Dr. Vikas Sharma, PhD, AMEI, AMRSC, AMCI
Research Associate Fellow, School of Architecture, Technology and Engineering University of Brighton, UK
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SUMMARY

A Ph.D. holder in Mechanical Engineering/Energy Technologies with experience in teaching, academic research, and maintenance management. I am an Associate Member of Energy Institute (EI) UK, Associate Member of The Royal Society of Chemistry (AMRSC), Combustion Institute (AMCI) British section, Associate Member of IMechE. The charted engineer (C.Eng.) license is in process through the Energy Institute UK. I equally worked as consultant for Medhaavi Center for Automotive Research, India to develop advance low temperature RCCI/HCCI engine combustion indication software integrate with Open-ECU and work with Accurate Test Equipments and Engineers as consultant to develop an engineering experimental equipment. I am an organized, fast-learning, creative and effective engineer who can apply scientific knowledge in the real work environment to achieve optimum results. I thrive within fast-paced, and deadline driven environments in delivering engineering projects to cost, quality and time. I'm seeking a fresh challenge in a good organisation where I can utilise my experience and range of skills to contribute to the growth of the business while also advancing my career.

SKILLS

- Effective in undertaking individual and joint research projects to produce high quality academic outputs.
- Effective in capturing, analysis, modelling and interpretation of data (Data management).
- Resource Management – efficient deployment of resources to achieve targeted results.
- Teaching- (Undergraduate & Post-graduate students, including PhD. projects supervision)
- Authoring, co-authoring and publication of academic research papers in journals and book.
- Commercial- preparation of proposal and estimates for projects
- Knowledge of engineering materials and their deterioration mechanisms
- Preparation of maintenance strategies, procedures and manuals

TECHNICAL SKILLS

- Combustion analyser, Engine performance software
- Optical fuel combustion and spray diagnosis
- Emission Analyser, AVL, Horiba, Bosh Gas analyser, Smoke meter, OBD-ONE Horiba, FTIR gas analyser
- Bomb Calorimeter, Gas chromatography, FTIR, TGA, CHNS elemental analysis and Oxidation stability analyser

RESEARCH INTEREST

- Biofuel/Biodiesel production from waste feedstocks
- Algae biofuel production; microalgae
- Nano catalyst synthesisation for biodiesel production
- Waste biomass pyrolysis; Pyrolysis and HTL
- Diesel/Biodiesel/water emulsion, and nanoparticle emulsion
- IC Engine combustion & Emissions characteristics
- Advanced combustion; LTC, HCCI, PCCI, RCCI
- Hydrogen and Ammonia combustion

WORK EXPERIENCE

January 20223 – Present – Senior Research Fellow, School of Architecture, Technology and Engineering University of Brighton, Brighton, UK. Job roles;

- Working on the project MariNH3 funded by EPSRC-UKRI
- Hydrogen (H_2) and ammonia (NH_3) spray and combustion analysis through optical diagnosis technique
- NH3 combustion analysis through rapid compression machine (RCM)
- NH3 combustion in split-Cycle engine
- Project supervision and mentor for undergraduate final year student.
- Grant application, publications and report writing

October 2021 – Date – Adjunct faculty – People's University, Bhopal, India, Job roles;

- Deliver modules in thermal Engineering and Renewable Energy
- Project supervision and mentorship
- Patents, publications and report writing

January 2022 – December 2022 – Technology and knowledge transfer Research Associate - Energy and Bioproducts Research Institute (EBRI) – Aston University, Birmingham, UK. Job roles;

- Worked on the project Waste to Energy funded by European Regional Development Fund (ERDF) & Industries collaboration (Future energy UK & Nationwide Boiler UK)
- Wood pyrolysis oil (WPO) production and upgradation for industrial application
- WPO blends and storage stability
- Characterizing of Biofuel, Char and Gas through GCMS, FTIR, TGA, DSC, CHNS.
- WPO engine performance, combustion, and emission characteristics
- Project supervision and mentor for undergraduate final year student.
- Grant application, publications and report writing

September 2020 – December 2021 – Research Associate - Mechanical Engineering and Design – Aston University, Birmingham, UK. Job roles;

