

CURRICULUM VITAE

Dr.P.Gopal
Assistant Professor (Sl.Gr)
Department of Automobile Engineering
UCE – BIT Campus, Tiruchirappalli 620 024
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➤ **Research Area:**

- IC engines, Alternate Fuels and emission control
- Automotive materials
- Electric Vehicles and Energy

➤ **Educational Qualifications:**

Qualification	College/University	Year of completion	Percentage	Class
Ph.D. (Vehicle Aerodynamics)	Anna University	2014		
M.E (Automobile Engineering)	MIT Campus, Anna University	2004	8.4 CGPA	First
B.E. (Mechanical Engineering)	Sriram Engineering College, Chennai under University of Madras	1998	72%	First

Experience: (chronological order)

Sl.No	Name of the Organization	Designation of the Post	From	To	Experience in Year
1	Department of Automobile Engineering, University College of Engineering (BIT Campus), Tiruchirappalli – 620 024	Assistant Professor (Selection Grade)	17.04.2015	till now	8 Years 5 Months
2	Department of Automobile Engineering, University College of Engineering (BIT Campus), Tiruchirappalli – 620 024	Assistant Professor (Senior Grade)	17.04.2011	17.04.2015	4 Years
3	School of Engineering	Lecturer	17.04.2006	17.04.2011	5 Years

	and Technology, Bharathidasan University, Tiruchirappalli – 620 024				
4	School of Mechanical and Building Sciences, Vellore Institute of Technology, Vellore - 632014	Lecturer	20.12.2004	15.04.2006	1 Year 5 Months
5	Department of Mechanical Engineering, Tagore Engineering college, Chennai – 600 048	Lecturer	23.03.2000	18.12.2004	4 Years 9 Months
6	Union Motors Services Ltd, Chennai – 600 002.	Service Executive	08.06.1998	10.03.2000	1 Year 9 Months

➤ **Awards / Honours Received: Nil**

➤ **Additional / Academic Responsibilities at University:**

- Head in Charge for the Department of Automobile and Mechanical Engineering during the period 20.09.2012 to 11.12.2013 and 18.12.2019 to till now.
- Coordinator- Logistics Cell during the period 13.09.2012 to 26.12.2022.
- Member of Anna University Syllabus Committee for Affiliated Colleges
- Member of Anna University Affiliation Committee
- Member of Anna University Students Grievances Committee
- Acted as Chief Superintendent and Chief AUR for Anna University Examinations

➤ **Membership of Scientific and Professional Societies:**

1. Life member of Indian society for technical education-ISTE
2. Life member of Institution of Engineers India – IEI
3. Chartered Engineer of Institution of Engineers India – IEI
4. Life Member of Indian Society for Wind Engineering-ISWE
5. Life Member of Society for Reliability and safety-SRESA
6. Member of society of automotive engineers India-SAEINDIA
7. Member of Indian society for non-destructive testing-ISNT

➤ **Fellowships and Grants received: Nil**

➤ **Completed PG/UG Projects:**

- a. Number of PG Projects Completed: 37 Nos
- b. Number of UG Project Completed: 54 batches

➤ **Research Guidance (M.S/Ph.D.) (Completed):**

Sl. No	Name of the scholar	Title of the thesis	Year of registration	Date of viva voce
1.	DEEPAKARAVIND V	Investigation of welding and Characterisation of nano alumina and nano silicon carbide reinforced In hybrid Im25 composite	2016	25.07.2020
2.	RAMASAMY K	Studies on tribological behaviour of Sintered copper-tin graphite Composites	2011	07.10.2020
3.	AZHAGIRI PON	Experimental and simulation studies on compliant mechanisms using pseudo rigid body model approach	2015	16.08.2021
4.	NIRMAL KUMAR ISRAEL W	Experimental investigation in diesel engine using z ₂ O ₂ and Al ₂ O ₃ coated piston	2016	03.09.2021
5.	SATHISH KUMAR P	Experimental investigations on Mechanical and Metallurgical characteristics of Magnesium Metal Matrix Composites Reinforced with Hafnium Carbide	2016	01.08.2022

➤ **Research Guidance (M.S/Ph.D.) (Ongoing):**

Sl. No	Name of the scholar	Tentative Title of the thesis	Year of registration	Status
1.	Mohana Jai Ganesh J	Alternate Fuels	2022	Confirmation
2.	Parkunam N	Automotive Matertials	2022	Course Work

➤ **Publications:**

a. Books / book chapters:

- Chandrasekar M., Senthilkumar T., **Gopal P.** (2022) Cooling Approaches for Solar PV Panels. In: Al-Ahmed A., Inamuddin, Al-Sulaiman F.A., Khan F. (eds) The Effects of Dust and Heat on Photovoltaic Modules: Impacts and Solutions. Green Energy and Technology. Springer, Cham. https://doi.org/10.1007/978-3-030-84635-0_8.(ISBN: 9783030846343)
- P.Gopal** and T.Senthilkumar (2020) "Aerodynamic Drag Reduction in a Passenger Vehicle Using Vortex Generator with Varying Yaw Angles: Detailed Study", "Emerging Trends in Engineering Research and Technology ", Vol.1,2020,Print ISBN Number: 978-93-89816-50-1 E ISBN number: 978-93-9816-51-8, Book Publisher International, <https://doi.org/10.9734/bpi/etert/v1>, PP:106-117.

3. V.Deepak Aravind and **P.Gopal** (2020) "Evaluating the Hardness and Microstructural Analysis of Reinforcing the Nano Silicon Carbide and Nano Zirconium Oxide in Hybrid Al6061 Metal Matrix Composite" ,Advances in Automotive Technologies, Lecture Notes in Mechanical Engineering, Springer Nature, 2020, Print ISBN 978-981-15-5946-4, Online ISBN 978-981-15-5947-1, https://doi.org/10.1007/978-981-15-5947-1_19

b. International Journals:

1. Ramesh Kumar C, Gopal P, Rajesh Kanna P and Senthil Kumar A 'Experiment and Numerical Investigation to control Pressure Coefficient using Vortex Generator', *Archives of Thermodynamics*, 2023;0(0).
2. Pon A, Subramanian K, Gopal P, Palanikumar K. 'Optimal shape selection of pseudo-rigid-body model compliant centrifugal clutch manufactured by thermoplastics using TOPSIS approach', *Journal of Thermoplastic Composite Materials*. 2023;0(0). doi:10.1177/08927057231158541
3. Sathish Kumar P, **Gopal, P** & Senthilkumar, T 'Tribological investigations on HfC reinforced AZ31 Magnesium Metal Matrix Composites, 2022, PERIODICO di MINERALOGIA, Vol.91, No.03, pp:20-41, DOI: [10.37869/pd91.3/9133](https://doi.org/10.37869/pd91.3/9133). ISSN 0369-8963.
4. Chandrasekar M,**Gopal P**,Ramesh Kumar C & Edwin Geo Varuvel, "Effect of solar photovoltaic and various photovoltaic air thermal systems on hydrogen generation by water electrolysis",2022,International Journal of Hydrogen Energy,Vol.47,No.5,pp:3211-3223.
5. Sathish Kumar P, **Gopal, P** & Senthilkumar, T 'Machining and corrosion studies on HfC reinforced ZE41 magnesium matrix composites', 2021, Materials Research Express, Vo.8, No.11, 116510.DOI: [10.1088/2053-1591/ac37d7](https://doi.org/10.1088/2053-1591/ac37d7). ISSN 2053-1591, Nov 2021.
6. Ramesh Kumar Chidambaram, Ankit Sonthalia, **Gopal Poornanadan**, Edwin Geo Varuvel & Thiyagarajan Subramanian, "Optimization of compression ratio and injection timing of a diesel engine Fueled with oxygenated blends using fuzzy logic-based Taguchi method", 2021, Energy Sources, Part A: Recovery, Utilization, and Environmental Effects,, Vol. 43, No 1, 001-021. DOI: [10.1080/15567036.2020.1871123](https://doi.org/10.1080/15567036.2020.1871123).(ISSN: 1556-7036)(Jan 2021)
7. Deepakaravind Vijayakumar, **Gopal Poomanandan**, Sathishkumar Paramasivam and Azhagiri Pon, "Micro structure and finite element analysis of fitness and unfitness square butt joint of aluminium based nano composite plates", 2021, Materials Today Proceedings, Vol. 46, No 3, 7418-7429.(ISSN: 2214-7853)(Jan 2021)
8. Nirmal Kumar Israel Wilson, **P. Gopal**, S. Saravanan and C. Ramesh Kumar, "Performance and emission evaluation of HVOF sprayed zirconium dioxide and aluminium oxide coated internal combustion engine by incorporating injection timing retardation", 2021, Materials Today Proceedings, Vol. 46, No 3, 8694-8699. .(ISSN: 2214-7853) (Jan 2021)
9. Nirmal Kumar Israel Wilson, **P. Gopal**, S. Saravanan and C. Ramesh Kumar, "Exhaust gas recirculation for enhancing performance of HVOF sprayed zirconium dioxide & aluminium oxide coated internal combustion engine", 2021, Materials Today Proceedings, Vol. 46, No 3, 8826-8836. .(ISSN: 2214-7853) (Jan 2021)
10. P. Sathishkumar , V. Deepakaravind , **P. Gopal** and Pon Azhagiri, "Analysis the mechanical properties and material characterization on Magnesium Metal Matrix Nano composites through stir casting process", 2021, Materials Today Proceedings, Vol. 46, No 3, 7436-7441. .(ISSN: 2214-7853) (Jan 2021)
11. Nirmal Kumar Israel, W, **Gopal, P**, Ramesh Kumar, C "Optimizing high high velocity oxy fuel spray coating process parameters for reducing emissions in ZrO₂ / Al₂O₃ coated internal

