

RESEARCH & DEVELOPMENT Newsletter

January'22 - December'22



FRANCIS XAVIER ENGINEERING COLLEGE
Tirunelveli – 3



ARIIA
 ATAL RANKING OF INSTITUTIONS
 ON INNOVATION ACHIEVEMENTS
 RANKED "BAND EXCELLENT"

★★★★★
 Highest Star Status by the MoE,
 Govt. of India.
 For Innovation and Entrepreneurship Activities

PLATINUM
 RATING
 AICTE-CII Industry
 Linked Technical
 Institutions

NBA
 NATIONAL BOARD
 OF ACCREDITATION

AICTE
 NATIONAL BOARD
 OF ACCREDITATION

R & D Advisory Board

- **Prof. Dr. N. Chandrasekar**
Vice-Chancellor
Manonmaniam Sundaranar University
Tirunelveli
- **Prof. Dr. V. Velmurugan**
Professor/Principal
Francis Xavier Engineering College
Tirunelveli
- **Dr. Subramanian Chidambaram Pillai**
Assistant Professor
Department of Mechanical Engineering
Bahrain Polytechnic
Kingdom of Bahrain
- **Dr. Vic Grout**
Professor
Department of Computing Futures
Glyndŵr University, Wrexham
LL11 2AW, UK
- **Dr. A. Sathiamourthy**
Associate Professor
Department of Mechanical Engineering
Puducherry Technological University
Puducherry
- **Dr. K. Prabu**
Assistant Professor
Electronics and Communication Engineering,
National Institute of Technology (NIT)
Surathkal
- **Dr. R. Vedhapriyavadhana**
Assistant Professor
Vellore Institute of Technology
Chennai
- **Dr. A. Amalin Prince**
Associate Professor
Electrical and Electronics and Engineering
Birla Institute of Technology & Science, Goa
- **Dr. A. Ravi**
Professor
Department of Electrical and Electronics
Engineering
Francis Xavier Engineering College
Tirunelveli
- **Dr. N. Muthukumar**
Professor
Department of Electronics and
Communication Engineering
Francis Xavier Engineering College
Tirunelveli
- **Dr. R. Ravi**
Professor
Department of Computer Science Engineering
Francis Xavier Engineering College
Tirunelveli
- **Dr. R. Suman**
Associate Professor
Department of Science and Humanities
Francis Xavier Engineering College
Tirunelveli
- **Dr. Subramania Bala Jeshurun**
Assistant Professor
Department of Master of Business
Administration
Francis Xavier Engineering College
Tirunelveli
- **Dr. R. Samuel Hansen**
Professor
Department of Mechanical Engineering
Francis Xavier Engineering College
Tirunelveli

Contents

Journals Publications

Book Chapters Publications

Patent Publications

Ph.D Viva-Voce Completed

Other Highlights

Funded Projects

World Top Researchers

Citations & Index

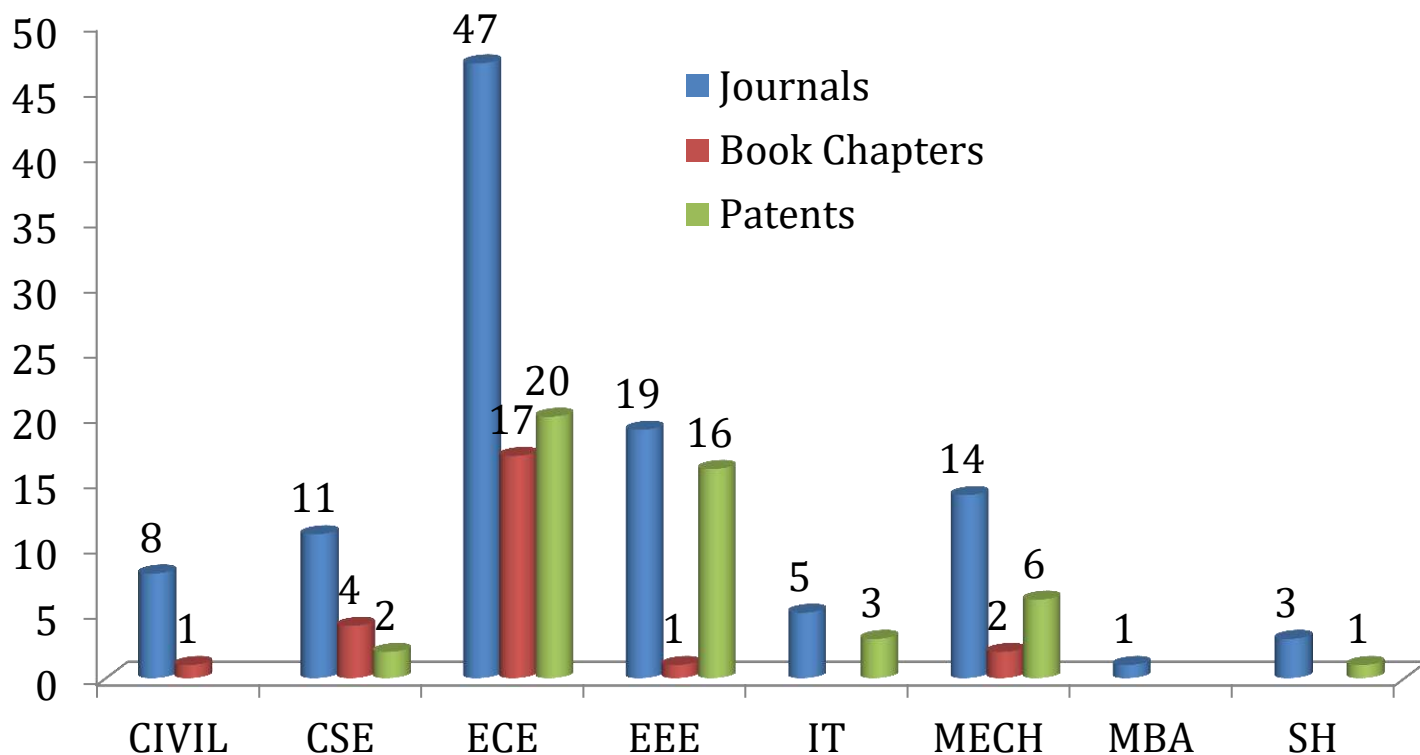
Research Centre & Researchers

Our Journal

Publications Overview

Department Wise Publication Details

Department	Journals	Book Chapters	Patents
CIVIL	8	1	-
CSE	11	4	2
ECE	47	17	20
EEE	19	1	16
IT	5	-	3
MECH	14	2	6
MBA	1	-	-
SH	3	-	1
Total	108	25	48



