

St.Joseph's College of Engineering – Chennai 600 119
Department of Mechanical Engineering
Faculty Information Sheet

Staff Name	:	Dr. N.Arunkumar
Faculty ID	:	TME05
Designation	:	Professor & Dean-Industry Collaborations
Qualification	:	M.E, Ph.D.
E- Mail ID	:	arunkumarn@stjosephs.ac.in , deanicandiqac@stjosephs.ac.in
Academic Record	:	<p>Ph.D - Mechanical Engineering, 2006, College of Engineering Guindy, Anna University Chennai, Chennai. (Thesis: Optimization technique for multi objective supplier selection with quantity discounts using integer liner programming and meta heuristics).</p> <p>M.E. - Production Engineering, 1999, PSG College of Technology, Coimbatore, Bharathiar University, Tamilnadu.</p> <p>B.E. - Mechanical Engineering, 1994, PSG College of Technology, Coimbatore, Bharathiar University, Tamilnadu</p> <p>B.E - Specialization in Sandwich Mechanical Engineering which is a 5 year course consisting of rigorous industrial training with hands-on experience along with academics at PSG industrial institute, Coimbatore.</p>
Total Experience (Years)	:	30 Years
Teaching Experience (Years)	:	25 Years
Industrial Experience (Years)	:	05 Years
Area of Specialization	:	Machining, Composites, Material Characterization, Welding, online Condition monitoring, Supply Chain Management
Subjects handled in UG	:	Engineering Mechanics, Materials Science (EEE), Solid Mechanics, Materials Technology, Materials Science and Metallurgy, Manufacturing Technology I, Manufacturing Technology II, Process Planning and Cost Estimation, Production Planning and control, Basic Mechanical Engineering, Computer Integrated Manufacturing, Total Quality Management
Subjects handled in PG	:	Applied Materials science Integrated Product and Process development Metal cutting theory and Practice
Department Responsibilities Held	:	Head (Student affairs) - Department of Mechanical Engineering
Other Responsibilities Held	:	<ul style="list-style-type: none"> • Zonal officer, Anna University of Technology Chennai, Chennai. (Zone V) • Expert panel member of Board of studies, Anna University for framing new regulation system R2013 and R2017

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		<ul style="list-style-type: none"> • Coordinator for National level workshop for consecutive three years - 2008, 2009 and 2010 funded by St. Joseph's college of Engineering, Chennai and Co - coordinator for the National level workshop in the year 2007. • Above national level workshops were conducted in association with IGCAR - ISNT Kalpakkam chapter in 2009 and ISHRAE Chennai Chapter in 2010. • Organizing committee member for National Students Symposium and National conferences conducted by Department of Mechanical, St. Joseph's College of Engineering • Session Judge, Students national Symposium and national conference, St. Joseph's college of Engineering. • Guest Lecture In charge - arranged more than 50 lectures • Member College Advisory Committee • Lab manual Scrutinizing committee member • Involved in the purchase of Mechanical Engineering laboratory equipment's • College Safety & Fire Extinguisher In-charge • NBA Accreditation Coordinator for the department. • Strength of Materials Lab In-charge and Basic Workshop In-charge • Class In-charge and counselor • Welding Department In charge • Convener and Organizer for Online Webinars and FDP's conducted by Mechanical Engineering Department during COVID 19 lockdown period.
Journals published	:	<ol style="list-style-type: none"> 1. M.Ganesh, Arunkumar, N (2024), A sustainable approach in deep hole drilling of Ti6Al4V: Effect of cryogenic cooling on hole parameters and its evaluation, Journal of Manufacturing Processes, 121, pp.343 - 360, https://doi.org/10.1016/j.jmapro.2024.05.048 (Impact factor:6.2) 2. Ganesh M, Arunkumar N., N E Arun Kumar, R Sathish(2023), Investigation of surface grinding on Inconel under distinct cooling conditions, Materials and Manufacturing Processes, DOI: https://doi.org/10.1080/10426914.2023.2217896(Impact Factor:4.616) 3. Arunkumar, N., Ganesh, M., Rajaram, M, Saravana Kumar.E(2023), Deep hole drilling of AISI 1045: effect on hole quality & tool wear under flood, emulsion, and mist cooling technique. J Braz. Soc. Mech. Sci. Eng. 45, 195 (2023). https://doi.org/10.1007/s40430-023-04123-y (Impact Factor:2.361)

