



# KONGU ENGINEERING COLLEGE

## CAMPUS R&D NEWS



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### PH.D VIVA-VOCE COMPLETED

1. Mr.M.Manikandan, Research Scholar, Department of Mechatronics Engineering defended his thesis entitled “Investigations on biodegradability, toxicity and tribological properties of kapok oil as a lubricant” on 04.04.2022 under the guidance of Dr.S.Shankar / MTS.
2. Mr.T.Rajasekaran, Research Scholar, Department of Information Technology defended his thesis entitled “An investigation on deep convolutional neural network models for tomato leaf disease identification” on 07.04.2022 under the guidance of Dr.S.Anandamurugan / IT.
3. Mr.J.Saravanan, Research Scholar, Department of Chemical Engineering defended his thesis entitled “Treatment of industrial effluents by advanced techniques” on 27.04.2022 under the guidance of Dr.K.Kannan / Chemical.

### 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.

4. Dr.S.Shankar / MTS, Dr.S.Albert Alexander / EEE, Dr.R.Naveenkumar / Mechanical received research grant of Rs.18,00,000/- for the project entitled “Investigation of cotton dust exposure and indoor air quality on the pulmonary health among the textile workers of Tamilnadu” under ICMR Adhoc R&D Project scheme on 22.12.2021, Ref No 5/8-4/30/Env/2020-NCD-II.
5. Dr.V.K.Gobinath / MTS received research grant of Rs.18,30,000/- for the project entitled “Development of long term sustainable 3D printed gahnite - glass cover sheet to attain efficient polycrystalline solar cell performance” under SERB TARE scheme on 21.12.2021, Ref. No. TAR/2021/000173.
6. Dr.A.Mohankumar / Mechanical received research grant of Rs.18,30,000/- for the project entitled “Study of Self-powered one piece wearable Tribo-Electric Nano Generator with different contact modes” under SERB TARE scheme on 04.01.2022, Ref. No.TAR/2021/000235.
7. Dr.S.M.Senthil / Mechanical received research grant of Rs. 39,89,708/- for the project entitled “Development of automated fixture for friction stir welding of defence grade AA5083/AA7075 pipes” under DST\_TDT-AMT scheme on 09.02.2022, Ref.No.DST/TDT/AMT/2021/008(G), DST/TDT/AMT/2021/008(C)
8. Dr.S.Shanthi / CSE, Dr.K.Nirmaladevi / CSE, Dr.N.Krishnamoorthy / CSE received research grant of Rs. 9,14,333/- for the project entitled “Design and development of AI powered deep learning model for COVID-19 identification, diagnosis and prediction of outbreak management” under AICTE-RPS scheme on 18.02.2022, Ref. No. 8-80/FDC/RPS/POLICY-1/2021-22.
9. Dr.P.Karthikeyan / MBA, Dr.P.Sivaranjani / ECE, Dr.N.Prakash / MBA, Dr.S.Praveenkumar / MTS received research grant of Rs. 6,00,000/- for the project entitled “Enhancement of Education Towards Sustainability, Innovation, Performance and Delivery Through Academia-Industry Partnership” under ICSSR-Research Project (Major) scheme on 14.03.2022, Ref. No. Gen-18/2021-22/ICSSR/RP.

### REFERRED JOURNAL PUBLICATIONS

1. Kalaimathi., Ravi Prakash Thangaraj., and Balaji Shanmugam., (2022). A review paper on mechanical properties of flexural and impact test on textile reinforced engineered cementitious composites. *Materials Today: Proceedings*, Vol.50(5), pp.2160-2169.
2. Balaji, S., and Swathika, A., (2022). Review on mechanical and microstructural properties of cementitious composites with graphene oxide. *Materials Today proceedings*, Vol.50(5), pp 2280-2287.
3. Pradeep, T., and Umadevi, P., (2022). Assessment of factors Influencing Communication among bottom line and top management in Construction Industry. *YMER*, Vol.21(2), pp.238-247.