- Worked on the project Waste to Engine - Low Temperature Combustion of Sustainable Green Fuels funded by UK-India Education and Research Initiative (UKIERI) funded.
- Biodiesel and bio-mix fuel production from waste through transesterification & pyrolysis process
- Characterizing fuel through chemical analysis such as GCMS, FTIR, TGA, DSC, CHNS.
- Engine experimental study for performance, combustion, and emission characteristics
- Deliver modules for the Mechanical Engineering Teaching lab- Energy and fuel lab.
- Project supervision and mentor for undergraduate final year student.
- Grant application, publications and report writing

January 2020 – July 2020 – Research Assistant (Visiting Ph.D. fellow) - Mechanical Engineering and Design – Aston University, Birmingham, UK. Job roles;

- Worked on the project Waste to Engine - Low Temperature Combustion of Sustainable Green Fuels funded by UK-India Education and Research Initiative (UKIERI) funded.
- Biodiesel and bio-mix fuel production from waste through transesterification & pyrolysis process
- Characterizing fuel through chemical analysis such as GCMS, FTIR, TGA, DSC, CHNS.
- Engine experimental study for performance, combustion, and emission characteristics
- Publications and report writing

October 2019 – April 2020 – Consultant - Medhaavi Center for Automotive Research, India. Job roles;

- Weekly advice to the company on integration of Open-ECU for automotive purposes.
- Testing and optimization of Advanced low temperature combustion model
- Patents, publications and report writing.

April 2018 – November 2018 – Consultant - Accurate Test Equipments and Engineers
Job role;

- Weekly advice to the company to develop an academic laboratory engineering setup.
- Testing and optimization
- Patents, publications and report writing.

January 2018 – December 2018 – Guest faculty for evening program – Anna University, Chennai, India
Job role;

- Deliver modules in Engine pollution and Control, Engineering practical laboratory
- Project supervision and mentorship
- Patents, publications and report writing

July 2014 – June 2015 - Lecturer in Automobile Engineering - Laxmi Narain College of Technology, Indore, MP, India, Job role;

- I lectured undergraduate and post graduate mechanical engineering students in Engineering Thermodynamic, Automobile Engineering, Internal Combustion Engine, Renewable Energy and Sustainability.
- I develop learning materials which I use in teaching while deploying a range of techniques to engage the students.
- I supervise laboratory experiments and testing of various engineering projects for both undergraduate and post graduate students.
- I provide student mentoring, support and guidance towards dissertations for both undergrads and postgrads as required
- Provide expert consultancy and research services to a range of public and private sector clients, focusing on Sustainability, Energy technologies and management, materials.

June 2013 – June 2014 - Lecturer in Mechanical Engineering - Gojan School of Business and Technology, Redhills Chennai-52, India, Job role;

- I lectured undergraduate mechanical engineering students in Basic Mechanical Engineering, Engineering Thermodynamic, Internal Combustion Engine, Renewable Energy and Sustainability.
- I develop learning materials which I use in teaching while deploying a range of techniques to engage the students.
- I supervise laboratory experiments and testing of various engineering projects for both undergraduate and post graduate students.
- I provide student mentoring, support and guidance towards dissertations for both undergrads and postgrads as required

RESEARCH PROJECTS

Projects	**Collaboration**	**Funded by**
Clean Ammonia Combustion for marine application MariNH3	University of Nottingham Cardiff University University of Birmingham Science and Technology Facilities Council (STFC)	EPSRC, UKRI
Ongoing Project		
Wood bio-oil, biochar production through pyrolysis process and characterisation for marine and boiler application	Aston University, Birmingham, UK Combind UK, Future Energy UK, and Nation Boiler UK	ERDF & Industries
Single-Aton nanoparticle as additive in biofuel-A detailed engine study	Aston University, Birmingham, UK Palacký University, Czech Republic	University fund
Waste to Engine-Law temperature combustion for sustainable energy.	Aston University, Birmingham, UK Anna University, Chennai, India Indian Institute of Technology Madras,India.	UK-India Education and Research Initiative (UKIERI)
Flexi-fuel production, characterisation and engine study for marine application	Aston University, Birmingham, UK Anna University, Chennai, India	Aston-Seed-Corn fund
Vibration analysis of engine	Aston University, Birmingham, UK	University fund

EDUCATION

Anna University, Chennai, India| Ph.D. in Mechanical Engineering/ Renewable Energy | 2020

Ph.D. thesis title: Bio-mix Fuel Production, Characterisation and Its Impact on the Non-Road Diesel Engine Combustion, Performance and Emissions.

Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology| M.Tech in Internal Combustion Engine | 2013

Master Thesis: Laser Ignition System in Lean Burn CNG Engine

Vinayaka Mission University, Tamil Nadu, India| B.E Mechanical Engineering | 2011

Additional Courses: List of Global Initiative of Academic Networks (GIAN)

S. No.	Course Name & Place	Duration	Date
1	Mechanistic Modeling of Thermochemical Conversion of Hydrocarbons and Solid Fuels. Indian Institute of Technology, Madras, India.	5 days	28/05/2018
2	Sustainable Fuels and Chemical Production using Novel Catalysts. Malaviya National Institute of Technology Jaipur. India.	5 Days	28/01/2019

RESEARCH ACHIEVEMENTS/PUBLICATIONS

Funds

PI - ASTUTE seed corn grant – £10k

Project title: Flexi-fuel production, characterisation and engine study for marine application

Publications

Main Author		I.F
1	**Vikas Sharma**; Abul Kalam Hossain; Alamgir Ahmed; Ahmed Rezk; Study on using graphene and graphite nanoparticles as fuel additives in waste cooking oil biodiesel. Fuel 2022:328;25270. https://doi.org/10.1016/j.fuel.2022.125270.	**8.035**
2	**Vikas Sharma**, Abul K Hossain1, Ganesh Duraisamy and Justin Jacob Thomas. Sustainable biodiesel from flex-mix feedstock and its combustion in a VCR-CRDI engine with variable exhaust gas recirculation and injection pressure. J. Phys. Energy 5 (2023) 014001. https://doi.org/10.1088/2515-7655/ac9c30	**7.528**
3	**Vikas Sharma**, Abul Kalam Hossain, Gareth Griffiths, José Ricardo Sodré, Ganesh Duraisamy, Ravikrishnan Vinu, Anand Krishnasamy. Plastic waste to liquid fuel: A review of technologies, applications and challenges. J.SETA 2022:53;102651. https://doi.org/10.1016/j.seta.2022.102651.	**7.632**
4	**V. Sharma,** A.K. Hossain, G. Griffiths, G. Duraisamy, J. Jacob Thomas, Investigation on Yield, Fuel Properties, Ageing and Low Temperature Flow of Fish Oil Esters, Energy Conversion and Management: X **(2022**), doi: https://doi.org/10.1016/j.ecmx.2022.100217	
5	**Sharma, V**., Abbas, R., Sodré, J. R., Ayad, S. M. M. E., Belchior, C., Model for Energy Consumption and Costs of Bioethanol production from Wastepaper, J.sustain. dev. energy water environ. syst. 2022;10(4)1100431, DOI: https://doi.org/10.13044/j.sdewes.d10.0431.	
6	**Sharma, V**.; Hossain, A.K.; Duraisamy, G.; Vijay, M. Transesterification of Pyrolysed Castor Seed Oil in the Presence of CaCu(OCH3)2 Catalyst. Energies **2021**, 14, 6064. https://doi.org/10.3390/en14196064	**3.252**
7	**Sharma, V**.; Hossain, A.K.; Duraisamy, G. Experimental Investigation of Neat Biodiesels' Saturation Level on Combustion and Emission Characteristics in a CI Engine. Energies **2021**, 14, 5203. https://doi.org/10.3390/en14165203.	**3.252**
8	**Vikas Sharma**, Ganesh Duraisamy, Haeng Muk Cho, Kanagaraj Arumugam, Anto Alosius M, Production, Combustion and Emission Impact of Bio-mix Methyl Ester Fuel on a Stationary Light Duty Diesel Engine, Journal of Cleaner Production **(2020**), doi: https://doi.org/10.1016/j.jclepro.2019.06.003.	**11.072**
9	**Sharma V**, Duraisamy G, Production and characterization of bio-mix fuel produced from a ternary and quaternary mixture of raw oil feedstock, Journal of Cleaner Production **(2019**), doi: https://doi.org/10.1016/j.jclepro.2019.02.214.	**11.072**
10	**Sharma V**, Duraisamy G, Arumugum K, Impact of bio-mix fuel on performance, emission and combustion characteristics in a single cylinder DICI VCR engine, Renewable Energy (**2019**), doi: https://doi.org/10.1016/j.renene.2019.06.142.	**8.634**