- combustion engines”, 2020, Thermal Science, vol. 24, no. 1, pp. 473-479. (ISSN NO: 2334-7163) (IF: 1.45) Doi:<https://doi.org/10.2298/TSCI190409394I>(Jan 2020)
12. Pon. Azhagiri, K. Subramanian, **P. Gopal**, D. Mala, “Performance Analysis of Compliant Polymer Centrifugal Clutch Pertaining to Frictional Heat Transfer”, 2019, Journal of the Balkan Tribological Association Vol. 25, No 3, 530–543.(ISSN: 1310-4772)(July 2019)
 13. V. Deepakaravind, **P. Gopal** and A. Viswanathan, “Analysis of Mechanical and micro structural property of Aluminium metal matrix (LM25) composite hybrid with Nano silicon carbide and Nano alumina as reinforcement particles”, 2019, International Journal of Rapid Manufacturing, Vol.8, No.4, pp:378-396.(ISSN: 1757-8817)(Oct 2019)
 14. C. Sakthivel, **P. Gopal**, C. Rameshkumar and B. Suresh Kumar, “Co-Combustion Analysis of Lignite Coal and Groundnut Shell using TGA”, 2018, Journal of Applied Fluid Mechanics, Vol.11, No.5, pp:75-78. (ISSN: 1735-3572)(Oct 2018) (IF:1.152)
 15. J. Kishore Kumar, C. Sundar Raj, P. Sathishkumar, **P. Gopal** and A. Godwin Antony, “Investigation of Performance and Emission Characteristics of Diesel Blends with Pine Oil”, 2018, Journal of Applied Fluid Mechanics, Vol.11, No.5, pp:63-67. (ISSN: 1735-3572)(Oct 2018) (IF:1.152)
 16. V. Deepakaravind, **P. Gopal** and A. Viswanathan, “Hardness and Thermal Analysis in Welded Butt Joint of Hybrid Aluminium (LM25) Metal Matrix Nano Composite Cylindrical Rod using TIG Welding Process”, 2018, Journal of Applied Fluid Mechanics, Vol.11, No.5, pp:79-89.(ISSN: 1735-3572)(Oct 2018)(IF:1.152)
 17. C Rameshkumar, S Saravanan and **P Gopal**, “Investigation of combustion, performance and emission characters of compression ignition engine fuelled with diesel blends of linseed and cottonseed oil”, 2017, Progress in Industrial Ecology – An International Journal, Vol.11, No.3, PP:207-218.(ISSN: 1476-8917)
 18. **P.Gopal** and Azhagiri Pon,” *Experimental Analysis of Thermo Electric Refrigeration System by Using the Solar Power*”, 2017, Transactions on Innovations in Science & Technology, Vol.2, No.4, PP:11-15.
 19. D.B. Sivakumar, **P.Gopal**, Azhagiri Pon, S. Arunkumar, “*Performance Study of Dibutyl Ether Blended Petrol in SI Engine*”, 2017, Transactions on Innovations in Science & Technology, Vol.2, No.4, PP:06-10.
 20. **P.Gopal** and Azhagiri Pon,” *Performance and Emission Analysis of a Single Cylinder CI Engine using Jatropha Biodiesel with Hydroxy (HHO) Gas*”, 2017, Transactions on Innovations in Science & Technology, Vol.2, No.4, PP:11-15.
 21. **P.Gopal** and Azhagiri Pon,” *Performance Analysis of Solar Water Purification Concentrators Parabolic Trough Collector for Ni-Cr Coating*”, 2017, Transactions on Innovations in Science & Technology, Vol.2, No.3, PP:66-79.
 22. **P.Gopal** and Azhagiri Pon,” *Design and Analysis of Compliant Gripper Mechanism using Topology Optimization*”, 2017, Transactions on Innovations in Science & Technology, Vol.2, No.3, PP:62-65.
 23. **P.Gopal** and Azhagiri Pon,” *Design and Analysis of Compliant Mechanism Suspension*”, 2017, Transactions on Innovations in Science & Technology, Vol.2, No.2, PP:71-74.
 24. **P.Gopal** and Azhagiri Pon,” *Design and Analysis of Displacement amplifier in compliant Mechanism using topology optimization*”, 2017, Transactions on Innovations in Science & Technology, Vol.2, No.2, PP:60-70.
 25. **P.Gopal** and Azhagiri Pon,” *Analysis of Cow dung and Goat Dung with Vegetable waste and Rice Husk in various proportions at Thermophilic Condition*”, 2017, Journal of Advanced Engineering Research, Vol.4, No.1, PP:63-66.

26. **P. Gopal**, T. Senthilkumar, N. Raja Sekar and Pon. Azhagiri, " *Bearing Shaft Misalignment Estimation using Acoustic Signal Processing*", 2017, Journal of Advanced Engineering Research, Vol.4, No.1, PP:10-13.
27. N. Srinivas, M. Vinoth, **P. Gopal** and T. Senthilkumar "Review on the Aerodynamic Drag on LCVS and Semi-Trailer Trucks and Reduction Methods", 2016, Transactions on Innovations in Science & Technology, Vol.1, No.4, pp.200-207.
28. **P. Gopal**, T. Senthilkumar and S. Nanthini "Microstructural Evaluation of Friction Stir Spot Welding in Al 5052 Joints for Vehicle Body Project", 2016, Transactions on Innovations in Science & Technology, Vol.1, No.4, pp.182-187.
29. T. Senthilkumar, **P. Gopal** and B. Hemalatha "Effect of SI Engine Performance by Adding the Additive of Oxy Hydrogen", 2016, Transactions on Innovations in Science & Technology, Vol.1, No.4, pp.146-151.
30. **P. Gopal**, T. Senthilkumar and J. Siva Prakash "Fabrication and Analysis of power Generation from Shock Absorber", 2016, Transactions on Innovations in Science & Technology, Vol.1, No.4, pp.124-129.
31. T. Senthilkumar, **P. Gopal** and B. Chandrasekaran "Analytical Solution For Cathode Design of Diaphragm Through Electrochemical Machining", 2016, Transactions on Innovations in Science & Technology, Vol.1, No.4, pp.108-113.
32. A. Manikandan, Cyril Reuben Raj, T. Senthilkumar and **P. Gopal** "Evaluation of Mechanical Properties Using Sisal Fiber Reinforced Polymers", 2016, Transactions on Innovations in Science & Technology, Vol.1, No.4, pp.83-89.
33. Pon. Azhagiri, T. Senthilkumar, M. Jignesh and **P. Gopal** "Design and Analysis of Camless and Valveless Engine", 2016, Transactions on Innovations in Science & Technology, Vol.1, No.4, pp.74-77.
34. **P. Gopal**, T. Senthilkumar and M. Sathiyaseelan "Noise and Vibration Analysis of Petrol Engine Using Rubber Dampers", 2016, Transactions on Innovations in Science & Technology, Vol.1, No.4, pp.58-62.
35. **P. Gopal**, T. Senthilkumar, K. Raja and N. Bala Ganesh "Effect of Oryza Punctata Synthesized With Zinc Oxide Nano Particles as Single Layer Antireflection Coating Layer in Mono Crystalline Silicon Solar Cell", 2016, Transactions on Innovations in Science & Technology, Vol.1, No.4, pp.40-44.
36. T. Senthilkumar, **P. Gopal** and M. Manimozhi "Experimental Study of Heat Transfer Radiator using Water Sprayers", 2016, Transactions on Innovations in Science & Technology, Vol.1, No.4, pp.22-25.
37. J. Kishore Kumar, C. Sundar Raj, **P. Gopal** and P. Sathish Kumar "Blendability and Property of Turpentine Oil With Petrol And Diesel", 2016, International Journal of Chemical Sciences, Vol.14, No.3, pp.1307-1316.
38. G. Karthikraja, **Dr. P. Gopal**, Dr. M. Chandrasekar, Dr. T. Senthil kumar, "Performance analysis of solar water purification concentrators parabolic trough collector for Ni-Cr coating", 2016, International Journal of Research Science and Engineering, Vol.3, No.6, PP.1-6.
39. T. Rajesh, **Dr. P. Gopal**, Dr. T. Senthil kumar, Dr. M. Chandrasekar, " *Experimental analysis of thermo electric refrigeration system by using the solar power*", 2016, International Journal of Research Science and Engineering, Vol.3, No.6, PP.1-6.
40. P. Senthil, **P. Gopal**, T. Senthilkumar, M. Chandrasekar, " *Performance and the emission analysis of a single cylinder CI engine on jatropha biodiesel with the addition of hydroxy (hho) gas*", 2016, International Journal of Research Science and Engineering, Vol.3, No.6, PP.1-7.
41. N. Tamilvanan, **Dr. P. Gopal**, Dr. T. Senthil kumar, Dr. M. Chandrasekar, "Analysis of cowdung and goat dung with vegetable waste and rice husk in various proportions at thermophilic condition", 2016, International Journal of Research Science and Engineering, Vol.3, No.6, PP.1-6.