4. Sampathkumar Velusamy., Anandakumar Subbaiyan., Senthilkumar Kandasamy., Manoj Shanmugamoorthi., and Pradeep Thirumoorthy., (2022). Combustion characteristics of biomass fuel briquettes from onion peels and tamarind shells. *Archives of Environmental & Occupational Health*, Vol.77(3), pp.251-262.
5. Saranya, K., Shankar, C., Thenmozhi, R., Priya, R., and Arun Kumar, M., (2022). Experimental study on partial replacement of Coarseaggregate, Fine Aggregate and Cement by Crushed Tiles. *Granite Powder and Silica Fume in Cement Concrete*, Vol.28, pp.227-232.
6. Krishnaraja, A.R., Harihanandh, M., and Anandakumar, S., (2022). Mechanical performance of engineered cementitious composites developed with different modulus fibers. *Cement Wapno Beton*, Vol.26(6), pp.493-502.
7. Priyanka Prabhakaran., Anandakumar, S., and Priyanka, E.B., (2022). Railroad Maintenance Predictor System for Metro Railroad Systems. *IEEE Xplore - International Conference on Emerging Smart Computing and Informatics (ESCI)*, ISBN: 978-1-6654-0073-2.
8. Arun Kumar, M., Preethi, M., Pavithran, S., and Praveen, M., (2022). An Experimental Investigation of Lightweight Self Compacting Concrete with Replacement of Coarse Aggregate as Pumice Stone - A Review. *Materials Research Proceedings*, Vol.23, pp-175-190.
9. Karthikeyan, S., Deepiha, S., Dinesh, K., and Chriswin, F., (2022). An Experimental Study on the Impact of Incorporating Glass on the Photocatalytic Capacity of Concrete Blocks. *Materials Research Proceedings*, Vol.23, pp 114-121.
10. Raveendran, P.S., Karthikeyan, R., Murugan, P.C., Sanjay, S., Vivek Raj, S., Selva Kannan, N.K., and John, D.K., (2022). Performance studies on vapour compression refrigeration system using PCM placed between wall and coil of the evaporator. *Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering*, Vol.236(2), pp.582-588.
11. Kalaiselvan, N., Glivin, G., Bakthavatsalam, A.K., Mariappan, V., Premalatha, M., Raveendran, P.S., and Sekhar, S.J., (2022). A waste to energy technology for Enrichment of biomethane generation: A review on operating parameters, types of biodigesters, solar assisted heating systems, socio economic benefits and challenges. *Chemosphere*, p.133486.
12. Mani, M.P., Faudzi, A.A.M., Mohamaddan, S., Ismail, A.F., Rathanasamy, R., Ayyar, M., and Jaganathan, S.K., (2022). Grapefruit Oil and Cobalt Nitrate-Loaded Polyurethane Hybrid Nanofibrous Scaffold for Biomedical Applications., Vol.9, p.827009.
13. Sudhagar, M., Kannan, T.K., Lazarus, S.B., Rajasekar, R., and Raj, S.S., (2022). Behavior of epoxy reinforced banana glass fiber hybrid composite with nanoclay interference. *Proceedings of the Institution of Mechanical Engineers Part C-Journal of Mechanical Engineering Science*, Vol.236(6), pp.2995-3003.
14. Mohankumar. A., Muthusamy, S., Panchal, H., Ibrahim, A.M.M., Alsoufi, M.S., and Elsheikh, A.H., (2022). Investigation of mechanical properties of dual-fiber reinforcement in polymer composite. *Journal of Materials Research and Technology*, Vol.18, pp.3908-3915.
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16. Priyanka, E.B., Shankar, M.G., Tharun, S., Ravisankar, S., Saravanan, S.N., Kumar, B.B. and Pugazhenthii, C., (2022). Real-time performance analysis of multiple parameters of automotive sensor's can data to predict vehicle driving efficiency. *International Journal of Computing and Digital System*, Vol.11(1), pp.1337-1357.
17. Priyanka, E.B., Adithya, B., Prasanth, S.A. and Dhanaseelan, C., (2022). Integrated Low-Cost Intelligent Solution for Inland Aquaculture. *International Conference on Emerging Smart Computing and Informatics (ESCI)*, ISBN:978-1-6654-0073-2.
18. Moganapriya, C., Rajasekar, R., Mohanraj, T., Gobinath, V.K., Sathish Kumar, P., and Poongodi, C., (2022). Dry Machining Performance Studies on TiAlSiN Coated Inserts in Turning of AISI 420 Martensitic Stainless Steel and Multi-Criteria. Decision Making using Taguchi - DEAR Approach. *Silicon*, Vol.14(8), pp.4183-4196.
19. Sakthivadivel, D., GaneshKumar, P., Prabakaran, R., Vigneswaran, V.S., Kamaraj, N., and Kim, S.C., (2022). A neem oil-based biodiesel with DEE enriched ethanol and Al<sub>2</sub>O<sub>3</sub> nano additive: An experimental investigation on the diesel engine performance. *Case Studies in Thermal Engineering*, Vol.34, p.102021.