11	**Sharma, V**. & Ganesh, D. Combustion and emission characteristics of reformulated biodiesel fuel in a single-cylinder compression ignition engine. Int. J. Environ. Sci. Technol. (**2019**). https://doi.org/10.1007/s13762-019-02285-8.	**3.519**
12	**Sharma, V**. & Ganesh, D. Production, characterisation of bio-mix fuel produced from the mixture of raw oil feedstock and its effects on performance, emission analysis in DICI Diesel Engine. Environmental Science and Pollution Research **2019**. DOI: 10.1007/s11356-019-04958-w.	**5.190**
13	**Vikas Sharma**, Kanagaraj "Experimental Investigation of Composite Spring Development and Testing" International Journal of Research in Mechanical Engineering (IJRME) ISSN: 2349-3860 Volume-4, Issue-1 March **2017.**	**1.201**
14	**Vikas Sharma** "Performance and Emission Analysis of Unmodified CI Engine drive from cotton seed biodiesel and its blends" International Journal of Interdisciplinary Research Centre (IJIRC) ISSN: 2455-2275(E) Volume II, Issue 3 March **2016**.	**1.201**
15	**Vikas Sharma**, J. M. Babu, R. Naresh, S. Gowthaman and R. Mariappan "Design and Fabrication of Air Preheater for Diesel Engine" Innovative Design, Analysis and Development Practices in Aerospace and Automotive Engineering, Lecture Notes in Mechanical Engineering, DOI: 10.1007/978-81-322-1871-5_32, Springer India **2014**.	**1.9**
16	**Vikas Sharma**, R. Nirmal Kumar, K. Thamilarasan, G. Vijay Bhaskar, Bhavesh Devraj "Heat Reduction From IC Engine By Using Al2O3Nanofluid In Engine Cooling System" American Journal of Engineering Research (AJER) **2014**, e-ISSN : 2320-0847 p-ISSN : 2320-0936 Volume-03, Issue-04, pp-173-177.	**7.2**
17	**Vikas Sharma** "Laser Spark Ignition in lean burn CNG Engine" IOSR Journal of Mechanical and Civil Engineering (IOSR-JMCE), e-ISSN: 2278-1684, p-ISSN: 2320-334X, Volume X, Issue X Ver. I (Jan. **2014**), PP 01-10.	**1.7**
Co-Author		
18	Ramy Mohammed; Ali Radwan; Ahmed Rezk; A. G. Olabi; **Vikas Sharma**; Abul Kalam Hossain; Abed Alaswad; Mohammad Abdelkareem. Energy and exergy study of the integrated adsorption-absorption system driven by transient heat sources for cooling and desalination. Energy Conversion Management.	**11.50**
19	Jude A. Onwudili, **Vikas Sharma**, Cristiane A. Scaldaferri, Abul K. Hossain. Production of upgraded fuel blend from fast pyrolysis bio-oil and organic solvent using a novel three-stage catalytic process and its combustion characteristics in a diesel engine. Fuel 335 (2023) 127028. https://doi.org/10.1016/j.fuel.2022.127028.	**8.035**
20	M. Anto Alosius, Pushparaj Thomaia, **Vikas Sharma**, and Bharathi Chandrasekaran. Effects of injection parameters on CRDI-equipped stationary diesel engine fuelled with neat biodiesel mix derived from waste feedstocks. Trans.Can. Soc. Mech. Eng. 00: 1–8 (2022). dx.doi.org/10.1139/tcsme-2022-0061.	**1.324**
21	Thomas JJ, Nagarajan G, Sabu VR, Manojkumar CV, **Sharma V**, Performance and emissions of hexanol-biodiesel fuelled RCCI engine with double injection strategies, Energy (**2022**), doi: https://doi.org/10.1016/j.energy.2022.124069.	**7.147**
22	Griffiths, G.; Hossain, A.K**.; Sharma, V**.; Duraisamy, G. Key Targets for Improving Algal Biofuel Production. Clean Technol. **2021**, 3, 711–742. https://doi.org/10.3390/ cleantechnol3040043	**3.636**
23	Justin Jacob Thomas, Govindan Nagarajan, VR Sabu, **Vikas Sharma**. Residual cooking oil biodiesel and hexanol as alternatives to petroleum-based fuel in low-temperature combustion: Parametric Study. SAE-**2021**, SAE Technical Paper- 2021-01-0520.	-
24	Rajeni Ekka, **Vikas Sharma** and, Ajeet Kumar "Study of Biogas Production from Poultry Droppings Waste" International Journal of Interdisciplinary Research Centre (IJIRC) ISSN: 2455-2275(E) Volume II, Issue 2 February 2016.	**1.12**

