy** from 08-12th March 2021. Organized by Maulana Azad National Institute of Technology Bhopal.
- 6- **Coordinator** of seven (07) day **KARYASHALA** (High End Workshop) on “*Research Ethics on Engineering*”, 14-20th Nov. 2022 at Energy Centre, MANIT Bhopal. (Grant :- Rs. 5 Lakhs).
- 7- **Coordinator** of seven (07) day **KARYASHALA** (High End Workshop) on “*Advance Research Tool Application in Renewable Energy*”, 05-11th Dec. 2022 at Energy Centre, MANIT Bhopal. (Grant :- Rs. 5 Lakhs).
- 8- **Coordinator** of seven (07) day **KARYASHALA** (High End Workshop) on “*Hybrid Electric Vehicles and Alternative Fuels*”, 12-18th June 2023 at Energy Centre, MANIT Bhopal. (Grant :- Rs. 5 Lakhs).
- 9- **Coordinator** of seven (07) day **KARYASHALA** (High End Workshop) on “*Developing soft skills and Effective Science Communication*”, 03-09th July 2023 at Energy Centre, MANIT Bhopal. (Grant :- Rs. 5 Lakhs).
- 10- **Coordinator** of International Conference in “*Innovation in Clean Energy Technology (ICET 2023)*”, Organized by Maulana Azad National Institute of Technology Bhopal, from 08-10th April 2023.
- 11- Organizing Secretary of International Conference on **Advancement in Materials, Manufacturing and Energy Engineering (ICAMME 2021)**, 18-20th Feb 2021. Organized by Maulana Azad National Institute of Technology Bhopal.

List of Publication: -

Year – 2023

List of Papers in International Journal

- [1] Sujeet Kesharvani , Gaurav Dwivedi , Tikendra Nath Verma and Puneet Verma, The Experimental Investigation of a Diesel Engine Using Ternary Blends of Algae Biodiesel, Ethanol and Diesel Fuels, *Energies* 2023, 16, 229. <https://doi.org/10.3390/en16010229>
- [2] Sujeet Kesharvani, Tikendra Nath Verma, Gaurav Dwivedi, Computational analysis of chlorella protothecoides biofuels on engine combustion, performance and emission, *Sustainable Energy Technologies and Assessments* ,Volume 55, February 2023, 102972, <https://doi.org/10.1016/j.seta.2022.102972>
- [3] Aman Singh Rajpoot, Tushar Choudhary, Hussain Mohamed Chelladurai, and 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* (2023): 1-17.
- [4] Nitesh Dutt, Ankush Jageshwar Hedau, Ashwani Kumar, Mukesh Kumar Awasthi, Varun Pratap Singh, and Gaurav Dwivedi. "Thermo-hydraulic performance of solar air heater having discrete D-shaped ribs as artificial roughness." *Environmental Science and Pollution Research* (2023): 1-22.
- [5] Mayank Chhabra, Anoop Kumar Shukla, Sachin Singh Parihar, and Gaurav Dwivedi. "Investigation of Performance and Smoke Characteristics of Diesel Engine Powered by Various Blends of Biodiesels Extracted from Disposed Edible Oil." In *Biennial International Conference on Future Learning Aspects of Mechanical Engineering*, pp. 83-94. Singapore: Springer Nature Singapore, 2022.
- [6] Vikas Verma, Chandan Swaroop Meena, Sivasakthivel Thangavel, Ashwani Kumar, Tushar Choudhary, and Gaurav Dwivedi. "Ground and solar assisted heat pump systems for space heating and cooling applications in the northern region of India–A study on energy and CO2 saving potential." *Sustainable Energy Technologies and Assessments* 59 (2023): 103405.
- [7] Anoop Kumar Shukla, Aprajit Jasrotia, Gaurav Dwivedi, Tushar Choudhary, and Mayank Chhabra. "Investigation of Carbon Nanotubes and Titanium Dioxide Doped Biodiesel on the Performance and Emission Characteristics of Four-Stroke Diesel Engine." In *Biennial International Conference on Future Learning Aspects of Mechanical Engineering*, pp. 19-36. Singapore: Springer Nature Singapore, 2022.

