

## Publications in Journals

- 1) Mohankumar, P., Ajayan, J., **Mohanraj, T.**, &Yasodharan, R. (2021) Recent developments in biosensors for healthcare and biomedical applications: A review. *Measurement*, 167, 108293. (SCI / SCOPUS indexed)
- 2) Moganapriya, C., Rajasekar, R., Kumar, P. S., **Mohanraj, T.**,Gobinath, V. K., &Saravanakumar, J. (2020). Achieving machining effectiveness for AISI 1015 structural steel through coated inserts and grey-fuzzy coupled Taguchi optimization approach. *Structural and Multidisciplinary Optimization*, 1-18. (SCI/SCOPUS indexed)
- 3) **Mohanraj T**, Yerchuru J, Krishnan H, Nithin Aravind RS, Yameni R (2020) Development of tool condition monitoring system in end milling process using wavelet features and Hoelder's exponent with machine learning algorithms. *Measurement*:108671. doi:<https://doi.org/10.1016/j.measurement.2020.108671> (SCI / SCOPUS indexed)
- 4) **Mohanraj, T.**, Deepesh, T., Dhinesh, R., Jayaprakash, S., & Sai Krishna, S. (2020). Design and analysis of a strain gauge based eight-shaped elliptical ring dynamometer for milling force measurement. *Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science*, 0954406220967681. (SCI / SCOPUS indexed)
- 5) Prabhu, S. R., Ilangkumaran, M., &**Mohanraj, T.** (2020). 3D Printing of automobile spoilers using MCDM techniques. *Materials Testing*, 62(11), 1121-1125. (SCI/SCOPUS indexed)
- 6) Suganeswaran, K., Parameshwaran, R., **Mohanraj, T.**, & Radhika, N. (2020). Influence of secondary phase particles Al<sub>2</sub>O<sub>3</sub>/SiC on the microstructure and tribological characteristics of AA7075-based surface hybrid composites tailored using friction stir processing. *Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science*, 0954406220932939. (SCI/SCOPUS indexed)
- 7) Sreenivasan, M., Kumar, M. D., Krishna, R., **Mohanraj, T.**, Suresh, G., Kumar, D. H., &Charan, A. S. (2020). Finite element analysis of coil spring of a motorcycle suspension system using different fibre materials. *Materials Today: Proceedings*. (SCOPUS indexed)

- 8) Tamilvanan, A., Balamurugan, K., **Mohanraj, T.**, Selvakumar, P., &Madhankumar, B. (2020). Parameter optimization of copper nanoparticle synthesis by electrodeposition process using RSM and CS. *Materials Today: Proceedings*. (SCOPUS indexed)
- 9) **Mohanraj, T.**, Shankar, S., Rajasekar, R., & Uddin, M. S. (2020). Design, development, calibration, and testing of indigenously developed strain gauge based dynamometer for cutting force measurement in the milling process. *Journal of Mechanical Engineering and Sciences*, 14(2), 6594-6609. (SCOPUS indexed)
- 10) **Mohanraj, T.**, Shankar, S., Rajasekar, R., Sakthivel, N.R., Pramanik, A. (2020). Tool condition monitoring techniques in milling process - a review, *Journal of Materials Research and Technology*, 9(1), 1032-1042. DOI:10.1016/j.jmrt.2019.10.031(SCI / SCOPUS indexed)[**IF:5.27**]
- 11) Vijay Anand, M., Vijayakumar, K. C. K., &**Mohanraj, T.** (2020). Evaluation of shoulder pain among the workers involved in ironing process using Surface Electromyography. *Journal of Medical Imaging and Health Informatics*, 10(1), 86-92. DOI:10.1166/jmihi.2020.2846 (SCI/SCOPUS indexed) [**IF 0.549**]
- 12) Thangarasu, SK., Shankar, S., **Mohanraj, T.**, Devendran, K. (2020). Tool wear prediction in hard turning of EN8 steel using cutting force and surface roughness with artificial neural network. *Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science*, 234 (1), 329-342. DOI: 10.1177/0954406219873932 (SCI/SCOPUS indexed) [**IF 1.359**]
- 13) Shankar, S., **Mohanraj, T.**, &Pramanik, A. (2019). Tool Condition Monitoring While Using Vegetable Based Cutting Fluids during Milling of Inconel 625. *Journal of Advanced Manufacturing Systems*. 18(4), 563-581. DOI:10.1142/S021968671950029X(SCOPUS indexed) [**IF: 0.44**]
- 14) Shanmugam. A, Krishnamurthy. K, &**Mohanraj. T.**, (2019). Experimental Analysis on the Performance of Abrasive Waterjet Cutting of Glass Fiber Reinforced Plastics Using Response Surface Methodology. *Journal of the Balkan Tribological Association*. 24(4), 1029-1038. (SCOUPS Indexed).
- 15) **Mohanraj, T.**,& Dinesh kumar.M, (2019). The Process Parameter Optimization for Grey Cast Iron in Turning Process using Response Surface Methodology. *International*

