



1. Area of Research: Alternative fuels for IC engines, Simulation of IC engines, Heat Transfer



2. Details of Academic Qualifications:

| Qualifying Degree | Specialization | Board/College/Institute / University | Year of completion |
|-------------------|--|--------------------------------------|--------------------|
| Ph.D | Development and performance evaluation of a hydrogen fuelled spark ignition engine for vehicular application | IIT- Delhi | 2011 |
| M.TECH | Heat Power Engg. | KREC, Surathkal | 1999 |
| B.E | Mechanical Engineering | Bangalore University | 1996 |

3. Research Contributions:

(a) Total number of papers published in Journals: 40

1. Santhosh K & Kumar G N, “Effect of hydrogen and 1-Hexanol on combustion, performance and emission characteristics of CRDI CI engine” *Fuel*, 24 August 2020, <https://doi.org/10.1016/j.fuel.2020.119100>
2. Santhosh K & Kumar G N, “Impact of 1-Hexanol/diesel blends on combustion, performance and emission characteristics of CRDI CI mini truck engine under the influence of EGR” *Energy Conversion and Management*, 18 May 2020, <https://doi.org/10.1016/j.enconman.2020.113003>.
3. Santhosh K & Kumar G N, Experimental analysis of a mini truck CRDI diesel engine fueled with n-Amyl alcohol/diesel blends with selective catalytic reduction (SCR) as a DeNO_x technique under the influence of EGR, *Energy Sources, Part A: Recovery, Utilization, and Environmental Effect*, <https://doi.org/10.1080/15567036.2020.1728441>, 26 Feb 2020.



4. Santhosh, K, Kumar, G N, Radheshyam, Sanjay, P V, Experimental analysis of performance and emission characteristics of CRDI diesel engine fueled with 1-pentanol/diesel blends with EGR technique, Fuel, <https://doi.org/10.1016/j.fuel.2020.117187>, 6 Feb 2020
5. B.S. Nuthan Prasad, Jayashish Kumar Pandey, G.N. Kumar. Impact of changing compression ratio on engine characteristics of an SI engine fueled with equi-volume blend of methanol and gasoline. Energy, 22 November 2019, <https://doi.org/10.1016/j.energy.2019.116605>
6. Nuthan Prasad B. S. G.N. Kumar, Influence of ignition timing on performance and emission characteristics of an SI engine fueled with equi-volume blend of methanol and gasoline. Energy Sources, Part A: Recovery, Utilization, and Environmental Effects. 1 September 2019, <https://doi.org/10.1080/15567036.2019.1670292>
7. Libin P. Oommen & Kumar. G. N. A study on the effect of magnetic field on the properties and combustion of hydrocarbon fuels International Journal of Mechanical and Production Engineering Research and Development (IJMPERD). Volume: 9, Issue: 3, Jun 2019, Page 89-98.
8. Ritesh Kumar Parida, Anil R. Kadam, Chetan Kumar, Vasudeva. M, Kumar. G. N & Vijaykumar. H. Experimental study on effect of pressure on Volumetric gas flow rate through a Variable area flow meter (rotameter). International Journal of Mechanical and Production Engineering Research and Development (IJMPERD). Volume: 8, Issue: 7, 6 Oct 2018, Page 1299-1308.
9. Anil R. Kadam, Ritesh Kumar Parida, Vijaykumar Hindasageri, G.N. Kumar Heat transfer distribution of premixed methane-air laminar flame jets impinging on ribbed surfaces. Applied Thermal Engineering. Volume: 163, 6 September 2019, Page 1359-4311.
10. Radheshyam, K. Santhosh, G.N. Kumar. Effect of 1-pentanol addition and EGR on the combustion, performance and emission characteristic of a CRDI diesel engine. Renewable Energy. Volume: 145, 12 June 2019, Page 925-936. <https://doi.org/10.1016/j.renene.2019.06.043>
11. Parashuram Bedar, G.N. Kumar. Performance Emission and Combustion Characteristics of CRDI Engine Operating on Jatropha Curcas Blend with EGR. Materials Today: Proceedings 5 (2018) 23384–23390. <https://doi.org/10.1016/j.matpr.2018.11.078>