20. Balasubramanian, G., Chandrasekar, P., and Albert Alexander, S., (2022). Variable Frequency Drive operated Air Blower in Air Handling unit of Heating, Ventilation and Air Conditioning Systems. *IEEE Delhi Section Conference (DELCON)*, doi: 10.1109/DELCON54057.2022.9753386.
21. Vishal Vinod Hingorani., Debanik Mukherjee., Kritika Sharma., Geetha Mani., Monica Subashini, M., and Albert Alexander, S., (2022). Design and development of a smart blind walking stick using machine learning. *Journal of Medical Engineering & Technology*, Vol.46(4), pp.335-340.
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23. Maheswari, S., Abinaya, S.S., Suriyaprasath, S., Suriyaa, M.Y., and Karthick, T., (2022). Open CV Based Gate Plaza Control using Rasp Berry Pi. *Second International Conference on Artificial Intelligence and Smart Energy (ICAIS)*, pp.708-713. doi: 10.1109/ICAIS53314.2022.9743098.
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26. Mahesh, N., Deepak Prasath, G.S., Divyadharshini, E., and Gokul, V., (2022). Smart Faucet with Automatic Door Control System. *IEEE- Second International Conference on Artificial Intelligence and Smart Energy (ICAIS)*, pp.1714-1719, doi: 10.1109/ICAIS53314.2022.9743026.
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30. Mahesh, N., Deepak Prasath, G.S., Divyadharshini, E., and Gokul, V., (2022). Implementation of Covid-19 Health Monitoring System. *IEEE- International Conference on Electronics and Renewable Systems (ICEARS)*, pp.1516-1520, doi: 10.1109/ICEARS53579.2022.9752163.
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32. Suthagar, S., Snegha, C., Sureka, M., and Velmurugan, S., (2022). Analysis of Breast Cancer Classification using Various Algorithms. *6<sup>th</sup> International Conference on Computing Methodologies and Communication (ICCMC)*, pp.1286-1291.
33. Mageshkumar, G., Suthagar, S., Mukilarasu, N., Nandesh, K.S., Lakshmikanthan, T., and Tamilselvan, K.S., (2022). Design and Analysis of a Soft Gripper for Human Interactive Robot. *6<sup>th</sup> International Conference on Computing Methodologies and Communication (ICCMC)*, pp.563-568.
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36. Thakkar, H., Sadasivuni, K.K., Ramana, P.V., Panchal, H., Suresh, M., Israr, M., and AlMeiDin, H., (2022). Comparative analysis of the use of flash evaporator and solar still with a solar desalination system. *International Journal of Ambient Energy*, Vol.43(1), pp.1561-1568.
37. Rajamoorthy, R., Arunachalam, G., Kasinathan, P., Devendiran, R., Ahmadi, P., Pandiyan, S., Suresh, M., and Sharma, P., (2022). A novel intelligent transport system charging scheduling for electric vehicles using Grey Wolf Optimizer and Sail Fish Optimization algorithms. *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects*, Vol.44(2), pp.3555-3575.
38. Kannan, E., Avudaiappan, M., Kaliyaperumal, S., M, Suresh., Panchal, H., Pandiyan, S., & Azhaganantham, A. (2022). A novel strategy for implementation of intelligent techniques in solar photovoltaic arrays to improve the performance and various comparison of partial shading mitigating techniques. *Energy Sources. Part A: Recovery, Utilization, and Environmental Effects*, Vol.44(2), pp.3079-3099.
39. Bezdán, T., Zivkovic, M., Bacanin, N., Chhabra, A., and Suresh, M., (2022). Feature Selection by Hybrid Brain Storm Optimization Algorithm for COVID-19 Classification. *Journal of Computational Biology*, Vol.29(6), pp.1-15.
