



# KONGU ENGINEERING COLLEGE

## CAMPUS R&D NEWS



Transform Yourself

**VOL 04**

**FEBRUARY 2023**

**ISSUE 02**

### R&D PROJECTS SACTIONED (2022-2023)

1. Mr.M.S.Kamalesh / EEE received research grant of Rs.17,39,024/- for the project entitled "Design of a paddle based auxiliary charging circuit for E-bikes in left-out situation" under SERB-SIRE scheme on 23.08.2022, Ref. SIR/2022/000778.
2. Dr.R.Parameshwaran/MTS, Dr.S.M.Senthil/Mechanical and Dr.S.Praveenkumar /MTS received research grant of Rs.1,27,84,315/- for the project entitled "Development of intelligent powder-based 3D metal printer with integrated post-processing unit and industry 4.0 features" under DST-TDT-AMT scheme on 04.10.2022, Ref. DST/TDT/AMT/2021/013(G).
3. Dr.A.Santhoshkumar / Mechanical received research grant of Rs.18,30,000/- for the project entitled "Effective conversion of medical and municipal plastic wastes into value added products through integrated thermo-chemical reactors and its kinematic study and life cycle assessment" under SERB-TARE scheme on 24.11.2022, Ref. TAR/2022/000608.
4. Dr.S.V.Kogilavani/AI, Dr.S.Malliga/CSE, Dr.C.S.Kanimozhiselvi/AI and Ms.P.Jayadharshini/AI, received research grant of Rs.19,66,880/- for the project entitled "Study and development of a tool for Alzheimer's dementia detection from impulsive emotions, speech and language using transfer learning based deep neural network techniques" under ICMR-DHR scheme on 01.02.2023, Ref. F.No.R.11012/03/2023-GIA/HR.
5. Dr.S.Shankar/MTS, Dr.R.Naveenkumar/Mech and Dr.R.Nithyaprakash/MTS, received research grant of Rs.14,81,880/- for the project entitled "Investigating the impacts of chronic noise exposure on cognitive neuro-ergonomics on the performance and hearing impairments among the various power loom industry workers of Tamilnadu" under ICMR-DHR scheme on 23.02.2023, Ref. F.No.11013/17/2023-GIA/HR.

6. Dr.K.Dinesh/CSE, Dr.K.Kousalya/CSE and Mr.B.Krishnakumar/CSE received research grant of Rs.4,27,000/- for the project entitled "Impact of mobile phone and internet on education in terms of academic performance of students: Detailed study" under ICSSR-MRP scheme on 10.03.2023, File No.02/58/2022-23/RP/MN.

### REFERRED JOURNAL PUBLICATIONS

1. Premalatha, K., Angammal, S., and Raja, K., (2023). Behaviour of Precariously Balanced Rocks under Seismic Excitation. *Disaster Advances*, Vol.16(2), pp.7-12.
2. Vinodhkumar Shanmugasundaram., and Balaji Shanmugam., (2023). Application of cement treated magnesite mine tailings as subgrade. *Construction and Building Materials*, Vol.365(1), p.130064.
3. Jayaprakash Sridhar., Shanmugam Balaji., Dhanapal Jegatheeswaran., and Paul Awoye., (2023). Prediction of the Mechanical Properties of Fibre-Reinforced Quarry Dust Concrete using Response Surface and Artificial Neural Network Techniques. *Advances in Civil Engineering*, Vol.2023, Article ID: 8267639.
4. Sampathkumar Velusamy., Anandakumar Subbaiyan., Manoj Shanmugamoorthy., and Pradeep Thirumoorthy., (2023). Characterization of solid biomass briquette biofuel from the wastes of Senna auriculata and Ricinus communis using Tapioca starch for sustainable environment. *Environmental Science and Pollution Research*, Vol.30(5), pp.10110–10127.
5. Manikandan Palanisamy., Balaji Shanmugam., and Krishanu Roy., (2023). A Novel Approach to Improve the Distortional Buckling Strength of a Stiffened Cold-Formed Steel Channel Section under Axial Compression. *ASCE: Practice Periodical on Structural Design and Construction*, Vol.28(1), p.04022052.
6. Manoj Shanmugamoorthy., Anandakumar Subbaiyan., Lakshmanan Elango., and Sampathkumar Velusamy., (2023). Groundwater susceptibility assessment using the GIS based DRASTIC-LU model in the Noyyal river area of South India. *Urban Climate*, Vol.49, pp.1-12.
7. Suchithra Shanmughan., Santhosh Kumaar Kaliyannan., Sowmiya Marasamy., and Pavithran Thiyagarajan., (2023). Critical experimental work on effect of ceramic tile waste in concrete as a substitute to aggregates. *Journal of Ceramic Processing Research*, Vol.24(1), pp.111-119.