Publication in SCI/SCIE/ESCI/SCOPUS Indexed Journals

CIVIL ENGINEERING

1. Rajan G. Rejith, Mayappan Sundararajan, Lakshmanan Gnanappazham, Seenipandi Kaliraj and **Nainarpandian Chandrasekar**, Exploring beach placer minerals in the east coast of Tamil Nadu, India, using EO-1 Hyperion data. *Journal of Applied Remote Sensing*. 2022 Feb;16(1):012017-1 to 012017-19.
2. **P. Krishna Kumar**, A. Sumil Kumaran A. Kandasamy , M. Jinnah Sheik Mohamed, Strength characteristics of concrete using electronic plastic waste and coconut shell as natural aggregates. *Materials Today: Proceedings*. 2022 Apr 11, 62(2), 504-511.
3. **Krishna Kumar Palaniappan**, Chinnaraju Komarasamy, and Sophia Murugan, Utilization of Cuttlebone as Filler in Hydrophobic Foam Mortar: A Technical and Economical Feasibility Study. *Journal of Materials in Civil Engineering*. 2022 Aug 1; 34(8):04022191.
4. **Krishna Kumar P** and Chinnaraju K, Utilization potentials of a nano bio-carbonate filler to mitigate alkali-aggregate reactivity of glass powder-foamed concrete. *Canadian Journal of Civil Engineering*. 2022 Jun 29;49(10):1569-81.
5. **P Krishna kumar**, A Kandasamy , D Bemisha Jeni , J Anand Solomon, Study on Fresh and Hardened Properties of Nano-Concrete Under Different Curing Conditions. In *IOP Conference Series: Earth and Environmental Science* 2022 Sep 1 (Vol. 1086, No. 1, p. 012053). IOP Publishing.
6. **Krishna Kumar P** and Chinnaraju K, Comparative experimental investigation on foam concrete with polypropylene fiber and carbon fiber, *Romanian Journal of Materials*, 2022 Jul 1;52(3):265-77.
7. Mahmoud Al Khazaleh , **P. Krishna Kumar** , M. Jinnah Sheik Mohamed , A. Kandasamy, Influence of coarse coal gangue aggregates on properties of structural concrete with nano silica. *Materials Today: Proceedings*. 2022 Aug 23.

8. **J.Samuel Prabakaran**, M.Sophia, O.Ganesh Babu, M.A.Raja., High temperature effects on the compressive strength and UPV of nano alumina modified concrete containing sillimanite. *Materials Today: Proceedings*. 2022 May 6, 62(8), pp. 5613-5619.

COMPUTER SCIENCE AND ENGINEERING

1. C. Sathish & **C. Yesubai Rubavathi** A survey on Blockchain mechanisms (BCM) based on internet of things (IoT) applications. *Multimedia Tools and Applications*. 2022 Apr 19:1-40.
2. **Gabriel JZ**, Muthuraman U, Kabilan R, Devaraj GP, Ravi R, Esther JM. Waiting Line Conscious Scheduling for OFDMA Networks, using JSFRA Formulation. In 2022 International Conference on Sustainable Computing and Data Communication Systems (ICSCDS) 2022 Apr 7 (pp. 754-759). IEEE.
3. Esther JM, **Gabriel JZ**, Ravi R, Muthuraman U, Devaraj GP, Kabilan R. Increased Energy Efficiency of MANETs Through DEL-CMAC Protocol on Network. In 2022 International Conference on Sustainable Computing and Data Communication Systems (ICSCDS) 2022 Apr 7 (pp. 1122-1126). IEEE.
4. Antony Asir Daniel V, **Ravi Ramaraj**, A novel modified long short term memory architecture for automatic liver disease prediction from patient records. *Concurrency and Computation: Practice and Experience*. 2022 Dec 25;34(28):e7372.
5. **G. Aravind Swaminathan**, A. Ahila, G. Vijayarani, C. Yesubai Rubavathi, and Jeenath Shafana, Energy conservation using multiple mobile sink routing with dynamic cluster head selection for WSN. In *AIP Conference Proceedings* 2022 Sep 28 (Vol. 2518, No. 1, p. 060004). AIP Publishing LLC.

6. J. Carmalatta, S. Diwakaran, P. Uma Maheswari, S. Raja, **Y. Harold Robinson**, E. Golden Julie, Raghvendra Kumar, Le Hoang Son, Nguyen Thanh Tung, Hoang Viet Long , A neuro-fuzzy approach for multipoint data prediction in passive clustered wireless sensor networks. Journal of Intelligent & Fuzzy Systems, vol. 44(1), p.1213-1228.
7. Vijayarani, G., Anuradha, C. **J.Priskilla Angel Rani**, Reeginal, Y., Gopalsamy. P, Quality of Service Enabled Optimization Technique for Providing Proficient Configuration in Wireless Sensor Networks. In2022 6th International Conference on Trends in Electronics and Informatics (ICOEI) 2022 Apr 28 (pp. 651-655). IEEE.
8. **J.Priskilla Angel Rani**, Sujeethra, R., Rubavathi, C.Y., Prediction of Water Quality using Artificial Neural Network. In2022 4th International Conference on Smart Systems and Inventive Technology (ICSSIT) 2022 Jan 20 (pp. 992-999). IEEE.
9. Kasthuri E, **Balaji S**. Natural language processing and deep learning chatbot using long short term memory algorithm. Materials Today: Proceedings. 2022 May 12.
10. Beslin Pajila PJ, Golden Julie E, **Harold Robinson Y**. ABAP: Anchor Node Based DDoS Attack Detection Using Adaptive Neuro-Fuzzy Inference System. Wireless Personal Communications. 2022 Sep 13:1-25.
11. P. Bhuvaneshwari, A. Nagaraja Rao, **Y. Harold Robinson**, Top-N Recommendation System Using Explicit Feedback and Outer Product Based Residual CNN. Wireless Personal Communications. 2022 Sep 20:1-7.

ELECTRONICS AND COMMUNICATION ENGINEERING:

1. Suryaganesh, M., Arun Samuel, T.S., Ananth Kumar, T., **Navaneetha Velammal, M**, Advanced FET-Based Biosensors—A Detailed Review. Contemporary Issues in Communication, Cloud and Big Data Analytics. 2022:273-84.