12. Parashuram Bedar, Santhosh K, Kumar G N. Experimental Investigation of CRDI Engine fuelled with Jatropha curcas biodiesel for various EGR rates. International Journal of Applied Engineering Research. Volume 13, Number 1 (2018) (Special Issue). https://www.ripublication.com/ijaerspl2018/ijaerv13n1spl_16.pdf.
13. Felix J, Rajendran R, Kumar G N, Giridhara Babu Y, Karthik M K and Ramesha D K. Experimental and Numerical Investigation of Effusion Cooling Performance over Combustor Liner Flat Plate. Heat Transfer Engineering, <https://doi.org/10.1080/01457632.2018.1460935>. Published Online: 23 Apr 2018.
14. Felix J, Rajendran R, Kumar G N and Giridhara Babu Y. Experimental Study of Adiabatic Cooling Effectiveness on an Effusion Cooled Test Plate with Machined Ring Geometries.
15. Archit S. Ayodhya, Venkatesh T. Lamani, Parashuram Bedar, G.N. Kumar “Effect of exhaust gas recirculation on a CRDI engine fueled with waste plastic oil blend” Fuel (Jan 2018) <https://doi.org/10.1016/j.fuel.2018.04.128>
16. Gangadhara Rao, G. N. Kumar & Mervin Herbert “Effect of injection pressure on the performance and emission characteristics of the CI engine using Vateria indica biodiesel” International Journal of Ambient Energy (Jan 2018) <https://doi.org/10.1080/01430750.2017.1421575>
17. Archit S. Ayodhya, Venkatesh T. Lamani, M. Thirumoorthy, G.N. Kumar “NOx reduction studies on a diesel engine operating on waste plastic oil blend using selective catalytic reduction technique” Journal of the Energy Institute (2018), <https://doi.org/10.1016/j.joei.2018.01.002>
18. Parashuram Bedar, Venkatesh T. Lamani, Archit S. Ayodhya, Kumar G. N. “Combined Effect of Exhaust Gas Recirculation (EGR) and Fuel Injection Pressure on CRDI Engine Operating with Jatropha Curcas Biodiesel Blends” Journal of Engineering Science and Technology, Vol. 12, No. 10 (2017) 2628 – 2639.
19. Venkatesh T. Lamani, Ajay Kumar Yadav, Kumar G. N, “Performance, emission and combustion characteristics of twin cylinder common rail diesel engine fueled with butanol-diesel blends” Environmental Science and Pollution Research, Volume 24, Issue 29, pp-23351-23362, 11-Aug-17, <https://doi.org/10.1007/s11356-017-9956-7>
20. Venkatesh T. Lamani, Aditya U. Baliga M, Ajay Kumar Yadav, Kumar G. N, “Effect of exhaust gas recirculation rate on performance, emission and combustion characteristics



of a common-rail diesel engine fuelled with n-butanol–diesel blends”
Biofuels, 03-Aug-17, <https://doi.org/10.1080/17597269.2017.1369631>

21. Venkatesh T. Lamani, Ajay Kumar Yadav, Kumar G. N, “Influence of low-temperature combustion and dimethyl ether-diesel blends on performance, combustion, and emission characteristics of common rail diesel engine: a CFD study” Environmental Science and Pollution Research, Volume 24, Issue 18, pp-15500-15509, 26-Apr-17,
DOI: <https://doi.org/10.1007/s11356-017-9113-3>
22. Venkatesh T. Lamani, Aditya U. Baliga M, Ajay Kumar Yadav, Kumar G. N, “Effect of bioethanol-diesel blends, exhaust gas recirculation rate and injection timing on performance, emission and combustion characteristics of common rail diesel engine” Biofuels, 27-Mar-17, <https://doi.org/10.1080/17597269.2017.1329493>
23. Chitragar, P., Shivaprasad, K., and Kumar, G. N, “Experimental Analysis of Four Cylinder 4-Stroke Gasoline Engine Using Hydrogen Fractions for Performance and Emission Parameters” SAE International, 10-Jan-17, DOI: <https://doi.org/10.4271/2017-26-0063>
24. Venkatesh T. Lamani, Ajay Kumar Yadav, Kumar G. N, “Combustion, performance and tail pipe emissions of common rail diesel engine fuelled with waste plastic oil diesel blends.” Journal of thermal science and engineering applications” <https://doi.org/10.1115/1.4039965> , OCTOBER 2018, Vol. 10 / 051007-1 Accepted, 2017.
25. Parashuram R Chitragar, Shivaprasad K V, Kumar G. N, “Use of Hydrogen in International Combustion Engines: A Comprehensive study” Journal of Mechanical Engineering and Bio Mechanics, Volume 1, Issue3 pp-84-96, October-16
26. Parashuram Bedar, Kumar G. N., “Exhaust Gas Recirculation (EGR) – effective way to reduce NOx emissions.” Journal of Mechanical Engineering and biomechanics, Volume1, Issue 2, pp 69-73, July-16,
<https://journals.indexcopernicus.com/search/article?articleId=1462243>
27. Shivaprasad K.V., P. R Chitragar, V Nayak, Kumar G. N, “Influence of spark timing on the performance and emission characteristics of gasoline–hydrogen-blended high-speed spark-ignition engine.” International Journal of Ambient Energy, Volume 38, Issue 6, pp-605-612, 02-Feb-16, <https://doi.org/10.1080/01430750.2016.1155488>