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4. Sathishkumar, N., **Arunkumar**, N., Rohith, S.V.(2023) Effect of varying unit cell size on energy absorption behaviour of additive manufactured TPMS PETG lattice structure. Prog Addit Manuf (2023). <https://doi.org/10.1007/s40964-023-00416-9>(**Impact Factor:4.97**)
5. M.Siva, **Arunkumar** N, M.subramanian,R Elakkiyadasan(2022),Influence of micro-electrical discharge machining parameters on the surface morphology of the nickel-coated electrode, *Materials and Manufacturing Processes*, DOI: [10.1080/10426914.2022.2105869](https://doi.org/10.1080/10426914.2022.2105869)(**Impact Factor:4.616**)
6. Ramesh S , **Arunkumar** N , Sambhrant Srivastava, Vijay Kumar , Senthilkumaran S And Vijayaraj R(2022), A Linear Programming Integer Model for Cellular Manufacturing Layout Design with Machine Flexibility and Dynamic Criteria, PERIODICO di MINERALOGIA, Volume 91, No. 4, 2022,DOI: <https://doi.org/10.37896/pd91.4/91488>(**Impact Factor:1.308**)
7. Ganesh M ,**Arunkumar** N (2022),Effect of cryogenic cooling in deep hole drilling process – a stride in the direction of green manufacturing,*Materials and Manufacturing Processes*,<https://doi.org/10.1080/10426914.2022.2030878> (**IF:4.616**)
8. N Prasanna Iyer,**Arunkumar** N(2022),Investigation of Abrasive water jet machining parameters of Bismaleimide composites,*Materials and Manufacturing Processes*,<https://doi.org/10.1080/10426914.2022.2032145>(**IF:4.616**)
9. NE Arun Kumar, Sureshbabu, MSubramanian, **N Arunkumar** (2022),Influence of MQL on performance evaluation of EN19 steel under centreless grinding, *Materials and Manufacturing Processes* <https://doi.org/10.1080/10426914.2022.2032142> (**IF:4.616**)
10. M Ganesh, **Arunkumar** N, K. Elavarasan and R. Sathish. (2022). Experimental Investigation of Friction and Wear Behavior of AL7075-TiO2-B4C using RSM, ANN and Desirability Function, Int. J. Vehicle Structures & Systems, 14(1), 41-46. [doi: 10.4273/ijvss.14.1.10](https://doi.org/10.4273/ijvss.14.1.10). (**IF:0.53**)
11. J.Vetrivel, L.Karunamoorthi, **Arunkumar** N (2021), A Study on Battery Recycling Process Using Genetic Algorithm Based Closed Loop Supply Chain, Solid State Technology, Vol.6,No.2.
12. N Prasanna Iyer, Arunkumar N(2021), Dynamic analysis of hybrid basalt and carbon fiber reinforced Bismaleimide composites suited for high temperature structural applications, *Materials Research Express*, Vol.18,No:12. (**IF:1.941**)

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13. Sathishkumar, N., Pravinkumar, K., **Arunkumar, N.**, Mariyappan, J., & Padmanabhan, S. R. (2021, October). Optimization of mechanical properties on FDM made copper electroplated polyethylene terephthalate glycol parts. In AIP Conference Proceedings (Vol. 2395, No. 1, p. 050004). AIP Publishing LLC. **(Scopus Indexed) SNIP:0.344**
14. Sathishkumar, N., Balamurugan, L., **Arunkumar, N.**, Udayakumar, A. S. M., & Padmanabhan, S. R. (2021, October). Investigation on mechanical properties of Basalt-Kevlar-Glass fiber reinforced epoxy composites. In AIP Conference Proceedings (Vol. 2395, No. 1, p. 020001). AIP Publishing LLC. **(Scopus Indexed)**
15. Ramesh, S., **Arunkumar, N.**, & Vijayaraj, R. (2021). Cellular manufacturing layout design using heuristic clustering algorithm and LPP model. *South African Journal of Industrial Engineering*, 32(2), 1-16 **(IF:0.225)**
16. Ramesh, S., **Arunkumar, N.**, & Vijayaraj, R. (2021). Economic Tradeoff Optimization Model for Machine Cell Layout Design. *Journal of the Chinese Society of Mechanical Engineers*, 42(3), 331-340. **(IF:o.244)**
17. **Arunkumar, N.**, Sathishkumar, N., Sanmugapriya, S. S., & Selvam, R. (2021). Study on PLA and PA thermoplastic polymers reinforced with carbon additives by 3D printing process. *Materials Today: Proceedings*. **((Scopus Indexed) SNIP:0.575)**
18. Subramanian, M., **Arunkumar, N.**, Rethnam, G. S. N., & Balasubramanian, T. (2021). Exploration of the Damping Characteristics of Basalt Hybrid Composites Reinforced with Natural Fibers and Epoxy Resin. *Fibers and Polymers*, 1-9. **(IF :2.53)**
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20. Balasubramanian, T., Ganesh, M., Subramanian, M., **Arunkumar, N.**, & Aswin, S. (2021, February). Experimental studies on the wear and mechanical properties of A17075-B4C-A12O3 composite. In IOP Conference Series: Materials Science and Engineering (Vol. 1070, No. 1, p. 012125). IOP Publishing. **(Scopus Indexed) SNIP:0.344**
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minimize carbon dioxide emission', International Journal of Simulation Modelling, ISSN:1726-4529, Vol.17,No.1, pp.42-54 (IF:3.225)

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41. Nagarajan V., Selvam R. and **Arunkumar N.** (2017), 'Experimental investigation and optimization in drilling of hybrid FRP laminated composite', International Journal of Engineering science and computing, Vol.7 , No.4, pp.10476-10480 (IF:5.611)
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abrasive water jet machining', International Journal of Engineering Research and Technology, ISSN:2278-0181, Vol.6, No.5 **(IF:0.422)**