Year – 2022

List of Papers in International Journal – 15

- [1] Varun Pratap Singh, Siddharth Jain, Ashish Karn, Gaurav Dwivedi, Tabish Alam & Ashwani Kumar, Experimental Assessment of Variation in Open Area Ratio on

- Thermohydraulic Performance of Parallel Flow Solar Air Heater, *Arabian Journal for Science and Engineering* (2022), <https://link.springer.com/article/10.1007/s13369-022-07525-7>
- [2] Amit Kumar Paswan, Sujeet Kesharvani, Kavita Gidwani Suneja, Gaurav Dwivedi, Performance and emissions characteristics of CI engine fueled with blends of diesel and Polanga biodiesel, *Materials Today: Proceedings*, <https://doi.org/10.1016/j.matpr.2022.12.069> 24 Dec 2022
- [3] Eka Srivastava, Sujeet Kesharvani, Anjali Agrawal, **Gaurav Dwivedi**, “**Binary blending of different types of biofuels with diesel, and study of engine performance, combustion and exhaust emission characteristics.**”, *Materials Today: Proceedings*, ISSN 2214-7853, 17 October 2022.
- [4] Varun Pratap Singh, Siddharth Jain, Ashish Karn, **Gaurav Dwivedi**, Ashwani Kumar, Sachin Mishra, Naveen Kumar Sharma, Mohit Bajaj, Hossam M. Zawbaa, and Salah Kamel. “**Heat transfer and friction factor correlations development for double pass solar air heater artificially roughened with perforated multi-V ribs.**” *Case Studies in Thermal Engineering*, Elsevier, Volume 39, 1 November 2022.
- [5] Varun Pratap Singh, Siddharth Jain, Ashish Karn, Ashwani Kumar, **Gaurav Dwivedi**, Chandan Swaroop Meena, Nitesh Dutt, and Aritra Ghosh. “**Recent Developments and Advancements in Solar Air Heaters: A Detailed Review.**” *Sustainability*, MDPI, Volume 14, Issue 19, 26 September 2022.
- [6] Varun Pratap Singh, Siddharth Jain, Ashish Karn, Ashwani Kumar, **Gaurav Dwivedi**, Chandan Swaroop Meena, and Raffaello Cuzzolino. “**Mathematical Modeling of Efficiency Evaluation of Double-Pass Parallel Flow Solar Air Heater.**”, *Sustainability*, MDPI, Volume 14, Issue 17, 24 August 2022.
- [7] Samuel, Olusegun David, Semiu T. Amosun, **Gaurav Dwivedi**, Stanley Ufuoma Idi, Hilary I. Owamah, Collins N. Nwaokocha, Thangaraja Jeyaseelan, and Christopher C. Enweremadu. “**Assessment of Corrosion and Mechanical Properties of Copper Components of Diesel Engines in Waste Oil Biodiesel Environment.**”, *Key Engineering Materials*, Trans Tech Publications Ltd, Switzerland Volume 928, Pages 3-16, 16 August 2022.
- [8] Subhankar Chowdhury, Ambar Gaur, Subhashree Mohapatra, Shrey Verma, Shubham Mishra, **Gaurav Dwivedi**, Tikendra Nath Verma, Puneet Verma, “**Environmental pollution analysis during the lockdown imposed due to COVID-19: A case study.**”, *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects (Scopus)*, Taylor & Francis, Volume 44, Issue 2, Pages 4679-4692, 15 June 2022
- [9] Siddharth Jain, Ambar Gaur, **Gaurav Dwivedi**, Prashant Baredar, “**Influence of blending additives in biodiesel on physiochemical properties, engine**