28. Shivaprasad K.V, Chitragar P.R., Kumar G.N, “Experimental Investigation of Variations in Spark Timing using a Spark-Ignition Engine with Hydrogen-Blended Gasoline” Energy Technology, Volume 3, Issue 12, pp-1174–1182, 09-Nov-15,
DOI: <https://doi.org/10.1002/ente.201500148>
29. Raviteja S, Kumar G N, “Effect of hydrogen addition on performance and emission parameters of a SI engine fuelled with butanol at stoichiometric conditions” International Journal of Hydrogen Energy, Volume 40, Issue-30, pp-9563-9569, 10-Aug-15, <https://doi.org/10.1016/j.ijhydene.2015.05.171>
30. Parashuram Bedar, Jayashish Kumar Pandey, Kumar G. N., “Effect of Exhaust Gas Recirculation (EGR) on Diesel Engine using Simarouba glauca Biodiesel Blends” International Energy journal, Volume 15, Issue 2, pp-73-82, Jun-15, <http://www.ericjournal.ait.ac.th/index.php/eric/article/view/1351/462>
31. Shivaprasad K.V, P. Chitragar, Kumar G.N, “Effect of Hydrogen Addition on Combustion and Emission Characteristics of High Speed Spark Ignition Engine- an experimental Study” SAE International, April-15,
DOI: <https://doi.org/10.4271/2015-01-1684>
32. Shivprasad K V, P. Chitragar, Kumar G.N, “Hydrogen Addition on Combustion and Emission Characteristics of High Speed Spark Ignition Engine- An Experimental Study.” Journal of Engineering Science and Technology, Vol. 11, pp-1554-1564, 14-Apr-15,
33. S Sakleshpur Nagaraja, C Nagaraj, Kumar G N, “Computational and experimental study on oxygen enriched intake of a spark ignition engine” Archives of Waste Management and Environmental Protection, vol. 17, issue 3, pp-27-40, 2015,
<http://yadda.icm.edu.pl/yadda/element/bwmeta1.element.baztech-3b0e5e68-492b-48da-b440-08958c0af531>
34. Shivaprasad K.V, P. Chitragar, P. Bedar, Kumar G.N, “Experimental Investigation on Combustion and Emission Characteristics of High Speed Spark Ignition Engine with Hydrogen Addition” Ciencia e Tecnica Vitivinicola, Volume-29(12), 2014,
<http://ciencia-e-tecnica.org/cien/index.php/jTracker/index/lcMxK>
35. Shashank S N, Vinay Ravi, Raviteja S, Vignesh Nayak, Kumar G.N, “Performance and Emission Characteristics of a MPI Engine fueled with iso-Butanol Gasoline Blends.” SAE International, 01-Apr-14, DOI: <https://doi.org/10.4271/2014-01-1390>



36. Raviteja S, Shashank S.N, Kumar G. N, “Computational and Experimental Study of Engine Characteristics Using N-Butanol Gasoline Blends” International Journal of Mechanical Engineering and Technology (IJMET), Volume 4, Issue 1, pp-209-221, Feb-13
 37. Suhas B.G, Shivaprasad K.V, Kumar G. N, “Computational and Experimental Investigation of NOx Emission of Hydrogen Blend on a Constant Speed Gasoline Engine.” International Journal on Theoretical and Applied Research in Mechanical Engineering (IJTARME), Volume2, Issue 4, pp- 221-225, 2013
 38. Shashank S N, Raviteja S, Kumar G. N, “Comparison of Ethanol and n-Butanol blends with Gasoline: A Computational Study” International Journal on Theoretical and Applied Research in Mechanical Engineering, Volume 2, Issue 4, pp-91-96, 2013
 39. Suhas B.G., Shivaprasad K.V., Kumar G. N, “Experimental investigation of single cylinder 4S SI engine with hydrogen blends.” International Journal of Mechanical Engg and Technology(IJMET), Vol 3, Issue 3, pp- 84-95, Sept-Dec 2012
 40. Shivaprasad K.V, Kumar G.N, Guruprasad K. R, “Performance, Emission and Fuel Induction System of Hydrogen Fuel Operated Spark Ignition Engine- A Review” International Journal of Modern Engineering Research (IJMER), Vol.2, Issue.1, pp-565-571, an-Feb 2012
- (b) Total number of papers presented in Conferences/Seminars:
International Conference - 33
1. Libin P Oommen & Kumar G N, Assimilative Capacity approach for Air Pollution Control in Automotive Engines through Magnetic field assisted Combustion of Hydrocarbons, Fifth International Conference on Recent Advances in Chemical, Energy and Environmental Engineering, Chennai. Tamilnadu, India, February, 2020.
 2. Dinesh M H & Kumar G N, Simulation of GDI Engine by using CFD Modelling, Recent advancements in Chemical Energy and Environmnet Engineering (RACEEE), India, February, 2020.
 3. Libin P Oommen & Kumar G N, Analysis of cyclic variations in combustion of a gasoline fueled MPFI Engine under uniform magnetic fields, International exergy energy and environment symposium, SRM University, July 2019.