- Journal of Mechanical and Production Engineering Research and Development*, 9(2), 997 – 1006. (SCOPUS indexed)
- 16) P.M.Arunkumar, **T.Mohanraj**. (2019). Optimization of Milling Parameters using Vegetable Oil by Measuring Vibration Signal. *International Journal of Innovative Technology and Exploring Engineering*, 8(8), 706 – 711. (SCOPUS indexed)
  - 17) Shanmugam, A., Krishnamurthy, K., & **Mohanraj, T.** (2019). Experimental study of surface roughness and taper angle in abrasive water jet machining of 7075 aluminum composite using response surface methodology. *Surface Review and Letters*, 1950112. DOI: 10.1142/S0218625X19501129 (SCI/SCOPUS indexed) [**IF:0.748**]
  - 18) Shankar, S., **Mohanraj, T.**, & Rajasekar, R. (2019). Prediction of cutting tool wear during milling process using artificial intelligence techniques. *International Journal of Computer Integrated Manufacturing*, 32(2), 174-182. (SCI/SCOPUS indexed) [**IF:2.090**]
  - 19) **Mohanraj, T.**, Shankar, S., Rajasekar, R., Deivasigamani, R., & Arunkumar, P. M. (2019). Tool condition monitoring in the milling process with vegetable based cutting fluids using vibration signatures. *Materials Testing*, 61(3), 282-288. (SCI/SCOPUS indexed) [**IF 0.573**]
  - 20) Shankar, S., **Mohanraj.T.** (2017). “Experimental investigation and process parameter optimization in milling of 7075 – T6 hybrid aluminium metal matrix composite using response surface methodology”. *Journal of the Balkan Tribological Association*. 23(1): 124-138. (SCOPUS indexed)
  - 21) Shankar, S., **Mohanraj.T**, Ponappa.K (2017). "Influence of vegetable based cutting fluids on cutting force and vibration signature during milling of aluminium metal matrix composites." *JurnalTribologi* 12: 1-17. (WoS indexed)
  - 22) Shankar, S., **Mohanraj, T.** Thangarasu, S. K., (2016). "Multi-response milling process optimization using the Taguchi method coupled to grey relational analysis." *Materials Testing* 58.5: 462-470. (SCI/SCOPUS indexed) [**IF 0.573**]
  - 23) Shankar, S., Thangarasu, S. K., **Mohanraj, T.**, Pravien, D. S. (2015). “Prediction of cutting force in turning process: An experimental and fuzzy approach”. *Journal of Intelligent & Fuzzy Systems*, 28(4):1785-1793. (SCI/SCOPUS indexed) [**IF:1.637**]
  - 24) Arulmozhivarman. J, Radhika. N., **Mohanraj. T**&Vairavel. M., (2019). The effect of bio-cutting fluids on surface roughness during end milling of A359 Aluminium alloy.