- performance, and emission characteristics.”**, Fuel (SCI), Volume 321, 124072, 1 August 2022.
- [10] Upendra Rajak, Prerana Nashine, Prem Kumar Chaurasiya, Tikendra Nath Verma, Abhishek Dasore, Kamal Kishore Pathak, **Gaurav Dwivedi**, Anoop Kumar Shukla, Gaurav Saini, **“The effects on performance and emission characteristics of DI engine fuelled with CeO₂ nanoparticles addition in diesel/tyre pyrolysis oil blends.”**, Environment, Development and Sustainability (SCIE), Springer Link, 20 May 2022.
- [11] Tikendra Nath Verma, **Gaurav Dwivedi**, Meetu Singh, Neerja Sharma, Amit Sarin, Sujeet Kesharvani, Chandrabhushan Tiwari, **“Influence of irradiation and addition of antioxidants on the oxidation stability of Jatropha, Pongamia and Tectona Grandis biodiesels.”**, International Journal of Ambient Energy (Scopus), Taylor & Francis, Volume 43, Issue 1, Pages 7006-7019, 30 March 2022.
- [12] Shrey Verma, **Gaurav Dwivedi**, Ali Zare, Puneet Verma, **“Life Cycle Assessment of Greenhouse Gas Emissions of Electric and Internal Combustion Engine Vehicles in India.”**, SAE Technical Paper, Pages 01-0749, 29 March 2022.
- [13] Adarsh Gaurav, Sakshi Sarathe, Prashant V. Baredar, **Gaurav Dwivedi**, Sagar Tapdiya, **“Review of various types of renewable-powered desalination technologies with economic analysis.”**, Materials Today: Proceedings (Scopus), Elsevier, Volume 56, Part 1, Pages 326-335, 25 January 2022.
- [14] Kavita Gidwani Suneja, Madeeha Rehman, Sujeet Kesharvani, **Gaurav Dwivedi**, **“Impact of cultivation conditions on microalgae biomass productivity and lipid content.”**, Materials Today: Proceedings (Scopus), Elsevier, Volume 56, Part 1, Pages 282-290, 20 January 2022.
- [15] Tikendra Nath Verma, Gaurav Saini, **Gaurav Dwivedi**, Siddharth Jain, Anoop Kumar Shukla, Puneet Verma, **“Impact analysis of biodiesel production parameters for different catalyst.”**, Environment, Development and Sustainability (SCIE), Springer Link, Pages 1-21, 6 January 2022.
- [16] Anukul Pandey Asim Ahmad, Om Prakash, Anil Kumar, S.M. Mozammil Hasnain, Puneet Verma, Ali Zare, **Gaurav Dwivedi**, **“Dynamic analysis of daylight factor, thermal comfort and energy performance under clear sky conditions for building: An experimental validation.”**, Materials Science for Energy Technologies, Elsevier, Volume 5, Pages 52–65, 27 November 2021.
- [17] Subhashree Mohapatra, VSKV Harish, **Gaurav Dwivedi**, **“Climate change, cyclone and rural communities: Understanding people's perceptions and adaptations in rural eastern India.”**, Materials Today: Proceedings (Scopus), Elsevier, Volume 49, Part 2, Pages 412-417, 2022.

List of Papers in International Conference – 05

- [1] **Gaurav Dwivedi**, P. Saji Raveendran, P. C. Murugan, T. Darwin, Godwin Glivin, **“Energy Analysis of R1234yf/R134a as Replacement of R134a in a Domestic Refrigerator”**, Advancement in Materials, Manufacturing and Energy Engineering, Vol. II, Lecture Notes in Mechanical Engineering, Springer, Singapore, Pages 495-502, 18 January 2022.
- [2] Shubham Mishra, Shrey Verma, Ambar Gaur, Subhashree Mohapatra, Subhankar Chowdhury, and **Gaurav Dwivedi**, **"Analysis of Solar Photovoltaic-Based Water Pumping System in Sehore, India."** Advancement in Materials, Manufacturing and Energy Engineering, Vol. II, Springer, Singapore, Pages 591-602, 18 January 2022.
- [3] Nithyanandhan, Kamaraj, S. Ranjithkumar, **Gaurav Dwivedi**, and Somasundaram Periasamy, **"A Study on the Design and Fabrication of Dry Cell Electrolysis Setup for Hydrogen Generation."**, Advancement in Materials, Manufacturing and Energy Engineering, Vol. II, Springer, Singapore, Pages 459-470, 18 January 2022.
- [4] Manish Saini, Abhishek Sharma, Varun Pratap Singh, **Gaurav Dwivedi**, and Siddharth Jain. **"Solar Thermal Receivers—A Review."** Advancement in Materials, Manufacturing and Energy Engineering, Vol. II, Springer, Singapore, Pages 311-325, 18 January 2022.
- [5] Singh, Neil, Krish Patel, Krishi Patel, Siddhi Vinayak Pandey, Pankaj Singh, Anoop Kumar Shukla and **Gaurav Dwivedi**, **"Intermittency Reduction Techniques in Hybrid Renewable Energy Systems: A Review."** Advancement in Materials, Manufacturing and Energy Engineering, Vol. I, Springer, Singapore, Pages 85-92, 2022

List of Papers in Book Chapter – 03

- [1] Shubham Mishra, Shrey Verma, **Gaurav Dwivedi**, and Subho Upadhyay. **"In-Depth Analysis of Various Aspects of Charging Station Infrastructure for Electric Vehicle."** Renewable Energy Systems: Modeling, Optimization and Applications, Pages 265-293, 30 September 2022.
- [2] Adarsh Gaurav, Sujeet Kesharvani, Sakshi Sarathe, **Gaurav Dwivedi**, Gaurav Saini, Anuj Kumar, and Kamaraj Nithyanandhan, **"Application of alternative clean energy."**, Sustainable Developments by Artificial Intelligence and Machine Learning for Renewable Energies, Elsevier, Volume 1, Pages 1-17, 23 March 2022.
- [3] Rajawat, Rahul, Anuj Kumar, **Gaurav Dwivedi**, and Anoop Kumar Shukla, **"Clean Energy Using Hydroelectric Generation from Rivers."**, Sustainable and Clean Energy Production Technologies, Springer, Singapore, Pages 245-268, 1 July 2022.

