

# KONGU ENGINEERING COLLEGE CAMPUS R&D NEWS



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# PH.D VIVA-VOCE COMPLETED

- 1. Mr.P.Tamilarasu, Research Scholar, Department of Electrical and Electronics Engineering defended his thesis entitled "Power quality enhancement in distribution systems with unified power quality conditioner using metaheuristic approaches" on 02.05.2025 under the guidance of Dr.T.Gunasekar / EEE.
- 2. Mr.I.Blessing Meshach Dason, Research Scholar, Department of Electronics and Communication Engineering defended his thesis entitled "High-mobility channel materials in investigation for next-generation vdW negative capacitance transistors" on 02.05.2025 under the guidance of Dr.N.Kasthuri / ECE.

### **R&D PROJECTS SACTIONED (2024-2025)**

- 1. Ms.S.Mohana Saranya/CSE, received research grant of Rs.1,50,000/- for the project entitled "Tomatix: Revolutionizing Crop Planning and Market Intelligence" under AICTE- Tomato Grand Challenge Scheme on 10.06.2024, F.No.M/954/2024-US C1/1/16.
- Dr.N.Prakash / MBA, Dr.V.Vaishnavi / MBA, Dr.P.Sivaranjani / ECE, Dr.P.Karthikeyan / MBA received research grant of Rs.7,50,000/- for the project entitled "Implementation of Blockchain Technology to Enhance Transparency, Traceability and Quality Assurance in the Supply Chain of South Indian Agriculture Industries" under ICSSR-R&D Scheme on 20.09.2024, F.No.162/VVB@20247/2024-2802/NR&RD-A/SCD.
- 3. Dr.M.Joseph Auxilius Jude/ECE, received research grant of Rs.3,00,000/- for the project entitled "Robust end-to-end congestion control algorithm for vehicular internet computing" under TNSCST-RFRS Scheme on 17.06.2024, F.No.TNSCST/RFRS/06/VM2022-23/16395.
- 4. Dr.V.Balusamy / Principal, Dr.R.Parameshwaran / Automobile, Dr.S.Praveenkumar / MTS, received research grant of Rs.90,000/- for the project entitled " AICTE IDEA Lab" under AICTE-IDEA lab Scheme on 10.02.2025, F.No. M/676/2025-SAGB/IDEA202000136.

## REFERRED JOURNAL PUBLICATIONS

- 1. Shanthi, N., Rampradheep, G.S., Muthuraja, M., KalaiSelvan, K., Madhumita, C., and Malathi, S., (2025). Optimizing construction and demolition waste Segmentation using Advanced Deep Learning Techniques (Semantic vs Instance segmentation). International Conference on Emerging Smart Computing and Informatics, pp.1-6, IEEE.
- 2. Karupannasamy, D. K., Kamalakannan, R., Kailas, S.V., and Sambathkumar, M., (2025). An experimental validation of the predictive model for galling phenomenon in deep drawing processes. *Surface Review and Letters*.
- 3. Selvakumar, P., Preethi, C., Nehru, P., Saravanan, A., and Das, A., (2025). AI in Green Chemistry Sustainable Manufacturing Processes. *In Cases on AI-Driven Solutions to Environmental Challenges*, pp.297-318, IGI Global Scientific Publishing.
- 4. Kumar, M., Shreenidhi, K.S., Anandaram, H., Velpula, S., and Gukendran, R., (2025). Sustainable Machining Process Optimization: Predictive Modeling with Multi-Objective Ant Colony Algorithms. *In Using Computational Intelligence for Sustainable Manufacturing of Advanced Materials*, pp.237-260, IGI Global Scientific Publishing.
- 5. Bhuvanesh Kumar, M., Justus Panicker, C.T., and Arivazhagan, D., (2025). Technologies for Additive Manufacturing of Metals and Their Classification. *Metal Additive Manufacturing: Principles, Techniques and Applications*, pp.1-26.
- 6. Saminathan, S., and Priyanka, E.B., (2025). Optimization of Fuel Injection Timing and Pressure in CI Engines using Waste Cooking Oil Biodiesel with Response Surface Methodology. *Global NEST Journal*, Vol.27(6), pp.1-18.
- 7. Sivaraj, L., Muralidharan, N., Kalaiselvan, K., and Karthikeyan, A.G., (2025). Production and analysis of additively manufactured SS316L using Direct Metal Laser Sintering (DMLS) technique based on hybrid Taguchi-Grey grade relational analysis. *Journal of Manufacturing Processes*, Vol.141, pp.976-990.
- 8. Gobinath, V.K., Vinodhini, C., Sivasankar, J., Nitish, K.S., Santhosh, C., and Raghavan, T., (2025). Development of a Semi-Automated Albizia Amara Leaf Powder Maker for Enhanced Efficiency in Herbal Healthcare Production. *International Conference on Interdisciplinary Approaches in Technology and Management for Social Innovation (IATMSI)*, IEEE.