*International Journal of Mechanical and Production Engineering Research and Development*, 9(2), 987 – 996. (SCOPUS indexed)

- 25) Suganeswaran, K., Parameshwaran, R., **Mohanraj, T.**, & Meenakshipriya, B., (2020). Process parameter optimization for the magnetic abrasive finishing of SS310s steel. *Materials Testing*, 62(2). 157-164. DOI:10.3139/120.111467 (SCI/SCOPUS indexed) [**IF 0.573**]
- 26) Tamilarasi, T., Rajasekar, R., Saminathan, K., Ravichandran, K., **Mohanraj, T.**, Moganapriya, C., & Gobinath, V. K. (2020). Experimental investigation on the influence of carbon-based nanoparticle coating on the heat transfer characteristics of the microprocessor. *Journal of Composite Materials*, 54(1), 61-70. DOI: 10.1177/0021998319859926 (SCI/SCOPUS indexed) [**IF 1.755**]
- 27) **Mohanraj, T.**, Arunkumar, S., Raghunath, M., & Anand, M. (2014). Mobile robot path planning using ant colony optimization. *International Journal of Research in Engineering and Technology*, 3(11), 1-6.

### Publications in Conferences

- 1) S. Shankar, **T. Mohanraj**. "Tool condition monitoring in milling using sensor fusion technique". *Malaysian International Tribology Conference*, November 2015. (Scopus indexed)
- 2) S. Shankar, **T. Mohanraj**, "Experimental analysis and Process parameter optimization in milling of Inconel 625 using Response Surface Methodology", *International Conference on Manufacturing Technology and Simulation 2017* IIT Madras, July 7-8, 2017. (Scopus indexed)
- 3) C. Sathishranganathan, R. Rajasekar, N. Saravanan, **T. Mohanraj** and K. V. Maheshkumar, "Investigation on Mechanical Properties of Aluminium 6063 with Basalt Powder", *International Conference on Nanotechnology : Ideas, Innovations and initiatives - 2017*, IIT Roorkee, December 06 -08, 2017.
- 4) P. Sethilvelmurugan, R. Rajasekar, **T. Mohanraj**, R. Manivannan, G. Sridharraj, "Investigation of Sound Particle Velocity and Vibration Signature During Turning

- Process”, *International Conference on Sustainable Materials, Design and Applications 2018 (ICSMDA 2018)*, Kongu Engineering College, March 16-17, 2018.
- 5) S.Shankar, **T.Mohanraj**, R.Rajasekar, S.Deepanraj, P.Karthikeyan, S.Krishnakumar, “Tool condition monitoring using sensor fusion technique - a review”, *International Conference on Sustainable Materials, Design and Applications 2018 (ICSMDA 2018)*, Kongu Engineering College, March 16-17, 2018.
  - 6) **T.Mohanraj**, S.Shankar, R.Rajasekar, S.Dhamodharan, S.Aravindh, M.Ajay Kumar, "Experimental analysis and process parameter optimization in Milling of AISI 304 Austenitic stainless steel using Response Surface Methodology", *International Conference on Advances in Metallurgy, Materials, and Manufacturing (ICAMMM-2017 GCE Salem)*, 06 to 08<sup>th</sup> March 2017.
  - 7) **T.Mohanraj**, B.Saravanan. "Throughput time reduction in OHT (Off Highway Trucks) main assembly line through fixture and modularity". *International Conference on Applied Mathematical Models*, PSG College of Technology, Coimbatore, January 2016.
  - 8) **T.Mohanraj**, S.Shankar, R.Rajasekar, P.M.Arunkumar, " Optimization of process parameters using Taguchi's DOE for cutting force in Milling of 7075-T6 composite Aluminium Alloy" *International conference on Sustainable Materials design and applications ICSMDA 2016*, Kongu Engineering College, March 18&19, 2016.
  - 9) R.Rajasekar, **T.Mohanraj**, P.M.Arunkumar. "Influence of bio-oils as cutting fluid in tool Wear prediction for milling operation". *International Conference on Advances in Materials and Manufacturing - INTCOMM 2016*, Hindusthan College of Engineering and Technology, Coimbatore. February 2016.
  - 10) **T.Mohanraj**, S.Arunkumar, J.Mohamed al ameen, J.ArunKumar, G.Janarthanan. "Intelligent motorised shopping droit". *International Conference on Advances in Materials and Manufacturing -INTCOMM 2016*, Hindusthan College of Engineering and Technology, Coimbatore, February 2016.
  - 11) **T.Mohanraj**, S.Shankar, B.Saravanan, T.G.Sastikumar, "Design, development, and testing of a strain gauge based milling dynamometer for measurement of cutting force". *International Conference on Materials, Design and Manufacturing Process, ICMDM '16*, Anna University, Chennai February 17-19, 2016.