42. D. BalaSubramanian, **Dr.P. Gopal**, Dr.T.Senthilkumar, "Waste Heat Recovery System by Using Thermoelectric Modules from Internal Combustion Engines", 2016 Journal of Research in Science, Technology, Engineering and Management, Vol.2,No.2,PP.46-50.
43. D.BalaSubramanian, **Dr.P.Gopal**, Dr.T.Senthil Kumar, "Engine Heat Recovery System by Using Thermoelectric Modules from Internal Combustion Engines", 2016 International Journal of Engineering Science and Computing, Vol.6,No.4, PP.3986-3990.
44. Manoj.V, **Dr. Gopal. P**, Dr. Senthilkumar. T, "*Heat Transfer Enhancement by using Nanofluid in Spiral Plate Heat Exchanger*", 2016 International Journal of Engineering Research & Technology, Vol.5,No.6, PP.101-105.
45. Thulasiram.S, **Dr.Gopal.P**, Dr.Senthil kumar.T, Dr.Kumaragurubaran.B, "*Process Optimization and Experimental Investigation on the Performance of VCR Engine Fuelled With Mahua Fatty Acid Methyl Ester and its Blends*", 2016 International Journal of Engineering Science and Computing, Vol.6,No.6,PP.6433-6438.
46. B. Kumara gurubaran, **P. Gopal**, V. Deepakaravind, T. Senthilkumar, "*Experimental analysis of the wear behaviour of reinforced hybrid LM25 metal matrix nano composite*",2015 Journal of Optoelectronics and Advanced Materials,Vol.17,No.11-12,PP.1794-1798.
47. Lakshmanan V, Ramesh Kumar C and **Gopal P**, "*Analysis of Mechanical Properties of Hybrid Burmese Silk Orchid and Glass Fibers Composite Material*", 2015 Science, Technology and Arts Research Journal, Vol.4,No.2,PP.241-246.
48. P.Sathish Kumar, **P Gopal** and S.Aravind, "Performance analysis of diesel engine with diesel, ethanol and vegetable oil blends", 2015 International Journal of Chemical Sciences, Vol.13, No.2,PP.576 – 584. (ISSN:0972-768X)
49. **P. Gopal**, B. Kumaragurubaran and V. Deepakaravind, "*Investigation of density, microhardness and structural analysis of reinforced hybrid LM 25 metal matrix nano composite*", 2015 Journal of Optoelectronics and Advanced Materials, Vol.17, No.3-4,PP.389 – 394.
50. Cyril Reuben Raj and **P.Gopal**, "*Energy conservation in water pumping station*", 2015 Journal of Chemical and Pharmaceutical Sciences, Vol.8, No.6,PP.163 –166.(ISSN: 0974-2115)
51. M.Mareeswaran and **P.Gopal**, "*Cooling of solar cells by chimney -induced natural draft of air*", 2015 Journal of Chemical and Pharmaceutical Sciences, Vol.8, No.6,PP.167 –169. .(ISSN: 0974-2115)
52. Thomas Vinoth .V and **Gopal. P**, "*Increase the power output of the horizontal axis wind turbines by varying separation distance*", 2015 Journal of Chemical and Pharmaceutical Sciences, Vol.8, No.6,PP.254 –256. .(ISSN: 0974-2115)
53. S.Thanga mohan raja and **P.Gopal**, "*Performance improvement of diesel engine using absorption refrigeration cycle in air conditioning system by utilizing the waste heat*", 2015 Journal of Chemical and Pharmaceutical Sciences, Vol.8, No.6,PP.260 –261. .(ISSN: 0974-2115)
54. **P. Gopal**, C Ramesh Kumar and Vadivelu, "*Experimental investigation on heat transfer enhancement in automotive radiator using copper nano particles in engine coolant*", 2015 Journal of Chemical and Pharmaceutical Sciences, Vol.8, No.6,PP.282 –287. .(ISSN: 0974-2115)
55. S.Nirnjalkumar and **P.Gopal**, "*Design and development of an automobile radiator test rig and development of heat transfer correlations for nanofluid solutions*", 2015 Journal of Chemical and Pharmaceutical Sciences, Vol.8, No.6,PP.297 –299. .(ISSN: 0974-2115)
56. **Gopal P**, Chandrasekar M and Mohanajaiganesh, "*Experimental Analysis of Heat Transfer and Pressure Drop Characteristics of Aluminum Oxide Nanofluid in Tube with Meshes*", 2014 NanoTrends (A Journal of Nanotechnology and its applications), Vol.16, No.1,PP.19 – 25.
57. **Gopal P.** and Senthilkumar.T, "*Influence of wake characteristics of a representative car model by delaying boundary layer separation*", 2013 Journal of Applied Science and Engineering, Vol.16, No.4,PP.363 – 374. ISI indexed Journal (ISSN: 2708-9967)

58. A.Sathyavathi, M.R.Rajaraman, B.Kumaragurubaran and **P.Gopal**, “*Surface Roughness Optimization Techniques of CNC Turning: A Review*”, 2013 International Journal of Engineering and Advanced Technology, Vol.2, No.5, PP.447 – 450.
59. L.Maria Irudaya Raj, Sathishkumar.J, B.Kumaragurubaran and **P.Gopal**, “*Analysis of Hard Chromium Coating Defects and its Prevention Methods*”, 2013 International Journal of Engineering and Advanced Technology, Vol.2, No.5, PP.427 – 432.
60. K.Velayutham, U.Arumugam, B.Kumaragurubaran and **P.Gopal**, “*Analysis of Corrosion Prevention Methods in Railway Coaches and Bogies*”, 2013 International Journal of Engineering and Advanced Technology, Vol.2, No.5, PP.372 – 376.
61. B Kumaragurubaran, **P Gopal**, T Senthil Kumar, M Prasanna Mugunthan and N H Mohamed Ibrahim, “*Optimization of turning parameters of EN-9 steel using design of experiments concepts*”, 2013 International Journal of Mechanical Engineering and Robotics Research, Vol.2, No.3, PP.182 – 190.
62. A.Selvaganapthy, A.Sundar, B.Kumaragurubaran and **P.Gopal**, “*An Experimental Investigation to Study the Effects of Various Nano Particles with Diesel on Di Diesel Engine*”, 2013 ARPN Journal of Science and Technology, Vol.3, No.1, PP.112 – 115.
63. **Gopal P.** and Senthilkumar.T, “*An experimental investigation of the effect of the multi vortex generator for drag reduction in a utility vehicle*”, 2012 International Journal of Mechanical and Materials Engineering, Vol.7, No.3, PP.186 – 191. ISI indexed Journal (ISSN: 1823-0334)
64. **Gopal, P.** and Senthilkumar, T. “*Aerodynamic drag reduction in a passenger vehicle using vortex generator with varying yaw angles*”, 2012 ARPN Journal of Engineering and Applied Sciences, Vol.7 ,No.9, pp 1180-1186. (ISSN 1819-6608)
65. **Gopal P.**, Senthilkumar.T, M.Chandrasekar. and Rameshkumar.C, “*Investigations on the effect of vortex generator in utility vehicle for reducing drag*”, 2012 Archives Des Sciences, Vol.65, No.8, PP.114 – 129. Impact factor:0.474
66. K.M.Zakariya, M.Chandrasekar and **P. Gopal**, “*Thermal Management of non-concentrating photovoltaic panels under extreme ambient conditions*”, 2012 International Journal of Renewable Energy Technology, Vol.3, No.4, PP.372 – 385. ISI Indexed Journal. (ISSN: 1757-3971)
67. **P.Gopal**, Dr.T.SenthilKumar, B.Kumaragurubaran and M.Vivekanandan “*Analysis of Flow Through The Exhaust Manifold of A Multi Cylinder Petrol Engine for Improved Volumetric Efficiency*”, 2009 International Journal of Dynamics of Fluids, Volume.5 No.1, Page No. 15 – 26 , Jan 2009.
68. **P.Gopal**, M.Kalaivanan, B.Kumaragurubaran and M.Vivekanandan “*A view of the future of diesel engine to control emission by using fuel additives and external heater*”, 2008 Journal of Environmental Research and Development, Volume 3 No. 2, Page No. 531-535, Oct-Dec 2008. Impact factor:0.157
69. M.Vivekanandan, G.Sridharan, B.Kumaragurubaran and **P.Gopal**, P.Navaneetha Krishnan “*Appropriation of Bio Diesel Blends in Diesel Engine*”, 2008 Current World Environment, Vol. 3 No. 2, December 2008 Page No. 245-250 Dec 2008. ISI indexed Journal.