4. Libin P Oommen & Kumar G N, Experimental Studies on the effect of part cooled EGR on high pressure loop in the combustion of liquefied petroleum gas, IMEC-2019, NIT Trichy.
5. Libin P. Oommen, Dr. Kumar G. N. Influence of Magneto combustion on Regulated Emission of an Automotive Engine under Variable Speed Operation. International conference on "Recent Development in Mechanical Engineering" Chennai. Dept. of Mechanical Engineering, S. A. Engineering College, Chennai, India. 2019
6. Amar, Dr. Kumar G. N. Sachin Dhanwate. Designing of Digital Odometer Processing for Vehicles. Innovations in power and advanced computing technologies IEEE 2nd International Conference. Dept. of Electrical Engineering, VIT, Vellore. April 26-27th 2019
7. Ritesh Kumar Parida, Anil R Kadam, Chetan Kumar, Vasudeva M, Kumar G N, Vijaykumar H. Experimental study on effect of pressure on volumetric gas flow rate through a variable area flow meter (rotameter). International Conference on Mechanical & Industrial System Engineering (ICMISE'2018) 1st-2nd June'2018.
8. Anil R Kadam, Vijaykumar Hindsageri and G N Kumar "Transient heat transfer characterization of impinging hot / cold jets by analytical IHCP" International Conference on Manufacturing Material and Energy. 3rd March 2018. doi:10.1088/1757-899X/376/1/012027
9. Anil R Kadam, Vijaykumar Hindsageri and G N Kumar "Estimation of heat transfer coefficient and reference temperature in jet impingement using solution to inverse heat conduction problem" International Conference Numerical Heat Transfer and Fluid Flow, NIT Warangal, India. Jan 19-21, 2018.
10. Parashuram R. Chitragar, Thirumoorthy and G.N. Kumar "Effect of Spark Timings on Combustion and Emissions Characteristics of 4 Stroke - 4 Cylinder S. I. Engine using Hydrogen at 1500 rpm" 6th International Engineering Symposium, Kumamoto University, Japan. March 1-3, 2017.
11. P.R. Chitragar, Shivaprasad K.V and Kumar G N, "Experimental Analysis of Four Cylinder 4-Stroke Gasoline Engine Using Hydrogen Fractions for Performance and Emission Parameters" Symposium on International Automotive Technology, ARAI, PUNE January 18-21, 2017.
12. P R Chitragar, Shivaprasad K V, Vignesh Nayak, P. Bedar, Kumar GN, "An Experimental Study on Combustion and Emission Analysis of Four Cylinder 4-Stroke Gasoline Engine



using Pure Hydrogen and LPG at Idle Condition.” Energy Procedia, Volume-90, pp-525-534, Dec-16, doi-[10.1016/j.egypro.2016.11.220](https://doi.org/10.1016/j.egypro.2016.11.220)