- 12) B.Saravanan, M. Mohamed Asfar, T.G.Sastikumar, **T.Mohanraj**, "Automatic Pineapple peeler", *International Conference on Advanced Engineering and technology for sustainable development, ICAETSD 2016*, Feb 19 -20, 2016.
- 13) **T.Mohanraj**, B.Saravanan. "Design and Fabrication of Automatic Dhoop Making Machine". *International Conference on Modern, Intelligent, and Green Manufacturing*, Erode Sengundhar Engineering College, Erode.December 2015.
- 14) **T.Mohanraj**, B.Saravanan. "Automatic Pesticide Spraying machine". *International Conference on Mathematical Computer Engineering ICMCE 2015*. VIT University, Chennai, December 14 & 15, 2015
- 15) **T. Mohanraj**, P.Anandakumar, M.K.Boopathi, B.Elango. "Some studies on mobile robot path planning – a review." *International Conference on Advances in Mechanical and Mechatronics Engineering*, Sri Krishna College of Engineering and Technology Coimbatore, December 2014.
- 16) **T. Mohanraj**,A.Muthu Krishnan, C. Naveen Kumar, R. Prasannababu. "Thermo mechanical analysis of single point cutting tool using fem approach". *International Conference on Advances in Mechanical and Mechatronics Engineering*, Sri Krishna College of Engineering and Technology Coimbatore, December 2014.
- 17) **T. Mohanraj**,S.Shankar, S.Eswararaj."Optimization of process parameters for surface roughness in milling based on response surface methodology". *International Conference on Advances in Mechanical and Mechatronics Engineering*, Sri Krishna College of Engineering and Technology Coimbatore, December 2014.

### Book chapters

- 1) **Mohanraj. T**, Tamilarasi, T, Gopinath, VK, Moganapriya, C & Rajasekar, R. (2020). Fluid Power Actuators. *Actuators: Fundamentals, Principles, Materials and Applications*, 187-209.
- 2) Mohankumar A, Rajasekar. R, Gopinath, VK &**Mohanraj, T** (2020). Research Insights on the Development of Biosensors. In *Nanosensor Technologies for Environmental Monitoring* (pp. 33-48). Springer, Cham. [https://doi.org/10.1007/978-3-030-45116-5\\_2](https://doi.org/10.1007/978-3-030-45116-5_2)
- 3) M. Harikrishna Kumar, C Moganapriya, R Rajasekar, **T Mohanraj**, (2020). Plant Fibre Based Biodegradable Green Composites. *Materials Research Foundations*, 68.

- 4) Sakthivel R, **Mohanraj T**, Joseph Marshal, Baranitharan P, Tamilvanan A, Gomathi K, (2020), Book chapter on “*Emission Aspects of Biomass-Based Advanced Second Generation Bio-Fuels in IC Engines*” in *Recent Technologies for Enhancing Performance and Reducing Emissions in Diesel Engines*, IGI Global, DOI: 10.4018/978-1-7998-2539-5
- 5) Tamilvanan A, Balamurugan K, **Mohanraj T**, Selvakumar P, Ashok B, Sakthivel R, (2020), Book chapter on “*Influence of Nano-Particle Additives on Bio-Diesel-Fuelled CI Engines: A Review*” in *Recent Technologies for Enhancing Performance and Reducing Emissions in Diesel Engines*, IGI Global, DOI: 10.4018/978-1-7998-2539-5.
- 6) P.M. Arunkumar, T.Mohanraj, (2020), “*Tool condition monitoring system for milling process*”, Lambert Academic Publishing. ISBN: 978-620-0-53008-0