Under Communication

1. **Vikas Sharma**, Abul Kalam Hossain, Gulzar Ahmad, and Tabbi Awotwe. Energy outputs and emissions analysis of various biodiesels as a function of coolant temperature and esters composition.

2. **Vikas Sharma**, Abul Kalam Hossain, Ganesh Duraisamy. Experimental investigation of digestate pyrolysis oil – animal fat biodiesel fuel blends for diesel engine application.
3. **Vikas Sharma**; Gareth Griffiths; Abul Kalam Hossain; Ganesh Duraisamy. Microalgal biodiesel: a challenging route toward a sustainable aviation fuel.
4. Gareth Griffiths, Nathan Collin, Vikas Sharma, Abul Kalam Hossain, José Ricardo Sodré, Ganesh Duraisamy, Ravikrishnan Vinu, Anand Krishnasamy. Addition of the natural compound squalene reduces oxidation in unsaturated oils.
5. Ming Zhang, **Vikas Sharma**, Yu Jia, Abul Kalam Hossain, Yuchun Xu. Vibration Study of a Diesel Engine Operating with Various Biodiesels. Accepted in SAE-WCX 2023.

SUPERVISORSHIP

***Ph.D Co-Supervision*;**

1) Mr. Gulzar Ahmad (Supporting Supervisor), commonwealth visiting Ph.D. fellow at Aston University, Birmingham UK from University of Engineering and Technology, Lahore, Pakistan. 01/03/2021-09/05/2022. Title; *Waste derived biodiesel fuel and effect of diesel engine variable speed on engine combustion and emissions analysis*.
2) Anto Alosius M **(Supporting Supervisor)**: title: *Experimental investigation of injection parameters with EGR on light-duty diesel engine under partially premixed combustion (PPCI) mode*. Anna University, Chennai, India. On-going
3) Justin Jacob Thomas **(Supporting Supervisor)**: title: *Residual cooking oil biodiesel and hexanol as alternatives to petroleum-based fuel in low-temperature combustion: Parametric*. Anna University, Chennai, India. Completed April 2021.
4) Anbarasan B. **(Supporting Supervisor)**: title: *Kapok Oil Methyl Ester; Fuel Characterization, Comparative study in Stationary and CRDI Diesel Engine*. Anna University, India. On-going

PG Co-Supervisor;

1) Sachin Solooman (Co-Supervisor); *Wood bio-oil upgradation for boiler application*, Aston University, Birmingham, UK. _Ongoing
2) M Vijiya (**Supporting Supervisor**), *Design and fabrication of batch type pyrolysis setup- Combustion and emission characteristic of coconut shell pyrolysis oil blends fuelled in diesel engine*. Anna University, June 2018.
3) Gokilraj Suresh (**Supporting Supervisor**), *Combustion and emission characteristic of Jatropha biodiesel blends with nanoparticle additive fuelled in diesel engine*. Anna University, June 2019.