c. National Journals:

➤ **Patents:**

1. P Parthiban, R Dhanalakshmi, P Mathiyalagan and **P.Gopal**, “*Face Detection Password and Eye Blinking Cursor Control Computer*”, 201741005778A, Journal No.14/17, Page No.9160, dated 07/04/2017
2. P Parthiban, R Dhanalakshmi and **P.Gopal** , “*Automobile alternator isolation during no load condition*”, 201741008324 A, Journal No.05/2018, Page No.4029 dated 02/02/2018

➤ **Sponsored Research Projects: Nil**

➤ **Consultancy Activities: Nil**

➤ **List of Seminar / Short Term Course /FDP/ Workshop organized:**

1. Organised One Day Technical Symposium entitled "TECHNAMAXOFEST-2k23", held at University College of Engineering –BIT Campus held on 21 March 2023.
2. Organised One Day Workshop on "Green and Sustainable Energy Solutions", held at University College of Engineering –BIT Campus held on 10 Feb 2023.
3. Organised Anna University and Tamilnadu Skill Development corporation sponsored two days Faculty Development workshop on "Fusion 360 Hands on training in CAD", held at University College of Engineering –BIT Campus during 26- 27th Sep 2022.
4. Organised One Day Workshop on "Computer Evolution and IOT", held at University College of Engineering –BIT Campus during 10 Sep 2022.
5. Organised Anna University sponsored Six Days online FDTP on "Finite Element Analysis", held at University College of Engineering –BIT Campus during 21 June 2021 to 26 June 2021.
6. Organised AICTE sponsored Six Days online STTP on "Finite Element Analysis Using ANSYS (FEAAS'20)", held at University College of Engineering –BIT Campus during 23 Nov 2020 to 28 Nov 2020.
7. Organised webinar entitled "Engine Technology for BS6 and Beyond", held at University College of Engineering –BIT Campus on 25th July 2020.
8. Organised webinar entitled "Six Sigma Applications in Automotive Industries", held at University College of Engineering –BIT Campus on 17th July 2020.
9. Organised webinar entitled "Maintenance Engineering and Management", held at University College of Engineering –BIT Campus on 15th July 2020.
10. Organised webinar entitled "Non Destructive Evaluation of Weld", held at University College of Engineering –BIT Campus on 14th July 2020.
11. Organised webinar entitled "Micro Electro Mechanical Systems", held at University College of Engineering –BIT Campus on 08th July 2020.
12. Organised Two Days TEQIP II and SPFU Tamilnadu sponsored Faculty Development Programme on "Research Methodology (FDPRM'17)", at Bharathidasan Institute of Technology, Anna University, Tiruchirappalli – 620 024 during 30^h – 31st March 2017.
13. Organised Three Days TEQIP II and CSIR sponsored International Conference on "Energy and Environmental Systems (ICEES'17)", at Bharathidasan Institute of Technology, Anna University, Tiruchirappalli – 620 024 during 10th -12th March 2017.
14. Organised Five Days TEQIP II sponsored Value Added Course on "Finite Element Methods using ANSYS", at Bharathidasan Institute of Technology, Anna University, Tiruchirappalli – 620 024 during 14th -18th Feb 2017.
15. Organised Five Days TEQIP II sponsored Value Added Course on "Computer Aided Design and Drafting using AutoCAD", at Bharathidasan Institute of Technology, Anna University, Tiruchirappalli – 620 024 during 02nd – 6th Feb 2017.
16. Organised one Weeks TEQIP II sponsored Industrial Workshop on "Non Destructive Testing", at Bharathidasan Institute of Technology, Anna University, Tiruchirappalli – 620 024 during 22nd - 23rd Sep 2016.
17. Organised one Weeks TEQIP II sponsored Value added course on "Basics and Advances of MATLAB (BAM'16)", at Bharathidasan Institute of Technology, Anna University, Tiruchirappalli – 620 024 during 22nd - 28th Sep 2016.

18. Organised Two Days TEQIP II sponsored Industrial Workshop on “Automobile Mechanics”, at Bharathidasan Institute of Technology, Anna University, Tiruchirappalli – 620 024 during 22nd - 23rd Sep 2016.
19. Organised Two Days TEQIP II sponsored National Conference on “Engineering Design and Analysis (NCEDA’16)”, at Bharathidasan Institute of Technology, Anna University, Tiruchirappalli – 620 024 during 02-03 Sep 2016.
20. Organised Two Days TEQIP II sponsored National Conference on “Advances in Mechanical and Energy Engineering (NCAME’16)”, at Bharathidasan Institute of Technology, Anna University, Tiruchirappalli – 620 024 during 01-02 Sep 2016.
21. Organised Three days TEQIP II sponsored Programme on “ Orientation course for First Year students”, at Bharathidasan Institute of Technology, Anna University, Tiruchirappalli – 620 024 during 01st -)3rd Aug 2016.
22. Organised one Weeks TEQIP II sponsored Value added course on “Modern Manufacturing Technologies(MMT’16)”, at Bharathidasan Institute of Technology, Anna University, Tiruchirappalli – 620 024 during 23rd -29th July 2016.
23. Organised Two Weeks TEQIP II sponsored Faculty Development Programme on “Advanced Manufacturing Methods and Materials (AMMM’16)”, at Bharathidasan Institute of Technology, Anna University, Tiruchirappalli – 620 024 during 22nd June -06th July 2016.
24. Organised One week Anna University sponsored Faculty Development Training Programme on “Automotive Pollution and Control”, at Bharathidasan Institute of Technology, Anna University, Tiruchirappalli – 620 024 during 01st June -08th June 2016.
25. Organised Two Days TEQIP II sponsored Technical Seminar on “Emerging Trends in Manufacturing Systems (ETMS’16)”, at Bharathidasan Institute of Technology, Anna University, Tiruchirappalli – 620 024 during 20-21 April 2016
26. Organised Two Days TEQIP II sponsored Technical Seminar on “ Latest Trends in Automotive Technology (LTAT’16)”, at Bharathidasan Institute of Technology, Anna University, Tiruchirappalli – 620 024 during 18-19 April 2016
27. Organised Two Days TEQIP II sponsored National Level Technical Symposium on “AUTOPIA’16”, at Bharathidasan Institute of Technology, Anna University, Tiruchirappalli – 620 024 during 10-11 Mar 2016
28. Organised Two Days TEQIP II sponsored Workshop on “Materials Characterization for High Temperature Applications (MCHTA’16)”, at Bharathidasan Institute of Technology, Anna University, Tiruchirappalli – 620 024 during 8-9 Mar 2016
29. Organised Two Days TEQIP II sponsored National Level Technical Symposium on “CANDENTIA’16”, at Bharathidasan Institute of Technology, Anna University, Tiruchirappalli – 620 024 during 02-03 Mar 2016
30. Organised Two Days TEQIP II sponsored Workshop on “Automotive Materials (AUTOMAT’16)”, at Bharathidasan Institute of Technology, Anna University, Tiruchirappalli – 620 024 during 18-19 Feb 2016
31. Organised One Week TEQIP II sponsored Value Added Course on “ANSYS & COMPUTATIONAL FLUID DYNAMICS (FLUENT)”, at Bharathidasan Institute of Technology, Anna University, Tiruchirappalli – 620 024 during 7-9 Sep 2015
32. Organised Two day TEQIP II sponsored International conference on “Sustainable Energy systems and Energy Management (SESEM’15)”, at Bharathidasan Institute of Technology, Anna University, Tiruchirappalli – 620 024 during 4-5 June 2015.
33. Organised Two Weeks TEQIP II sponsored Faculty Development Programme on “Advanced Manufacturing Process for Automobiles (AMPA’15)”, at Bharathidasan Institute of Technology, Anna University, Tiruchirappalli – 620 024 during 20th May-2nd June 2015.

34. Organised Two day TEQIP II sponsored International conference on “Energy Efficient Technologies for automobiles (EETA’15)”, at Bharathidasan Institute of Technology, Anna University, Tiruchirappalli – 620 024 during 20-21 Mar 2015.
35. Organised Two day National Level conference on “Recent Trends in Civil and Mechanical Engineering”, at Anna University of Technology, Tiruchirappalli – 620 024 during 25-26 Mar 2011.
36. Organised one day National Level workshop on “Recent Trends in Joining of Materials”, at Anna University of Technology, Tiruchirappalli – 620 024 on 29th Sep 2010.
37. Organised two weeks AICTE sponsored Staff Development Programme on “Electronic Engine management system”, at Bharathidasan Institute of Technology, Bharathidasan University, Tiruchirappalli – 620 024 during 04-16th June 2007.
38. Organised a Two day National Level conference on “Emerging Trends in Automobile Technology – SEDAN 2007”, at Bharathidasan Institute of Technology, Bharathidasan University, Tiruchirappalli – 620 024 during 8 – 9th February 2007.
39. Organised a Two day workshop on “*Vehicle Safety and Security Systems*”, at TIFAC-CORE, Vellore Institute of Technology, Vellore during 16-17th September 2005.