2. **Velammal M.N**, Priya P.H, Ajitha M, Bavadharani A.S., Evaluation of FINFET And Nanowire MOSFET With High K Dielectric. In 2021 2nd International Conference on Smart Electronics and Communication (ICOSEC) 2021 Oct 7 (pp. 713-717). IEEE.
3. **E. Francy Irudaya Rani**, T. Lurthu Pushparaj & E. Fantin Irudaya raj., Escalating the resolution of an urban aerial image via novel shadow amputation algorithm. Earth Science Informatics. 2022 Feb 9:1-9.
4. E. Fantin Irudaya Raj, M. Appadurai, **E. Francy Irudaya Rani** & Jenish, Finite-element design and analysis of switched reluctance motor for automobile applications. Multiscale and Multidisciplinary Modeling, Experiments and Design. 2022 Jan 31:1-9.
5. Rooban, S., Leela, M, Rahman, M.Z.U., **Subbulakshmi, N.**, Manimegalai, R, Design of Low Power Transmission Gate Based 9T SRAM Cell. CMC-Computers, Materials & Continua. 2022;72(1):1309-21.
6. **S. Esakki Rajavel**, T. Aruna · G.Rajakumar , · A. Tony Claudia, Optimizing Spectrum Sensing by Using Artificial Neural Network in Cognitive Radio Sensor Networks. Wireless Personal Communications. 2022 Mar 7:1-5.
7. **Suresh Chinna Thambi**, Thangavelu A, Narayanaperumal M. Performance analysis of efficient spectrum utilization in cognitive radio networks by dynamic spectrum access and artificial neuron network algorithms. Int. Arab J. Inf. Technol.. 2022 Mar;19(2):224-9.
8. **A. Andrew Roobert**, P. Sherly Arunodhayamary, D. Gracia Nirmala Rani M. Venkatesh L. Jerart Julius, Design and analysis of 28 GHz CMOS low power LNA with 6.4 dB gain variability for 5G applications. Transactions on Emerging Telecommunications Technologies. 2022 Mar 10:e4486.
9. **Narayanan K.L**, Krishnan R.S, Robinson Y.H, Julie E.G, Vimal S, Saravanan V, Kaliappan M. Banana plant disease classification using hybrid convolutional neural network. Computational Intelligence and Neuroscience. 2022 Feb 23;2022.

10. Janani R.P, **Narayanan K.L**, Krishnan R.S, Kannan P, Kabilan R, Muthukumaran N. Intelligent Drowsiness and Illness Detection Assist System for Drivers. In 2022 Second International Conference on Artificial Intelligence and Smart Energy (ICAIS) 2022 Feb 23 (pp. 1150-1155). IEEE.
11. Krishnan R.S, **Narayanan K.L**, Julie E.G, Prashad V.A.B, Marimuthu K, Sundararajan S. Solar Powered Mobile Controlled Agrobot. In 2022 Second International Conference on Artificial Intelligence and Smart Energy (ICAIS) 2022 Feb 23 (pp. 787-792). IEEE.
12. Niranjana R, Krishnan R.S, **Narayanan K.L**, Presskila X.A, Julie E.G, Sundararajan S. Intelligent Itinerant Robot [IIR] for Agricultural Farm Monitoring using IoT. In 2022 Second International Conference on Artificial Intelligence and Smart Energy (ICAIS) 2022 Feb 23 (pp. 1346-1351). IEEE.
13. **K. Lakshmi Narayanan**, · R. Santhana Krishnan · Y. Harold Robinson, IoT Based Smart Assist System to Monitor Entertainment Spots Occupancy and COVID 19 Screening During the Pandemic. Wireless Personal Communications. 2022 Jun 8:1-20.
14. **Lakshmi Narayanan**, R. Santhana Krishnan, Y. Harold Robinson, A Hybrid Deep Learning Based Assist System for Detection and Classification of Breast Cancer from Mammogram Images, The International Arab Journal of Information Technology, Vol. 19, No. 6, 965 – 974, November 2022
15. **Kabilan, R.**, Devi, E.K., Bhuvaneshwari, R.M., Gayathiri, R., Mallika Pandeewari, R, GPS Localization for Enhancement of Military Fence Unit. In 2022 Second International Conference on Artificial Intelligence and Smart Energy (ICAIS) 2022 Feb 23 (pp. 811-816). IEEE.
16. **Kabilan R**, Ravi R, Esther JM, Muthuraman U, Gabriel JZ, Devaraj GP. Constructing Effective UVM Testbench By Using DRAM Memory Controllers. In 2022 Second International Conference on Artificial Intelligence and Smart Energy (ICAIS) 2022 Feb 23 (pp. 1034-1038). IEEE.
17. **Kabilan R**, Mallika Pandeewari R, Lalitha N, Kanmanikarthiga E, Karthica C, Sharon LMH. Soldier Friendly Smart And Intelligent Robot On War Field. In 2022 Second International Conference on Artificial Intelligence and Smart Energy (ICAIS) 2022 Feb 23 (pp. 666-671). IEEE.

18. Pandeewari R.M, **Kabilan R**, Januanbumani T.M, Rejoni J, Ramya A, Jothi S.J, Data Backups and Error Finding by Residue Quotient Code for Testing Applications. In 2022 International Conference on Sustainable Computing and Data Communication Systems (ICSCDS) 2022 Apr 7 (pp. 637-641). IEEE.
19. Pandeewari R.M, Deepthyka K, Abinaya M, Deepa V, **Kabilan R**, Glorintha J. Fast Evolutionary Algorithm based Identifying Surgically Distorted Face for Surveillance Application. In 2022 International Conference on Sustainable Computing and Data Communication Systems (ICSCDS) 2022 Apr 7 (pp. 516-521). IEEE.
20. Joel J.P.A, Raj R.J.S, **Muthukumaran N.**, Review on Gait Rehabilitation Training Using Human Adaptive Mechatronics System in Biomedical Engineering. In 2022 International Conference on Computer Communication and Informatics (ICCCI) 2022 Jan 25 (pp. 1-5). IEEE.
21. Abdul Munaf, R.N., Karthikeyan, K., Gnanaraj, S.J.P., Sivakumar, T.A., **Muthukumaran, N.**, An ML Approach for Household Power Consumption. In 2022 International Conference on Sustainable Computing and Data Communication Systems (ICSCDS) 2022 Apr 7 (pp. 784-791). IEEE.
22. Thangam C, Ramaswamy S, Karthikeyan C, Anu Joel E, **Muthukumaran N.**, Implementation of Barrel Shifter in Vedic Multiplier. In 2022 International Conference on Sustainable Computing and Data Communication Systems (ICSCDS) 2022 Apr 7 (pp. 774-777). IEEE.
23. Balamurugan A, Karthikeyan K, Gnanaraj S.J.P, **Muthukumaran N.**, Stability Analysis of Voltage in IEEE 145 Bus System by CPF using Dragonfly Algorithm. In 2022 International Conference on Sustainable Computing and Data Communication Systems (ICSCDS) 2022 Apr 7 (pp. 778-783). IEEE.
24. Monisha B.T, Divya C, **Muthukumaran N.**, Computerized Diagnosis of Diabetic Retinopathy based on Deep Learning Techniques. In 2022 International Conference on Applied Artificial Intelligence and Computing (ICAAIC) 2022 May 9 (pp. 331-338). IEEE.