***UG Co-Supervisor**;*

1) Abbas Chaudhry; Project title: *Investigation on the effect of Bio-mixture fuels on diesel engines at different speeds*, Aston University, Birmingham, UK, April 2022.
2) Mohammed Halim; *Effect of Cooling Water on Combustion Parameters and Exhaust Emissions*. Aston University, Birmingham, UK, April 2022.
3) Hassan Ahmed; *A Study on the Effect of Engine Cooling Temperature on Performance and Emission Characteristics of a Diesel Engine fuelled with Biofuels*. Aston University, Birmingham, UK, April 2022.
4) Naib Ali Haider; *Study of the addition of nano particles to bio-mixtures and their combustion and performance characteristics for a 3-cylinder engine application*. Aston University, Birmingham, UK, April 2022.
5) Wakil Ibrahim Tumsah, *Effect of cooling temperature on combustion parameters using different biofuels*. Aston University, Birmingham, UK, April 2022.
6) Abdul-Razaq; *Fuel characterisation, engine performance and emission characteristics of anaerobic digested pyrolysis oil (DPO) blends*. Aston University, Birmingham, UK, April 2021.
7) Safdar Talib; Performance characteristics of waste derived biofuels in IDI diesel engine. Aston University, Birmingham, UK, April 2021.
8) Mohammed Alom; *Combustion, performance and emissions characteristics of anaerobic digested pyrolysis oil (DPO)/lamb fat biodiesel blends fuelled in IDI diesel engine*. Aston University, Birmingham, UK, April 2021.
9) Farhan Akmol; *Biomix (using premixing) blends with diesel - Fuel characterisation and engine*. Aston University, Birmingham, UK, April 2021.
10) Awais Ahmed; *Ageing of pyrolysis oil blends and combustion characteristics for marine engine applications*. Aston University, Birmingham, UK, April 2021.
11) Giovani Labib; *Production and characterisation of biomix fuel derived from waste biomass*. Aston University, Birmingham, UK, April 2021.
12) Suhail Ahmad (**Supporting Supervisor**), *Biomixture - Sustainable green fuels to reduce transport emissions*. Aston University, Birmingham, UK, April 2020.

13) Eliott McMillan; *Combustion analysis for various blends of digestate pyrolysis oil in a diesel engine*. Aston University, Birmingham, UK, April 2020.

AWARDS

- Best Ph.D. thesis and publications recognised by Dean and Head of the Department Mechanical Engineering, Anna University, Chennai, India. Year 2020.
- Research exchange fellowship awarded by Department Mechanical Engineering, Anna University, Chennai, India. January 2020.
- Visiting Ph.D. fellow| Aston University, Birmingham, UK| January 2020- July 2020.

GUEST LECTURES DELEVERED

1) Residual Cooking Oil Biodiesel and Hexanol as Alternatives to Petroleum-Based Fuel in Low-Temperature Combustion: Parametric Study at Aston University, Birmingham, UK, 25th June 2021.
2) Biodiesel production from waste biomass using waste derived homogeneous catalyst at Arupadai Veedu Institute of Technology, Vinayaka Mission University, Chennai, India, 15th June 2021.
3) Bio-mix Fuel Derived from Waste Feedstock, People's University, Bhopal, India, 5th June 2021
4) Current technology for biofuel production from waste biomass, Institute of Engineering Thermodynamics at the German Aerospace Center, Stuttgart, Germany, 23rd March 2021
5) Biodiesel production and combustion analysis at Arupadai Veedu Institute of Technology, Vinayaka Mission University, Chennai, India, 15th June 2021.
6) Role of Nanoparticle for Biodiesel Production, Engine Combustion, Emissions & Future scope at Aston University, Birmingham, UK, 27th January 2021.