8. Sapna Kinattinkara., Thangavelu Arumugam., Nandhini Samiappan., Vivek Sivakumar., Sampathkumar Velusamy., Mohanraj Murugesan., and Manoj Shanmugamoorthy., (2023). Deriving an Alternative Energy using Anaerobic Co-Digestion of Water Hyacinth, Food Waste, and Cow Manure. *Journal of Renewable Energy and Environment*, Vol.10(1), pp.19-25.
9. Sampathkumar Velusamy., Ananthakumar Subbaiyan., Manoj Shanmugamoorthy., Venkadeshwara Reddy Vajrala., and Sharmma Arulmani., (2023). Combustion Characteristics Analysis of Agricultural Biomass - A Review. *Indian Journal of Environmental Protection*, Vol.43(1), pp.55-63.
10. Ramesh, C., Mohanraj Chandran., Chellamuthu, K., and Sivakumar, A., (2023). Impact of heat treatment on mechanical and tribological properties of metal matrix composites of AA6082 T6 with Tin, Zinc and graphite. *Journal of Ceramic Processing Research*, Vol.24(1), pp.120-126.
11. Dinakaran, V.P., Meenakshipriya, B., Muthusamy, S., and Panchal, H., (2023). Performa of SCARA based intelligent 3 axis robotic soft gripper for enhanced material handling. *Advances in Engineering Software*, Vol.176, pp.103366.
12. Suganeswaran, K., Parameswaran, R., Nithyavathy, N., Deepandurai, K., Mohanraj, T., and Muthukumar, P., (2023). Assessment of erosion rate on AA7075 based surface hybrid composites fabricated through friction stir processing by Taguchi optimization approach. *Journal of Adhesion Science and Technology*, (Taylor & Francis), Vol.37(5), pp.817-841.
13. Prabhakaran, P., Anandakumar, S., Priyanka, E.B., and Thangavel, S., (2023). Development of service quality model computing ridership of metro rail system using fuzzy system. *Results in Engineering*, Vol.17, p.100946.
14. Devi, T.K., Priyanka, E.B., and Sakthivel, P., (2023). Paper quality enhancement and model prediction using machine learning techniques. *Results in Engineering*, Vol.17, p.100950.
15. Naveen, C., Meenakshipriya, B., Tony Thomas, A., Sathiyavathi, S. and Sathishbabu, S., (2023). Real-Time Implementation of Iterative Learning Control for an Electro-Hydraulic Servo System. *IETE Journal of Research*, Vol.69(2), pp.649-664.
16. Murugan, P.C., Palanisamy, N., Padmavathy, S.R., Mohan, E., Winsly, B.W., and Santhappan, J.S., (2023). Techno-economic feasibility study on the application of downdraft gasifier in small-scale red clay bricks industries. *Applied Nanoscience*, Vol.13, pp.1155-1166.
17. Logeswaran, T., Bavva, S., Jyothiprabha, D., Karthika, S., Suganeshwaran, S., and Ranjith Kumar, R., (2023). Knitting Machine Monitoring System using Arduino. *International Conference on Automation, Computing and Renewable Systems (ICACRS)*, pp.1334-1337.
