

Name : Dr. R. VAIRA VIGNESH
Designation : ASSISTANT PROFESSOR
Department : MECHANICAL ENGINEERING
Organization/Institution : AMRITA VISHWA VIDYAPEETHAM UNIVERSITY
Place & Pincode : COIMBATORE-641112.
EMAIL : r_vairavignesh@cb.amrita.edu
Phone Number : 9944446208
Specialization : Composites and Solid State Joining

List of last 5 years publications:

2020

1. **R. Vaira Vignesh**, R. Padmanaban, M. Govindaraju, K. Mohan Das, "Research and development in magnesium alloys for industrial and biomedical applications – A Review", *Metals and Materials International*, vol. 26, 409-430, 2020.
2. M. Paidar, **R. Vaira Vignesh**, A. Moharrami, O. O. Ojo, A. Jafari, S. Sadreddini, "Development and characterization of dissimilar joint between AA2024-T3 and AA6061-T6 by modified friction stir clinching process", *Vacuum*, vol. 176, 109298, 2020.
3. M. Paidar, K. Tahani, **R. Vaira Vignesh**, O. O. Ojo, H. Ezatpour and A. Moharrami, "Modified Friction Stir Clinching of 2024-T3 to 6061-T6 aluminium alloy: Effect of Dwell Time and Precipitation-Hardening Heat Treatment", *Materials Science and Engineering A*, vol. 791, 139734, 2020.
4. K. Rajesh Kannan, M. Govindaraju, **R. Vaira Vignesh**, "Development of fly ash based friction material for wind turbines by liquid phase sintering technology", *Journal of Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology* (In Press).
5. M. Govindaraju, A. Megalingam, Jayaprakash Murugasan, **R. Vaira Vignesh**, Pavan Kalyan Kota, A. Sumanth Ram, P. Lakshana, V. Naveen Kumar, "Investigations on the Tribological Behaviour of Functionally Gradient Iron based Brake Pad Material", *Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science*, 2020.
6. R. Padmanaban, V. Balusamy, **R. Vaira Vignesh**, "Effect of friction stir welding process parameters on the tensile strength of dissimilar aluminium alloy AA2024-T3 and AA7075-T6 joints", *Materialwissenschaft und Werkstofftechnik*, vol. 51, no. 1, pp. 17-27, 2020.
7. M. Paidar, **R. Vaira Vignesh**, A. Khorram, O. Oladimeji Ojo, A. Rasoulpouraghdam, I. Pustokhina, "Dissimilar modified friction stir clinching of AA2024-AA6061 aluminum alloys: Effects of materials positioning", *Journal of Materials Research & Technology*, 2020.
8. M. Govindaraju, Uday Chakkingal, Prasad Rao Kalvala, **R. Vaira Vignesh**, and K. Balasubramanian, "Investigations on the Creep Behavior of Friction-Stir-Processed Magnesium Alloy AE42", *Journal of Materials Engineering and Performance*, 2020.
9. Jinzhen Han, M. Paidar, **R. Vaira Vignesh**, Kush. P. Mehta, A. Heidarzadeh and O. O. Ojo "Effect of Shoulder Features during Friction Spot Extrusion Welding of 2024-T3 to 6061-T6 Aluminium Alloys", *Archives of Civil and Mechanical Engineering*, vol. 20, 80, 2020.

10. B. Mohan, Bharathi, R. Vaira Vignesh, R. Padmanaban, M. Govindaraju, "Effect of Friction Stir Processing and Heat Treatment on the Corrosion Properties of AZ31 alloy", *Australian Journal of Mechanical Engineering*, (Accepted). **Taylor and Francis**

11. K. Rajesh Kannan, R. Vaira Vignesh, M. Govindaraju, "Development and Tribological Characterization of Fly Ash Reinforced Iron based Functionally Gradient Friction Materials", *Engineering Review*. (Accepted) **University of Rijeka**

12. Mirza Abdul Hadi Baig, R. Vaira Vignesh, R. Padmanaban, M. Govindaraju, "Characterization of AA5052-ZrO₂ and AA5052-SiO₂ Surface Composites Fabricated by Friction Stir Processing", *Songklanakarin Journal of Science and Technology*. (Accepted) **Prince of Songkla University**.

13. Anand K. Raghav, **R. Vaira Vignesh**, Kota Pavan Kalyan, M. Govindaraju, "Friction Welding of Cast Iron and Phosphor Bronze", *Journal of The Institution of Engineers (India): Series C*, Published Online.

