



### **R&D PROJECTS SACTIONED (2021-2022)**

1. Dr.S.Albert Alexander / EEE, Dr.S.Shankar / MTS, Dr.M.Srinivasan / EEE, Mr.D.Sarathkumar / EEE received research grant of Rs. 28,65,200/- for the project entitled “Design and development of solar photovoltaic assisted micro-grid architecture with improved performance parameters intended for rural areas” under DST- TMD-WCE scheme on 03.06.2021, Ref. No.DST/TMD/CERI/RES/2020/32/(G).

### **REFERRED JOURNAL PUBLICATIONS**

1. Nirmalkumar, K., Karthik, D., and Priyadarshini, R., (2021). Characteristic assessment of self-compacting concrete with supplementary cementitious materials. *Construction and Building Materials*, Vol.297, pp.1-14.
2. Raveendran, P.S., and Sekhar, S.J., (2021). Energy and exergy analysis on hydrofluoroolefin/ hydrofluorocarbon (HFO/HFC) refrigerant mixtures in low and medium temperature small-scale refrigeration systems. *Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering*, Vol. 235(3), pp. 718-730.
3. Senthil, S., Nathan, S.R., and Parameshwaran, R., (2021). Experimental investigation on joining process of aluminium alloy 6063-T6 pipes using hybrid friction stir welding. *Journal of the Brazilian Society of Mechanical Sciences and Engineering*, Vol. 43(7), pp. 1-9.
4. Gunasekaran, A.P., Chockalingam, M.P., Padmavathy, S.R., and Santhappan, J.S., (2021). Numerical and experimental investigation on the thermochemical gasification potential of Cocoa pod husk (TheobromaCocoa) in an open-core gasifier. *Clean Technologies and Environmental Policy*, Vol. 23(5), pp. 1-13.
5. Shankar, S., Naveen Kumar, R., Hariharan, CPS., KarthikRaja S and Janakiraman, S., (2021). Ergonomic evaluation of ergonomically designed chalkboard erasers on shoulder and hand-arm muscle activity among college professors. *International Journal of Industrial Ergonomics*, Vol. 84, pp.103170.
6. Santhosh, S., Rajasekar, R., Gobinath, V.K., Moganapriya, C., and Manju Sri, A., (2021). Utilisation of transition metal chalcogenide MoSe<sub>2</sub> as promising

antireflective coating for achieving intensified light trapping. *Chalcogenide Letters*, Vol.18(6), pp. 327-337.

7. Ajay, S., and Somasundaram, P., (2021). Experimental analysis on combustion, performance and emission characteristics of an internal combustion engine using bioalcohols. *Journal of Environmental Protection and Ecology*, Vol. 22(2), pp.735-749.
8. Tamilvanan, A., Balamurugan, K., Mohanraj, T., Selvakumar, P., and Madhankumar, B., (2021). Parameter optimization of copper nanoparticle synthesis by electrodeposition process using RSM and CS. *Materials Today: Proceedings*, Vol.45, pp.751-756.
9. Shankar, S., Nithyaprakash, R., Abbas, G., Pramanik, A., and Animesh Kumar Basak, (2021).Tribological behavior of silicon nitride-based ceramics - a review. *JurnalTribologi*, Vol.29, pp.57-71.
10. Babu, S., Pridhar, T., Srinivasana, R., Karthikeyan, A., Dhanasekaran, M., and Pratheep, V. G., (2021). Investigation on mechanical properties and characterization of microwave cladded stainless steel. *Journal of Non-Oxide Glasses*, Vol.13(2), pp.13 - 19.
11. Senthilraja, S., Ravichandran, P., and Gangadevi, R.,(2021).Influence of temperature and volume fraction on the thermophysical properties of CuO-R134a nano refrigerant and its application in battery thermal management system. *Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering*, Vol. 235(3), pp. 660-669.
12. Thangavel, S., Maheswari, C., and Priyanka, E., (2021). Dynamic modeling and control analysis of industrial electromechanical servo positioning system using machine learning technique. *Journal of Testing and Evaluation*, Vol.49, pp.2425-2440.
13. Gomathi, K., and Balaji, A., (2021). Tool condition monitoring of PCB milling machine based on vibration analysis. *Materials Today: Proceedings*, Vol.45(2),pp. 3386-3397.
14. Gomathi, K., Balaji, A., and Mrunalini., (2021). Design and optimization of a differential capacitive micro accelerometer for vibration measurement. *Journal of the Mechanical Behavior of Materials*, Vol.30, pp.19-27.
15. Gomathi, K., Sakthivel, R., Joseph John Marshal, S., and Pratheep V.G., (2021). Design, fabrication, and performance analysis of intelligent mesoscale capacitive accelerometer for vibration measurement. *Journal of Testing and Evaluation*, Vol. 49, No. 4, 2021.
16. Pratheep, V.G., Priyanka, E.B., Thangavel, S., and Gomathi, K., (2021).Genetic algorithm-based robust controller for an inverted pendulum using model order reduction. *Journal of Testing and Evaluation*, Vol.49(4), pp. 2441-2455.