➤ **List of Seminar / Short Term Course /FDP/ Workshop attended:**

1. Completed Four modules (Module1: Orientation Towards Technical Education and Curriculum aspects, Module 2: Professional Ethics and Sustainable Development, Module 3: Communication Skills, Modes and Knowledge Dissemination, Module 4: Instructional Planning and Delivery) of NITTT - AICTE online Teachers Training Programme conducted by NITTT, Chennai during Sep 2022 – Feb 2023.
2. Completed Five Days online FDP on “Incorporating Universal Human Values in Education”, organized by All India Council for Technical Education (AICTE) during 20th Dec 2021 – 24th Dec 2021.
3. Completed Two Weeks Industrial Training Program on “Plastic Processing and Testing”, organized by CIPET: Centre for Skilling and Technical Support (CSTS), Madurai during 12th July 2021 – 26th July, 2021.
4. Completed MoEIT sponsored Two Weeks online FDP on " Data Science for All", organized by Electronics and ICT Academies at NIT Warangal, IIITDM Jabalpur, IIT Kanpur, NIT Patna, IIT Guwahati, MNIT Jaipur and IIT Roorkee during 12th April 2021 – 23rd April, 2021.
5. Completed AICTE sponsored one week AICTE Training And Learning (ATAL) Academy Online FDP on "Alternate Fuels", held at University College of Engineering –BIT Campus during 08 Dec 2020 to 12 Dec 2020.
6. Completed AICTE sponsored Six Days online STTP on "Finite Element Analysis Using ANSYS (FEAAS'20)", held at University College of Engineering –BIT Campus during 30 Nov 2020 to 05 Dec 2020.
7. Completed Three Weeks Industrial Training Program on "Mechanical Engineering Applications in Telecom Industry", held at RGMTC, BSNL, Chennai during 30 July 2020 to 19 Aug 2020.
8. Completed MHRD- PMMMNMTT sponsored Two Weeks online workshop on " Comprehensive e-Learning to e-Training guide for Administrative work", held at Ramanujan College, University of Delhi during 26 May 2020 to 05 June 2020. .
9. Completed NPTEL-AICTE Faculty Development Programme on “Basics of Finite Element Analysis - I”, during Feb 2019 – April 2019.
10. Completed NPTEL-AICTE Faculty Development Programme on “Effective Engineering Teaching in Practice”, during Jan – Feb 2019.

11. Participated in one week Faculty Development Programme on “Vehicle Dynamics” held at University College of Engineering –BIT Campus , during 4th – 10th Dec 2017.
12. Participated in one week Anna University Sponsored Faculty Development Programme on “Design of Machine Elements” held at University College of Engineering, Panruti Campus, during 17th – 23rd May 2017.
13. Participated in One week TEQIP II sponsored workshop on “Current challenges in Manufacturing – Leading to Innovation” held at National Institute of Technology, Tiruchirappalli, during 19th – 24th Dec 2016.
14. Participated in Two weeks TEQIP II sponsored Faculty Development Programme on “Advanced Manufacturing Methods and Materials (AMMM’16)” held at University College of Engineering – BIT Campus, during 22nd June – 06th July 2016.
15. Participated in Two weeks TEQIP II sponsored Faculty Development Programme on “Numerical Methods and Statistical Tools in Engineering (NMSTE’16)” held at University College of Engineering –BIT Campus, during 09th – 22nd June 2016.
16. Participated in Three days “3rd World Summit on Accreditation” Organised by National Board of Accreditation held at The Leela Ambience Hotel, Gurgaon during 18th -20th March 2016
17. Participated in Five days TEQIP II Sponsored Training on “Management Capacity Enhancement Programme” held at Indian Institute of Management Tiruchirappalli, during 16th -20th November 2015
18. Participated in one week TEQIP II Sponsored Faculty Development Training Programme on “Role of Renewable Energy in an Indian Power Sector” held at University College of Engineering –BIT Campus, during 21st-27th September 2015
19. Participated in Two weeks TEQIP II sponsored Faculty Development Programme on “Thermal Engineering Applications for Sustainable Improvement (TEASI’15)” held at University College of Engineering –BIT Campus, during 15th – 28th June 2015.
20. Participated in one week Faculty Development Programme on “Engine and Vehicle Management system” held at MIT Campus, Anna University during 8th – 14th June 2015.
21. Participated in Two weeks TEQIP II sponsored Faculty Development Programme on “Nano Technology Applications in Engineering and Technology (NAET’15)” held at University College of Engineering –BIT Campus, during 6th – 19th May 2015.
22. Participated in one week Faculty Development Training Programme on “Engineering Thermodynamics” held at University College of Engineering –BIT Campus, during 24th June 2014-01st July 2014.
23. Participated in Three days workshop on “Good governance and academic excellence” held at Cresys Technologies, Bangalore, during 29th -31st August 2013.
24. Participated in one week TEQIP II Sponsored Faculty Development Training Programme on “Numerical Methods and Optimization Techniques in Mechanical Engineering” held at University College of Engineering –BIT Campus, during 19th -26th August 2013.
25. Participated in one week TEQIP II Sponsored Faculty Development Training Programme on “Research Avenues in Welding Technology” held at University College of Engineering –BIT Campus, during 01st -08th August 2013.
26. Participated in one week Faculty Development Training Programme on “Heat and Mass Transfer” held at University College of Engineering –BIT Campus, during 17th -24th December 2012.
27. Participated in two days MNRE sponsored National level seminar on “clean and green environment” held at Star Lion college of Engineering and Technology, Tanjavur during 29th and 30th April 2011.
28. Participated in one day National level workshop on “Recent trends in Joining of materials” held at Anna University of Technology, Tiruchirappalli on 29th Sep 2010.

29. Participated in five days AICTE QIP sponsored short term course on “Theory and Practice of Lean and Agile Systems”, held at National Institute of Technology, Tiruchirappalli during 12th – 16th July 2010.
30. Participated in three days short term course on “Instrumentation Measurements and Experiments in Fluids”, held at Lakireddy Balireddy College of Engineering, Mylavaram, Vijayawada, Andhra Pradesh during 12th – 14th December 2009
31. Participated in five days AICTE-QIP Sponsored short term course on “Lean and Agile Manufacturing”, held at National Institute of Technology, Tiruchirappalli during 07th – 11th December 2009
32. Participated in two days AICTE sponsored national seminar on “Ansys”, held at Mookambigai College of Engineering, Tiruchirappalli during 18th – 19th September 2009.
33. Participated in two weeks MHRD – AICTE sponsored summer school on “Emerging industrial applications of laser”, held at National Institute of Technology, Tiruchirappalli during 30th June – 12th July 2008
34. Participated in two day workshop on “Applications of Information Technology Tools in Manufacturing”, held at National Institute of Technology, Tiruchirappalli during 11th – 12th March 2008
35. Participated in two day short term course on “Laser processing of materials”, held at National Institute of Technology, Tiruchirappalli during 6th – 7th March 2008
36. Participated in one day seminar on “Image and Video Processing and Analysis”, held at National Institute of Technology, Tiruchirappalli on 5th Dec 2007
37. Participated in one day training program on “Recent trends in CAE in industries”, held at JeyRea Technologies, Tiruchirappalli on 13th June 2007
38. Participated in two weeks AICTE sponsored staff development program on “Electronic engine management system”, held at Bharathidasan Institute of Technology, Tiruchirappalli during 4th – 16th June 2007
39. Participated in one week ISTE sponsored short term training program on “Electronic engine management system for reduction of emissions”, held at Velammal Engineering college, Chennai during 26th – 30th May 2007
40. Participated in Two day workshop on “Operation and Maintenance of Pollution control equipments”, held at TamilNadu Pollution Control Board, Chennai during 12th – 13th July 2006
41. Participated in One day National Seminar on “*Advanced aerospace manufacturing*”, held at Vellore Institute of Technology, Vellore during 13th April 2006.
42. Participated in National orientation program for “*SAEINDIA collegiate club Faculty advisors meet*”, Organised by SAEINDIA at IITMadras, Chennai during 6-7th February 2006.
43. Participated in Two day workshop on “*Logistics- The challenges ahead*”, held at Vellore Institute of Technology, Vellore during 27-28th January 2006.
44. Participated in Two day workshop on “*Energy and Environment*”, Organised by Vellore Institute of Technology in Cooperation with Aachen University of Applied Sciences, Aachen, Germany and Technical University, Eindhoven, Netharlands during 19-20th October 2005.
45. Participated in Two day Quality Improvement Program on “*Curriculum Development*”, Organised by National Institute for Technical Teachers Training and Research, (NITTTR) Chennai during 19-20th May 2005.
46. Participated in Two day Quality Improvement Program on “*Evaluation of Students Performance*”, Organised by National Institute for Technical Teachers Training and Research, (NITTTR) Chennai during 4-5th February 2005.
47. Participated in One day workshop on “*Dealing with Student – Teacher Relationship*”, Conducted by Turning Point, (A Counseling centre for all age groups) Chennai on 17th June 2004.
48. Participated in One Week Faculty training program on “*Mechatronics*”, Organised by Anna University during 24 – 29th May 2004.