13. Parashuram Bedar, Venkatesh T Lamani, Archit S Ayodhya, G N Kumar, “Study of combined effect of Exhaust Gas Recirculation (EGR) with Jatropha Curcas biodiesel blend in a CRDI Engine,” International conference on recent trends in engineering and material sciences, National University, Jaipur, India, March 17-19, 2016.
14. Parashuram Bedar, P R Chitragar, V.Kiran kumar and Kumar G N, “Combined effect exhaust gas recirculation (EGR), fuel injection pressure on CI engine using simarauba glauca biodiesel blends.” 23rd National and 1st International ISHMT-ASTFE Heat and Mass Transfer Conference, Trivandrum, Kerala 17-20 December, 2015.
15. P.R Chitragar, Shivaprasad K.V, Vighnesha Nayak and Kumar G.N, “Use of Hydrogen in Internal Combustion Engines - A Comprehensive Study, 23rd National and 1st International ISHMT-ASTFE Heat and Mass Transfer Conference, Trivandrum, Kerala, 17-20 December, 2015.
16. Parashuram Bedar, P R Chitragar, V.Kiran kumar and Kumar G N, “Performance emission and combustion characteristics of a CRDI engine operating on jatropha curcas blend with EGR” 5th International Conference on "Advances in Energy Research", IIT Bombay, 15-17 December 2015.
17. Felix J, Rajendran R, Kumar G N, “Giridhara Babu Y, Vivek S and Sinith P, “Experimental Investigation of Overall Cooling Effectiveness on Combustion Chamber Liner with and Without Impingement Holes” Proceedings of the ASME 2015 Gas Turbine India Conference, Hyderabad, India, December 2–3, 2015, [doi:10.1115/GTINDIA2015-1377](https://doi.org/10.1115/GTINDIA2015-1377)
18. Shivaprasad K V, Parashuram R Chitragar, Kumar G N, “Effect of Spark Timing on the Combustion and Emission Parameters of a Hydrogen Fuelled Spark Ignition Engine” International conference on Environment and Energy, JNTU, Hyderabad, December 15-17, 2014.
19. Parashuram Bedar, P R Chitragar, Shivaprasad K. V and Kumar G. N, “Performance, emission and combustion characteristics of a single cylinder C I engine using simarouba glauca biodiesel” 5th International and 41st National Conference on Fluid Mechanics and Fluid Power, IIT Kanpur, 12-14 December, 2014
20. P R Chitragar, Parashuram Bedar and Kumar G N, “Performance and Exhaust Gas analysis of multi cylinder C. I. Engine using Karanja (Pongamia Pinnata) Bio-diesel” 5th



International and 41st National Conference on Fluid Mechanics and Fluid Power, IIT Kanpur, 12-14 December, 2014.

21. Shivaprasad K.V, Raviteja, P. Bedar, Kumar G. N, “Experimental Investigation of the Effect of Hydrogen Addition on Combustion Performance and Emissions Characteristics of a Spark Ignition High Speed Gasoline Engine” *Procedia Technology*, Volume 14, PP-141-148, 2014, <https://doi.org/10.1016/j.protcy.2014.08.019>
22. Sumandev M, Parashuram Bedar, Madhu H C, Kumar G.N, “Effect of cooled EGR on performance and Emission Characteristics of Diesel Engine–An Experimental Investigation” International Conference on Mechanical Engineering, VVIT, Bangalore, 21-23, August, 2014.
23. Vinay C.A, Kumar G.N, Bhaskar Chakravarthy, Venkat Iyengar, HNV Dutt, “CFD Analysis of Turbo Prop Engine Air Intake under Icing Conditions” Symposium on Applied Aerodynamics and Design of Aerospace Vehicle, Hyderabad, India, November 21-23, 2013.
24. Kulkarni Aniket P.M. Vijaykumara1, Kumar G.N, “Experimental investigation of performance & emission characteristics of simarouba glauca biodiesel blends on single cylinder CI engine.” International Conference on Alternative Fuels for I.C. Engines, MNIT, Jaipur 2013.
25. Kulkarni Aniket P, Bhimrao Patil, M. Vijaykumara, Kumar G. N, “Experimental investigations of performance and emission characteristics of single cylinder CI engine fueled with different blends of Jatropha biodiesel with metal based additive” 9th Asia-Pacific Conference on Combustion Korea, May-13.
26. Kulkarni Aniket P., Bhimrao Patil, M. Vijaykumara, Kumar G. N, “Exergy Analysis of LPG fueled MPFI multi-cylinder engine with vaporized water methanol induction” 9th Asia- Pacific Conference on Combustion, Korea, May-13
27. Vinay C.A, Kumar G.N, Bhaskar Chakravarthy, Venkat Iyengar and HNV Dutt, “CFD Analysis of Engine Air Intake for A Pusher Type Light Transport Aircraft” International Conference on Computer Aided Engineering, IIT Madras, 2013, DOI- <http://nal-ir.nal.res.in/id/eprint/12470>
28. Shivaprasad K.V, Kumar G.N, Guruprasad K.R “Performance, emission and fuel induction system of hydrogen for spark ignition internal combustion engine-a review” International conference on recent advances and challenges in energy, Manipal Institute of Technology, Manipal, 2012