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41. Vivek, S., Srinivasan, K., Sharmila, B., Dharshan, Y., Hitesh Panchal., Suresh, M., Ashok Kumar, R., Kishor Kumar, Sadasivuni., Medhat Elkelay., and Neel Shrimali., (2022). An improved quality inspection of engine bearings using machine vision systems in Smart and Sustainable Manufacturing Systems. *ASTM International*, Vol.6(1), pp.85-98.
42. Shanthi, N., Yuvasri, P., Vaishnavi, S., and Vidhya, P., (2022). Gender and Age Detection using Deep Convolutional Neural Networks. *4<sup>th</sup> International Conference on Smart Systems and Inventive Technology (ICSSIT)*, pp. 951-956.
43. Selvi, K.T., Praveena, N., Pratheeksha, K., Ragunathan, S. and Thamilselvan, R., (2022). Air Pressure System Failure Prediction and Classification in Scania Trucks using Machine Learning. *Second International Conference on Artificial Intelligence and Smart Energy (ICAIS)*, pp.220-227.
44. Latha, R.S., Sreekanth, G.R., Suganthe, R.C., Bizu, B., Suvalakshmi, K. and Venkatachalam, K., (2022). Diagnosis of Diabetic Retinopathy and Glaucoma from Retinal Images using Deep Convolution Neural Network. *International Conference on Computer Communication and Informatics (ICCCI)*, ISBN:978-1-6654-8035-2.
45. Latha, R.S., Sreekanth, G.R., Suganthe, R.C., Geetha, M., Selvaraj, R.E., Balaji, S., Harini, K.R. and Ponnusamy, P.P., (2022). Stock Movement Prediction using KNN Machine Learning Algorithm. *International Conference on Computer Communication and Informatics (ICCCI)*, ISBN:978-1-6654-8035-2.
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47. Kousalya, K., Krishnakumar, B., Boomika, S., Dharati, N. and Hemavathy, N., (2022). Edible Mushroom Identification using Machine Learning. *International Conference on Computer Communication and Informatics (ICCCI)*, ISBN:978-1-6654-8035-2.
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52. Krishnakumar, B., Kousalya, K., Mohana, R.S., Vellingiriraj, E.K., Maniprasanth, K. and Krishnakumar, E., (2022). Detection of Vehicle Speeding Violation using Video Processing Techniques. *International Conference on Computer Communication and Informatics (ICCCI)*, ISBN: 978-1-6654-8035-2.

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54. Latha, R.S., Saravana Balaji, B., Nebojsa Bacanin., Ivana Strumberger., Miodrag Zivkovic., Milos Kabiljo., (2022). Feature Selection using Grey Wolf Optimization with Random Differential Grouping. *Computer Systems Science and Engineering*, Vol.43(1), pp.317–332.
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57. Rajeswari, K.C., Mohana, R.S., Manikandan, S., and Prabakaran, S.B., (2022). Speech Quality Enhancement using Phoneme with Cepstrum Variation Features. *Intelligent automation and soft computing*, Vol.33(1), pp.65-86.
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65. Roopa Devi, E.M., and Rajadevi, R., (2022). An Ensemble Approach for Predicting Intraocular Diseases using Immune Mediator Levels. *International Conference on Hybrid Intelligent Systems*, Vol.420, pp.330-343.
66. Roopa Devi, E.M., Shanthakumari, R., Rajadevi, R., Dineshkumar, S., Dinesh, A., and Keerthana, M., (2021). Predicting and Analysis the Bitcoin Price using Various Forecasting Model. *International Conference on Intelligent Systems Design and Applications*, Vol.418, pp.879-889.
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