Curriculum Vitae

Dr. Sunil Kumar

Assistant Professor
Department of Mechanical Engineering
Faculty of Engineering and Technology
Gurukula Kangri (Deemed to be University)
Haridwar
E-mail: sunil508@rediffmail.com,

Research Interests
Biofuels, Biodiesel production

Academic Background
2015 – 2022 Doctor of Philosophy
Uttrakhand Technical University, Dehradun, India
Thesis: An experimental investigation on the performance of a Jatropha-Algae oil blend biodiesel as a fuel.

2008 - 2010 Master of Engineering (7.4 CGPA)
Mechanical Engineering
PEC University of Technology, Chandigarh, India
Thesis: An experimental investigation on EAFF of Al_2O_3 –MMC cylindrical internal surface.

2005 -Bachelor of Technology (64.18%)
Mechanical Engineering
H.C.T.M. KAITHAL (Kurukshetra University Kurukshetra) India

1995-1998- Diploma in civil engineering (64.81%)
Government polytechnic Sirsa- India

Computer knowledge
Matlab
Window (all versions)

Professional Experience

August 2005 – August2006
- Lecturer, Saint Kabir Polytechnic College Fazilka.

August 2006 – March 2008
- . Lecturer, Shanti Niketan Institute of Engineering and Technology Hisar.

March 2008- September 2008
- . Lecturer, RIMT-IET Mandi Gobindgarh.

July 2010- February 2011
- Assistant Professor, Department of Mechanical Engineering, Hindu College of Engineering Sonepat.

February 2011- December 2011
- Assistant Professor, Department of Mechanical Engineering, G. V.I.E.T. Rajpura.

August 2012- Present
- Assistant Professor, Department of Mechanical Engineering, F.E.T. Gurukula Kangri (Deemed to be University) Haridwar.

Memberships
- Life member: INDIAN SCIENCE CONGRESS ASSOCIATION.

Reviewer
- ICET-2020, MNIT-Bhopal (Elsevier, springer)
- Energy source part –A (Taylor and Francis)
- Elsevier Journals

Conferences/ Workshop/ Short term courses attended
- Four international conferences attended and papers presented.
- Ten national conferences attended and papers presented.
- Three days' Workshop on Efficient Energy Generation and Utilization in Uttrakhand.
- Two days Faculty Development Program on Teaching and Soft Skills.
- Three Short term course (One Week) attended.
- One Faculty Development Program (One Week).
- One Faculty Development Program on Sustainable transport sources for future mobility application (One Week)
- Nine weeks on line course "ENERGY X: SUSTAINABLE ENERGY: DESIGN A RENEWABLE FUTURE" from Delft University of Technology.
- Refresher Course on Teacher and Teaching in Higher Education from Swayam.
- Four-week Orientation Programme for Higher Education from Delhi University.
- Five-day online STTP on Bioenergy: Technology & Transitions**.**
- Online NPTEL course on Fuzzy Logic and Neural Networks**.**

Professional Affiliation
- Worked as a Head of Department at **G.V.I.E.T.**
- Departmental time table and B.tech. Project coordinator.
- Coordinate AUTOSPARK workshop.
- Committee Member of national conference **LDMPE-2008.**
- Committee Member of national conference **ETES-2013.**
- Member of Board of Studies Mechanical Engineering Department.
- Centre Supervisor (Examination-2016).
- Speaker of Resource person Faculty Development Program (Alternate fuels).
- Practical examiner (UTU-Dehradun)
- Session Coordinator One week online student induction Program.

Patent
- FOLDABLE BRIDGE ASSEMBLY (**202011029142 A**)
- SMART HYBRID KITCHEN (**202011042085 A**)

Refereed Journal Publications

1. **Kumar S**. Production and optimization from Karanja oil by adaptive neuro-fuzzy inference system and response surface methodology with modified domestic microwave. Fuel 296 (2021) 120684 (***impact factor 6.1***)

2. **Kumar** S, Jain S and Kumar H. Application of adaptive neuro-fuzzy inference system and response surface methodology in biodiesel synthesis from jatropha–algae oil with and its performance and emission analysis on Diesel engine coupled with generator. Energy 226(2021) 120428 (***impact factor 7.00***)

3. **Kumar** S, Jain S and Kumar H. Experimental Study on Biodiesel Production Parameter Optimization of Jatropha–Algae Oil Mixtures and Performance and Emission Analysis of a Diesel Engine Coupled with a Generator Fueled with Diesel/Biodiesel Blends.ACS Omega 28(2020) 17033-17041 (***impact factor 3.5***)

- **Kumar S** and V Deswal. Optimization at low temperature transesterification biodiesel production from soybean oil methanolysis via response surface methodology. Energy Sources, Part A: Recovery, Utilization, and Environmental Effects. https://doi.org/10.1080/15567036.2019.1649331 (*impact factor 3.1*)

4. **Kumar S.** Comparison of linear regression and artificial neural network technique for prediction of a soybean biodiesel yield. Energy Sources, Part A: Recovery, Utilization, and Environmental Effects 42 (2020) 1425–1435 (***impact factor 3.1***)

5. **Kumar S.** Estimation capabilities of biodiesel production from algae oil blend using adaptive neuro-fuzzy inference system (ANFIS). Energy Sources, Part A: Recovery, Utilization, and Environmental Effects 42 (2020) 909–917 (***impact factor 3.1***)