- 9. Kavi Priya, G, Maheswari, C., Divya, G., Devendran, M., and Saveetha, R., (2025). Intelligent IoT enabled pipeline leakage detection and monitoring system using deep metaheuristic learning algorithm. *Decision Making: Applications in Management and Engineering*, Vol.8(1), pp.1-10.
- 10. Nithyavathy, N., and Manoharan, P., and Georgia Chris Selwyna Paul., (2025). Sustainable synthesis of silver nanoparticles using groundnut plant root extracts, *International Conference on Nurturing Innovative Technological Trends in Engineering BIOscience*, Vol.172(1), pp.1-12.
- 11. Kamalesh, M.S., Saravana Ilango, G., Cherukupalli, K., and Sabarimuthu, M., (2025). Design of digital compensators for multi-output DC-DC converters with reduced cross-regulation. *International Journal of Electronics*, pp.1170-1190.
- 12. Velukutty, K.N.K., Sundararajan, D., Krishnappa, M.R., Angappan, S.K., Premalatha, M., Sivaraju, S.S., and Usha, S., (2025). Enhancing energy management and power quality in grid-connected photovoltaic systems through ESS and STATCOM integration. *The International Journal of Advanced Manufacturing Technology*, 1-16.
- 13. Chinnaraj, P., Behera, S., Karthik, M., and Patra, J.P., (2025). An efficient hybrid ladybug beetle and heterogeneous context-aware graph convolutional network for optimizing energy management in fuel cell hybrid electric vehicle. *Journal of Renewable and Sustainable Energy*, Vol.17(3).
- Arani, R.P., Attia, M.E.H., Jayakumar, S., and Gunasekar, T., (2025). Solar still
  performance improvement using tar-coated blue metal stones: Yield and efficiency
  analysis. *Iranian journal of chemistry and chemical engineering*, Vol.44(5), pp.13861397.
- 15. Kokila, P., Vishnu, J., Kumar, M. K., Rajasibi, R., and Gunasekar, T., (2025). Maximizing Signal Range and Endurance in Military Wristband Antenna System. 5<sup>th</sup> International Conference on Trends in Material Science and Inventive Materials (ICTMIM), pp.158-165, IEEE.
- Patnaik, R.K., Kamesh, M.R., Nagamalleswari, D., Ramya, G., Surendar, V., Velumayil, R., and Vijayan, V., (2025). Enhancing solar still performance with jute cloth wicks: A comparative study of absorber geometries. *AIP Conference Proceedings*, Vol.3270(1), p.020212.

- 17. Sarathkumar, D., Maheswari, P., Manivel, M., Jayakumar, T., Sivakumar, R., and Parrthipan, B.K., (2025). Decentralized and Distributed Control Strategies for Microgrids: A Review of Key Techniques and Applications. *International Students' Conference on Electrical, Electronics and Computer Science (SCEECS)*, pp.1-6, IEEE.
- 18. Sarathkumar, D., Parrthipan, B.K., Manivel, M., Jayakumar, T., Rao, R.S., and Sambooranalaxmi, S., (2025). Wireless Charging Technologies for Electric Vehicles: State of the Art and Future Outlook. *International Students' Conference on Electrical, Electronics and Computer Science (SCEECS)*, pp.1-6, IEEE.
- 19. Sarathkumar, D., Parrthipan, B.K., Manivel, M., Jayakumar, T., Sivadasan, J., and Maheswari, P., (2025). Demand Response Strategies in Microgrids with Electric Vehicle Loads. *International Students' Conference on Electrical, Electronics and Computer Science (SCEECS)*, pp.1-6, IEEE.
- 20. Sarathkumar, D., Sivadasan, J., Jayakumar, T., Manivel, M., and Anandhakumar, C., (2025). Intelligent control algorithms for industrial automation systems. *International Students' Conference on Electrical, Electronics and Computer Science (SCEECS)*, pp.1-6, IEEE.
- 21. Sarathkumar, D., Sajin, J.B., Parrthipan, B.K., Jayakumar, T., Sivadasan, J., and Maheswari, P., (2025). Grid-To-Vehicle (G2V) and Vehicle-To-Grid (V2G) in Hybrid AC/DC Microgrids. *International Students' Conference on Electrical, Electronics and Computer Science (SCEECS)*, pp.1-6, IEEE.
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- 23. Murugesan, M., Suganya, N., Anand, K., Kesavan, T., Sarathkumar, D., Jayanthi, R., Balambigai, S., and Vijayalakshmi, V.J., (2025). Performance investigation of new reduced switch count thirty-three level multilevel inverter. *Electrotehnică, Electronică, Automatică (EEA)*, Vol.73(2), pp.15-22.
- 24. Logeswaran, T., Johinth, P., KV, M.P., Manivashagan, A., Prem, S., and Tamilarasu, P., (2025). Advanced Multilevel Power Conversion for Solar and Wind Integrated Energy Systems. 5<sup>th</sup> International Conference on Trends in Material Science and Inventive Materials (ICTMIM), pp.360-366, IEEE.