- [1] S Charan Kumar, Amit Kumar Thakur, J Ronald Aseer, **Gaurav Dwivedi**, **“Comprehensive review on effects of exhaust gas recirculation on nitrogen oxide emission in various biodiesel and nano additives blends fuelled compression ignition engine.”**, International Journal of Ambient Energy (**Scopus**), Taylor & Francis, Volume 43, Issue 1, Page 6233-6249, 1 December 2021.
- [2] Mayank Chhabra, BS Saini, **Gaurav Dwivedi**, **“Impact assessment of biofuel from waste neem oil.”**, Energy Sources, Part A: Recovery, Utilization, and Environmental Effects (**Scopus**), Taylor & Francis, Volume 43, Issue 24, Pages 3381-3392, 17 December 2021
- [3] Puneet Verma, Shrey Verma, Shubham Mishra, Ambar Gaur, Subhankar Chowdhury, Subhashree Mohapatra, **Gaurav Dwivedi**, **“A comprehensive review on energy storage in hybrid electric vehicle.”**, Journal of Traffic and Transportation Engineering (**Scopus**), Elsevier, Volume 8, Issue 5, Pages 621-637, 30 September 2021.
- [4] Tikendra Nath Verma, Pankaj Shrivastava, Upendra Rajak, **Gaurav Dwivedi**, Siddharth Jain, Ali Zare, Anoop Kumar Shukla, Puneet Verma **“A comprehensive review of the influence of physicochemical properties of biodiesel on combustion characteristics, engine performance and emissions.”**, Journal of Traffic and Transportation Engineering (**Scopus**), Elsevier, Volume 8, Issue 4, Pages 510-533, 1 August 2021.
- [5] Bharathiraja Moorthy, Nithyanandhan Kamaraj, Somasundaram Periasamy, Saji Raveendran Padmavathy, **Gaurav Dwivedi**, Ranjithkumar Subramaniam, **“Effect of Intake Air Temperature, Pressure And Fuel Injection Pressure On Low Temperature Combustion (LTC) Engine BY Using Dual Injection Strategy For Pollution Reduction.”**, Research Square, 8 July 2021.
- [6] **Gaurav Dwivedi**, Sujeet Kesharvani **“Algae as a feedstock for biodiesel production in Indian perspective.”**, Material Today: Proceedings, Elsevier (**Scopus**), Volume 47, Part 17, Pages 5873-5880, 14 May 2021.
- [7] Anurag Chauhan, Shubham Mishra, **Gaurav Dwivedi**, Subho Upadhyay, **“Modelling of standalone solar photovoltaic based electric bike charging.”**, Material Today: Proceedings (**Scopus**), Elsevier, Volume 49, Part 2, Pages 473-480, 24 March 2021.
- [8] Puneet Verma, Shrey Verma, **Gaurav Dwivedi**, **“Life cycle assessment of electric vehicles in comparison to combustion engine vehicles: A review.”**, Material

Today: Proceedings (**Scopus**), Elsevier, Volume 49, Part 2, 2022, Pages 217-222, 28 February 2021.

