



### PH.D VIVA-VOCE COMPLETED

1. A.Tony Thomas, Research Scholar, Department of Mechatronics Engineering defended his thesis entitled “An investigation on the implementation of different controllers for an electro hydraulic servo system” on 11.08.2021 under the guidance of Dr.R.Parameshwaran / MTS.

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

1. Dr.S.Albert Alexander / EEE, Dr.S.Shankar / MTS, Dr.M.Srinivasan / EEE and 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).
2. Dr.V.Chitra Devi / FT, Mr.S.Mothil / Chemical and Mr.R.Sathish Raam / Chemical received research grant of Rs. 1,07,09,518/- for the project entitled “Design and development of continuous high pressure screw reactor for Alkali catalyzed hydrothermal co-liquefaction of plastic wastes with lignocellulosic biomass” under DST-TDT-WMT scheme on 01.07.2021, Ref. No. DST/TDT/WMT/Plastic Waste/2021/08[G].
3. Dr.G.S.Rampradheep / Civil received travel grant of Rs.2,00,000/- for the project “Grant for study tour of ATAL tunnel under the AICTE youth undertaking visit for acquiring knowledge (Yuvak) scheme” with students under AICTE scheme on 19.08.2021, Ref. No. STDC-AICTE-ST-AT/266/2020-2021/37.

### REFERRED JOURNAL PUBLICATIONS

1. Shanmugasundaram Vinodhkumar., and Shanmugam Balaji., (2021). Characterisation of magnesite mine tailings as construction material, *Environmental Science and Pollution Research*, Vol.28(33), pp.45557-45570.
2. Naveenraj, V., Kulanthaivel, P., Velmurugan, S., Arun Kumar, M., and Prabakaran., (2021). Model Tests on use of Tyre Chips and Fly Ash Chips as a Replacement of Aggregate in stone Columns, *Materials Research Proceedings*, Vol.19(1), pp.133-141.

3. Ravichandran, P., Shadheer Ahamed, M., and Ambika, D., (2021). An Experimental Investigation on Concrete Filled Steel Tube Columns under Axial Compression, *Materials Research Proceedings*, Vol.19(1), pp.66-76.
4. Suchithra S., and Jayashree, S., (2021). Mechanical Strength Study on C&D Aggregates Replaced Concrete, *Materials Research Proceedings*, Vol.19(1), pp.142-149.
5. Suchithra, S., Madhankumar, S., Gowshic Prasanna, M., Nandhakumar, V., and Jayashree, S., (2021). Basic Experimental Studies on Coconut Shell Charcoal Ash in Modified Bitumen, *Materials Research Proceedings*, Vol.19(1), pp.123-132.
6. Janani, S., Ranjani, V., Ram Prithivi, H., and Poongundran, R., (2021). A Study on Sustainable Reutilization of C&D Debris in the Construction of Traffic Barrier, *Materials Research Proceedings*, Vol.19(1), pp.108-114.
7. Kulanthaivel, P., Selvakumar, S., and Soundara, B., (2021). Influence of Nano-silica and sodium silicate on the strength characteristics of clay soil, *Nanotechnology for Environmental Engineering*, Vol.6(3), pp.46.
8. Tamilvanan, A., Balamurugan, K., Ashok, B., Selvakumar, P., Dhamotharan, S., Bharathiraja, M., and Karthickeyan, V., (2021). Effect of diethyl ether and ethanol as an oxygenated additive on Calophyllum inophyllum biodiesel in CI engine, *Environmental Science and Pollution Research*, Vol.28(26), pp.33880-33898.
9. Kumar, H.V., Sivakumar, A., Gowshik, G., Deepanraj, S., and Prabakaran, R., (2021). Analyze the Design of Leaf spring by Solid works and Ansys to Improve the Vehicle Performance, *Annals of the Romanian Society for Cell Biology*, Vol.25(5), pp.1864-1875.
10. Kumar, H.V., Saravanakumar, S., Sivakumar, A., Gokul, M., Jagadheeswaran, S., and Manikandan, M., (2021). Improve the efficiency of Battery Cooling System in E Vehicle by Nano-fluids with CFD Analysis, *IOP Conference Series: Materials Science and Engineering*, Vol.1126(1), pp.012063.
11. Sambathkumar, M., Navaneethakrishnan, P., Sasikumar, K.S.K., Gukendran, R., and Ponappa, K., (2021). Investigation of Mechanical and Corrosion Properties of Al 7075/Garnet Metal Matrix Composites by Two-stage Stir Casting Process, *Archives of Metallurgy And Materials*, Vol.66(4), pp.1123-1129.
12. Rajeshkumar, G., Hariharan, V., Devnani, G. L., Prakash Maran, J., Sanjay, M. R., Siengchin, S., Al-Dhabi, N. A., and Ponnurugan, K., (2021). Cellulose fiber from date palm petioles as potential reinforcement for polymer composites: Physicochemical and structural properties, *Polymer Composites*, Vol. 42( 8), pp.3943.
13. Shankar, S., Nithyaprakash, R., Selvamani, K. A., and Kumar, R.N., (2021). Effect of Radial Clearance, Ellipsoidal and Corner Radius on Contact Mechanics of Metallic and Ceramic Implants under Fixed Micro-Lateralization: A Finite Element Analysis, *Trends in Biomaterials & Artificial Organs*, Vol.35(3), pp.247-254.
14. Prakash, R., Meenakshipriya, B., Kumaravelan, R., and Vijayan, S., (2021). Preparation and study on thermophysical properties of inorganic salt hydrate as energy storage materials. *Materials Today: Proceedings*, Vol. 42, pp. 450-456.