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and micro Al_2O_3 reinforced AA2014 particulate hybrid composites', Results in Physics, Elsevier Journal, Science Direct <http://dx.doi.org/10.1016/j.rinp.2015.09.004>, Vol. 5, pp.273-280. (IF:4.476)

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80. Arunkumar N., Duraisamy P., Veeramanikandan S. and Ananthapadmanaban D. (2012), 'Evaluation of Mechanical properties of dissimilar welded joints using inert gas welding', International Journal of Engineering Research and Applications, ISSN: 2248-9622, Vol. 2, No.5, pp.1709-1717.
81. Jegadeesan A.J., Karunamoorthy L., **Arunkumar N.**, Balaji A. and Rajkamal M. (2012), 'Evolutionary Approach in Process Improvement – A case study in Auto electrical Alternator Manufacturing', Journal of Advanced Manufacturing Systems, World Scientific Publishing Company, DOI: 10.1142/S0219686712500035, Vol. 11, No.1, pp.27-50. **(IF:1.338)**
82. **Arunkumar N.**, Venkatesh P., Srinivas K.S. and SanjivKaushik (2012), 'Response surface modeling and optimization of single axis automatic application of automotive polyurethane coatings on plastic components', International Journal of Advanced Manufacturing Technology, Springer-Verlag, London, DOI: 10.1007/s00170-012-3970-1, Vol. 63, Combined Nos.9-12, pp. 1065-1072. **(IF:3.226)**
83. **Arunkumar N.**, Karunamoorthy L. and Muthukumar S. (2011), 'A method of identifying suitable manufacturing system (cellular) for automotive sector using Analytical Hierarchy Process', Journal of Industrial and Systems Engineering, ISSN: 1735-8272, Vol. 5, No.1, pp.305-319. **(IF:0.851)**
84. Arunkumar N., Suresh Kumar S R. and Kavitha Shanmugam. (2013), 'Parametric optimization of wire cut - EDM of Titanium alloy (Ti6Al4V) by using variance of electrodes', Journal of Manufacturing Engineering, Society for Manufacturing Engineers (SME), ISSN 0973-6867, Vol. 8, No.4, pp.200-206. **(IF:0.19)**
85. **Arunkumar N.**, Karunamoorthy L. and Muthukumar S. (2011), 'Supplier evaluation and selection for a manufacturing industry using Analytical Hierarchy Process – A case study' International Journal of Industrial and Systems Engineering, Inderscience Publishers, USA, Vol 8, No. 3, pp.346-365. **(IF:0.851)**

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86. **Arunkumar N.**, Karunamoorthy L. and Muthukumar S. (2011), 'Multi criteria supplier evaluation and selection using Fuzzy AHP (Alpha cut analysis) - A case study' International Journal of Industrial and Systems Engineering, Inderscience Publishers, USA, Vol 8, No. 4, pp.449-471.(**IF:0.851**)
87. **Arunkumar N.**, Ananthapadmanaban D. and Balaji S. (2011), 'Study of formation of defects in joints and their remedies in semiautomatic orbital TIG welding', International Journal of Mechanical Engineering Research,ISSN 2249-0019, Vol. 1, No.1, pp. 101-108.
88. **Arunkumar N.**, Prabhakaran A. and Karthikeyan R.K.(2011), 'Optimization of parameters involved in machining of Austenitic Stainless Steel 3041 by Taguchi Method', International Journal of Applied Engineering Research, ISSN 0973-4562, Vol. 6, No.13, pp. 1599-1615.(**IF:1.30**)
89. **Arunkumar N.**, Nirmal L.K. and Ananthapadmanaban D. (2011), 'Effects of Parameters involved in MIG welding of OHNS steel', Journal of Modern Manufacturing Technology, ISSN 0974-8415, Vol. 3, No.1, pp.111-127.
90. **Arunkumar N.**, Karunamoorthy L. and Prakash B. (2010), 'Cost benefit analysis of toner cartridge remanufacturing in reverse supply chain environment' International Journal of Logistics and supply chain management, Vol. 2, No. 2, pp.61-70 (**Scopus Indexed**)
91. **Arunkumar N.**, Karunamoorthy L. and Uma Makeshwaraa N. (2008), 'Simulated annealing for solving piecewise linear supplier selection problem considering quantity discount', International Journal of Industrial Engineering - Theory, Applications and Practice, USA , Vol. 15, No. 2, pp.155-165.(**IF:0.73**)
92. **Arunkumar N.**, Karunamoorthy L., Amrish.A.LoboShenoy., Thamizhvaanan N, and Vikram B Naidu (2008), ' Multi-objective supplier selection using optimisation technique for balancing supply chain', International Journal of Industrial and Systems Engineering, Inderscience Publishers, USA, Vol 3, No. 6, pp. 575-593.(**IF:0.851**)
93. **Arunkumar N.**, Karunamoorthy L., and Uma Makeshwaraa N. (2007), 'An optimization technique for vendor selection with quantity discounts using Genetic Algorithm', Journal of Industrial

