# KONGU ENGINEERING COLLEGE

# CAMPUS R&D NEWS

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## PH.D VIVA-VOCE COMPLETED

1. Mr.M.Naveen Kumar, Research Scholar, Department of Chemical Engineering defended his thesis entitled "Generation of electricity from tannery effluent using waste derived electrodes in microbial fuel cell" on 14.03.2022 under the guidance of Dr.K.Senthilkumar / Chemical.
2. Mr.K.Raja, Research Scholar, Department of Civil Engineering defended his thesis entitled "Influence of tunneling on existing pile foundations: A numerical study" on 14.03.2022.
3. Ms.Vani Rajasekar, Research Scholar, Department of Computer Science and Engineering defended her thesis entitled "Analysis on multi factor remote user authentication scheme using enhanced cancelable template generation" on 30.03.2022 under the guidance of Dr.J.Premalatha / IT.
4. Ms.K.Sathya, Research Scholar, Department of CT-UG defended her thesis entitled "Investigation on secure random numbers for key generation in cryptographic algorithms" on 30.03.2022 under the guidance of Dr.J.Premalatha / IT.

## 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. 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.

2. Kulanthaivel, P., Selvakumar, S., Soundara, B., Kayalvizhi, V.S. and Bhuvaneshwari, S., (2022). Combined effect of nano-silica and randomly distributed fibres on the strength behaviour of clay soil. *Nanotechnology for Environmental Engineering*, Vol.7, pp.23-34.
3. Mani Dhivakar Karthick., Gobi Subburaj Rampradheep., and Subramaniam Shankar., (2022). Strength and durability performance of modified cement-based concrete incorporated immobilized bacteria. *Environmental Science and Pollution Research*, Vol.29, pp.21670–21681.
4. Sambathkumar, M., Gukendran, R., and Vijayanand, M., (2022). Investigation of corrosion behaviour of Al 7075/B4C/Al2O3 hybrid metal matrix composite. *Materials Today: Proceedings*, Vol.50, pp.1606-1610.
5. Gukendran, R., Sambathkumar, M., Sabari, C., Raj, C.R., and Kumar, V.R., (2022). Structural analysis of composite wind turbine blade using ANSYS. *Materials Today: Proceedings*, Vol.50, pp.1011-1016.
6. Kumar, A.M., Parameshwaran, R., Rajasekar, R., Moganapriya, C., and Manivannan, R., (2022). A Review on Drilling of Fiber-Reinforced Polymer Composites. *Mechanics of Composite Materials*, Vol.58(1), pp.1-16.
7. Mohan Kumar, A., Dimple Aiswarya., Ashokavel, S., and Boopathi, M., (2022). Numerical investigation of mechanical properties of hybrid fiber reinforced polymer composites. *Materials Today: Proceedings*, Vol.52(4), pp.2255-2263.
8. Rajeshkumar, G., Sanjay, M.R., Siengchin, S., and Hariharan, V., (2022). Influence of sodium bicarbonate treatment on the free vibration characteristics of Phoenix sp. fiber loaded polyester composites. *Materials Today: Proceedings*, Vol.52(5), pp.2400-2403.
9. Gnaneswaran, P., Hariharan, V., Chelladurai, S.J.S., Rajeshkumar, G., Gnanasekaran, S., Sivananthan, S., and Debtera, B., (2022). Investigation on Mechanical and Wear Behaviors of LM6 Aluminium Alloy-Based Hybrid Metal Matrix Composites using Stir Casting Process. *Advances in Materials Science and Engineering*, Vol.2022, pp.1-10.
10. Suganeswaran, K., Parameshwaran, R., Nithyavathy, N., Deepandurai, K., Mohanraj, T., and Muthukumar, P., (2022). 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*, Vol.36(6), pp.584-605.
11. Pratheep, V.G., Tamilarasi, T., Ravichandran, K., Shanmugam, A., Thangarasu, S.K., and Prenitha, A., (2022). Design and Development of Medicine Retrieval Robot for Pharmaceutical Application. *Lecture Notes in Electrical Engineering*, Vol.834, pp.301–307.