18. Kumar, M.A., Sabarimuthu, M., Telagam, N., Kumar, B.N., Upputuri, H.S., and Reddy, D.S., (2023). Smart Sensor Network Based Rover Design for Surveillance. *IEEE 1<sup>st</sup> International Conference on Data, Decision and Systems (ICDDS)*, pp. 1-5, doi: 10.1109/ICDDS56399.2022.10037295.
19. Raymon Antony Raj., Srinivasan Murugesan., Sarathkumar, D., and Sampath Kumar Venkatachary., (2023). A practical method for restoring waste cooking and motor oil as possible biofuel energy. *2<sup>nd</sup> International Conference on Innovative Sustainable Computational Technologies (CISCT)*, doi: 10.1109/CISCT55310.2022.10046608.
20. Leo John Baptist Andrews., Annamalai Alagappan., Sampath Kumar Venkatachary., Sarathkumar, D., and Raymon Antony Raj., (2023). A Smart City Concept for Botswana in the Sub Saharan Region of Africa. *2<sup>nd</sup> International Conference on Innovative Sustainable Computational Technologies (CISCT)*, doi: 10.1109/CISCT55310.2022.10046488.
21. Annamalai Alagappan., Leo John Baptist Andrews., Sampath Kumar Venkatachary., and Sarathkumar, D., and Raymon Antony Raj., (2023). Cybersecurity Risks Mitigation in the Internet of Things. *2<sup>nd</sup> International Conference on Innovative Sustainable Computational Technologies (CISCT)*, doi: 10.1109/CISCT55310.2022.10046549.
22. Sarathkumar, D., and Raymon Antony Raj., (2023). Development of smart grid from microgrids: Components and Applications. *2<sup>nd</sup> International Conference on Innovative Sustainable Computational Technologies (CISCT)*, doi: 10.1109/CISCT55310.2022.10046451.
23. Albert Alexander, S., Harish, R., Srinivasan, M., and Sarathkumar, D., (2023). An extensive critique on fault-tolerant systems and diagnostic techniques intended for solar photovoltaic power generation. *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects*, Vol.45(1), pp.1856-1873.
24. Arigela, S.H., Santhanakrishnan, T., Raman, R., Vijayakumar, G.N.S., Anusuya, M., and Logeswaran, T., (2023). Centred Sourced high gain Multilevel Boost Converter for Renewable application. *International Conference on Power, Energy, Control and Transmission Systems (ICEPTS)*, pp.1-6.
25. Madhan Mohan. M., Baluprithviraj., K.N., Sridhar. S., Varsinishrilaya, P.K., Narendh, N., and Kalavathi Devi, T., (2023). Smart Driving Assistant for Upclimbing Hill Slope Area. *International Conference on Automation, Computing and Renewable Systems (ICACRS)*, pp.1344-1346.