- 25. Raghavendran, P.S., Arjunan, A., and Nivetha, R., (2025). IoT Enabled Electricity Manager. 5<sup>th</sup> International Conference on Trends in Material Science and Inventive Materials (ICTMIM), pp.1299-1304, IEEE.
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- 27. Lizzy Nesa Bagyam, M., and Maheswari, S., (2025). A novel fractional kookaburra crayfish optimization algorithm for trusted routing based blockchain in wireless sensor network. *Knowledge-Based Systems*, Vol.323. pp.1-16.
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- 35. Sudha, S., Govindaraj, S., and Mangai, S., (2025). Computer-aided diagnosis in healthcare: Case study on lung cancer diagnosis. *In Artificial Intelligence in Biomedical and Modern Healthcare Informatics*, pp.145-156.
- 36. Senthil Kumar, J., Ramprasath, V., Kalpana, Manikandan Rajagopal, Maheswaran, S., and Rupesh Gupta., (2025). Integrating brain-inspired computation with big-data analytics for advanced diagnostics in neuroradiology. *Neuroscience Informatics*, Vol.5(2), p.100202.
- 37. Maheswaran, S., Gomathi, R.D., Sathesh, S., Nandita, S., Shafiq, I.M., Rithika, P., and Syamala, Y., (2025). Industrial Automation: 6G with Artificial Intelligence. *In Advanced Digital Technologies in Financial and Business Management*, pp.93-126.
- 38. Deepa, G., Keerthana, S., Naveena, A., Nakshathra, N., Udaya, S.N., and Harini, S., (2025). A Water Sprinkler-based Automatic Cooling System in a Textile Company. 8<sup>th</sup> International Conference on Electronics, Communication and Aerospace Technology (ICECA), pp.249-254, IEEE.
- 39. Deepa, G., Monisha, M., Suba, U.M., Mathan, K.R., Priya, K.K., and Janani, R., (2025). Warehouse Management in Chemical and Textile Industry using Internet of Things (IoT) and Radio Frequency Identification (RFID) Technology. 8<sup>th</sup> International Conference on Electronics, Communication and Aerospace Technology (ICECA), pp.255-259, IEEE.
- 40. Kavinkumar, K., Kumar, N.S., Senthilkumar, C., Nanmaran, R., Sangar, G., and Chandrasekaran, G., (2025). Denoising of MRI and Brain Tumor Classification using Local Binary Pattern and SVM Classifier. *International Conference on Electronics and Renewable Systems (ICEARS)*, pp.1854-1859, IEEE.
- 41. Kavinkumar, K., Kumar, N.S., Senthilkumar, C., Velmurugan, V., Sangar, G., and Chandrasekaran, G., (2025). Optimization of Memory usage in High-Speed Cameras using FPGA. *International Conference on Electronics and Renewable Systems* (ICEARS), pp.427-432, IEEE.
- 42. Vibin Mammen Vinod., Vijayalakshmi, J., Murugesan, G., and Pranesh, S., (2025). Development of Household Energy usage Monitoring Smart Meter System using Lorawan. 10<sup>th</sup> International Conference on Advanced Computing and Communication Systems (ICACCS), Vol.1, pp.1705-1708, IEEE.
- 43. Vibin Mammen Vinod., and Murugesan, G., (2025). Classification of Motor Imagery EEG Signals using Divergence Based CNN. 15<sup>th</sup> International Conference on Computing Communication and Networking Technologies (ICCCNT), pp.1-6, IEEE.