25. **Muthukumaran N**, Archana M, Majitha A, GiftaIrine Sophiya, T., Analysis of Brain Tumor using Novel Image Processing Approach. In 2022 3rd International Conference on Electronics and Sustainable Communication Systems (ICESC) 2022 Aug 17 (pp. 1387-1393). IEEE.
26. Ranjith A, Vijayaragavan S.P, Nirmalrani V, **Muthukumaran N.**, An IoT based Monitoring System to Detect Animal in the Railway Track using Deep Learning Neural Network. In 2022 3rd International Conference on Electronics and Sustainable Communication Systems (ICESC) 2022 Aug 17 (pp. 1246-1253). IEEE.
27. Maheswari B.U, Nithya P, Vijay S, Tamilarasi K, Anitha G, **Muthukumaran N.**, An Automated Technology for IoT based Rail-Track Inspection to Locate Surface Flaws by Robotics and Neural Networks. In 2022 5th International Conference on Inventive Computation Technologies (ICICT) 2022 Jul 20 (pp. 873-878). IEEE.
28. Joshua Samuel Raj R, Sudarson Rama Perumal T, **Muthukumaran N**, Ganesh D.R., Rapid Efficient Loss Less Color Image Compression Using RCT Technique and Hierarchical Prediction. In Disruptive Technologies for Big Data and Cloud Applications 2022 (pp. 189-202). Springer, Singapore.
29. Joshua Samuel Raj R, Singh B, Ganesh D.R, **Muthukumaran N.**, Secure GEDAR Routing Protocol for Underwater Data Collection Using WSN. In Disruptive Technologies for Big Data and Cloud Applications 2022 (pp. 153-166). Springer, Singapore.
30. Monisha BT, Divya C, **Muthukumaran N.**, Computerized Diagnosis of Diabetic Retinopathy based on Deep Learning Techniques. In 2022 International Conference on Applied Artificial Intelligence and Computing (ICAAIC) 2022 May 9 (pp. 331-338). IEEE.
31. Niranjana R, **Narayanan K.L**, Francy Irudaya Rani, E, Agalya A, Chandraleka C, Indhumathi K. Resourceful Retinal Vessel segmentation for Early Exposure of Vision Threatening Diseases. In 2022 International Conference on Advanced Computing Technologies and Applications (ICACTA) 2022 Mar 4 (pp. 1-6). IEEE.

32. Robinson Y.H, Krishnan R.S, **Narayanan K.L**, Sangeetha A, Sakthidevi I, Raj J.R.F. Secured Energy Proficient and Clustering Methodology for Wireless Sensor Networks. In 2022 International Conference on Sustainable Computing and Data Communication Systems (ICSCDS) 2022 Apr 7 (pp. 1225-1229). IEEE.
33. Thirupathieswaran R, Krishnan R.S, **Narayanan K.L**, Krishnan R, Ram C.R.S, Robinson Y.H. Mobile Application Based Secured Smart Museum for COVID-19 Pandemic Situation. In 2022 International Conference on Sustainable Computing and Data Communication Systems (ICSCDS) 2022 Apr 7 (pp. 1230-1237). IEEE.
34. **Narayanan KL**, Niranjana R, Krishnan R.S, Janaki M, Robinson Y.H., A Smart System for Monitoring and Identifying Pollution Free Driving Route Identifier using Internet of Things. In 2022 International Conference on Sustainable Computing and Data Communication Systems (ICSCDS) 2022 Apr 7 (pp. 1007-1011). IEEE.
35. Anupama Namburu, D. Sumathi , Roshani Raut , Rutvij H. Jhaveri , Rajesh Kumar Dhanaraj , **N. Subbulakshmi** and Balamurugan Balusamy, FPGA-based deep learning models for analysing corona using chest X-ray images. Mobile Information Systems. 2022 Jun 28;2022.
36. Evangelin Dasan, **Rajakumar Gnanaraj**, Joint ECG–EMG–EEG signal compression and reconstruction with incremental multimodal autoencoder approach. Circuits, Systems, and Signal Processing. 2022 Nov;41(11):6152-81.
37. Ananth Kumar, T, **Rajakumar, G**, Arun Samuel, T. S, Nirmal, D., An In Situ Design/Analysis Method of Antimicrobial Effect Using Nano TiO₂ for Disinfecting COVID-Affected Places. Journal of Testing and Evaluation. 2022.
38. Evangelin Dasan, **Rajakumar Gnanaraj**, A Parametric Lossy Compression Techniques for Biosignals: A Review. Wireless Personal Communications. 2022 Oct 7:1-30.