49. Participated in AICTE Sponsored Two weeks Summer school on “Recent Developments in Materials Joining”, Organised by Annamalai University during 28th May – 8th June 2001.

➤ **National / International Conferences organized / Participated:**

1. I.Nirmal Kumar, **P. Gopal**, C and Ramesh Kumar, “Optimizing HVOF Spray Coating Process Parameters For Reducing Emissions In Zirconium Dioxide/ Aluminium Oxide Coated Internal Combustion Engines”, International Conference on Recent Trends in NanoMaterials for Energy, Environmental and Engineering Applications (ICONEEEA-2K’19), organized by K.Ramakrishnan College of Technology, Trichy during 14-15 March 2019, pp 35- 40.
2. P Sathishkumar, **P. Gopal**, C Ramesh Kumar and J John Gunasekaran, “Studies On Structural, Optical And Electrical Behavior Of CuO/Ag Nano composites Synthesized Via Facile”, International Conference on Progress in Automotive Technologies (ICPAT’19), organized by School of Mechanical Engineering, VIT University, Vellore during 7-9 March 2019, pp:18(ICPAT 2019-6516).
3. V. Deepakaravind and **P. Gopal**, “Evaluating The Hardness And Micro Structural Analysis Of Reinforcing The Nano Silicon Carbide And Nano Zirconium Oxide in Hybrid Al6061 Metal Matrix Composite”, International Conference on Progress in Automotive Technologies (ICPAT’19), organized by School of Mechanical Engineering, VIT University, Vellore during 7-9 March 2019, pp:17(ICPAT 2019-6496).
4. V. Deepakaravind, **P. Gopal**, A. Viswanathan, “Structural Analysis Of LM25 Al Pipe Welding Joint And Effects Of Heat Affected Zone In Cracking Failure Of Welded LM25 Aluminium Pipe Joint”, International Conference on Contemporary Design and Analysis of Manufacturing and Industrial Engineering Systems (CDAMIES’18), organized by Department of Production Engineering, National Institute of Technology, Tiruchirappalli during 18-20 Jan 2018, pp 35-40. (ISBN:978-93-86954-00-8.)
5. V. Deepakaravind, **P. Gopal**, A. Viswanathan, “Evaluation Of The Hardness And Microstructure Behaviour Of Optimizing Welding Parameter In Butt Welding Joint Of LM 25 Aluminium Plate Using TIG Welding”, International Conference on Contemporary Design and Analysis of Manufacturing and Industrial Engineering Systems (CDAMIES’18), organized by Department of Production Engineering, National Institute of Technology, Tiruchirappalli during 18-20 Jan 2018, pp 41- 46. (ISBN:978-93-86954-00-8.)
6. M. Vinoth, A. Arun, **P. Gopal**, “Metallurgical Evaluation Of Super Critical Materials SA 335 P 92”, International Conference on Contemporary Design and Analysis of Manufacturing and Industrial Engineering Systems (CDAMIES’18), organized by Department of Production Engineering, National Institute of Technology, Tiruchirappalli during 18-20 Jan 2018, pp 267-270 (ISBN:978-93-86954-00-8.)
7. P. Vijayavel, V. Balasubramanian, **P. Gopal**, M. Vinoth , “Effect Of Tool Pin Profile On Tensile Strength And Ductility Of Friction Stir Processed LM25AA-5% SiCp Metal Matrix Composites”, International Conference on Contemporary Design and Analysis of Manufacturing and Industrial Engineering Systems (CDAMIES’18), organized by Department of Production Engineering, National Institute of Technology, Tiruchirappalli during 18-20 Jan 2018, pp 307- 313. (ISBN:978-93-86954-00-8.)
8. C. Arunkumar, Manikandan, M. Vinoth, **P. Gopal**, “Effects Of Injection Timing On The Performance And Emission Analysis Of LHR Diesel Engine Coated With Zirconia And Fuelled With Methyl Ester Diesel Blends”, International Conference on Contemporary Design and Analysis of Manufacturing and Industrial Engineering Systems (CDAMIES’18), organized by Department of Production Engineering, National Institute of Technology, Tiruchirappalli during 18-20 Jan 2018, pp 1126- 1131. (ISBN:978-93-86954-00-8.)

9. B. Palpandi, R. Priyadharshini, **P. Gopal**, "Scheduling Algorithm For Quality of Service (QoS) Optimization In Computer Networks Using Fuzzy Queuing Model B", International Conference on Contemporary Design and Analysis of Manufacturing and Industrial Engineering Systems (CDAMIES'18), organized by Department of Production Engineering, National Institute of Technology, Tiruchirappalli during 18-20 Jan 2018,pp 1215- 1221. (ISBN:978-93-86954-00-8.)
10. Azhagiri Pon, K. Subramanian, **P. Gopal**, "Experimental Investigation Of Automotive Compliant Suspension System", International Conference on Contemporary Design and Analysis of Manufacturing and Industrial Engineering Systems (CDAMIES'18), organized by Department of Production Engineering, National Institute of Technology, Tiruchirappalli during 18-20 Jan 2018,pp 1702- 1709. (ISBN:978-93-86954-00-8.)
11. Azhagiri Pon, K. Subramanian, **P. Gopal**, "Synthesis, Design And Analysis Of Compliant Centrifugal Clutch And Validation Through Experimental Analysis", International Conference on Contemporary Design and Analysis of Manufacturing and Industrial Engineering Systems (CDAMIES'18), organized by Department of Production Engineering, National Institute of Technology, Tiruchirappalli during 18-20 Jan 2018,pp 1710- 1717.(ISBN:978-93-86954-00-8.)
12. Arunkumar.T, **Gopal.P**, Kumaragurubaran.B and Senthilkumar.T, "*Experimental investigation on performance improved phase change materials with graphite nano particles*", TEQIP II and CSIR Sponosred International Conference on Energy and Environmental Systems (ICEES'17) held at BIT Campus, Anna University, Tiruchirappalli during 10 - 12 March 2017,pp223-227.(ISBN: 978-81-933634-0-9)
13. Ambika.M, **Gopal. P** and ChandraSekar.M, "*An experimental comparitive analysis of pvmodule in fixed and single axis solar tracking system*", TEQIP II and CSIR Sponosred International Conference on Energy and Environmental Systems (ICEES'17) held at BIT Campus, Anna University, Tiruchirappalli during 10 - 12 March 2017,pp216-218.(ISBN: 978-81-933634-0-9)
14. Rajarajagopalan. P,**Gopal. P**,Subash. T and Jeyanthan. A, "*Design and analysis of multi tube heat Exchanger*", TEQIP II and CSIR Sponosred International Conference on Energy and Environmental Systems (ICEES'17) held at BIT Campus, Anna University, Tiruchirappalli during 10 - 12 March 2017,pp208-211.(ISBN: 978-81-933634-0-9)
15. Deepakaravind. V,**Gopal.P**, Sathish kumar.P and Nirmalkumarisrael.W, "*Reviewing Various Optimization Techniques Of Welding Parameters By Using Tungsten Inert Gas (Tig) Welding In Aluminium Metal Matrix Composites. -A Review*", TEQIP II and CSIR Sponosred International Conference on Energy and Environmental Systems (ICEES'17) held at BIT Campus, Anna University, Tiruchirappalli during 10 - 12 March 2017,pp142-147.(ISBN: 978-81-933634-0-9)
16. R. Thirunavukkarasu,**Dr. P.Gopal** and Dr. T. Senthil kumar, "*Performance Improvement by adding After Condenser in a 7 effect Evaporator Plant*",TEQIP II and CSIR Sponosred International Conference on Energy and Environmental Systems (ICEES'17) held at BIT Campus, Anna University, Tiruchirappalli during 10 - 12 March 2017,pp17-21.(ISBN: 978-81-933634-0-9)
17. Rajesh T and **Gopal P** "*Experimental Analysis of Thermo Electric Refrigeration system by using the solar power*", ", International Conference on Emerging Engineering Trends and Science (ICEETS 2016) held at Latha Mathavan Engineering College, Madurai on 29th March 2016.(ISBN: 978-93-80686-03-5)
18. Thomasvinoth V, **Gopal P** and Senthilkumar T "*Effect of separation distance on the power output of horizontal wind turbine*", ", TEQIP II Sponsored International Conference on Sustainable Energy Systems and Energy Management (SESEM 2015) held at BIT Campus, Anna University, Tiruchirappalli during 4 - 5 June 2015,pp208-211.(ISBN: 978-93-80686-03-5)
19. ThangaMohanRaja S, **Gopal P** and Senthilkumar T "*Performance and Evaluation of Diesel Engine Using Absorption Refrigeration Cycle In Air Conditioning System By*