- [9] Puneet Verma, Pankaj P.Gohil, **Gaurav Dwivedi**, Anoop Kumar Shukla **“Experimental investigation of heat conservation through novel flame shield arrangement for domestic LPG gas stove.”**, Material Today: Proceedings (**Scopus**), Elsevier, Volume 49, Part 2, Pages 223-229, 27 February 2021.
- [10] Gopal Nandan, Ashok Kumar Singh, **Gaurav Dwivedi**, Bipin Kr. Srivastava, Brij K.Tiwari, P.Kumar, R.K.Yadav, M.Singh, Anoop Kr.Shukla **“Study of analytical observations on energy matrix for solar stills.”**, Material Today: Proceedings(**Scopus**) , Elsevier, Volume 49, Part 2, Pages 320-325, 26 February 2021.
- [11] Prashant Baredar, Ambar Gaur, **Gaurav Dwivedi**, **“An Indian perspective on biodiesel production from rice By-Products.”**, Material Today: Proceedings (**Scopus**), Elsevier, Volume 49, Part 2, Pages 289-295, 26 February 2021.
- [12] Shubham Mishra, Shrey Verma, Subhankar Chowdhury, Ambar Gaur, Subhashree Mohapatra, **Gaurav Dwivedi**, Puneet Verma, **“A Comprehensive Review on Developments in Electric Vehicle Charging Station Infrastructure and Present Scenario of India.”**, Sustainability MDPI(**Scopus**), Volume 13, Issue 4 (1), 23 February 2021.
- [13] Puneet Verma Mayank Chhabra, Balraj Singh Saini , **Gaurav Dwivedi** , Arun Kumar Behura , Anuj Kumar , Siddharth Jain , Amit Sarin **“Investigation of the shelf life of the optimized Neem biodiesel and its execution and excretion characteristics on automotive diesel engine.”**, Energy Sources, Part A: Recovery, Utilization, and Environmental Effects (**Scopus**),Taylor & Francis Online,1 February 2021
- [14] Upendra Rajak, Prerana Nashine, Prem Kumar Chaurasiya, Tikendra Nath Verma, Devendra Kumar Patel, **Gaurav Dwivedi**, **“Experimental & predicative analysis of engine characteristics of various biodiesels.”** Fuel (SCI), Volume 285, Pages 119097, 1 February 2021.
- [15] Rishabh Kumar, Gopal Nandan, **Gaurav Dwivedi**, Anoop Kumar Shukla, Ramakant Shrivastava **“Modeling of triangular perforated twisted tape with V-Cuts in double pipe heat exchanger.”**, Materials Today: Proceedings (**Scopus**), Elsevier, Volume 46, Part 11, 2021, Pages 5389-5395, 1 January 2021.

List of Papers in International Conference – 04

- [1] Godara, S. S., Mohit Kudal, Tikendra Nath Verma, **Gaurav Dwivedi** and Shrey Verma, **"Marble and Granite Slurry Reuses in Industries."** Advances in Clean Energy Technologies, Springer, Singapore, Pages 1127-1135, 31 May 2021.

- [2] Arun K. Behura, Spandan Shah, Aman Kumar, and **Gaurav Dwivedi**, "**Investigation and Simulation of Rooftop Solar Photovoltaic System.**", Advances in Clean Energy Technologies, Springer, Singapore, Pages 69-83. 31 May 2021.
- [3] **Gaurav Dwivedi**, Deviprasad Samantaray, Swayamsidha Pati, Suyasha Pandey, and Ambar Gaur, "**Impact of Various Heterogeneous Catalysts on the Production of Biodiesel.**", Advances in Clean Energy Technologies (2021), Springer, Singapore, Pages 23-43, 31 May 2021.
- [4] Arun K. Behura, Ashwini Kumar, V. C. Todkari, **Gaurav Dwivedi** & Hemant K. Gupta, "**Analysis of thermal efficiency of solar flat plate collector using twisted tape.**" Advances in air conditioning and refrigeration, Springer, Singapore, Pages 89-97, 2021.

List of Papers in Book Chapter – 03

- [1] Puneet Verma, Olusegun D Samuel, Tikendra Nath Verma, **Gaurav Dwivedi**, "**Advancement in Materials, Manufacturing and Energy Engineering, Vol. I: Select Proceedings of ICAMME 2021.**", Springer Nature, ISBN 978-981-16-5370-4, 2021.
- [2] Akshay Garg, **Gaurav Dwivedi**, Prashant Baredar and Siddharth Jain, "**Current Status, synthesis, and characterization of biodiesel.**" Biodiesel Technology and Applications, John Wiley & Sons, Inc., Pages 167-194, 18 June 2021.
- [3] Akshay Garg, **Gaurav Dwivedi**, Siddharth Jain and Arun K. Behura, "**Impact of methanol on engine performance and emissions.**" Methanol A Sustainable Transport Fuel for CI Engines, Pages 247-269. Springer, Singapore, 20 May 2021.

Year – 2020

List of Papers in International Journal – 17

- [1] V.S.K.V. Harish, Subhashree Mohapatra, Shrey Verma, Subhankar Chowdhury, **Gaurav Dwivedi**, "**A critical appraisal of green vegetated roofs: Energy and environment in focus.**" Material Today Proceedings (**Scopus**), Volume 46, Part 11, Pages 5703-5710, 16 November 2020.
- [2] Archana Soni, Subhankar Chowdhury, Subhashree Mohapatra, Ambar Gaur, **Gaurav Dwivedi**, "**Study of various properties of geopolymers concrete – A review.**", Materials Today: Proceedings (**Scopus**), Elsevier, Volume 46, Part 11, 2021, Pages 5687-5695, 12 November 2020.