15. Tony Thomas, A., Thangarasu, S.K., and Sowmithra, T., (2021). Modeling and Simulation of an Electro-Hydraulic System Using Fuzzy Logic Approach. *Book Chapter on Fluid Mechanics and Fluid Power*. Springer, Singapore, pp.807-822.
16. Mohanraj, T., and Shanmugam, A., (2021). Prediction of tool wear in milling of Inconel 625 using and integrated kurtosis-based algorithm with vibration signals. *Journal of Physics: Conference Series*, Vol.1969(1), pp.012048.
17. Muralidharan, N., Pratheep, V.G., Shanmugam, A., Hariram, A., Dinesh, P., and Visnu, B., (2021). Structural analysis of mini drone developed using 3D printing technique. *Materials Today: Proceedings*, Vol.46, Part.17, pp.8748-8752.
18. Bagyalakshmi, C., Samundeeswari, E.S., and Arun Kumar, V., (2021). An Experimental Work of TCP SYN Flood Ddos Attack on Cloud Environment – Simulation Approach. *International Journal of Aquatic Science*, Vol.12(3), pp.1285-1293.
19. Ganesh Kumar, P., Prabakaran, R., Sakthivadivel, D., Thangapandian, N., Velraj, R., and Kim, S.C., (2021). Effect of shot blasting on droplet contact angle of carbon aided phase change Nano composites. *Surface Engineering*, Vol.37(8), pp.1002-1011.
20. Rajamani, C., and Somasundaram, P., (2020). Energy conservation in vapour compression refrigeration system using vapour injection technique. *Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering*, Vol.235(4), pp.779-784.
21. Poongavanam, G., Sivalingam, V., Prabhakaran, R., Mohammad, S., and Kim, S.C., (2021). Selection of the best refrigerant for replacing R134a in automobile air conditioning system using different MCDM methods: A comparative study. *Case Studies in Thermal Engineering*, p.101344.
22. Nithyanandhan, K., Subburaj, A.K., Mohanraj, R.K., and Rasu, S., (2020). Experimental investigation on performance, combustion and emission characteristics of CI engine with on-site hydrogen generation. *Materials Today: Proceedings*, Vol.46, pp.5469-5474.
23. Ravi Samikannu., Raymon Antony Raj., Dhayalini Karuppiyah., Narasimha Rao Dasari., Senthil Kumar Subburaj., Srinivasan Murugesan., and Sheik Sidthik Akbar., (2021). Reclamation of natural esters using Nanocarriers as the biodegradable choice for the transformer insulation. *Environmental Technology and Innovation*, Vol.23, p.101634.
24. Savio Abraham, D., Verma, R., Kanagaraj, L., Giri Thulasi Raman, S., Rajamanickam, N., Chokkalingam, B., Kamalesh, MS., and Mihet-Popa, L., (2021). Electric Vehicles Charging Stations Architectures, Criteria, Power Converters, and Control Strategies in Microgrids. *Electronics*, Vol.10(16), pp.1-45.
25. Rajalashmi, K., Sheela, A., Pradeep, T.K., and Dhinakaran, R., (2021). Home Automation using IoT – Breaking Barriers and Changing Live. *International Journal of Aquatic Science*, Vol.12(3), pp.1529 – 1535.
26. Mohammed El Hadi Attia., Abd Elnaby Kabeel., Abdelkader Bellila., Athikesavan Muthu Manokar., Ravishankar Sathyamurthy., Zied Driss., and Suresh Muthusamy., (2021). A comparative energy and exergy efficiency study of hemispherical and single-slope solar stills. *Environmental Science and Pollution Research*, Vol.28(27), pp.35649-35659.