26. Baluprithviraj, K.N., Monesh, M.S., Pranesh Raj, C., and Varuna, S., (2023). Application Programming Interface (API) based Student Activity Tracking System. *International Conference on Augmented Intelligence and Sustainable Systems (ICAISS)*, pp.739-744.
27. Baluprithviraj, K.N., Kalavathi Devi, T., Madhan Mohan, M., Harini, R., Janarthanan, M.M., and Jasodhasree, C., (2023). Smart IoT Based Solar Powered Lawn Mower Robot. *13<sup>th</sup> International Conference on Computing Communication and Networking Technologies (ICCCNT)*, pp. 1-6.
28. Vidhyalakshmi, P., Dhanishka, K.V., Gokulapriya, P., and Vasant, S., (2023). Controlling and Monitoring of Boiler Parameters using Scada. *Journal of survey in fisheries sciences*, Vol.10(2S), pp.214-218.
29. Meeradevi, T., Sasikala, S., and Gomathi, S., (2023). An analytical survey of textile fabric defect and shade variation detection system using image processing. *Multimedia Tools and Applications* 82, pp.6167–6196.
30. Saravanan Pandiyaraj., Maheswari Murali., Suresh Muthusamy., and Hitesh Panchal., (2023). Ultrasonically synthesized MgZnO nanoparticles for enhanced piezo-photocatalysis and MgZnO/p-Si heterojunction diode characteristics. *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects*, Vol.45(1), pp.762-776.
31. Elango Kannan., Maheswari Avudaiappan., Saravanan Kaliyaperumal., Suresh Muthusamy., Santhiya Pandiyan., Hitesh Panchal., Kannan Manickam., and Chandrasekar Shanmugam., (2023). A novel single phase grid connected solar photovoltaic system for state of charge estimation using recurrent neural networks. *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects*, Vol.45(1), pp.841-859.
32. Shanmugapriya, T., and Kousalya, K., (2023). Cluster Head Selection and Multipath Routing Based Energy Efficient Wireless Sensor Network. *Intelligent Automation & Soft Computing*, Vol.36(1), pp.879-894.
33. Malliga, S., Cho, J., Sathishkumar, V.E., and Naren, O.R., (2023). Multiple types of Cancer classification using CT/MRI images based on Learning without forgetting powered Deep Learning Models. *IEEE Access*, Vol. 11, pp. 10336- 10354.
34. Sathishkumar, V.E., Cho, J., Malliga, S., and Naren, O.S., (2023). Forest fire and smoke detection using deep learning-based learning without forgetting. *Fire Ecology*, Vol.19(1), pp.1-17.
35. Subramani, N., Veerappampalayam Easwaramoorthy, S., Mohan, P., Malliga, S., and Sambath, V., (2023). A Gradient Boosted Decision Tree-Based Influencer Prediction in Social Network Analysis. *Big Data and Cognitive Computing*, Vol.7(1), p.6.
36. Hemalatha, S., Tamilselvi, T., Kumar, R.S., Thangamani, M., Lakshmi, S., and Gulati, K., (2023). Assistive Tools for Machine Communication for Preventing Children and Disabled Persons from Electric Hazard Using Cyber Physical System. *International Journal of Intelligent Systems and Applications in Engineering*, Vol.11(3s), pp.155-160.
37. Venkataramanan, A.R., Kanimozhi, K.V., Valarmathia, K., Therasa, M., Hemalatha, S., Thangamani, M., and Gulati, K., (2023). A Survey on Covid-19 & its Impacts. *International Journal of Intelligent Systems and Applications in Engineering*, Vol.11(3s), pp.129-143.
38. Nesakumar, D., Periasamy Manikandan, A.S., Suresh Muthusamy., Amit Jomde., Sonal Shamkuwar., Chandrakant Sonawane., Kamal Sharma., Ali Jawad Alrubaie., A.S. El Shafay., and Hitesh Panchal., (2023). A case study on analyzing the performance of microplate heat exchanger using nanofluids at different flow rates and temperatures. *Case Studies in Thermal Engineering*, Vol.44, p.102805.
39. Jeeva, P., Sudha, S., Rakić, A., Dimić, D., Ramarajan, D., and Barathi, D., (2023). Structural, spectroscopic, quantum chemical, and molecular docking study towards cartilage protein of (3E,3'E)-3,3'-(1,4-phenylenebis(azanediyl))bis(cyclohex-2-en-1-one), *Journal of Molecular Structure*, Vol.1274, p.134429.
40. Mahendran, S., Balasudarsun, N.L., Ram, H.S.G., Karthikeyan, P., and Roy, D., (2023). Internal and external organisational strategies: repercussion of information management on relationship selling behaviour and salesforce performance. *International Journal of Intellectual Property Management*, Vol.13(1), pp.1-21.
41. Sivabalaselvamania, D., Nanthinib, K., Vanithamanics, S., and Nivethad, L., (2023). Performance of deep learning approaches for detection and classification of ceramic tile defects. *Journal of Ceramic Processing Research*, Vol.24(1), pp.78-88.
42. Natesan, P., Sathishkumar, V.E., Sandeep Kumar Mathivanan., Maheshwari Venkatesan., Prabhu Jayagopal., and Shaikh Muhammad Allayear., (2023). A Distributed Framework for Predictive Analytics using Big Data and MapReduce Parallel Programming. *Mathematical Problems in Engineering*, Vol.2023, Article ID: 6048891.

#### 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