12. Pratheep, V.G., Tamilarasi, T., Priyanka, E.B., Thangavel, S., and Pranesh, G., (2022). Study of heat transfer characteristics on steel tube boilers by the application of zinc oxide and graphene coatings. *Multiscale and Multidisciplinary Modeling, Experiments and Design*, Vol.5, pp.91-104.
13. Prabakaran, R., Sidney, S., Lal, D.M., Harish, S., and Kim, S.C., (2022). Experimental performance of a mobile air conditioning unit with small thermal energy storage for idle stop/start vehicles. *Journal of Thermal Analysis and Calorimetry*, Vol.147(8), pp.5117-5132.
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15. Anli Sherine, Geno Peter, Albert Alexander, S., Praghash, K., and Vivekananda Ganji., (2022). CMY Color Spaced-Based Visual Cryptography Scheme for Secret Sharing of Data. *Wireless Communications and Mobile Computing*, 2022. Article ID 6040902.
16. Ashok Kumar,N., Shyni, G., Geno Peter, Albert Alexander, S., and Vivekananda Ganji., (2022). Architecture of Network-on-Chip (NoC) for Secure Data Routing using 4-H Function of Improved TACIT Security Algorithm. *Wireless Communications and Mobile Computing*, Article ID 4737569.
17. Sarin, C.R., Geetha Mani, Albert Alexander, S., Arivarasu, M., Ravi Samikannu., and Srinivasan Murugesan., (2022). Multithreaded Multiswarm Model for Intelligent Economic Prosumer Load Dispatch for Battery Supported DC Microgrid. *Mathematical Problems in Engineering*, Article ID 7739945.
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31. Kannan Manickam., Saravanan Kaliyaperumal., Suresh Muthusamy., and Hitesh Panchal., (2022). A novel selective harmonic elimination for duple voltage boosting nine level inverter topology with fewer switching components for renewable energy applications. *Energy Sources. Part A: Recovery, Utilization and Environmental Effects*, Vol.44(1), pp:871-892.
32. Siva Chidambaram., Balraj Baskaran., Mohankumar Ganesan., Sivakumar Muthusamy., Srinivasan Alavandar., Suresh Muthusamy., Santhiya Pandiyan., and Hitesh Panchal., (2022). One pot synthesis of Ag-Au/ZnO nanocomposites:a multi-junction component for sunlight photocatalysis. *Energy Sources. Part A: Recovery, Utilization and Environmental Effects*, Vol.44(1), pp.758-770.
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38. Jayaprakash, S., Balamurugan, R., Gopinath, S., Kokilavani, T., and Maheswaran, S., (2022). 3-Phase multi-inverter with cascaded H-bridge inverter designing and implementation for renewable system. *Sustainable Energy Technologies and Assessments*, Vol.52, p.102088.
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51. Anitha, N., Soundarajan, C., Swathi, V., and Tamilselvan, M., (2022). Machine Learning Model for Identification of Covid-19 Future Forecasting. *International Conference on Innovations in Bio-Inspired Computing and Applications*, pp.286-295.
52. Anitha, N., Gowtham, S., Kaarniha Shri, M., and Kalaiyarasi, T., (2022). Crime Factor Analysis and Prediction using Machine Learning. *International Conference on Innovations in Bio-Inspired Computing and Applications*, pp. 307-313.
53. Anitha, N., Priya, R.D., Rajadevi, R., Baskar, C., Madhumitha, G., Arunkumar, A., and Nadha, M.A., (2022). Prediction of Malnutrition among Pregnant Women and Infants in Tribal Areas of Tamil Nadu using Classification Algorithms. *International Conference on Hybrid Intelligent Systems*, pp.88-105.
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