- Utilizing The Waste Heat*”, TEQIP II Sponsored International Conference on Sustainable Energy Systems and Energy Management (*SESEM 2015*) held at BIT Campus, Anna University, Tiruchirappalli during 4 - 5 June 2015,pp.41-45. (ISBN: 978-93-80686-03-5)
20. Mareeswaran M, **Gopal P** and Senthilkumar T “*Cooling of solar cells by chimney - forced draft of air*”, TEQIP II Sponsored International Conference on Sustainable Energy Systems and Energy Management (*SESEM 2015*) held at BIT Campus, Anna University, Tiruchirappalli during 4 - 5 June 2015,pp.258-261. (ISBN: 978-93-80686-03-5)
 21. Cyril Reuben Raj, Kumaragurubaran B, **Gopal P** and Senthilkumar T “*Designing a simulation kit and simulating a vehicle air conditioning system*”, TEQIP II Sponsored International Conference on Sustainable Energy Systems and Energy Management (*SESEM 2015*) held at BIT Campus, Anna University, Tiruchirappalli during 4 - 5 June 2015,pp.262-266. (ISBN: 978-93-80686-03-5)
 22. Lakshmanan V, **Gopal P** and Siva Kumar E “*Analysis of mechanical properties of prosopis Juliflora composite treated with sodium hydroxide*”, *ICEEMS 2014* held at School of Engineering, Cochin University of Science and Technology, Kochi during 10-12 December 2014,pp.635-640.(ISBN:978-93-80095-58-5.)
 23. Hemachandira Raaj .D and **Gopal.P** “*Interference effect on adjacent lanes while overtaking of heavy trucks by high speeding*”, *ICEETS 2013* held at St. Xavier’s Catholic College of Engineering, Nagercoil during 10- 12 April 2013.(IEEE explore,ISBN: 978-1-4673-6149-1,DOI: 10.1109/ICEETS.2013.6533473,pp: 714 – 719.)
 24. **P.Gopal**,Dr.T.Senthilkumar, C.Ramesh Kumar and B.Rajasekar “*Experimental Investigation on drag reduction in a utility vehicle using Multi Vortex Generator*”, *ICAMB 2012* held at VIT University, Vellore during 09- 11 Jan 2012.
 25. M.Chandrasekar,S.Suresh,**P.Gopal**, Anirudh Nandan and C.Ramesh Kumar “*Mechanisms proposed for enhancement in forced convective heat transfer with nanofluids- A Review*”, *ICAMB 2012* held at VIT University, Vellore during 09- 11 Jan 2012.
 26. **P.Gopal**,Dr.T.Senthilkumar and R.Praveenram “*Aerodynamic Drag Reduction through Vortex Generators*”, *INCOTEE 2011* held at Kalasalingam University, Virudhunagar, during 24- 26 March 2011.
 27. **P.Gopal**,Dr.T.Senthilkumar and M.Dhanasekaran “*Method of Drag Reduction In Light Commercial Vehicles*”, *INCOTEE 2011* held at Kalasalingam University, Virudhunagar, during 24- 26 March 2011.
 28. Zakariya Kaneesamkandi, **Gopal.P** Suresh Kumar K and B.M.Gnanasekaran “*Thermal Management of Non-concentrating Photovoltaic Panels under extreme ambient conditions*”,*INCOTEE 2011* to be held at Kalasalingam University, Virudhunagar, during 24- 26 March 2011.
 29. S.K.Jayakrishna **P. Gopal**, Dr.T.Senthilkumar “*Enhancement of Heat Transfer in a Flat Tube Radiator through Decaying Eddy Flow*”, SAE World Congress to be held during 20-23 April 2009 at Detroit, Michigan USA (**2009-01-0969**)
 30. K.N.Arunprakash, **P.Gopal**, Dr.T.Senthilkumar, B.Kumaragurubaran “*Emission control in diesel engines Using External Heater*”, *ERA 2009* held at Velammal Engineering college, Chennai, during 19- 21 March 2009.
 31. A.Shine Jude Hamilton, **P.Gopal**, Dr.T.SenthilKumar B.Kumaragurubaran “Emission control in diesel engine using fuel additives”, *ICEE 2009* to be held at Pondichery engineering college, Pondichery during 7- 9 January 2009

32. P.Sriram,B.Kumaragurubaran,M.Vivekanandan,**P.Gopal** “Hydrogen as an Efficient Fuel in IC Engines”, ICEE 2009 to be held at Pondichery engineering college, Pondichery during 7- 9 January 2009
33. B.Kumaragurubarn, T.Senthilkumar, V.Balubramanian, **P.Gopal**” *The Effect of Yttria-Zirconia Coating on SI Engine Performance*”,SOJOM 2008 Held at Welding Research Institute,Tiruchirappalli during 10-13 December 2008

National Conference:

1. G.Mahadevan, B.Kumaragurubaran and **P.Gopal** , “An analysis of formability limit diagram of GI and AI 2024 sheets”, TEQIP II & SAEINDIA sponsored National conference on Innovations in Engineering Design, NIED14 held at Department of Automobile Engineering, University College of Engineering(BIT Campus),Tiruchirappalli during 29-30 April 2014, pp.130-135. (ISBN:978-81-921-1286-2)
2. G.Mahadevan, B.Kumaragurubaran and **P.Gopal** , “A study on computer aided assembly sequence planning”, TEQIP II & SAEINDIA sponsored National conference on Innovations in Engineering Design, NIED14 held at Department of Automobile Engineering, University College of Engineering(BIT Campus),Tiruchirappalli during 29-30 April 2014, pp.29-30. (ISBN:978-81-921-1286-2)
3. M.Rajkumar and **P.Gopal** , “Experimental studies on electrical characteristics of solar PV panel with different conditions in various tilt angles”, TEQIP II & SAEINDIA sponsored National conference on Innovations in Engineering Design, NIED14 held at Department of Automobile Engineering, University College of Engineering(BIT Campus),Tiruchirappalli during 29-30 April 2014, pp.156-161. (ISBN:978-81-921-1286-2)
4. S.Thamaraiselvan and **P.Gopal** , “Feasibility study of hybrid PV-Diesel system in commercial sector”, TEQIP II & SAEINDIA sponsored National conference on Innovations in Engineering Design, NIED14 held at Department of Automobile Engineering, University College of Engineering(BIT Campus),Tiruchirappalli during 29-30 April 2014, pp.162-170. (ISBN:978-81-921-1286-2)
5. V.Lakshmanan and **P.Gopal** , “Design and failure analysis of EN24 shaft using truck loader in cement industry”, TEQIP II & SAEINDIA sponsored National conference on Innovations in Engineering Design, NIED14 held at Department of Automobile Engineering, University College of Engineering(BIT Campus),Tiruchirappalli during 29-30 April 2014, pp.301-303. (ISBN:978-81-921-1286-2)
6. P.Venketesh and **P.Gopal** , “Performance Characteristics of a Diesel Engine using Ethanol, Vegetable oil and Diesel blend”, TEQIP II & IWS sponsored National conference on Advancements and Futuristic trends in Mechanical Engineering, AFTME 14 held at Department of Mechanical Engineering, University College of Engineering(BIT Campus),Tiruchirappalli during 21-22 April 2014, pp.157-162.(ISBN:978-81-254-0267-1)
7. S.Vijayaanandaraj and **P.Gopal** , “Temperature distribution and residual stresses due to welding in type304stainless steel weld pads”, TEQIP II & IWS sponsored National conference on Advancements and Futuristic trends in Mechanical Engineering, AFTME 14 held at Department of Mechanical Engineering, University College of Engineering(BIT Campus),Tiruchirappalli during 21-22 April 2014, pp.180-190. (ISBN:978-81-254-0267-1)
8. V.Jayasabarinathan, B.Kumaraguru, **P.Gopal** and Dr.T.Senthilkumar, “Experimental Investigation and Analysis of Surface Coating on Windmill Blade with and without Ceramic Material”, TEQIP II & IWS sponsored National conference on Advancements and Futuristic trends in Mechanical Engineering, AFTME 14 held at Department of Mechanical Engineering, University College of Engineering(BIT Campus),Tiruchirappalli during 21-22 April 2014, pp.229-234. (ISBN:978-81-254-0267-1)