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		<p>Engineering International, South Tehran, Vol. 3, No. 4, pp. 1-13. .(IF:0.568)</p> <p>94. Arunkumar N., Karunamoorthy L., Anand S. and Ramesh Babu T. (2006), 'Linear Approach For Solving A Piecewise Linear Vendor Selection Problem of Quantity Discounts using Lexicographic Method', International Journal of Advanced Manufacturing Technology, Springer-Verlag, London, Vol. 28, No.11-12, pp. 1254-1260.(IF:3.226)</p>
National Journals	:	<ol style="list-style-type: none"> 1. Ramesh S., Arunkumar N. and Vijayaraj R. (2014), 'A Quantitative model for machine cell formation and an integrated approach for processing exceptional elements', Industrial Engineering Journal, Indian Institution of Industrial Engineering, ISSN: 0970-2555, Vol. 7, No.1, pp. 34-42. 2. Arunkumar N., Ananthapadmanaban D. and Balaji S. (2010), 'Study of formation of defects in joints in semiautomatic orbital TIG welding', National Journal of Manufacturing Technology and Management, Indian Institution of Production Engineers, Vol. 4, No.3, pp. 73-78.
International Conference Attended	:	<ol style="list-style-type: none"> 1. N. Prasanaa Iyer and Arunkumar N., 2020, Review on Fiber reinforced/modified Bismaleimide resin composites for Aircraft Structure Application IOP Conf. Ser.: Mater. Sci. Eng. 923 012051. International Conference on Technological Advancements in Materials, Design, Manufacturing and Energy Sectors (ICTAMDMES -20) organized by St. Joseph's College of Engineering Chennai. 2. R.Selvam, N.Sathishkumar, K.M.Kumar, Arunkumar N., Khaleelur Rahman.T 2020,' Optimization of drilling parameters on hybrid natural fiber reinforced matrix composites', IOP Conf. Series: Materials Science and Engineering 923 (2020) 012059,doi:10.1088/1757-899X/923/1/012059. International Conference on Technological Advancements in Materials, Design, Manufacturing and Energy Sectors (ICTAMDMES -20) organized by St. Joseph's College of Engineering Chennai. 3. Selvam R., Arunkumar N. and Karunamoorthy L. (2019),' An investigation on machining characteristics in abrasive water jet machining of hybrid laminated composites with SiC Nano Particles', Proceedings of 2nd International Conference on Recent Trends in Metallurgy, Materials Science and Manufacturing (IMME19) , organized by Department of Metallurgical and Materials Engineering ,National Institute of Technology, Tiruchirappalli,

sponsored by DRDO and DST SERB , 27th -28th December 2019, Paper ID: IMME19-89. (Article is under review in 'Materials Today: Proceedings' Elsevier)

4. Subramanian M., Sathishkumar N., Joses Samuel Sasthrigal ., **Arunkumar N.** and Hariharan V. (2019), 'Optimization of process parameters in Friction Stir Welded dissimilar Magnesium Alloys using RSM', Proceedings of The International Mechanical Engineering Congress (IMEC 2019), organized by Department of Mechanical Engineering, National Institute of Technology, Tiruchirappalli, sponsored by TEQIP III and Department of Science and Technology (DST), 29th Nov.-1st Dec 2019 , Paper ID: MATPR-D-19-02955. (Article is under review in 'Materials Today: Proceedings' Elsevier)
5. **Arunkumar N.**, Sathishkumar N., Ananthapadmanaban D. and Arun Kumar N.E. (2019), 'Experimental study and analysis of defragmented carbon Nano tubes in polyacrylonitrile matrix' Abstracts of International Conference on Mechanical Engineering Design (ICMechD 2019), organized by Department of Mechanical Engineering, SSN College of Engineering, Chennai, India and Technical co-sponsor by Springer, 25th -26th April 2019, paper ID: MechD19201 , PP.134.
6. Sathishkumar N., Vincent B., **Arunkumar N.**, Haresh R. and Kevin Clifford A. (2019), 'Study of compressive behavior on 3D printed ABS polymer lattice structures infilled with epoxy and polyester resins' Abstracts of International Conference on Mechanical Engineering Design (ICMechD 2019), organized by Department of Mechanical Engineering, SSN College of Engineering, Chennai, India and Technical co-sponsor by Springer, 25th -26th April 2019, paper ID: MechD19220 PP.142.
7. Ramesh S., **Arunkumar N.** and Vijayraj R. (2018), 'Complete similarity measure mathematical model for cell layout design', processing exceptional elements and performance evaluation', proceedings of the Third International Conference on Advances in Industrial Engineering Applications, Department of Industrial Engineering, Anna University, Chennai, India, 3rd - 5th January 2018, p.60.
8. Lavanya V., Selvam R. and **Arunkumar N.** (2016), 'Investigation of Mechanical properties of hybrid natural fiber reinforced polymer matrix composites', proceedings of the IEEE sponsored International Conference on Science, Technology, Engineering and Management,

Jeppiaar Engineering College, Chennai-600119, India, 30th-31st March 2016, pp.1-7.