39. **Friska J**, Jenefa M.N. Grey Wolf Optimization based BICMB-OFDM for millimeter wave Massive MIMO systems. In 2022 International Conference on Sustainable Computing and Data Communication Systems (ICSCDS) 2022 Apr 7 (pp. 760-765). IEEE.
40. **Kannan P**, Neha S. Ball Bearing Fault by Feature Extraction and Fault Diagnosis method based on AI ML Algorithms. In 2022 6th International Conference on Intelligent Computing and Control Systems (ICICCS) 2022 May 25 (pp. 1310-1314). IEEE.
41. W. Stalin Jacob, P. Jenifer Darling Rosita, K. B. Gurumoorthy, **P. Kannan**, S. Allwin Devaraj & Cynthia Anbuselvi Thangaraj., Vehicular Support System for User and Vehicle Accident Prevention. In 4th EAI International Conference on Big Data Innovation for Sustainable Cognitive Computing 2023 (pp. 207-215). Springer, Cham, EAI / Springer Innovations in Communication and Computing.
42. **S. Allwin Devaraj**; N. Muthukumaran; Stalin Jacob; Jenifer Darling Rosita; M.M. Vijay; A. Andrew Roobert, Performance analysis of reconstructed image using colour demosaicing algorithm for digital images. International Journal of Innovative Computing and Applications. 2022;13(3):138-49.
43. **Stalin Allwin Devaraj**, Kambatty Bojan Gurumoorthy, Pradeep Kumar, Wilson Stalin Jacob , Prince Jenifer Darling Rosita and Tanweer Ali, Cluster-ID-Based Throughput Improvement in Cognitive Radio Networks for 5G and Beyond-5G IoT Applications. Micromachines. 2022 Aug 28;13(9):1414.
44. M. Kasiselvanathan, S. Lakshminarayanan , J. Prasad, K.B. Gurumoorthy and **S. Allwin Devaraj**., Performance Analysis of MIMO System Using Fish Swarm Optimization Algorithm. International Journal of Electrical and Electronics Research. 2022 May 30;10(2):167-70.
45. Sagayaraj M.F, George I.R, Vedhapriyavadhana R, **Priya L.R.**, Artificial Intelligence to Combat the Sting of the Pandemic on the Psychological Realms of Human Brain. SN Computer Science. 2022 May;3(3):1-6.

46. **Priya L.R**, Devi P.A. Wearable Belt Antenna for Human Body Communications AT 2.45 GHz. In 2022 3rd International Conference on Electronics and Sustainable Communication Systems (ICESC) 2022 Aug 17 (pp. 1724-1729). IEEE.
47. **Pradheep T Rajan**, Muthukumaran N, Grey neural network channel estimation and RBFNN hybrid precoding schemes for the multi user millimeter wave massive MIMO, Transactions on Emerging Telecommunications Technologies, Dec, 2022.

ELECTRICAL AND ELECTRONICS ENGINEERING

1. Jothi Arulkumar Austin V, **Ravi A**, A Modified Three Leg Watkins Johnson Bridge Type DC to DC Converter Simulation and Experimental Verification. Tehnicki vjesnik/Technical Gazette. 2022 Mar 1;29(2).
2. Austin, V.J.A., **Ravi, A**, A PFC Scheme for the Inverse Watkins Johnson Converter for Polarity Reversible Buck Boost DC Output Voltage. Journal of Circuits, Systems and Computers. 2022 Apr 11:2250199.
3. **Muthuraman U**, Ravi R, Devaraj GP, Esther JM, Kabilan R, Gabriel JZ. Embedded Sensor-based Construction Health Warning System for Civil Structures & Advanced Networking Techniques using IoT. In 2022 International Conference on Sustainable Computing and Data Communication Systems (ICSCDS) 2022 Apr 7 (pp. 1002-1006). IEEE.
4. **Muthuraman, U.**, Raja, M.A., Sophia, M., Ganesh Babu, O., Influence of silane treatment on the mechanical strength and durability of reactive powder concrete containing recycled fine aggregate. Materials Today: Proceedings. 2022 Apr 23.
5. Ganesh Babu, O., Sakthieswaran, N., **Muthuraman, U.**, Suresh, P, Influence of temperature effects on Nano-silica blended self-compacting glass mortar. Materiali in tehnologije. 2022 Jan 1;56(2):159-70.
6. Ramamurthi, D.S., Judes Sujatha, S., Talluri, R., **Muthuraman, U.**, Effectiveness of using organic and inorganic consolidants on the properties of friable-porous gypsum mortar. Materials Today: Proceedings. 2022 Apr 23.

7. Dhanasekaran S, Vijayakarthis P, Gobinath D, Nithiyanandam N, Kumar AS, Shifani SA, **Muthuraman U.** An Intelligent Failure Free Data Communication Model using Predicted Remaining Deliveries Scheme. In 2022 5th International Conference on Inventive Computation Technologies (ICICT) 2022 Jul 20 (pp. 866-872). IEEE.
8. Blesslin Sheeba, T, Manimegalai, T, Ananthi, S, Anitha, G, **Muthuraman, U.**, ASVM: Adaboost with SVM-based Classifier Implementation for Aspect-based Opinion Mining to Appraise Products. In 2022 International Conference on Inventive Computation Technologies (ICICT) 2022 Jul 20 (pp. 1034-1041). IEEE.
9. Pushpakumar R, Prabu R, Priscilla M, Renisha P.S, Prabu R.T, **Muthuraman U.**, A Novel Approach to Identify Dynamic Deficiency in Cell using Gaussian NB Classifier. In 2022 7th International Conference on Communication and Electronics Systems (ICCES) 2022 Jun 22 (pp. 31-37). IEEE.
10. Nithiyanandam N, Dhanasekaran S, Kumar AS, Gobinath D, Vijayakarthis P, Rajkumar G.V, **Muthuraman U.**, Artificial Intelligence Assisted Student Learning and Performance Analysis using Instructor Evaluation Model. In 2022 3rd International Conference on Electronics and Sustainable Communication Systems (ICESC) 2022 Aug 17 (pp. 1555-1561). IEEE.
11. Karthikeyan M, Manimegalai D, Sivarajan S, Karthiga S, **Muthuraman U.**, Analysis of Voltage Tracking in DC-DC Converter for an Electric Vehicle using Hybrid Adaptive Controllers. In 2022 International Conference on Edge Computing and Applications (ICECAA) 2022 Oct 13 (pp. 792-799). IEEE.
12. **Rajagopal P**, Ramesh Babu; Vemuri Kusuma Priya; N. Drawin; R. Thiagarajan; R. Krishnamoorthy, Enhanced Hybrid Resource Scheduler for an Institution Employing NB-RR Scheduling. In 2022 8th International Conference on Smart Structures and Systems (ICSSS) 2022 Apr 21 (pp. 1-6). IEEE.