29. Kumar G.N, Subash G.P, Das L.M “Implications of combustion parameters on the performance off a hydrogen fuelled research engine” WHEC 2010.
30. Subash G.P, Kumar G.N, Das L.M “Safety features of a hydrogen fuelled engine test rig” World Hydrogen Technologies Convention, New Delhi, Aug 26-28 2009.
31. Kumar G.N, Das L.M, Babu M.K.G, “Simulation and prediction on the performance of a hydrogen engine test rig” World Hydrogen Technologies Convention.” New Delhi, Aug 26-28 2009.
32. L.M.Das, Kumar G.N, “Performance Evaluation of hydrogen –fuelled engine test rig for transportation and distributed decentralized energy sector” World Hydrogen Technologies Convention (WHTC-2007) Montecatini Terme-Italy, Nov 4-7 2007
33. Kumar G.N, Navin Kumar S C, “Performance and Emission Studies of BSII, BSIII Diesel and Niger Oil Methyl Ester Blends on Four Stroke Single Cylinder Direct Injection Diesel Engine” 31st International Symposium on combustion, Germany, 2006.

National Conference – 24

1. Libin P Oommen & Kumar G N, Experimental studies on the effect of part cooled high pressure loop EGR on the performance and emissions of a multicylinder engine, NCICEC-2019, NIT kurukshetra, november 2019.
2. Parashuram Bedar, Santosh K, Kumar G N, “Experimental Investigation of CRDI Engine fuelled with Jatropha curcas biodiesel for various EGR rates” National Conference on “Green Energy, Environment & Sustainable Development (NCGEED’18), 9-10th, March 2018.
3. P R Chitragar, Kumar G N, “Effect of Spark Timings on Combustion and Emissions Characteristics of 4 Cylinder 4 Stroke S. I. Engine using Hydrogen at 1800 rpm” 25th National Conference on I.C. Engines and Combustion, NITK, Surthkal, 15th Dec. – 17th Dec., 2017.
4. ParashuramBedar, Kumar G N “Experimental investigation of CRDI engine operating on Jatropha curcas blend with various higher fuel injection pressures” 25th National Conference on I.C. Engines and Combustion, NITK, Surthkal, 15th Dec. – 17th Dec., 2017.



5. Gangadhara Rao, Kumar G.N, Mervin A Herbert, “Effect of Fuel Injection Pressure and Injection Timing on Combustion of Vatariaindica Biodiesel” 25th National Conference on I.C. Engines and Combustion, NITK, Surthkal, 15th Dec. – 17th Dec., 2017.
6. Nuthan Prasad B.S, Prakash Kumar Deep, Kumar G N, “Combustion Analysis of n-Butanol Fuelled in a CRDI Engine and EGR Technique” 25th National Conference on I.C. Engines and Combustion, NITK, Surthkal, 15th Dec. – 17th Dec., 2017.
7. Parashuram Bedar, Kumar G.N. and Suresh Kumar Y “Performance and Emission Characteristics of a CRDI Engine Operating on Jatrophacurcas Blend with Cooled Exhaust Gas Recirculation (EGR)” 24th National Conference on I.C. Engines and Combustion UPES, Dehradun, India, 30th Oct. – 01st Nov., 2015.
8. P.R. Chitragar, Shivaprasad K.V. and Kumar G. N “An Experimental Study on Combustion and Emission Analysis of Four Cylinder 4-Stroke Gasoline Engine using Pure Hydrogen at Idle Condition” 24th National Conference on I.C. Engines and Combustion, UPES, Dehradun, India, 30th Oct. – 01st Nov., 2015.
9. Venkatesh T. Lamani, Ajay Kumar Yadav and Kumar G. N, “CFD Analysis on Performance and Exhaust Characteristics of CRDI Diesel Engine for Various Engine Speeds and EGR Rates” 24th National Conference on I.C. Engines and Combustion, UPES, Dehradun, India, 30th Oct. – 01st Nov., 2015.
10. Parashuram Bedar, P R Chitragar, Shivaprasada K V, Kumar G. N, “Exhaust Gas Recirculation (EGR) – A Novel Concept to Reduce NOx Emissions” National Conference on Technical Revolution, Anantrao Pawar College of Engineering and Research, Pune 9-10, January, 2015.
11. P R Chitragar, Shiva Prasad K V, Vighnesha N, Kumar G N, “Use of Hydrogen Fuel in Internal Combustion Engines: A Brief Study”, National Conference on 'Technical Revolution'(NCTR-2015), SavitribaiPhule University and ABMSP's APCOE&R, Pune, 9-10th January 2015
12. P R Chitragar, Shiva Prasad K V, Vighnesha N, P.Bedar, Kumar G N, “Hydrogen as a fuel in Internal Combustion Engines: An overview, National Conference on 'Technical Revolution'(NCTR-2015), SavitribaiPhule University and ABMSP's APCOE&R, Pune, 9-10th January 2015.
13. Raviteja S, Kumar G N, “Optimization of Hydrogen - air mixing in a SI engine intake manifold - A simulation study, ANSYS Convergence Conference, Bangalore, May, 2014.



