

Dr.A.Elaya Perumal
Anna University Guindy campus
Professor & Head
Engineering Design Division
12, Sardar Patel Rd, Anna University, Guindy,
Chennai, Tamil Nadu 600025
profelaya@gmail.com
Ph - 91 72990 07201

PRINCIPAL RESEARCH OF INTEREST

- Materials
- Tribology
- Surface Engineering
- Mechanical behaviour of Materials
- Vibration Analysis

Publications:

1. Premkumar, A., A. Elayaperumal, S. Arulvel, M. S. Jagatheeshwaran, B. Ramesh, and M. Sivanesh Prabhu. "Optimization of electroless bath process parameter for improving the tribology behavior of Ni-P/CaBr₂ composite coating against the hardened EN-31 steel." *Surface Topography: Metrology and Properties* 8, no. 2 (2020): 025038.
2. Elayaperumal, A., S. Arulvel, and Wasim Khan. "Significance of tribolayer on the friction and wear resistance of FSPed AA6082/SiCp composite at various load conditions." *Surface Topography: Metrology and Properties* 8, no. 2 (2020): 025037.
3. Abbas, S. Mohamed, A. Elayaperumal, and G. Suresh. "A study on combustion and performance characteristics of ceramic coated (PSZ/Al₂O₃) and uncoated piston-DI engine." *Materials Today: Proceedings* (2020).
4. Mohamed Abbas, S., A. Elayaperumal, and S. Arulvel. "Enhancement of the hardness and wear-resistance of aluminum-silicon alloy using atmospheric plasma-sprayed ZrO₂, Al₂O₃-ZrO₂ multilayer, and Al₂O₃/ZrO₂ composite coatings." *Surface Topography: Metrology and Properties* 8, no. 2 (2020): 025027.
5. AYYASAMY, ELAYAPERUMAL, and S. Arulvel. "Enhancement of the hardness and wear-resistance of aluminum-silicon alloy using atmospheric plasma-sprayed ZrO₂, Al₂O₃-ZrO₂ multilayer, and Al₂O₃/ZrO₂ composite coatings." *Surface Topography: Metrology and Properties* (2020).
6. Prabhu, M. Sivanesh, A. Elaya Perumal, and S. Arulvel. "Development of multi-pass processed AA6082/SiCp surface composite using friction stir processing and its mechanical and tribology characterization." *Surface and Coatings Technology* (2020): 125900.
7. Premkumar, A., A. Elayaperumal, S. Arulvel, M. S. Jagatheeshwaran, and P. Seenuvasaperumal. "Calcium hexaboride reinforced Nickel-Phosphorus composite coating for increasing the wear properties of low carbon steel." *Materials Today: Proceedings* (2020).
8. Manikandan, P., A. Elayaperumal, and R. Franklin Issac. "Mapping of Wear Mechanism for Mechanical Alloyed Al/CNT Composites-An In-situ Analysis." *Journal of Tribology*: 1-26.

9. Krishnan, Vignesh, Elayaperumal Ayyasamy, and Velmurugan Paramasivam. "Influence of resistance spot welding process parameters on dissimilar austenitic and duplex stainless steel welded joints." *Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering* (2020): 0954408920933528.
10. Devaraju, A., P. Rajendran, A. Elaya Perumal, and I. Saravanan. "Investigation of temperature influence in wear studies on nitride coatings." *Materials Today: Proceedings* 22 (2020): 1167-1174.
11. Vignesh, K., A. Elaya Perumal, and P. Velmurugan. "Resistance spot welding of AISI-316L SS and 2205 DSS for predicting parametric influences on weld strength—Experimental and FEM approach." *Archives of Civil and Mechanical Engineering* 19 (2019): 1029-1042.
12. Prabhu, M. Sivanesh, A. Elaya Perumal, S. Arulvel, and R. Franklin Issac. "Friction and wear measurements of friction stir processed aluminium alloy 6082/CaCO₃ composite." *Measurement* 142 (2019): 10-20.
13. Raj, AP Mohan, N. Saravanan, and A. Elaya Perumal. "The effect of different percentage of carbon on workability behaviour of Fe-C-0.7 Mn sintered composites." In *AIP Conference Proceedings*, vol. 2128, no. 1, p. 030001. AIP Publishing LLC, 2019.
14. Pazhanivel, K., G. B. Bhaskar, A. Elayaperumal, P. Anandan, and S. Arunachalam. "Influence of Ni-Ti shape memory alloy short fibers on the flexural response of glass fiber reinforced polymeric composites." *SN Applied Sciences* 1, no. 7 (2019): 789.
15. Abbas, S. Mohamed, and A. Elayaperumal. "Experimental investigation on the effect of ceramic coating on engine performance and emission characteristics for cleaner production." *Journal of Cleaner Production* 214 (2019): 506-513.
16. Premkumar, A., A. Elayaperumal, S. Arulvel, and M. S. Jagatheeshwaran. "Partial dissolution of precipitated-calcium carbonate (P-CaCO₃) in electroless Nickel-phosphorus (Ni-P) coating and its surface characterization." *Materials Research Express* 6, no. 6 (2019): 066409.
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26. Sivakumar, R., A. Elayaperumal, and R. Saravanan. "Drying and energy aspects of tapioca sago processing-an experimental field study." *Journal of Mechanical Science and Technology* 31, no. 6 (2017): 3035-3042.
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