6. **Kumar S,** Jain S and Kumar H. Prediction of jatropha-algae biodiesel blend oil yield with the application of artificial neural networks technique. Energy Sources, Part A: Recovery, Utilization, and Environmental Effects 41 (2019) 1285–1295 (***impact factor 3.1***)

7. **Kumar S,** Jain S and Kumar H. Performance evaluation of adaptive neurofuzzy inference system and response surface methodology in modeling biodiesel synthesis from jatropha–algae oil. Energy Sources, Part A: Recovery, Utilization, and Environmental Effects 40 (2018) 3000–3008 (***impact factor 3.1***)

8. **Kumar S,** S Kumar, A Kumar, S Maurya and V Deswal. Experimental investigation of the influence of blending on engine emissions of the diesel engine fueled by mahua biodiesel oil. Energy Sources, Part A: Recovery, Utilization, and Environmental Effects 40 (2018) 994–998 (***impact factor 3.1***)

9. **Kumar S,** Jain S and Kumar H. Process parameter assessment of biodiesel production from a Jatropha–algae oil blend by response surface methodology and artificial neural network. Energy Sources, Part A: Recovery, Utilization, and Environmental Effects 39 (2017) 2119–2125 (***impact factor 3.1***)

10. **Kumar S,** N Kumar, M Aggrwal and V Deswal. Optimization and Prediction of Karanja oil transesterification with domestic microwave by RSM and ANN.

https://www.tandfonline.com/doi/full/10.1080/01430750.2020.1848919. (*Scopus Index, ESCI*)

11. **Kumar S** and A. Manna. An Experimental Investigation during EAFF of Al/Al2O3-MMC. International Journal of Applied Engineering Research 5(2010)2943-2948 (Scopus *Index*)

12. **Kumar S**, Garg S, Kumar S and Sahastranshu. Process parameters optimizing in injection moulding process on polypropylene. Discovery 52(2016), 1420-1425 (Scopus *Index*)

13. **Kumar S**, Arora H and Singh D P. Parametric effect during plastic Injection molding process on polypropylene material. Iinternational Journal of Science, Technology & Management 4(2015), 118-1212.

14. **Kumar S**, Arora H and Singh D P. Determining the Optimum Parameters of Plastic Injection Moulding for the Production of Bottle Cover. International Journal of Science and Research 4(2015), 301-304.

15. **Kumar S** and Jain S. A review on biodiesel production technique. The Engineering Journal of Application & Scopes, 3 (2018) 5-8.

16. **Kumar S** and Kumar H. Renewable Energy Resources and their status. The Engineering Journal of Application & Scopes, 4 (2019) 1-4.

17. Srivastava S **and Kumar S.** Theoretical analysis of desiccant cooling system: a case study. Progress in energy &fuels 7(2018) 1-7.

Papers in Conference Proceedings

International Conferences

1. **Kumar S,** Jain S and Kumar H. Implantation of Adaptive Neuro-Fuzzy Inference System and Artificial neural Network for Biodiesel Production From Jatropha-Algae Oil. *International Conference on Artificial Intelligence & Applications (ICAIA-2019) November 20-21, 2019.*

2. **Kumar S**, Garg S, Kumar S and Sahastranshu. Process parameters optimizing in injection moulding process on polypropylene *(IC TIME-2016).*

3. **Sunil Kumar**, Study of Process parameters in injection moulding process on polypropylene. *(IT EST-2016).*

4. **Sunil Kumar**, Vikas Deshwal and Rakesh Kumar Phanden. Small Size Injection Molding Machine Design and Fabrication for Plastic Industries. *International Conference on Newest Drifts in Mechanical Engineering. December, 2014.*

National Conferences

1. **Kumar S**, Estimation and biodiesel production at fixed temperature from soybean oil with BOX BEHNKEN DESIGN. *National Conference on Science & Technology: Rural development-2020.*

2. **Kumar S**, Jain S and Kumar H. PREDICTION OF BIODIESEL YIELD OF JATROPHA-ALGAE OIL DURING TRANSESTERIFICATION TECHNIQUE WITH BOX BEHNKEN DESIGN. *National Conference on Trends and Innovations in Mechanical Engineering-2018.*

3. **Kumar S,** Biofuels future of India. *National Conference on Science & Technology for national development-2016.*
4. **Kumar S,** Influence of injection molding process on polypropylene material**.** *National Conference on Science & Technology for indigenous development in india-2015.*
5. **Kumar S.** Mechatronics-An Introduction. (ETES-2013).
6. **Kumar S.** Concept of Virtual Manufacturing-In design and production. (ETES-2013).
7. **Kumar S.** An Introduction to abrasive flow machining process (ETES-2013).
8. **Kumar S** and A. Manna. MICRO FINISHING BY DEVELOPED EXTRUSION ABRASIVE FLOW MACHINING SETUP. *National Conference on Advancements and Futuristic Trends in Mechanical and Materials Engineering-2010.*
9. **Kumar S** and A. Manna. An Experimental investigation during on EAFF of Al_2O_3 –MMC. *(NCPM-2010).*
10. **Kumar S** and A. Manna. Micro finishing developed extrusion abrasive flow machining set up *(ATET-2009).*

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