9. Ravikumar E., **Arunkumar N.** and Ananthapadmanaban D. (2015), 'Characterisation of Mechanical properties of Aluminum (AA6061-T6) by friction welding', proceedings of the International Conference on Advances in Mechanical Engineering, Department of Mechanical Engineering, University College of Engineering, Kakuppam, Villupuram-605 103, India. (A constituent college of Anna University, Chennai), ISBN No.978-93-85477-29-4 , 15th – 16th October 2015, pp.736-740.
10. Venkates R., Seshagiri Rao V., **Arunkumar N.**, NivasPrashanth V. and Pranesh S. (2015), 'Development of hybrid nano composite material reinforced Aluminum matrix composites and analysis of its machinability characteristics', proceedings of the International Conference on Recent Advances in Nano Science and Technology, Sathyabama University, Chennai-119, India, in association with Central Leather Research Institute (Council of Scientific & Industrial research), Chennai-20, India, 8th -10th July 2015, pp.79.
11. Arun M., **Arunkumar N.** and Vijayaraj R (2015), 'Experimental investigation of dry drilling of Austenitic stainless steel', proceedings of the International Conference on Modelling, Simulation and Control , Karpagam College of Engineering, Coimbatore-641032, India, 15th – 16th October 2015, pp.396-399.
12. **Arunkumar N.**, Selvam R., Mukilan G. and Pradeep Kumar (2015), 'TiO₂ coating on 316L grade stainless steel using PVD to increase Bio compatibility and corrosion resistance', proceedings of the International Conference on Advances in Mechanical Engineering, Department of Mechanical Engineering, University College of Engineering, Kakuppam, Villupuram-605 103, India. (A constituent college of Anna University, Chennai), ISBN No.978-93-85477-29-4 , 15th – 16th October 2015, pp.815-822.
13. Selvam R., Karunamoorthy L. and **Arunkumar N.**(2015), 'An investigation on strength degradation of thick laminated hybrid composites under environmental impact', proceedings of the International Conference on Advances in Mechanical Engineering, Department of Mechanical Engineering, University College of Engineering, Kakuppam, Villupuram-605 103, India. (A constituent college of Anna University, Chennai), ISBN No.978-93-85477-29-4 , 15th– 16th October 2015, pp.651-655

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14. Senthilkumar R., **Arunkumar N.**,Manzoor Hussian M. and Senthilkumar V. (2015), 'Effects of Micro and Nano size Al₂O₃ particle reinforcement on Mechanical behaviour of extruded Aluminum alloy matrix composites', proceedings of the International conference on Sustainable Energy Resources, Materials and Technologies, Department of Mechanical Engineering, SSN College of Engineering, Chennai, India, 8th – 9th January 2015, p.184
15. Ramesh S., **Arunkumar N.** and Vijayraj R. (2014), 'Integrated Numerical Approach for Machine Cell formation, processing exceptional elements and performance evaluation', proceedings of the Second International Conference on Advances in Industrial Engineering Applications, Department of Industrial Engineering, Anna University, Chennai, India, 6th - 8th January 2014, p.125
16. Jegadeesan A.J., Karunamoorthy L. and **Arunkumar N.** (2014), 'Quality Improvements in Automobile Starter', proceedings of the Second International Conference on Advances in Industrial Engineering Applications, Department of Industrial Engineering, Anna University, Chennai, India, 6th - 8th January 2014, p.91
17. Selvam R., **Arunkumar N.** and Karunamoorthy L. (2013), 'Flexural behavior of thick hybrid laminated composites', proceedings of the International Conference on Advanced Research in Mechanical Engineering, Inter science Research Network, ISBN No.978-93-82208-97-6 Chennai, 16th June 2013, pp.15-19.
18. Ravikumar E., **Arunkumar N.** and Sunnapu Gunhie Samhit. (2013), 'Characterization of Mechanical properties of Aluminum (AA6061-T6) by friction welding', proceedings of the 3rd International Conference on Mechanical , Automotive and Materials Engineering ,Planetary Scientific Research Centre , Singapore, 29th -30th April 2013,pp.127- 131.
19. Ravichandran N., Jegadeesan A.J., Balaji A., Rajkamal M.,Karunamoorthy L. and **Arunkumar N** (2011), 'Process Evolution through Integration of Shainin and Taguchi- A Case study in Alternator Manufacturing', proceedings of the 55th European Organisation for Quality (EOQ) Congress, World Quality Congress on Navigating Global Quality in a New Era, 20th-23rd June 2011, Budapest, Hungary, p.17
20. **Arunkumar N.**, Godwin Barnabas S. and Satish R. (2010), 'Optimal blood inventory management using combined Analytical Hierarchy Process and Goal programming approach', proceedings of the

International Conference on operational research for urban and rural development and 43rd Annual convention of operational research society of India, Thiagarajar College of Engineering, Madurai, India, 15th–17th December 2010, pp. 27-28.