INTERNATIONAL CONFERENCE

1. **Vikas Sharma**, 1st Green ammonia combustion symposium at Cardiff University, 31 Aug2022-3Sept 2022.
2. Abul K. Hossain, **Vikas Sharma**, Gulzar Ahmad, and Tabbi Awotwe: Energy outputs and emissions analysis of various biodiesels as a function of coolant temperature and esters composition. 5th SEE SDEWES hybrid conference was held 22-26 May 2022 in Vlorë, Albania.
3. **Vikas Sharma**, Abul Kalam Hossain, D Ganesh. Biomix Fuel Production from Waste Resources and their Utilization in a VCR-CRDI Compression Ignition Engine. 16th SDEWES conference was held 10-15 October 2021 in Dubrovnik, Croatia.
4. **Vikas Sharma**, Abul Kalam Hossain, Gareth Griffiths, Ganesh Duraisamy. Aviation Biofuels: Progress and Challenges. 16th SDEWES conference was held 10-15 October 2021 in Dubrovnik, Croatia.
5. **Vikas Sharma**, Abul Kalam Hossain, Gareth Griffiths, Ganesh Duraisamy, Justin Jacob Thomas. Investigation on yield, fuel properties, ageing and low-temperature flow of various fish oil esters. 16th SDEWES conference was held 10-15 October 2021 in Dubrovnik, Croatia.
6. Gareth Griffiths, Nathan Collin, **Vikas Sharma**, Abul Kalam Hossain, José Ricardo Sodré, Ganesh Duraisamy, Ravikrishnan Vinu, Anand Krishnasamy. Addition of the natural compound squalene reduces oxidation in unsaturated oils. 16th SDEWES conference was held 10-15 October 2021 in Dubrovnik, Croatia.
7. **Vikas Sharma**, Raisa Abbas, Sami Ayad, Carlos Rodrigues Pereira Belchior, José Ricardo Sodré, Model for Energy consumption and Costs of Bioethanol Production from Wastepaper. 16th SDEWES conference was held 10-15 October 2021 in Dubrovnik, Croatia.
8. **Vikas Sharma**, Abul K. Hossain, Gareth Griffiths, Ganesh Duraisamy, Justin Jacob Thomas Waste Derived Reformulated Biodiesel Fuel for Agricultural Diesel Engine Application -A potential solution for organic waste;1st BBNet Annual Conference: Bio-manufacturing on the road to a net zero carbon economy, 13-15 October 2021. Poster presentation.
9. **Vikas Sharma**, Abul K. Hossain and Gareth Griffiths. Waste Derived Reformulated Biodiesel Fuel-An approach to reduce carbon emissions. Net zero future conference, ERA, held 28 Oct 2021 at University of Birmingham. Poster presentation.
10. **Vikas Sharma**, Justin J. Thomas, Nagarajan G, V.R Sabu, Residual Cooking Oil Biodiesel and Hexanol as Alternatives to Petroleum-Based Fuel in Low-Temperature Combustion: Parametric Study. World Congress of Automotive Digital Summit held on April 13-15, 2021, USA.

11. **Vikas Sharma**, Bio-mix approach on environment and economic aspect. Biofuel Summit 2019. Toronto, Canada. **Invited speaker**
12. **Vikas Sharma** and D. Ganesh "Study on Stability, Fuel properties, Engine combustion and emission characteristics of Bio-mix fuel". AIPE-2019 at **Oxford University**, Oxford city, (UK) held on 14-15th March-2019.
13. **Vikas Shrma**, D. Ganesh and R. Murgan Production of Bio-mix fuel and its impact on engine application in INCEE2019 at NIT Warangal held on 16th Feb 2019 to 18Feb. 2019.
14. **Vikas Sharma** and D. Ganesh Controlling NOx emissions through bio-mix approach in FISITA World Automotive Congress 2018, Chennai, India. 2nd Oct. 2018 to 5th Oct. 2018.
15. **Vikas Sharma**. LASER ignition system for CNG engine" in Fist international Conference of Emerging Trands in Engineering and Technology on 4th Oct2013 Munnar, kerela, India
16. **Vikas Sharma**, J. M. Babu, R. Naresh, S. Gowthaman and R. Mariappan "Designe and fabrication of air preheater for diesel engine application" International Conference I-DAD," in Vel Tech Technical University, on 23rd FEB 2014, Chennai Tamilnadu, India