17. Glivin, G., Kalaiselvan, N., Mariappan, V., Premalatha, M., Murugan, P.C., and Sekhar, J., (2021). Conversion of biowaste to biogas: A review of current status on techno-economic challenges, policies, technologies and mitigation to environmental impacts. *Fuel*, Vol.302, p.121153.
18. Prasad, G.A., Murugan, P.C., Wincy, W.B., and Sekhar, S.J., (2021). Response Surface Methodology to predict the performance and emission characteristics of gas-diesel engine working on producer gases of non-uniform calorific values. *Energy*, Article ID:121225.
19. Kamalesh,MS., Senthilnathan, N., Chokkalingam,B., and Mihet-Popa, L.,(2021). Mitigation of circulating current with effective energy management in low-power PV-FC-battery-microgrid. *International Transactions on Electrical Energy Systems*, Vol.31(6), pp.1-28.
20. Bharatiraja, C., Lakshmikhandan, K., Kamalesh, M.S., Rajasekaran, D., and Twala, B., (2021). A Non-Isolated High-Gain DC to DC Converter Connected Multi-level Inverter for Photo-Voltaic Energy Sources. *Journal of Applied Science and Engineering*, Vol.24(3), pp.415-422.
21. Albert Alexander,S., Srinivasan, M., Ravi, S., Vinoth, K., Senthil Kumar, S., Gnanavel, C.,and Geetha, M.,(2021). Fuzzy Logic Control for Solar PV fed Modular Multilevel Inverter towards Marine Water Pumping Applications. *IEEE Access*, Vol.9, pp.88524-88534.
22. Banumathi S., Karthik T. S., Sasireka M., Kiran Ramaswamy, Vishnu J.,Yuvan M. K.,Kavin R. R.,and Sathish Kumar S. (2021). Investigation on Dielectric Properties of Press Board Coated with Epoxy Resin, Quartz, and Rice Husk Ash. *Advances in Materials Science and Engineering*, Volume 2021 |Article ID 9839770.
23. Umaphathi, K., Sangeetha, Y., Shankar, A.N., Vidhyalakshmi, P., Ramkumar, R., Balakumar, S., and Magdalinmary, D., (2021). Computational Investigations of Fixed-Free and Fixed-Fixed Types Single-Wall Carbon Nanotube Mass Sensing Biosensor. *Advances in Materials Science and Engineering*, Vol. 2021, Article ID 3253365.
24. Navinkumar, T.M., Mary, A.A.M., Gokila, P.V., Saranya, A., Sasireka, M., and Naganandhini, S., (2021). Closed Loop Speed Control of Bldc Motor with Design and Modelling using Fuzzy Logic Controller. *Annals of the Romanian Society for Cell Biology*, Vol.25, pp.8056-8063.
25. Venkatesan, B,K., Yuvaraj, G., Seshank Aditya, G., Paramasivam, S., Yaswanth and Thirukumaran, L., (2021). Measurement and Monitoring of Water Quality using Smart Sensing in Home Water Purifier. *Grenze International Journal of Engineering and Technology*. Vol.7(1), pp.607-612.
26. Venkatesan, B., Yuvaraj, K., Swarga, S.R., Sumithaa, S., and Sugitha, S., (2021). Performance comparison of wavelet transforms in multimodal biomedical image fusion. *Solid State Technology*, Vol.63(3), pp.5168-5181.
27. Janarthanan, S., Thangatamilan, M.,and Suji Prasad, S.J., (2021). Federated Health Monitoring System. *Research Journal of Pharmacy and Technology*, Vol.14(3),pp.1438-1440.
28. Suresh, M., and Meenakumari, R., (2021). An improved genetic algorithm-based optimal sizing of solar photovoltaic/wind turbine generator/diesel generator/battery connected hybrid energy systems for standalone applications. *International Journal of Ambient Energy*, Vol.42(10), pp. 1136-1143.
29. Aurlmurugan, A., Roobiha, V.R., Narendran, G., Praneshkumar, K. and Gokul, C., (2021). A low-power True Single Phase Clock scan cell design for VLSI testing. *Materials Today: Proceedings*, Vol.45(2), pp.3153-315.
30. Neffati, O.S., Setiawan, R., Jayanthi, P., Vanithamani, S., Sharma, D.K., Regin, R., Mani, D. and Sengan, S., (2021). An educational tool for enhanced mobile e-Learning for technical higher education using mobile devices for augmented reality. *Microprocessors and Microsystems*, Vol.83, p.104030, pp.1-11.
31. Jeslet, D.S., Komarasamy, D., and Hermina, J.J., (2021). Student Result Prediction in Covid-19 Lockdown using Machine Learning Techniques. In *Journal of Physics: Conference Series*, Vol.1911(1), p.012008, pp.1-9.
32. Hemaswathi, S., and Malliga,S., (2021). Improved Optimal Route Utilisation in Wireless Ad Hoc Network with Log Jam Identification Algorithm. *Journal of Environmental Protection and Ecology*, Vol.22(3), pp.1270-1280.
33. Rajesh, R., Annadurai, C. and Nirmaladevi, K., (2021). Low power device coordination in internet of things environment using analytic hierarchy process model. *Concurrency and Computation: Practice and Experience*, Vol.33(7), pp.1-1.
34. Gothai, E., Natesan, P., Rajalaxmi, R.R., Vignesh, T., Srinithy, K. and Balaji, T.V., (2021). Predictive analysis in determining the dissemination of infectious disease and its severity. *IEEE 2021 5th International Conference on Computing Methodologies and Communication (ICCMC)*, ISBN:978-1-6654-0360-3pp. 1556-1562.
35. Kanimozhiselvi, C.S. and Santhiya, S., (2021). Communication Disorder Identification from Recorded Speech using Machine Learning Assisted Mobile Application. *IEEE 2021 5<sup>th</sup> International Conference on Computing Methodologies and Communication (ICCMC)*, ISBN:978-1-6654-0360-3,pp.789-793.
36. Kanimozhiselvi, C.S., Kalaivani, K.S. and Abinayaa, S.K.C., (2021). An Analysis and Forecasting of Covid-19 Spread in Tamil Nadu based on Additive Model for Non-Linear Pattern. *IEEE 2021 5th International Conference on*