21. Jegadeesan A.J., Karunamoorthy L., **Arunkumar N.**, and Madhavan B.(2010), 'Process Evolution in Manufacturing Ramp up Phase- A case study in Auto electrical starter Manufacturing', proceedings of the Third International and Twenty fourth All India Manufacturing Technology, Design and Research conference , Andhra University College of Engineering, Andhra University, 13th-15th December 2010, Visakhapatnam, India , pp. 707-712
22. Jegadeesan A.J., Karunamoorthy L., **Arunkumar N.**, Balaji A. and Rajkamal M. (2010), 'Evolutionary Approach in Process Improvement – A case study in Auto electrical Alternator Manufacturing', proceedings of the Third International and Twenty fourth All India Manufacturing Technology, Design and Research conference , Andhra University College of Engineering, Andhra University, 13th-15thDecember 2010, Visakhapatnam, India , pp. 701-706.
23. Ravichandran N., Jegadeesan A.J., Karunamoorthy L., **Arunkumar N.**, Balaji A. and Rajkamal M. (2010), 'Manufacturing Quality improvement in Automobile Alternator- Vacuum pump assembly', proceedings of the International Conference on Quality for Inclusive growth of Asia, Asian Network for Quality Congress, 19th-22ndOctober 2010, New Delhi, p.164
24. **Arunkumar N.**, Karunamoorthy L., Anand S. and Ramesh Babu T. (2004), 'Multiple Criteria Decision Approach to Supplier Selection in a Lean Supply Environment considering Quantity Discounts', proceedings of the Second International Conference on Logistics and Supply chain management, PSG College of Technology, 3-5th August 2004, Coimbatore, p. 51.
25. **Arunkumar N.** and Karunamoorthy L. (2003), 'A Study on the rating of suppliers in developing countries for manufacturing industries – the case of India', proceedings of the Sixth International Conference of the Association of Asia-Pacific Operational Research Societies, Indian Institute of Technology, New Delhi, 8th–11th December 2003, p. 31

National Conference Attended

:

1. **Arunkumar N.**, A Comparative study of Mechanical properties of friction welded Aluminum to Copper with and without Nickel interlayer, Recent Innovations and Advanced Trends in Mechanical

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Engineering, Vinayaka Missions University, 25th-26th September 2014, Chennai.

2. **Arunkumar N.**, Comparing the welding characteristics of a Duplex steel by a conventional and unconventional welding process, Proceedings of National conference on Recent Trends in Manufacturing Technology, College of Engineering Guindy Campus, Anna University, Chennai, 25th -26th April 2013, Chennai, p.44.
3. **Arunkumar N.**, Parametric optimization of wire cut Electrical Discharge Machining of Titanium Alloy Ti6Al4V, Proceedings of National conference on Recent Trends in Manufacturing Technology, College of Engineering Guindy Campus, Anna University, Chennai, 25th -26th April 2013, Chennai, p.45.
4. **Arunkumar N.**, Influence of process parameters in laser drilling of Inconel X-750, Proceedings of National conference on Recent Trends in Manufacturing Technology, College of Engineering Guindy Campus, Anna University, Chennai, 25th -26th April 2013, Chennai, PP.45.
5. **Arunkumar N.**, Investigation and improvement in peak failure load of hot staked joints in starter motor armatures using complementing problem solving tools, Journal of Mechanical Science and Technology, , Vol.29, No.04, pp.1731-1736 , 2015
6. Harikrishnan P., Selvam R. and **Arunkumar N.** (2016), 'Machinability study of hybrid composite using abrasive water jet machining', proceedings of National Conference on Advanced Research and Innovation in Mechanical Engineering, Department of Mechanical Engineering, KCG College of Technology, Chennai-600 097, India, in association with SAE India and Institute of Industrial Design, 22nd -23rd April 2016, Chennai, CD Version

Faculty Development Programme Attended/ Workshops Attended

- :
1. One day Expository workshop on 'Foundations of Global Supply Chain Management' organized by Department of Mechanical Engineering, Department of Industrial Engineering and Management and O.R.S.I, students chapter, MVJ College of Engineering , Bangalore on 27th September 2003 at Indian Institute of Science Campus, Bangalore.
 2. One day workshop on 'Advances in Manufacturing Technology' organized by Department of Production Technology , MIT Campus, Anna University Chennai , Chennai on 10th March 2007

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3. National level workshop on 'Micro and Nano technology-Advances and Implications' organized by Sri Chandrasekharendra Saraswathi Viswa Mahavidyalaya University (SCSVMV), Enathur, Kanchipuram on 21-22 March 2008.
4. Five day workshop on 'High Impact Presentation Skills – Dale Carnegie Training' organized by Mission 10X – WIPRO Technologies Ltd., Chennai at St. Joseph's College of Engineering, Chennai on 28th January to 1st February 2008
5. Two day workshop on 'Teaching and Learning-Education through Innovation' organized by Mission 10X – WIPRO Technologies Ltd., Chennai at St. Joseph's College of Engineering, Chennai on 18-19 March 2009
6. Two day workshop on 'Emerging Trends in Supply Chain Management' organized by Department of Mechanical Engineering, Sri Venkateshwara College of Engineering , Pennalur, Sriperumbudur, Tamilnadu on 18-19 September 2009.
7. National level one day workshop on 'Recent Trends in Friction Welding of Dissimilar Metals & Machining of GFRP Composites' St. Joseph's College of Engineering, Chennai, Sponsored by Naval Research Board, Ministry of Defence, Govt. of India, New Delhi on 12th November 2010.
8. AICTE, Govt. of India, New Delhi sponsored Staff Development Programme on 'Processing and Applications of Advanced Composite Materials' organized by Department of Mechanical Engineering, St. Joseph's College of Engineering, Chennai-119, India, from 7th to 19th November 2011.
9. Two days workshop and Training on '3D Printing-Design, Development and Application by Accelwork Labs at, St. Joseph's College of Engineering, Chennai-119, India, from 22nd to 23rd July 2016.
10. One day workshop on 'Intellectual Property Rights and Innovations' conducted by Research & Development centre, St. Joseph's College of Engineering, Chennai-119, on 04th October 2016.
11. AICTE, Govt. of India, New Delhi sponsored Staff Development Programme on 'Fundamentals of vibration, Measurement, Analysis and Control' organized by St. Joseph's College of Engineering, Chennai-119, India, from 30th October to 10th November 2017.