13. **Rajagopal R**, Karthick R, Meenalochini P, Kalaichelvi T. Deep Convolutional Spiking Neural Network optimized with Arithmetic optimization algorithm for lung disease detection using chest X-ray images. Biomedical Signal Processing and Control. 2023 Jan 1;79:104197.
14. **R. Rajagopal** , M. Karthik, M. Soni, Narayan Krishan Vyas, S. Hemavathi , M.R. Arun., Monitoring the high-speed engine application using ferro magnetic system. Materials Today: Proceedings. 2022 Jan 11.
15. T. Aditya Sai Srinivas; B Ravindra Babu; Miskir Solomon Tsige; **R. Rajagopal**, S. Devi; Subrata Chowdhury., Effective implementation of the Prototype of a digital stethoscope using a Smartphone. In 2022 International Conference on Innovative Computing, Intelligent Communication and Smart Electrical Systems (ICSES) 2022 Jul 15 (pp. 1-8). IEEE.
16. Pasupuleti M, **Diraviam A.J**, Maniunath K, Nageshwaran A, Selvi S, Arun S., Secure Database Authentication from Vulnerability Detection using Encryption Mode of Standardization. In 2022 8th International Conference on Smart Structures and Systems (ICSSS) 2022 Apr 21 (pp. 01-07). IEEE.
17. **J. Jasper Gnana Chandran** , J. Jabez , Senduru Srinivasulu, Auto-Metric Graph Neural Network optimized with Capuchin search optimization algorithm for coinciding diabetic retinopathy and diabetic Macular edema grading. Biomedical Signal Processing and Control. 2023 Feb 1;80:104386.
18. **J Jasper Gnana Chandran**, R Karthick, R Rajagopal and P Meenalochini, Dual-Channel Capsule Generative Adversarial Network optimized with Golden Eagle Optimization for Pediatric Bone Age Assessment from Hand X-Ray Image. International Journal of Pattern Recognition and Artificial Intelligence. 2022 Dec 14.
19. Balraj M. Monica Jenefer, K. Senathipathi, Aarthi, **Annapandi**, Detection and categorization of acute intracranial hemorrhage subtypes using a multilayer DenseNet-ResNet architecture with improved random forest classifier. Concurrency and Computation: Practice and Experience. 2022 Oct 10;34(22):e7167.

INFORMATION TECHNOLOGY

1. Gopala Krishnan C, **Nishan A.H.**, Gomathi S, Aravind Swaminathan G. Energy and trust management framework for MANET using clustering algorithm. *Wireless Personal Communications*. 2022 Jan;122(2):1267-81.
2. Gopala krishnan C, **Nishan A.H.**, Prasannavenkatesan Theerthagiri., k-means clustering based energy and trust management routing algorithm for mobile ad-hoc networks. *International Journal of Communication Systems*. 2022 Jun 1;35(9).
3. **Devaraj G.P.**, Kabilan R, Muthuraman U, Gabriel JZ, Esther JM, Ravi R. Multipurpose Intellectual Home Area Network Using Smart Phone. In 2022 Second International Conference on Artificial Intelligence and Smart Energy (ICAIS) 2022 Feb 23 (pp. 1464-1469). IEEE.
4. **Ravi R.**, Devaraj G.P, Esther J.M, Kabilan R, Gabriel Z, Muthuraman U. Malicious Finding and Validation Scheme Using New Enhanced Adaptive Ack. In 2022 International Conference on Sustainable Computing and Data Communication Systems (ICSCDS) 2022 Apr 7 (pp. 1220-1224). IEEE.
5. Christo Ananth.P, Tamilselvi.S, **Agnes Joshy**, T.Ananth Kumar, Blood Cancer Detection with Microscopic Images Using Machine Learning. In *Machine Learning in Information and Communication Technology 2023* (pp. 45-54). Springer, Singapore.

MECHANICAL ENGINEERING

1. **K. Robinston Jeyasingh Swikker**, H. Kanagasabapathy and I. Neethi Manickam, Effect of MWCNT on mechanical characterization of glass/carbon hybrid composites. *Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering*. 2022 Feb 25:09544089221083464.
2. Bathrinath S, Mohan S, Koppiahraj K, **Bhalaji R.K.A**, Santhi B. Analysis of factors affecting sustainable performance in construction sites using fuzzy AHP-WASPAS methods. *Materials Today: Proceedings*. 2022 Mar 31.

3. Karuppiah K, Sankaranarayanan B, Ali SM, **Bhalaji R.K.A.**, Decision modeling of the challenges to human–robot collaboration in industrial environment: a real world example of an emerging economy. Flexible Services and Manufacturing Journal. 2022 Nov 14:1-31.
4. **K. Robinston Jeyasingh Swikker**, T. Sankaramoorthy , L. Girisha , P. Gopinath, P. Suresh , S. Joe Patrick Gnanaraj., Experimental investigation on the properties of glass fiber-reinforced polymer composites containing graphene. In AIP Conference Proceedings 2022 Apr 5 (Vol. 2405, No. 1, p. 050009). AIP Publishing LLC.
5. **I. Neethi Manickam**, K. Logesh , S. Joe Patrick Gnanaraj, M. Appadurai., Effect of compression on coir industry waste material. Materials Today: Proceedings, Volume 62, Part 2, Apr 2022, Pages 710-713.
6. S. Kolappan, **I. Neethi Manickam**, K. Robinston Jeyasingh Swikker, S. Joe Patrick Gnanaraj, M. Appadurai., Performance analysis of aircraft composite winglet. Materials Today: Proceedings, Volume 62, Part 2, 2022, Pages 889-895.
7. Sangilimuthukumar Jeyaguru, Senthil Muthu Kumar Thiagamani, Harikrishnan Pulikkalparambil, Suchart Siengchin, Jeyanthi Subramaniam, Sanjay Mavinkere Rangappa, Chandrasekar Muthukumar, **Senthilkumar Krishnasamy.**, Mechanical, acoustic and vibration performance of intra-ply Kevlar/PALF epoxy hybrid composites: Effects of different weaving patterns. Polymer Composites. 2022 Apr 16.
8. Sangilimuthukumar J , Senthil Muthu Kumar Thiagamani, Chandrasekar Muthu Kumar , **Senthilkumar Krishnasamy**, Arpitha G.R , Mayakannan S., Erosion characteristics of epoxy-based Jute, Kenaf and Banana fibre reinforced hybrid composites. Materials Today: Proceedings, Volume 64, Part 1, 2022, Pages 6-10.
9. Anandha Raja Muthusamy, Senthil Muthu Kumar Thiagamani , **Senthilkumar Krishnaswamy**, Chandrasekar Muthukumar , Harikrishnan Pulikkalparambil , Jeyanthi Subramaniam , Naganandhan Madasamy., Erosion performance of natural fiber reinforced vinyl ester hybrid composites: Effect of layering sequences. Materials Today: Proceedings, Volume 64, Part 1, 2022, Pages 200-206.