9. G. Kumaran, **P.Gopal**, S. Chockalingam and Dr.T.Senthil Kumar, "Finite Element Simulation and Experiment of Chip Formation Process during Boring Process", TEQIP II & IWS sponsored National conference on Advancements and Futuristic trends in Mechanical Engineering, AFTME 14 held at Department of Mechanical Engineering, University College of Engineering(BIT Campus), Tiruchirappalli during 21-22 April 2014, pp.247-252. (ISBN:978-81-254-0267-1)
10. D. Ravi kumar, Dr. M. Chandrasekar, **P. Gopal** and B. Kumaragurubaran, "Finite Element Analysis and Experimental Evaluation of Bonded, Riveted and Hybrid Joints in Glass Fibre Epoxy Composite Laminates for Aircraft structure", TEQIP II & IWS sponsored National conference on Advancements and Futuristic trends in Mechanical Engineering, AFTME 14 held at Department of Mechanical Engineering, University College of Engineering(BIT Campus), Tiruchirappalli during 21-22 April 2014, pp.277-282. (ISBN:978-81-254-0267-1)
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15. M.Sethuraman, **P.Gopal**, Dr.T.Senthilkumar and B.Kumaragurubaran, "An Investigation of Material Research with Solar Water Heater by using V Trough Collector", TEQIP II & IWS sponsored National conference on Advancements and Futuristic trends in Mechanical Engineering, AFTME 14 held at Department of Mechanical Engineering, University College of Engineering(BIT Campus), Tiruchirappalli during 21-22 April 2014, pp.382-386. (ISBN:978-81-254-0267-1)
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20. L.S.Narendhira, Dr.T.Senthilkumar, B.Kumaragurubran and **P.Gopal**, "*A study of the effects of Metalworking fluid on Human health and Environment*",SRESA National Conference on Reliability and Safety Engineering, NCRS14 held at University College of Engineering (BIT Campus) during 13-15th Feb 2014,pp.247-252. (ISBN 978-8-19211-284-8).
21. M.Saravanan, L.S.Narendhira, B.Kumaragurubran and **P.Gopal**, "*Optimisation of CNC tooling to iprove reliability and safety*",SRESA National Conference on Reliability and Safety Engineering, NCRS14 held at University College of Engineering (BIT Campus) during 13-15th Feb 2014,pp.256-260. (ISBN 978-8-19211-284-8).
22. G.Ravikumar, Dr.T.Senthilkumar, **P.Gopal** and B.Kumaragurubran, "*Investigation for minimizing the wear rate and coefficient of friction in aluminium MMC*",SRESA National Conference on Reliability and Safety Engineering, NCRS14 held at University College of Engineering (BIT Campus) during 13-15th Feb 2014,pp.261-266. (ISBN 978-8-19211-284-8).
23. G.Kumaran, S.Chockalingam, **P.Gopal** and B.Kumaragurubran, "*Investigation of chip morphology in a Passive Damping Boring tool bar Using Defom-3D*",SRESA National Conference on Reliability and Safety Engineering, NCRS14 held at University College of Engineering (BIT Campus) during 13-15th Feb 2014,pp.422-426. (ISBN 978-8-19211-284-8).
24. S.Aravind, **P.Gopal** and C.Kannan "*Influence of compression ratio and injection timing on the performance and combustion characteristics of a direct injection diesel engine using diethyl ether and diesel blends*", LTIME'13 held at K.Ramakrishna College of Engineering, Tiruchirappalli on 19th March 2013.
25. J.Mohanajaiganesh, **P.Gopal** and M.Chandrasekaran "*Analysys of groove geometry effect on heat transfer for helically grooved tubes* ",RAT2013 held at Mother Teresa College of Engineering and Technology, Pudukottai during 16-17 February 2013.
26. **P.Gopal**,T.Senthilkumar,C.Ramesh kumar R.Venkatesan "*Experimental investigation on the variation of pressure coefficient and dynamic pressure on the roof of a utility vehicle with vortex generators for varying L/H ratio*", STEPMACC'11 held at Anna University of Technology Tiruchirappalli, Tiruchirappalli on 27th September 2011.(ISBN 978-81-921128-3-1)
27. **P.Gopal**,T.Senthilkumar,M.Chandrasekar R.Venkatesan "*Experimental investigation on the variation of pressure coefficient and dynamic pressure on the roof of a utility vehicle with vortex generators for varying Yaw angle*", STEPMACC'11 held at Anna University of Technology Tiruchirappalli, Tiruchirappalli on 27th September 2011.(ISBN 978-81-921128-3-1)
28. **P.Gopal**,T.Senthilkumar,R.Praveenram "*A study on aerodynamic drag reduction by vortex generators*", RTCME'11 held at Anna University of Technology Tiruchirappalli, Tiruchirappalli during 8-9th April 2011,pp.88-92. (ISBN:978-81-251-032-8)
29. **P.Gopal**,T.Senthilkumar,G.Rethinakumar "*CFD Analysis on drag reduction using vortex generator*", RTCME'11 held at Anna University of Technology Tiruchirappalli, Tiruchirappalli during 8-9th April 2011,pp.81-87. (ISBN:978-81-251-032-8)
30. C.Rameshkumar,**P.Gopal** "*An Experimental Investigation on Fumigation of Ethanol in S.I. Engines*", SEDAN 2007 held at Bharathidasan institute of technology, Bharathidasan University, Tiruchirappalli during 8-9th February 2007.
31. **P.Gopal**, Prakash.R, Udit Arora "*A Comparative study on regeneration of particulate trap using fuel additives and external heaters*", NCRTMT 2006 held at Thanthai periyar government institute of technology, Vellore on 10th April 2006.
32. **P.Gopal**, Dibyendu Karmakar, Dipayan Bhattacharjee "*A Study of performance and emission characteristics of twin cylinder diesel engine using Pongamia oil and Pongamia biodiesel as an*

alternate fuel", NCRTMT 2006 held at Thanthai periyar government institute of technology, Vellore on 10th April 2006

33. **P.Gopal**, Gunjan Adhikary, Anurag Rao "*Performance and emission analysis of direct injection diesel engine using *Jatropha* oil and *Jatropha* biodiesel as an alternate fuel*", NCRTMT 2006 held at Thanthai periyar government institute of technology, Vellore on 10th April 2006
34. **P.Gopal**, G.P.Subash, B.Rajendraprasad "*Experimental investigation on regeneration of particulate trap using metal oxide catalyst*", TECM 2005 held at St.Joseph college of engineering, Chennai on 24th January 2005.
35. **P.Gopal**, Dr.P.Tamilporai "*Development and performance analysis of catalysed continuously regenerative particulate trap*", FAME 2004 held at Bharath institute of higher education and research, Chennai on 30th July 2004

➤ **Professional recognitions:** (details like chairperson/member of a committee, reviewer, editor ...etc)

- Reviewer in International Journal of Mechanical and Materials Engineering
- Journal of Thermal Engineering from Yildiz Technical University in Istanbul-Turkey

(A) Chairperson for conferences / Seminar / Technical symposia:

(B) Guest lectures delivered:

1. Delivered a guest lecture on "Automotive Transmission System", at Star Lion College of Engineering and Technology, Thanjavur on 15th Sep 2015.
2. Delivered a guest lecture on "Automotive Drive Line", at Star Lion College of Engineering and Technology, Thanjavur on 24th Mar 2015.
3. Delivered a guest lecture on "Automotive Pollution Control", at Sudharsan Engineering College, Pudukkottai on 10th Sep 2014.
4. Delivered a guest lecture on "Clutches for Automobiles", at Sudharsan Engineering College, Pudukkottai on 23rd July 2014.
5. Delivered a guest lecture on "Automotive Aerodynamics", in TEQIP II sponsored FDP entitled Latest and Advanced Technology and Task in Automobile Engineering at University College of Engineering (BIT campus), on 20th Dec 2013.
6. Delivered a guest lecture on "Emission Control in Petrol Engines", at Meenakshi Ramasamy Engineering College, Ariyalur on 04th Sep 2013.
7. Delivered a guest lecture on "Emission Control in Diesel Engines", at Meenakshi Ramasamy Engineering College, Ariyalur on 06th Aug 2013.
8. Delivered a guest lecture on "Alternate Fuels", at Meenakshi Ramasamy Engineering College, Ariyalur on 30th Jan 2013.
9. Delivered a guest lecture on "Vehicle Suspension System", at Jayaram College of Engineering and Technology, Tiruchirappalli on 21st July 2012.
10. Delivered a guest lecture on "Automotive Aerodynamics", at Jayaram College of Engineering and Technology, Tiruchirappalli on 10th Mar 2012.
11. Delivered a guest lecture on "Automotive Engines", at Shri Angalamman College of Engineering and Technology, Tiruchirappalli on 05th April 2011.

12. Delivered a guest lecture on “Automotive Chassis”, at Shri Angalamman College of Engineering and Technology, Tiruchirappalli on 07th Oct 2011.
13. Delivered a guest lecture on “Recent Developments in Automotive Chassis System”, at King College of Technology, Namakkal on 24th Sep 2011.
14. Delivered a guest lecture on “Modern Trends in Automobile Engineering”, at King College of Technology, Namakkal on 19th Mar 2011.
15. Delivered a guest lecture on “Automotive Braking System”, at Shri Angalamman College of Engineering and Technology, Tiruchirappalli on 03rd Feb 2011.
16. Delivered a guest lecture on “Electronic fuel injection system”, at Trichy Engineering College, Trichy on 22nd Sep 2007