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12. The Institutions of Engineers (India) sponsored All India seminar on 'Applications of light weight materials and characterization in automobile industry' organized by KCG College of Technology, Chennai , India on 10th – 11th August 2018.
13. National level Faculty workshop on Industrial Robotics-Yaskawa Motoman conducted by Axis Global Institute of Industrial Training, in association with Department of Mechanical Engineering, St. Joseph's Institute of Technology, Chennai-119, India on 09th-10th November 2018.
14. Two-days workshop on Recent Developments in Metal forming and its Research aspects , Organized by Department of Mechanical Engineering, SRM Institute of Science and Technology, Kattankulathur, Chennai, India on 29th-30th November 2018.
15. NPTEL online certification course funded by the Ministry of HRD, Govt. of India on Fundamental of Welding Science and Technology , 8 week course, Jan-Mar 2019 , conducted by Indian Institute of Technology Guwahati. . Type of certificate: Elite + Silver. Roll No.NPTEL19ME16S11171861. To validate and check scores:<http://nptel.ac.in/noc>
16. Two Days All India Workshop on 'Manufacturing Application of Micromachining for Automobile Components' organized by Department of Mechanical Engineering, St. Joseph's Institute of Technology, Chennai-600119, India in Association with The Institutions of Engineers (India) ,on 16th – 17th July 2019..
17. AICTE, Govt. of India, New Delhi sponsored Two week Faculty Development Programme on 'The Role of Smart Materials in Digital Manufacturing and Fourth Industrial Revolution (Factories for Future)' organized by KCG College of Technology , Chennai from 10th to 23rd October 2019.
18. DST-SERB sponsored Two Days National Seminar on 'Role of Smart Materials in Aerospace and Engineering Applications' organized by Department of Mechanical Engineering, St. Joseph's College of Engineering, Chennai-119 from 16th to 17th December 2019.

NPTEL Courses Attended

- :
1. Fundamentals of welding science and technology – **Elite + Silver (FDP)**.
 2. Manufacturing of composites - **Elite + Silver (FDP)**.
 3. Laser Based Manufacturing- **Elite + Silver (FDP)**.
 4. Introduction to Machining and Machining- **Elite + Silver (FDP)**.

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Online Webinar/ FDP Details (During COVID 19 Pandemic Period)	Webinars/FDP's Organized	12
	Webinars/ FDP's Attended	14
Funded project details	<ol style="list-style-type: none"> 1. Project on “Modernization of Strength of Materials under MODROBS scheme, AICTE, New Delhi” completed as Co-Principal Investigator. Report Submitted. Project Cost Rs.10,00,000 (10 Lakhs). 2. Project through Research Promotion Scheme(RPS) from AICTE on “Investigation on Deep Hold Drilling of AISI 1045 Steel and Analysis of Tool wear under varying aspect ratios with different cutting fluids” – granted aid by AICTE for Rs.14,11,765 (14 lakhs 11 thousand and seven hundred and sixty five). Project completed as Principal Investigator. Project Completion Report Submitted on 31st March 2018. 3. Convener (Principal Investigator) for National level Seminar on “Efficiency enhancement through green innovation in manufacturing” Grant in aid sanctioned by DST-SERB for Rs.50,000/- (Rupees Fifty Thousand only).Seminar Completion report submitted and accepted by DST SERB 4. Coordinator for Short Term Training Programme (STTP) on “Smart Manufacturing – Opportunities’ and Challenges” Grant in aid sanctioned by AICTE, New Delhi for Rs.3,00,000/- (Rupees Three Lakhs) 	
Patent details	<ol style="list-style-type: none"> 1.Dr.N.Arunkumar et. al Patent Grant on “An Auxiliary Braking Apparatus For Vehicles And A Method To Operate The Same” Patent no: 531051, Application number: 201941043930, Patent valid from: 30/10/2019 to 29/10/2039 (20 Years). 2. Dr. N. Arunkumar et.al “Transmutation of Older BS vehicles and Bicycles to electrical Bike with Heat Dissipation through Louvered Fins” Indian Patent Year of application : 2021 Application Number: 202141057674 A Published in official Journal of the Patent office Dated 31/12/2021 3. Dr. N. Arunkumar et.al “Natural Fiber based Composite Material Production process” 	