14. Abin Joe Alex, **R. Vaira Vignesh**, R. Padmanaban, M. Govindaraju, "Effect of heat treatment on the mechanical and wear behavior of friction stir processed AA5052 alloy", *Materials Today: Proceedings*, vol. 22, 4, pp. 3340-3346, 2020.

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15. R. Anil Kumar, K. Pavan Sai, **R. Vaira Vignesh**, N. Radhika, "Investigations on the Tribological Properties of Heat-Treated Copper Composite Using Hybrid Quadratic-Radial Basis Function Model", *Transactions of the Indian Institute of Metals*, vol. 72, no. 12, pp. 3117-3128, 2019.

16. **R. Vaira Vignesh**, R. Padmanaban, M. Govindaraju, G. Suganya Priyadarshini, "Investigations on the Corrosion Behaviour of Magnesium Alloy Surface Composites AZ91D-ZrO₂ Fabricated by Friction Stir Processing", *Transactions of the IMF (The International Journal of Surface Engineering and Coatings)*, vol. 97, no. 5, pp. 261-270, 2019

17. **R. Vaira Vignesh**, R. Padmanaban, M. Govindaraju, "Study on the Corrosion and Wear Characteristics of Magnesium Alloy AZ91D in Simulated Body Fluids", *Bulletin of Materials Science*, vol. 43, no. 8, pp. 1-12.

18. **R. Vaira Vignesh**, R. Padmanaban, M. Govindaraju, "Investigations on the Surface topography, Corrosion behavior, and Biocompatibility of Friction Stir Processed Magnesium Alloy AZ91D", *Surface Topography: Metrology and Properties*, vol. 7, no. 2, 025020, 2019. DOI: 10.1088/2051-672X/ab269c **IOP Publishing**

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24. M. N. Abijith, Aditya Rajeev Nair, M. Aadharsh, **R. Vaira Vignesh**, R. Padmanaban, M. Arivarasu, "Investigation on the mechanical, wear and corrosion properties of cold metal transfer welded and friction stir welded aluminium alloy AA2219", *Jordan Journal of Mechanical and Industrial Engineering*, vol. 12, no. 4, pp. 281-292, 2019. **Hashemite University**

25. A. Yukesh Aravind, **R. Vaira Vignesh**, R. Padmanaban, M. Govindaraju, "Study on the Mechanical and Corrosion behavior of AA5052 Tailor Welded Blanks Fabricated using Friction Stir Welding", *Journal of Materials and Environmental Sciences*, vol. 10, no. 7, pp. 624-636, 2019. **University of Mohammed Premier**

26. K. B. Arjun, R. Harikeshava, C. R. Sreenath, G. Srihari, **R. Vaira Vignesh**, R. Padmanaban, "Effect of load, sliding distance and sliding velocity on the wear properties of aluminium alloy AA5052", *IOP Conference Series: Materials Science and Engineering*, vol. 577, 012016, 2019

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30. Pachigolla Kesava Sai Srujan, Hari Krishna Kaka, **R. Vaira Vignesh**, Kota Pavan Kalyan, R. Padmanaban, M. Govindaraju, "Cost-effective manufacturing of piping components with consistent quality through continuous furnace brazing", *AIP Conference Proceedings*, vol. 2128, 020004, pp. 1-12, 2019.

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34. **R. Vaira Vignesh**, and R. Padmanaban, "Comparison of ANN training algorithms for predicting the tensile strength of friction stir welded aluminium alloy AA1100", *International Journal of Vehicle Structures And Systems*, vol. 10, no. 2, 2018.
35. **R. Vaira Vignesh**, R. Padmanaban, "Modelling of peak temperature during friction stir processing of magnesium alloy AZ91", *IOP Conference Series: Materials Science and Engineering*, vol. 310, p. 012019, 2018.
36. V. R. Barath, **R. Vaira Vignesh**, R. Padmanaban, "Analysing the strength of friction stir welded dissimilar aluminium alloys using Sugeno Fuzzy model", *IOP Conference Series: Materials Science and Engineering*, vol. 310, p. 012043, 2018.
37. C. Jayakarthish, A. P. Povendhan, **R. Vaira Vignesh**, R. Padmanaban, "Analysing the influence of FSP process parameters on IGC susceptibility of AA5083 using Sugeno-Fuzzy model", *IOP Conference Series: Materials Science and Engineering*, vol. 310, p. 012043, 2018.
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44. T. Abinaya, **R. Vaira Vignesh**, T. Muthu Vijayan "Solar based Grid Tie Integration System for Efficient Power Management", in *International Conference on Energy, Communication, Data Analytics, and Soft Computing*, no. 4, pp. 446-451, 2018.
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