NATIONAL CONFERENCE

1. **Vikas Sharma**. "Laser Ignition System in Lean Burn CNG Engine" in National Conference in Magana College of Engineering, Redhills Chennai-52, India. 06 Sept. 2013.
2. **Vikas Sharma**. Combustion Process Using Laser as Spark Plug in CNG Engine" in National Conference in Vel Tech Engineering College, avadi Chennai-54, India. 30 Sept. 2013.
3. Dhanavel and **Vikas Sharma**, Plastics fuels in Automobile Applications in National Conference in Vel Tech Technical University avadi Chennai, India. 5th March 2014.
4. J. M. Babu, R. Naresh, S. Gowthaman, and **Vikas Sharma** "Gear Box Position Using Sensor"in National Conference in Vel Tech Technical University, India. 5th March 2014.
5. Dhanavel, R Bala and **Vikas Sharma**, Study and Development in Air Compressed Engine" in National Conference in Vel Tech Technical University avadi Chennai, India. 5th March 2014.
6. Dhanavel, R Bala and **Vikas Sharma** "Performance Analysis of CI Engine Using Blends of Castrol Oil and Ethanol" in National Conference in Gojan School of Business and Technology Redhills Chennai,22nd March 2014.
7. Rajeni Ekka, Ajeet Kumar and **Vikas Sharma**, "Study of production on Biogas from poultry wastage" in National Conference in MIST Indore MP India. 27th Sept. 2014,
8. Badal Kumar and **Vikas Sharma**"Study of performance and emission characteristics of IC engine using CNT nanofluid mixed with biodiesel blend" in Multi National Conference in LNCT Indore MP, India on 28th Nov. 2014.

WORKSHOPS

- Biofuel production, two day's international workshop organized by Institute of Engineering Thermodynamics, German Aerospace Center, DLR, Genrmany, virtual March 2021.
- Advanced IC Engine Emission Control Technique, two days' workshop organized by Internal Combustion Engineering Division, Department of Mechanical Engineering Anna University, 3-4 March 2017, India
- Spring-Nature Author workshop, organized by Anna University Feb 2017, India
- Spring Author workshop organized by Anna University Feb2016, India
- Design and Control of Thermal System one-week short term course sponsored organized by SGSITS Indore MP, India. TEQIP-II, 24-28 January 2015.
- Advance in Refrigeration and Air-Conditioning, one day national seminar, organized by Karunya University, CSIR sponsored. 11 Sept 2013, India

INTERNATIONAL COLLABURATIONS

- **Dr. Haeng Muk Cho**, Division of Mechanical & Automobile Engineering, College of Engineering, Kongji National University, Chungnam, 31080, **South Korea**.

- **Dr. Jan Filip and Dr. Priti Sharma**, CATRIN - Regional Centre of Advanced Technologies and Materials, Palacký University, Olomouc, **Czech Republic**
- **Professor Wamadeva Balachandran**, Electronic and Computer Engineering, College of Engineering, Design and Physical Sciences, Brunel University, **London, UK**.
- **Prof. Hua Zhao**, College of Engineering, Design and Physical Sciences, Brunel University, **London, UK**. Email; hua.zhao@brunel.ac.uk.
- **Dr. Marco Mehl**, The CRECK Modeling Group, Department of Chemistry, Materials, and Chemical Engineering, Politecnico di Milano, Italy. Email; marco.mehl@polimi.it.
- **Dr. D. Ganesh**, Heat of Internal combustion Engineering Division, Department of Mechanical Engineering, Anna University, **India.** Email; ganvas12@annauniv.edu.
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- **Dr. R. Vinu,** Department of chemical engineering, Indian Institute of Technology Madras, India. Email; vinu@iitm.ac.in.
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SCIENTIFIC JOURNAL RVIEWER

- Review Editor for Process and Energy Systems Engineering in frontiers energy research
- FUEL Journal
- Journal of Engine, SAE International
- Journal of Cleaner Production
- Energy Part-A
- International journal of Engineering, Science and Technology
- Editorial Member of the Journal of Advanced Energy Conversion Materials (AECM) Universal Wiser Publisher, Singapore,
- Editorial Board Member in "International Journal of Sustainable and Green Energy (IJSGE); ISSN Print: 2575-2189.

BOOK PUBLICATION

1) Dr. Vikas Sharma, "LASER Ignition System for CNG Engine", ISBN-13: 978-3656720058
2) Dr. Vikas Sharma, Let's Start Your Career, ISBN 9781365915178

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