27. Sathya Narayanan, V., and Kasthuri, N., (2021). An efficient recognition system for preserving ancient historical documents of English characters. *Journal of Ambient Intelligence and Humanized Computing*, Vol.12(6), pp. 6275-6283.
28. Nirmaladevi, P., and Asokan, R., (2021). Interscale adaptive threshold wavelet filter for ultrasound image despeckling. *International Journal of Biomedical Engineering and Technology*, Vol.36(3), pp.293-310.
29. Bharti, J. P., Mishra, P., Sathishkumar, V. E., Cho, Y., and Samui, P., (2021). Slope Stability Analysis using Rf, Gbm, Cart, Bt and Xgboost. *Geotechnical and Geological Engineering*, Vol.39(5), pp.3741-3752.
30. Gopikrishnan, S., Priakanth, P., Srivastava, G., and Fortino, G., (2021). EWPS: Emergency data communication in the Internet of Medical Things. *IEEE Internet of Things*, Vol.8(14), pp.11345-11356.
31. Vijayalakshmi, K., Selvi, C. K., and Sapna, B., (2021). Novel tri-band series fed microstrip antenna array for THz MIMO communications. *Optical and Quantum Electronics*, Vol.53(7), pp.1-13.
32. Bhavya Shri, R.R., and Shanmugam, P., (2021). A review on occurrence, characteristics, toxicology and treatment of nanoplastic waste in the environment. *Environmental Science and Pollution Research*, Vol.28, pp.43258–43273.
33. Jafari, R., Rajesh, N., and Vennila, R., (2021). On r-Fuzzy Weakly b-Open Functions. *Palestine Journal of Mathematics*, Vol.10(2), pp.185–190.
34. Muthukrishnan, M., Shanthi, C., Selvasekarapandian, S., Shanthi, G., and Maheshwari, T., (2021). Impact of ammonium formate (AF) and ethylene carbonate (EC) on structural, electrical, transport and electrochemical properties of Pectin - biopolymer memberane, *Ionics*, pp.3443 – 3459.
35. Shobana, D., Sudha, S., Ramarajan, D., Nikola Ristivojević., Aleksandra Rakić., and Dušan Dimić., (2021). Structural, spectroscopic (IR, Raman, and NMR), quantum chemical, and molecular docking analysis of (E)-2-(2,5-dimethoxybenzylidene)hydrazine carbothioamide and its dimmers. *Journal of Molecular Structure*, Vol.1247, p.131277.
36. Latha, N., Sudha, S., Ramarajan, D., and Barathi Diravidamani., (2021). Structural, spectral, optical and Z-Scan budding studies of (E)-N'-(4-bromobenzylidene)-4-fluorobenzohydrazide. *Optik*, Vol.247, p.167869.
37. Ramya Suresh., Baskar Rajoo., Maheswari Chenniappan., and Manikandan Palanisamy., (2021). Feasibility of applying nonthermal plasma for dairy effluent treatment and optimization of process parameters. *Water and Environment Journal*, Vol.35, pp.1038–1050.
38. TAMILISAI, R., Palanisamy, P.N., Selvasekarapandian, S., and Maheshwari, T., (2021). Sodium alginate incorporated with magnesium nitrate as a novel solid biopolymer electrolyte for magnesium-ion batteries. *Journal of Materials Science: Materials in Electronics*, Vol.32(17), pp.22270-22285.
39. Krishnamoorthy, P., Fialho, C.B., Cruz, T.F.C., Rodrigues, A.T., Ferreira, B., Gomes, C.S.B., Vila-Viçosa, D., Ana Charas, J.M., Esperança, S.S., Ferreira, L.F.V., Calhorda, M.J., Maçanita, A.L., Morgado, J., and Gomes, P.T., (2021).