*Computing Methodologies and Communication (ICCMC)*, ISBN: 978-1-6654-0360-3, pp. 1279-1283, IEEE.

37. Lalitha, K., Thangarajan, R., Rajeshkumar, D., and Poongodi, C., (2021). A geodesic deployment and radial shaped clustering (RSC) algorithm with statistical aggregation in sensor networks. *Turkish Journal of Electrical Engineering & Computer Sciences*, Vol.29(3), pp.1464-1478.
38. Suresh, P., Keerthika, P., Sathiyamoorthi, V., Logeswaran, K., Sentamilselvan, K., Sangeetha, M., and Sagana, C., (2021). Cloud-Based Big Data Analysis Tools and Techniques towards Sustainable Smart City Services. *Decision Support Systems and Industrial IoT in Smart Grid. Factories, and Cities*, ISBN:9781799874683, pp.63-90.
39. Shanthakumari, R., Roopa Devi, E.M., Rajadevi, R., and Bharaneeshwar, B., (2021). Information Hiding in Audio Steganography using LSB Matching Revisited. *Journal of Physics: Conference Series*, Vol.1911(1), p.012027.
40. Abitha, S., Prakash Maram, J., and Jony Blessing Manoj, J., (2021). Functional properties of hot air dried cardio spermum halicacabum leaves. *Materials Today: Proceedings*, Vol.45, No.2, pp.2887-2889.
41. Abitha, S., Prakash Maram, J., and Jony Blessing Manoj, J., (2021). Hot air drying characteristics of cardio spermum halicacabum leaves. *Materials Today: Proceedings*, Vol.45, No.2, pp.2635-2637.
42. Gurukumaresan, D., Duraisamy, C., Srinivasan, R., and Vijayan, V., (2021).Optimal solution of fuzzy assignment problem with centroid methods. *Materials Today: Proceedings*, Vol.37(2), pp.553-555.
43. Radha, B., and Duraisamy, C., (2021). The homogeneous balance method and its applications for finding the exact solutions for nonlinear equations. *Journal of Ambient Intelligence and Humanized Computing*, Vol.12(6), pp.6591-6597.
44. Gomathy, R., (2021). Awareness of Metacognitive Strategy in the First Year Engineering College Students–A Study. *Turkish Journal of Computer and Mathematics Education*, Vol.12(13), pp.221-227.
45. Nandhinidevi, S., Harish, S., Narresh, M., and Yokeswaran, D., (2021). Multi Classification of Brain Tumor MRI Images using Deep Learning Technique. *International Journal of Innovative Research in Technology*, Vol.8(1), pp.439-442.
46. Latha, R.S., Sreekanth, G.R., Suganthe, R.C., and Selvaraj, R.E., (2021). A survey on the applications of Deep Neural Networks. *IEEE International Conference on Computer Communication and Informatics (ICCCI)*, pp.1-3.

EDITOR(S)

Dr.S.Shankar  
Dr.C.Maheswari

ADDRESS FOR COMMUNICATION

Research & Development Cell  
Kongu Engineering College  
Perundurai 638060, TamilNadu, INDIA  
rnd@kongu.ac.in