- [3] Arun Kumar Behura, **Gaurav Dwivedi**, Pankaj P. Gohil, “**Numerical investigation of thermodynamic parameters for performance evaluation of cooking gas stove burner by appending of flame shield.**” *Materials Today: Proceedings (Scopus)*, Elsevier, Volume 46, Part 11, Pages 5696-5702, 10 November 2020.
- [4] Ashok Kumar Singh Awasthi Aditya Bachchan, Syed Mateen Iftikhar Nakshbandi, Gopal Nandan, Anoop Kumar Shukla, **Gaurav Dwivedi**, “**Productivity enhancement of solar still with phase change materials and water-absorbing material.**” *Materials Today: Proceedings (Scopus)*, Elsevier, Volume 38, Part 1, Pages 438-443, 9 October 2020.
- [5] S.K. Singal Ravi Kumar, Ali Abbas, **Gaurav Dwivedi**, “**Design and cost analysis of fish friendly kaplan turbine: A case study.**”, *Materials Today: Proceedings (Scopus)*, Elsevier, Volume 46, Part 11, Pages 5384-5388, October 2020.
- [6] Anuj Kumar, Saini R.P., Saini Gaurav, **Gaurav Dwivedi**, “**Effect of number of stages on the performance characteristics of modified Savonius hydrokinetic turbine.**”, *Ocean Engineering (SCI)*, Elsevier, Volume 217, 1 December 2020.
- [7] **Gaurav Dwivedi**, Shrey Verma, Subhashree Mohapatra, Subhankar Chowdhury, “**Cooling techniques of the PV module: A review.**” *Materials Today: Proceedings (Scopus)*, Elsevier, Volume 38, Part 1, Pages 253-258, 13 August 2020.
- [8] Ravi Kumar, Sunil Kumar Singal, **Gaurav Dwivedi**, Anoop Kumar Shukla, “**Development of maintenance cost correlation for high head run of river small hydro power plant.**”, *International Journal of Ambient Energy (Scopus)*, Taylor & Francis, Volume 43, Issue 1, Pages 3124-3137, 12 August 2020.
- [9] Ali Zare, Anoop Kumar Shukla, Zoheb Ahmad, Meeta Sharma, **Gaurav Dwivedi**, Tikendra Nath Verma, Siddharth Jain, Puneet Verma, “**Advances of Carbon Capture and Storage in Coal-Based Power Generating Units in an Indian Context.**”, *Energies, MDPI(Scopus)*, Volume 13, Pages 1-17, 10 August 2020.
- [10] Shubham Mishra, Shrey Verma, Subhankar Chowdhury, **Gaurav Dwivedi**, “**Analysis of recent developments in greenhouse dryer on various parameters- a review.**”, *Material Today Proceedings (Scopus)*, Elsevier, Volume 38, Part 1, Pages 371-377, 9 August 2020.
- [11] Siddharth Jain, Mayank Chhabr, **Gaurav Dwivedi**, PrashantBaredar, Anoop Kumar Shukla, Akshay Garg, “**Production & optimization of biodiesel from rubber oil using BBD technique.**”, *Material Today Proceedings, Elsevier (Scopus)*, Volume 38, Part 1, Pages 69-73, 7 July 2020.