10. Theivasanthi Thiruganasambanthan, Senthil Muthu Kumar Thiagamani , Carlo Santulli , **Senthilkumar Krishnasamy**, Chandrasekar Muthukumar., Preparation of Sodium Alginate/Rice starch blend polymer film for soil moisture sensing. *Materials Today: Proceedings*, Volume 64, Part 1, 2022, Pages 352-356.
11. **R. Samuel Hansen** , M. Blessy Queen Mary , S. Somesh Subramanian , J. Aldrin Raj , S. Joe Patrick Gnanaraj , M. Appadurai., Utilization of PCM in inclined and single basin solar stills to improve the daily productivity. *Materials Today: Proceedings*, Volume 62, Part 2, 2022, Pages 967-972.
12. **Zeenathul Farida Abdul Gani** and Muthu Saravanan N., Computational analysis on the stability and characteristics of partially premixed butane-air open flames in tubular burner. *Thermal Science*. 2022;26 (5 Part A):3763-72.
13. **Abdul Gani Zeenathul Farida**, Experimental investigation on lift off, blowout and drop back in partially premixed LPG open flames in tubular burner. *Thermal Science* 2022 Volume 26, Issue 6 Part A, Pages: 4607-4615.
14. **Sheik Sulaiman Sherfudeen**, Muthiah Athinamilagi – Janakiraman Venkataramanujam, Optimization Techniques for Green Layout Design in Manufacturing Industries: A Meta-Heuristic Analysis. *Strojniški vestnik- Journal of Mechanical Engineering*. 2022 Nov 29;68(11):683-92.

MBA

1. **Annie Rose Nirmala** , R.K.A.Bhalajib , S. Bharani Kumar , S. Joe Patrick Gnanaraj , M. Appadurai., Study on the effect of COVID– 19 pandemic on the savings and investment pattern of the manufacturing sector. *Materials Today: Proceedings*, Volume 68, Part 5, 2022, Pages 1319-1323.

SCIENCE & HUMANITIES

1. S.Thanikaikarasan, R.Perumal ,R.Kanimozhi , M.Saravannan , **P.S.Suja Ponmini.**, Role of transparent nature conducting substrate on physical, chemical and optical properties of electrochemically grown CdSe and CdSe: Fe thin films. *Journal of New Materials for Electrochemical Systems*. 2022 Apr 1;25(2).

2. R. Perumal, S. Thanikaikarasan, M. Saravannan, R. Kanimozhi, **S. Sudharthini**, Influence of halogens on the growth aspects of Allylthiourea cadmium complex nonlinear optical single crystals. Journal of New Materials for Electrochemical Systems. 2022 Apr 1;25(2).
3. A. Abhilasha, A. Sreenivasulu, **T. Manimozhi**, P. S. Kumar, P. Selvakumar and P. Singh., The Model of Smart Sensing Device For Sensitive Nanoclusters Modification in Sensing Properties. In2022 2nd International Conference on Advance Computing and Innovative Technologies in Engineering (ICACITE) 2022 Apr 28 (pp. 1043-1047). IEEE.

Book Chapter Publications

CIVIL ENGINEERING

1. Prince S. Godson , **N. Chandrasekar**, S. Krishnakumar and Salom Gnana Thanga Vincent., Anthropogenic impacts on the benthic habitat morphology. InEcology and Biodiversity of Benthos 2022 Jan 1 (pp. 135-207). Elsevier.

COMPUTER SCIENCE AND ENGINEERING

1. **Ravi R**, Kabilan R, Shargunam S. High Performance Fiber-Wireless Uplink for CDMA 5G Networks Communication. Smart Antennas, Electromagnetic Interference and Microwave Antennas for Wireless Communications. 2023 Feb 17:13.
2. **Ravi, R.**, Zahariya Gabriel, J., Kabilan, R., Mallika Pandeewari, R., Hardware Implementation of OFDM Transceiver Using Simulink Blocks for MIMO Systems. Smart Antennas, Electromagnetic Interference and Microwave Antennas for Wireless Communications. 2023 Feb 17:95.
3. **Ravi R**, Pandeewari RM, Kabilan R, Shargunam S. Overcrowding Cell Interference Detection and Mitigation in a Multiple Networking Environment. Smart Antennas, Electromagnetic Interference and Microwave Antennas for Wireless Communications. 2023 Feb 17:71.

4. **Ravi, R.**, Kabilan, R., Shargunam, S., Mallika Pandeewari, R., Joint Relay-source Escalation for SINR Maximization in Multi Relay Networks and Multi Antenna Smart Antennas, Electromagnetic Interference and Microwave Antennas for Wireless Communications. 2023 Feb 17:47.

ELECTRONICS AND COMMUNICATION ENGINEERING

1. R. Santhana Krishnan, A.Sangeetha, D. Abitha Kumari, N. Nandhini, G. Karpagarajesh, **K. Lakshmi Narayanan**, Y. Harold Robinson., A Secured Manhole Management System Using IoT and Machine Learning. InRecent Advances in Internet of Things and Machine Learning 2022 (pp. 19-30). Springer, Cham.
2. **Lakshmi Narayanan K**, Harold Robinson Y, Krishnan R, Ramasamy Sankar Ram C, Santhana Krishnan R, Niranjana R, Essaki Muthu A. Internet of Things Based Smart Accident Recognition and Rescue System Using Deep Forests ML Algorithm. InRecent Advances in Internet of Things and Machine Learning 2022 (pp. 31-41). Springer, Cham.
3. R. Santhana Krishnan, **K. Lakshmi Narayanan**, Bharathi S.T, Deepa N, S. Mathumitha Murali, M. Ashok Kumar, C. R. T. Suria Prakash., Machine Learning Based Efficient and Secured Car Parking System. In Recent Advances in Internet of Things and Machine Learning 2022 (pp. 129-145). Springer, Cham.
4. Ferminus Raj A, Santhana Krishnan R, Antony Vasantha Kumar C, Sundararajan S, **Lakshmi Narayanan K**, Golden Julie E. IoT-Based Safe College Management System. InIntelligent Communication Technologies and Virtual Mobile Networks 2023 (pp. 603-614). Springer, Singapore.
5. Renuka K, Janani RP, **Lakshmi Narayanan K**, Kannan P, Santhana Krishnan R, Harold Robinson Y. Use of Near-field Communication (NFC) and Fingerprint Technology for Authentication of ATM Transactions. InIntelligent Sustainable Systems 2022 (pp. 415-426). Springer, Singapore.