14. Venkatesh Lamani, Ajay Kumar Yadav, Kumar G N, “Spray and Combustion Characterization in Common Rail Direct Injection (CRDI) Engine - A Review, “National Conference on Fire Research and Engineering IIT Roorkee, Uttarakhand, March 01-02, 2014.
15. Kulkarni Aniket P, M. Vijaykumara1, Kumar G. N, “Engine Emission Investigation of Biodiesel with Metal Based Additive” 23rd NCICE, NIT Surat, 13-16 December, 2013.
16. S Raviteja, Shashank S N, Kumar G N, “Computational Study of the Effect of Enriching Gasoline with Hydrogen in a SI Engine” 23rd NCICEC, NIT Surat, 13-16 December, 2013.
17. Parashuram Bedar, Shivaprasad K V, Kumar G N, “Trends in Combustion Technologies for Low Emissions” National Conference on recent trends in alternative energy “Biofuels, solar, electric & air” in reducing pollution of motor vehicles, NMIT Bangalore 22-23 November, 2013.
18. Kulkarni Aniket P, Vijaya Kumar, Kumar G N, “Performance and emission characteristics of metal based additive with B20 Jatropa biodiesel in four strokes, single cylinder CI engine”, Innovations and emerging trends in Mechanical Engineering, Nagarjuna College of Engineering, Bangalore, May-12.
19. Suhas B.G., Shivaprasad K.V., Kumar G N, “Performance and emission characteristics of single cylinder spark ignition engine using hydrogen blends” Innovations and emerging trends in Mechanical Engineering Nagarjuna College of Engineering, Bangalore, May-12.
20. Shankar K S., Kumar G.N, and Mohanan P “Experimental analysis of Single Cylinder C.I Engine with Diesel Vapour Induction and EGR, 22nd NCICE, NIT Calicut, 10-13, December, 2011.
21. Mahesh Bondhu, Umesh Betageri, Kumar G N, “Enhancement of Thermal efficiency of a diesel engine by using Hydrogen Fuel” National System Conference, 2010, NITK Surathkal.
22. Umesh Betageri, Mahesh Bondhu, Kumar G. N, “Perdition of cylinder pressure in spark ignition with hydrogen as alternative fuel” National System Conference 2010, NITK Surathkal.



23. Madhusudan S, Kumar G N, “Performance and Emission Characteristics of diesel Engine with blends of methyl Ester of Caster oil at different injection pressure” 2nd National conference on Recent trends in Renewable Energy Technology, National Engineering College, K.R. Nagar Kovilpatti, Tamilnadu, 9-10 December, 2005.

24. Madhusudan S, Kumar G N, “Performance and Emission Characteristics of diesel Engine with blends of methyl Ester of Caster oil at different injection timings” National conference on Recent advances in Mechanical Engineering” P.A. College of Engineering, Mangalore 1-3, December 2005.

4. Number of Seminars/Conferences attended:

- National Conference on I C Engine and Combustion-2015, UPES Dehradun
- National Conference on I C Engine and Combustion-2013, SVNIT Surat
- National Conference on I C Engine and Combustion-2011, NIT Calicut
- National System Conference 2010, NITK Surathkal
- World Hydrogen Technologies conference 2009, Aug 26 to 28, 2009, New Delhi

5. Number of conference conducted: 1

- National Conference on I C Engine and Combustion-2017, NITK Surathkal

6. Number of Short term courses conducted: 1

- Three-day workshop on “Cutting edge technologies for Diesel engines” on 20-22, March 2013

7. Number of Books and other Educational materials developed:

- Power point presents material is prepared for the course of Internal combustion engines.

8. Text/Reference Books/Book Chapters: 4

1. Kadam A.R., Hindaageri V., Kumar G.N. Estimation of Heat Transfer Coefficient and Reference Temperature in Jet Impingement Using Solution to Inverse Heat Conduction Problem. Srinivasacharya D., Reddy K. (eds) Numerical Heat Transfer and Fluid Flow. Lecture Notes in Mechanical Engineering. Springer, Singapore. 13 December 2018. https://doi.org/10.1007/978-981-13-1903-7_5
2. Venkatesh T. Lamani, Ajay Kumar Yadav, Kumar G.N, “CFD simulation of a common rail diesel engine with biobutanol-diesel blends for various injection timings,” Springer Proceed. in Energy, Biofuels and Bioenergy (BICE2016), ISBN: 978-3-319-47255-3, 337951_1_En, (14), 05 May 2017, DOI https://doi.org/10.1007/978-3-319-47257-7_14