- [12] A.K. Behura, Asutosh Padhy, Badri Vishal, Puneet Verma, **Gaurav Dwivedi**, “**Fabrication of parabolic trough hybrid solar PV-T collector using a-Si thin film solar cells in Indian perspective.**”, Material Today Proceedings, Elsevier (**Scopus**), Volume 38, Part 1, Pages 56-62, 18 June 2020.
- [13] **Gaurav Dwivedi**, Mayank Chhabra, Balraj Singh Saini, “**Optimization of the dual stage procedure of biodiesel synthesis from Neem oil using RSM based Box Behnken design.**”, Energy Sources, Part A: Recovery, Utilization and Environmental Effects (**Scopus**), Taylor & Francis Online, 5 June 2020.
- [14] Mayank Chhabra, Devesh Vishal, Shivesh Dubey, Rahul Goyal, **Gaurav Dwivedi**, Prashant Baredar, “**Optimization of alkali-catalyzed transesterification of rubber oil for biodiesel production & its impact on engine performance.**”, Renewable Energy (**Scopus**), Elsevier, Volume 158, Pages 167-180, 29 May 2020.
- [15] Tikendra Nath Verma, Mohd Fazil Khan, Akshay Garg, Siddharth Jain, **Gaurav Dwivedi**, “**Optimization of low-temperature transesterification of low FFA blend of sunflower oil and algae oil.**”, Fuel, (SCI), Elsevier, Volume 279, 1 November 2020.
- [16] Arivalagan Pugazhendhi, Puneet Verma, **Gaurav Dwivedi**, Arun Kumar Behura, Devendra Kumar Patel, Tikendra Nath Verma, “**Experimental investigation of diesel engine fuelled with different alkyl esters of Karanja oil.**”, Fuel, (SCI), Elsevier, Volume 275, 1 September 2020.
- [17] **Gaurav Dwivedi**, Puneet Verma, Chinmaya Mohanty, Arun Behura, Manas Singh, Bishwa Prasad, Ashwin Kumar “**Parametric Performance Optimization of Three Sides Roughened Solar Air Heater.**”, Energy Sources, Part A: Recovery, Utilization, and Environmental Effects (**Scopus**), Taylor & Francis, April 2020.

List of Papers in International Conference – 01

- [1] Hemant Kumar Gupta, Ashwini Kumar, Aruna Kumar Behura, Ravi Kumar, **Gaurav Dwivedi**, “**Effect of Booster Mirror on the Performance of V-Shaped Roughened Solar Air Heaters.**”, ICRAMERD-2020, ITER S’o’A, Bhubaneswar, 26 July 2020.

Year – 2019

List of Papers in International Journal – 03

- [1] Kshitij Puniyani, Rohit Malik, Harshit Kumar, **Gaurav Dwivedi**, “**Optimization of fuel properties of cottonseed biodiesel and its impact on engine performance and emission.**”, SN Applied Sciences (Scopus), Springer Link, 1 October 2019.
- [2] Richard J. Brown and Zoran D. Ristovski Puneet Verma, Svetlana Stevanovic, Ali Zare, **Gaurav Dwivedi**, Thuy Chu Van, Morgan Davidson, Thomas Rainey “**An Overview of the Influence of Biodiesel, Alcohols, and Various Oxygenated Additives on the Particulate Matter Emissions from Diesel Engines.**”, Energies, MDPI(Scopus), Volume 12, Issue 10, Pages 1-25, 23 May 2019.
- [3] **Gaurav Dwivedi**, Devesh Vishal, Rahul Goyal, Shivesh Dubey, “**Prospects of Biodiesel from Rubber Seed Oil in India a Review**”, Journal of Advanced Engineering Research, Volume 6, Issue 1, Pages 23-33, 2019.

List of Papers in International Conference – 04

- [1] Dabas, Nitin, Vinay Dubey, Mayank Chhabra, and **Gaurav Dwivedi**, “**Performance analysis of an IC engine using methanol, ethanol, and its blend with gasoline and diesel as a fuel.**”, Advances in Fluid and Thermal Engineering, Springer, Singapore, Pages 223-232, 24 April 2019.
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- [1] **Gaurav Dwivedi**, Siddharth Jain, MP Sharma, "Impact assessment of biodiesel as a future energy resource.", International Conference on Science and Engineering (ICSE 2011), Rohtak, 21-23 Jan 2011.

BOOK & BOOK CHAPTER PUBLISHED - 7

BOOK- Gaurav Dwivedi, M.P.Sharma“**Non Edible Oil resources "as Fuel" for IC engine**” Lambert Academic Publishing, Germany **ISBN 978-3-659-35540-0**

Book Chapter/ Editor - Puneet Verma, Olusegun D Samuel, Tikendra Nath Verma, **Gaurav Dwivedi**, “**Advancement in Materials, Manufacturing and Energy Engineering, Vol. I: Select Proceedings of ICAMME 2021**”, Springer Nature, **ISBN 978-981-16-5370-4**, 2 January 2022.

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Book Chapter- Akshay Garg, **Gaurav Dwivedi**, Siddharth Jain and Arun K. Behura, "**Impact of methanol on engine performance and emissions.**" In Methanol, pp. 247-269. Springer, Singapore, 2021.

Book Chapter- Puneet Verma, **Gaurav Dwivedi**, Anoop Kumar Shukla, Anuj Kumar, and Arun Kumar Behura. "**Ionic liquids as green bio-lubricant additives.**" Industrial Applications of Green Solvents 2, no. 54 (2019): 224-248.