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		<p>Indian Patent Year of application : 2023 Application Number: 202341004415 Published in official Journal of the Patent office Dated 23/01/2023</p> <p>4.Dr. N. Arunkumar et.al “A Novel Automatic decompression valve fastened system for IC engine unit”, Year of Application:2024 Application Number:202441017123 A Published in official journal of the patent office Dated 29/03/2024</p>
Journal Reviewer Details	:	<ol style="list-style-type: none"> 1. Robotics and Computer Integrated Manufacturing Journal – Elsevier, 2. Journal of Manufacturing Engineering, 3. Society of Manufacturing Engineers (SME) 4. Silicon Journal
No. of UG Projects Guided	:	80
No. of PG Projects Guided	:	04
Ph.D. Guidance	:	<ol style="list-style-type: none"> 1. Ten students have completed Ph.D. under my guidance as supervisor and joint supervisor in Anna University Chennai and JNTU Hyderabad. 2. Guiding Seven Ph.D. Scholars with Anna University Chennai in the field of Supply Chain Management, Machining, Friction Welding, Composites. 3. Doctoral Committee member for 4 Ph. D Scholars in the field of Machining, Welding and Production Engineering.

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Ph.D Student Details under my supervision	Sl No	Name & Register number of the Scholar	Title of the Thesis	Status/ University
	1.	Mr.A.J. Jegadeesan 1014219728	Development of an integrated evolutionary model in Manufacturing	Viva Voce Completed on 10.07.2015, Anna University
	2.	Mr. R. Selvam 1013219725	Design and optimization of composite structure for Machine tools	Viva Voce Completed on 26.12.2016, Anna University
	3.	Mr.R.Senthilkumar 10003ph1558	Low cycle fatigue behavior of Nanoscale Aluminium alloy composites	Viva Voce Completed on 18.02.2017, Jawaharlal Nehru Technological University, Hyderabad
	4.	Mr.E. Ravi kumar 2010194103	Studies on friction welding of Similar and dissimilar metals with aluminium AA6061-T6	Viva Voce Completed on 19/07/2019, Sathyabama University
	5.	Mr.M. Thiyagu 1014219726	Investigation on and Texturing of Cutting Tool Inserts Using Smart Fluids for Turning Duplex Stainless Steel	Viva Voce Completed on 14.11.2019, Anna University
	6.	Mr.A.Thanikasalam 2011172046	Studies on deep hole drilling of AISI 1045 steel using different cooling methods	Viva Voce Completed on 19.06.2020, Anna University
	7.	Mr.T.Balamurugan 1014219125	Integration of supplier, Transportation sequence for an assembly line scheduling in a supply chain management system	Viva Voce Completed on 16.06.2020, Anna University

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8.	Mr.M.Arun 2011112023	Experimental investigation on drilling of AISI 316 and AISI 304 stainless steels using coated tools	Viva Voce Completed on 10.12.2021, Anna University
9.	Mr.S.Ramesh 2011112009	A Mathematical approach for forming machine cells and processing exceptional elements.	Viva Voce Completed on 28.11.2022, Anna University
10.	Mrs.N.Prasanna Iyer 18252991281	Machinability Study and Analysis of Polymer Composite Materials	Viva Voce Completed on 22.11.2022, Anna University
11.	Mr.J. Vetrivel 1412219218	Optimization of Closed Loop Supply Chain Management for a Novelistic Recycling of Lithium ion Batteries using Genetic Algorithm	Comprehension completed. Synopsis to be submitted, Anna University
12.	Mr.M.Ganesh 19142997130	Investigation of Deep Hole Drilling Under Cryogenic Cooling Environment	Thesis Submitted, Anna University
13.	Mr.M.Subramanian 20142991178	Development of Corrosion Resistant Magnesium Alloys	Course work Completed, Anna University
14.	Mr.T.Balasubramanian 20142991179	Experimental Investigation on Textured Drilling of Hard to machine Materials	Course work Completed, Anna University
15.	Mr.M.Siva 21132991225	Experimental Investigation on Surface Integrity of Additive Manufacturing Materials	Course work Completed, Anna University
16.	Mr.R.Elakkiyadasan 22122991136	Weldability and Characterisation study of keyhole laser beam welding on HEA & HTA	Course work Completed, Anna University

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		17.	Mr.K.Elavarasan 23132991143	Experimental investigation of machining parameters in centreless grinding of ceramic materials and hard to machine materials,	Doing Course work, Anna University
Awards or Achievements	:	Awarded certificate of merit by M/s Lakshmi Synthetic Machinery Manufacturers Ltd., during the tenure of working as Assistant engineer in the same company for value engineering suggestions and its implementation.			
Professional Membership Details	:	<ol style="list-style-type: none"> 1. Life Time Member - Indian Society for Technical Education – New Delhi (Membership Id: GM52249). 2. Life Time Member – The Institution of Engineers (India) – Kolkata (Membership Id: F-119169-8). 3. Life Time Member – Indian Welding Society – New Delhi (Membership Id: L01596). 			
Google Scholar Profile	:	https://scholar.google.com/citations?user=EVtqwrwAAAAJ&hl=en			
Orcid Id	:	https://orcid.org/0000-0002-6618-0329			
Research Gate	:	https://www.researchgate.net/profile/Arunkumar_Natesan			
Web of Science Researcher Id	:	AAH-7883-2020			