3. Parashuram Bedar, Chitragar P.R., Shivaprasad K.V., Kumar G.N. (2017) Performance and Emission Analysis of a Single Cylinder CI Engine using Simarouba glauca Biodiesel. In: Saha A., Das D., Srivastava R., Panigrahi P., Muralidhar K. (eds) Fluid Mechanics and Fluid Power – Contemporary Research. Lecture Notes in Mechanical Engineering. Springer, New Delhi. https://doi.org/10.1007/978-81-322-2743-4_145, Online ISBN 978-81-322-2743-4
4. Venkatesh T. Lamani, Ajay Kumar Yadav, Kumar G.N, “Spray and combustion characterization in CRDI Engine-a review, Fire research and Engineering,” Narosa publishing house, ISBN: 978-81-8487-395-5, page no 451-466.

9. Guidance of students Projects/Dissertation:

| Sl. No | Course | Completed | Ongoing |
|--------|-------------------|-----------|---------|
| 1 | Ph.D | 04 | 05 |
| 2 | M.Tech (Research) | 06 | 01 |
| 3 | M.Tech | 24 | – |
| 4 | B.Tech | 10 | – |

10. Membership of Professional Bodies: (Type & year)

- i) ISTE (Life Time): LM 35242
- ii) Combustion institute (Life Time): LMC435

11. Any other information: (Invited lecturer / membership of academic bodies, expert committee etc.)

- BOE member at UVCE Bangalore (2010-2011):
- Co-chair during “National System Conference 2010”, NITK Surathkal.
- Session Chair during “1st National Conference on systems, Energy and Environment” at Govt College of Engineering Kannur, 2-3, Aug, 2013.

Details of invited lectures delivered:

- 1) Invited lecture delivered on “Hydrogen as a Future Fuel for Automobile Sector”, on 04th August 2017 at St Joseph Engineering College, Mangaluru.
- 2) Invited lecture delivered on “Recent Trends in Alternative Fuels”, on 20th October 2016 at Yenepoya Institute of Technology, Mangaluru.
- 3) Invited lecture delivered on “Recent Advances in Renewable Energy”, on 19th July 2016 at M.S. Ramaiah Institute of Technology, Bengaluru.
- 4) Invited lecture delivered on “Recent Trends in Renewable Energy resources”, on 24th June 2016 at VTU, VIAT, Muddenahalli.



- 5) Invited lecture delivered on “Research Opportunities in the Field of Hydrogen Energy”, on 18th April 2016 at Sinhgad Institute of Technology, Pune.
- 6) Invited lecture delivered on “Recent Development in Alternate Fuels & I.C. Engines”, on

| | | |
|---|-----------------|---|
| 1 | Libin P. Oommen | Experimental studies on Magnetic field assisted combustion of hydrocarbon fuels in a multicylinder SI Engine during gas phase operation |
|---|-----------------|---|

- 15th May 2014 at Mangalore Institute of Technology & Engineering, Mangaluru.
- 7) Invited lecture delivered on “Alternative Fuels for IC Engines”, on 21st April 2014 at The Oxford College of Engineering, Bengaluru.
- 8) Invited lecture delivered on “Recent Trends in Bioenergy”, on 28th March 2014 at Government College of Engineering, Kannur.
- 9) Invited lecture delivered on “Hydrogen fuel for transportation sector” on 2-3, Aug, 2013, 1st National Conference on systems, Energy and Environment at Govt College of Engineering Kannur.
- 10) Invited lecture delivered on “Safety Features of Hydrogen Engine Development for Vehicular Applications”, on 30 June 2011 at NITK.
- 11) Invited lecture delivered on “Emerging Trends in Energy Sources” on 15th June 2011 for AICTE sponsored two weeks Staff Development Programme at Ghousia College of Engineering, Ramanagaram, Karnataka.
- 12) Invited lecture delivered on “Hydrogen Energy-Path Way”, on 25th January 2010 at SIT Tumkur.
- 13) Invited lecture delivered on “Utilization of Hydrogen fuel as an alternative fuel for IC engines”, on 25th January 2010 at SIT Tumkur.



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|---|---------------------------|---|
| 2 | Nuthan Prasad B S | Perfomance, Emission & Combustion analysis of Hydrogen enriched Methanol fueled SI engine |
| 3 | Santhosh K | Experimental Investigation of Effect of Hydrogen and Higher Alcohol Blends on Engine Chract Engine |
| 4 | Jayashish Kumar Pandey | |
| 5 | Jayashish Kumar Pandey | |
| 6 | Dinesh M H | |
| 7 | kiahore babu bhumula | |