Book Chapter- **Gaurav Dwivedi**, Suyesh Pillai, and Anoop Kumar Shukla. "**Study of performance and emissions of engines fueled by biofuels and its blends.**" In Methanol and the Alternate Fuel Economy, pp. 77-106. Springer, Singapore, 2019.

M. Tech Students Detail: -13

Year 2021 Pass out Batch

S.No .	Name of the student	Scholar No.	Topic name	Guide Name
1	Shrey Verma	19211810 8	Life Cycle Assessment of Greenhouse gas emissions of electric and combustion vehicles	Dr. Gaurav Dwivedi
2	Subhashree Mohapatra	19211811 1	Translating group housing to eco-housing for rural communities: an Indian case study	Dr. Gaurav Dwivedi
3	Subhankar Chowdhur y	19211811 3	Effect of restricted transportation on the ambient air quality	Dr. Gaurav Dwivedi
4	Shubham Mishra	19211811 4	Modeling and simulation of an off- grid solar PV Based Electric Bike Charging Station	Dr. Gaurav Dwivedi

Year 2022 Pass out Batch

S. No.	Student Name	Scholar No.	Topic Name	Guide Name
1	Verendra Singh Kharkwal	202118 102	Numerical Investigation of Engine Characteristics of Diesel Engine Fuelled with Ethanol and Diethyl Ether Supplemented Diesel-WCO Biodiesel Blend.	Ms. Kavita Gidwani Suneja Dr. Gaurav dwivedi
2	Madeeha Rehman	202118 107	Numerical investigation of performance, combustion and emission characteristics of various Microalgae Biodiesel on CI Engine	MS. Kavita Gidwani Suneja Dr. Gaurav dwivedi
3	Swapnil Rameshwa r Bawankar	202118 203	Life Cycle Assessment of Lithium Ion Battery: Life Cycle Stages from Cradle to Grave for NMC811	Dr. Gaurav dwivedi Dr. Puneet Verma

4	Adarsh Gaurav	202118206	Effect of heat treatment on silt erosion of medium carbon high silicon steels for hydro turbine components	Dr. Gaurav dwivedi Dr. Abhinav Varshney
5	Shantam Hemant Warkad	202118210	Desalination using Single Slope Solar Still: Simulation and Experimental Study	Dr. Gaurav dwivedi Dr. Jay Mant Jha
6	Rahul Rajawat	202118211	CFD Analysis of silt erosion in vertical axis savonious Hydrokinetic turbine	Dr. Gaurav dwivedi Dr. Anuj Kumar
7	Eka Srivastava	202118221	Binary Blending of Different types of Biofuels with Diesel, its impact on Engine performance and its validation	Dr. Gaurav dwivedi

Year 2023 Pass out:-

S. No.	Scholar No.	Name of Students	THESIS TITLE
1	212118204	DEEPTAM TRIVEDI	Assessment of EV charging technologies & optimization of EV chargers
2	212118206	ANJALI AGRAWAL	Trend analysis of air quality parameters – temporal, diurnal, statistical and correlation analysis with meteorological variables

Funding received from Government of India and IIT Roorkee

- ❖ DST travel grant for attending conference at Singapore -2014
- ❖ IIT Roorkee Alumni Grant for attending conference at Singapore -2014

Editor:

Guest Editor: Material Today Proceedings (ICET2020)

Guest Editor: Springer Proceedings in Energy (ICET2023)

Guest Editor: MDPI (Energies)

Guest Editor: Sustainable Energy Technologies and Assessments

Reviewer: -

- Energy (Elsevier)
- Fuel (Elsevier)
- Renewable and Sustainable Energy Reviews (Elsevier)
- Energy Conservation and Management (Elsevier)
- Waste and Biomass Valorization (Springer)
- International Journal of Green Energy (Taylor & Francis)
- International Journal of Ambient Energy (Taylor & Francis)
- Journal of Material & Environmental Science
- International Journal of Renewable Energy Research

Memberships:-

- ❖ Asia-Pacific Chemical, Biological & Environmental Engineering Society (APCBEEES)
- ❖ Institute of Research Engineers and Doctors (IREDD)
- ❖ Asian Federation of Biotechnology (AFOB)
- ❖ Solar Energy Society of India
- ❖ The Institution of Engineers (India)

DECLARATION:

I do hereby confirm that the information given in the CV is true and correct to the best of my knowledge.



Place: Bhopal (India)

(GAURAV DWIVEDI)