- 44. Natarajan, V., Savarimuthu, S.R., Ramkumar, K., Anbumani, V., Murugan, R., and Kalpana, N.V., (2025). Design and analysis of microstrip patch antenna for 5 GHz. *AIP Conference Proceedings*, Vol.3279(1), p.020162.
- 45. Jude, M.J.A., Kodeeswari, K., Riyas, N.M., Murugavel, M., and Monisha, S., (2025). Analysis of Rate Adaptation Algorithms in 5G D2D Wireless Link. *International Conference on Visual Analytics and Data Visualization (ICVADV)*, pp.310-316, IEEE.
- 46. Loganathan, P., Priyeshkumar, A.T., Kodeeswari, K., Reena, K.J., Poonguzhali, I., and Balaji, M., (2025). Machine Learning-Driven Hybrid Adaptive Beamforming for Efficient Interference Mitigation in Dense Wireless Sensor Networks. *International Conference on Visual Analytics and Data Visualization (ICVADV)*, pp.984-990, IEEE.
- 47. Gowthami, J., and Natesan, S., (2025). Blockchain and explainable-AI integrated system for Polycystic Ovary Syndrome (PCOS) detection. *PeerJ Computer Science*, Vol.11, p.e2702.
- 48. Rajasekar, V., Sathya, K., Suresh, P., Nitiish, S., Sharan, R., and Nirmaladevi, K., (2025). Parkinson's Disease Detection using Deep Learning. *First International Conference on Data, Computation and Communication (ICDCC)*, pp.186-191, IEEE.
- 49. Sasipriyaa, N., Kavitha, S., and Anand, R., (2025). An Approach for Tamil Handwritten Recognition using ABC enabled GAN. 2<sup>nd</sup> International Conference on Signal Processing, Communication, Power and Embedded System (SCOPES), pp.1-5, IEEE.
- 50. Dinesh, K., Madhuradharani, M., Parthasarathy, K., and Chinnusamy, K.K., (2025). A Review of the Repercussions of Mobile Phones and the Internet on Education. *International Conference on Recent Innovation in Smart and Sustainable Technology (ICRISST)*, pp.1-6, IEEE.
- 51. Mohanasaranya, S., Varshini, G., Subiga, N., Swetha, S., and Rajalaxmi, R.R., (2025). Enhanced Brain Tumors Segmentation In 3D Multimodal Images using U-Net3+ and SegNet. *International Conference on Interdisciplinary Approaches in Technology and Management for Social Innovation (IATMSI)*, Vol.3, pp.1-6, IEEE.
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- 53. Geetha, M., Suganthe, R.C., Sowrabha, A., Sudharshan, P., and Varshini, V., (2025). Chronic Kidney Disease Risk Prediction using Machine Learning. 3<sup>rd</sup> International Conference on Disruptive Technologies (ICDT), pp.1513-1518, IEEE.

- 54. Muthuraja, M., Shanthi, N., Aravindhraj, N., Nimesh, S.V., Ponsudhan, V., and Prateeksha, V., (2025). Skin Lesion Classification using Deep Learning Technique. 3<sup>rd</sup> International Conference on Advancement in Computation & Computer Technologies (InCACCT), pp.237-242, IEEE.
- 55. Shanthi, N., Rampradheep, G.S., Muthuraja, M., KalaiSelvan, K., Madhumita, C., and Malathi, S., (2025). Optimizing construction and demolition waste Segmentation using Advanced Deep Learning Techniques (Semantic vs Instance segmentation). International Conference on Emerging Smart Computing and Informatics (ESCI), pp.1-6, IEEE.
- 56. Perumal, I., Kalaivani, P., Naveenkumar, A., Saran, V., Sriram, K., and Suruthi, N., (2025). AI-Driven Personalized Skincare Recommendations. International Conference on Electronics and Renewable Systems (ICEARS), pp.1086-1091, IEEE.
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- 58. Balaji, K., Ganesh, M.S., Murali, D., Kalaivani, P., Iyyanar, P., and Jayakumar, N. (2025, February). Improvising Early Detection of Diabetes through Deep Learning on Retinal Fundus images. *International Conference on Electronics and Renewable Systems (ICEARS)*, pp.1092-1098, IEEE.
- 59. Varadhaganpathy, S., Shanthakumari, R., Vinothkumar, S., Kavya, S., Kanishkar, K.M., and Bharath, S., (2025). A comparative assessment of Deep Learning algorithms in Network Intrusion Detection System. 2<sup>nd</sup> international conference on signal processing, communication, power and embedded systems (SCOPES).
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  International Conference on ICT in Business Industry & Government (ICTBIG), pp.1-8, IEEE.
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- 72. Kayalvili, S., Devadharshini, T., Dharaneesh, N., and Dhanush, P., (2025). Password Strength Checker using Machine Learning. 15<sup>th</sup> International Conference on Computing Communication and Networking Technologies (ICCCNT), IEEE.
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- 74. Kayalvili, S., Priyadharshini, K., Vinitha, S., Sivaprakash, S., Thilakavathy, P., and Vasavi, M., (2025). Enhanced Prediction of Rheumatoid Arthritis Flares Through Ensemble Learning Methods. *Second International Conference on Advances in Information Technology (ICAIT)*, IEEE.
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- 81. Kalpana, V., Girija, M., Tharageswari, K., Yobu, D., Revathi, J., and Aruna, R., (2025). Optimizing Diagnostic Accuracy in Ultrasound Imaging Through Cloud-Enabled Deep Learning Techniques. 4th International Conference on Soft Computing for Security Applications, pp.112-118.
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