- New luminescent tetracoordinate boron complexes: an in-depth experimental and theoretical characterisation and their application in OLEDs. *Inorganic Chemistry Frontiers*, Vol.8(17), pp.3960-3983.
40. Pyngkodi, M., Saravanan, T.M., Shanthi, S., Sudarshan, T., and Poornima, R.M., (2021). Using Deep Learning Techniques to Enhance Brain Tumor Diagnosis and Classification on MRI Images. *International Journal of Aquatic Science*, Vol.12(3), pp.1469-1474.
  41. Pyngkodi, M., Wilfred Blessing, N., Shanthi, S., Mahalakshmi, R., and Gowthami, M., (2021). Performance Evaluation of Machine Learning Algorithm for Lung Cancer. *International Journal of Aquatic Science*, Vol.12(3), pp. 1460-1468.
  42. Poorani, S., and Balasubramanie, P., (2021). Seizure detection Based on EEG signals using Asymmetrical back propogation neural network method. *Circuits systems and Signal Processing*, Vol.40, pp.4614-4632.
  43. Sumathi, A., Nandhinidevi, S., and Yosotha, K., (2021). A Fine -Grained Top K Multikeyword search over large scale distributed data processing paradigm. *Turkish online Journal of Qualitative Inquiry*, Vol.12(7), pp.1828-1839.
  44. Saranya, S.S., Santhosh, C., and Vijayakumar, M., (2021). Blockchain Endorsement Technology - A review of future smart paradigms. *International Journal of Aquatic Science*, Vol.12(3), pp.975 – 981.
  45. Renukadevi, N.T., Saraswathi, K., and Anguraj, B., (2021). State of the Art Techniques on Medical Image Analysis using Deep Learning. *International Journal of Aquatic Science*, Vol.12(3), pp.1024-1031.
  46. Kavitha, M.N., Vennila, V., Padmapriya, G., Rajiv Kannan, A., (2021). Prevention of Sql injection Attack using unsupervised Machine Learning. *International Journal of Aquatic Science*, Vol.12(3), pp.1413 – 1424.
  47. Roopa, D., Murukesh, C., Rayavel, P., Renukadevi, B., and Malathi Eswaran., (2021). Hybrid algorithm in identifying the plant disease and to suggest medical advice. *Journal of Physics: Conference Series*, Vol.1964(4), p.042026.
  48. Karthikeyani Visalaksh,i N., Shanthi, S., and Lakshmi, K., (2021). MapReduce-Based Crow Search-Adopted Partitional Clustering Algorithms for Handling Large-Scale Data. *International Journal of Cognitive Informatics and Natural Intelligence*, Vol.15(4), pp.1-23.
  49. Zhen, Y., Maragatham, T., and Mahapatra, R.P. (2021). Design and implementation of smart home energy management systems using green energy. *Arabian Journal of Geosciences*, Vol.14(18), pp.1-11.
  50. Sreekanth Ramakrishnan., Latha Sevalaiappan., and Suganthe Ravichandran., (2021). Traffic-Aware Clustering Scheme for MANET using Modified Elephant Herding Optimization Algorithm. *International Arab Journal of Information Technology*, Vol.18(5), pp.694 – 703.
  51. Arumugam, M., Jayanthi, C., Magesh Kumar, N., (2021). Consumer Behaviour Analysis in Social Network using Big Data. *International Journal of Aquatic Science*, Vol.12(3), pp.294 – 299.
  52. Malathi Eswaran., Deepa, S., Hamsanandhini, S., and Shiwangi Ojha., (2021). Identification of Credit Card Fraud Detection using Decision Tree and Random Forest Algorithm. *International Journal of Aquatic Science*, Vol.12(3), pp.1646 – 1654.
  53. Suguna, R., Sathishkumar, P., and Deepa, S., (2021). A Hybrid Recommender System using Bio Inspired Clustering Technique for Top N Item Recommendation. *International Journal of Aquatic Science*, Vol.12(3), pp.1022 – 1011.
  54. Ragupathy, P., Logeswaran, K., Sathishkumar, P., and Deepa, S., (2021). Automatic Analysis System for Students Behavior in Online Classroom. *International Journal of Aquatic Science*, Vol.12(3), pp.1032 – 1037.

**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