6. Amarsingh Feroz C, **Lakshmi Narayanan K**, Kannan A, Santhana Krishnan R, Harold Robinson Y, Precila K. Enhancement of Data Between Devices in Wi-Fi Networks Using Security Key. In Distributed Computing and Optimization Techniques 2022 (pp. 449-458). Springer, Singapore.
7. Rajakumar G, **Lakshmi Narayanan K**, Santhana Krishnan R, Harold Robinson Y, Subramanian M, Asirvatham M. Design of an Efficient IoT System for Poultry Farm Management. In Distributed Computing and Optimization Techniques 2022 (pp. 325-335). Springer, Singapore.
8. G. Rajakumar, V. Nagaraju, B. R. Tapas Babu, P. Stella Rose Malar, R. Santhana Krishnan & **K. Lakshmi Narayanan**, Myocardial Infarction Analysis Using Deep Learning Neural Network Based on Image Processing Approach. In Distributed Computing and Optimization Techniques 2022 (pp. 635-644). Springer, Singapore.
9. P. Kannan, P. Bhuvaneshwari, K. Prabhu Chandran, P. Ebby Darney, **K. Lakshmi Narayanan** & R. Santhana Krishnan Power Quality Analysis of High-Voltage Gain Switched LC Z-Source Inverters. In Distributed Computing and Optimization Techniques 2022 (pp. 723-735). Springer, Singapore.
10. R. Santhana Krishnan, V. Nagaraju, N. Sasikala, **K. Lakshmi Narayanan**, S. Sundararajan & Y. Harold Robinson, Design of Smart Voice Enabled Walking Stick for Visually Impaired. In Distributed Computing and Optimization Techniques 2022 (pp. 357-365). Springer, Singapore.
11. M. Navaneetha Velammal, P. Hannah Blessy, **J. Friska** & A. Rajeshwari., Design of Quantum Encoders with Minimum Area Overhead. In Distributed Computing and Optimization Techniques 2022 (pp. 347-356). Springer, Singapore.
12. **J. Friska**, A. Rajeshwari, M. Navaneetha Velammal & P. Hannah Blessy, Identification of Rice Adulteration and Bacterial Blight Using Optimized Boosting Classifier. In Distributed Computing and Optimization Techniques 2022 (pp. 515-526). Springer, Singapore.

13. **Kabilan R**, Ravi R, Shargunam S. Improving the Performance of Cooperative Transmission Protocol Using Bidirectional Relays and Multi User Detection. Smart Antennas, Electromagnetic Interference and Microwave Antennas for Wireless Communications. 2023 Feb 17:29.
14. **Kabilan R**, Ravi R, Shargunam S, Pandeewari RM. A Baseband Transceiver for MIMO-OFDMA in Spatial Multiplexing Using Modified V-BLAST Algorithm. Smart Antennas, Electromagnetic Interference and Microwave Antennas for Wireless Communications. 2023 Feb 17:83.
15. **Kabilan R**, Ravi R, Shargunam S, Pandeewari RM. VLSI Implementation on MIMO Structure Using Modified Sphere Decoding Algorithms. Smart Antennas, Electromagnetic Interference and Microwave Antennas for Wireless Communications. 2023 Feb 17:59.
16. **Kabilan R**, Ravi R. Speech Signal Extraction from Transmitted Signal Using Multilevel Mixed Signal. Smart Antennas, Electromagnetic Interference and Microwave Antennas for Wireless Communications. 2023 Feb 17:1.
17. **Kabilan R**, Ravi R, Gabriel JZ, Pandeewari RM. Empowering Radio Resource Allocation to Multicast Transmission System Using Low Complexity Algorithm in OFDM System. Smart Antennas, Electromagnetic Interference and Microwave Antennas for Wireless Communications. 2023 Feb 17:111.

ELECTRICAL AND ELECTRONICS ENGINEERING

1. Gopikumar S, Uma S, Jayakrishna K, **Muthuraman U**. Novel Approach on Energy Harvesting in Carbon Nanotube-Reinforced Composite Structure. In Advancement in Materials Processing Technology 2022 (pp. 137-142). Springer, Singapore.

MECHANICAL ENGINEERING

1. Chandrasekar Muthukumar, Senthil Muthu Kumar, Thiagamani, **Senthilkumar Krishnasamy**, Rajini, Nagarajan, Suchart Siengcin, Polymer Based Bio-nanocomposites (Properties, Durability and Applications), Composite Sciences and Technology, 2022.
2. Bathrinath S, Nagesh S.M, Dinesh V, Sri Ram Ganesh M, Koppiahraj K, **Bhalaji R.K.A.** Analysing the Primary Influential Factors in Cement Manufacturing Industry Using DEMATEL Methodology. In Materials, Design and Manufacturing for Sustainable Environment 2023 (pp. 489-498). Springer, Singapore.

Patent Publications

COMPUTER SCIENCE AND ENGINEERING

1. **Dr. R. Ravi**, Dr. R. Suman, Mr. L. M. Kishore, Ms. K. T. Varsha, IDENTIFICATION OF CYBER CRIMINALS AND PREVENTION OF CYBER CRIME USING ADVANCED CYBER FORENSICS TOOLS, 202241029332A.
2. **Dr. R. Ravi**, Dr. R. Suman, Mr. A. Sudhan Raj Babu, Mr. S. Muthu @ Ramkumar, IOT BASED ENHANCED SMART HOME AUTOMATION, 202241046288A.

ELECTRONICS AND COMMUNICATION ENGINEERING

1. **Dr. N. Muthukumaran**, Dr. Pream Ananth, Dr. L.R. Priya, A METHOD AND DEVICE OF ONLINE SHOPPING LIVE STREAMING UPDATE IN INCOME TAX SYSTEM, 202241001086.
2. **Dr. N. Muthukumaran**, Dr. K.Lakshmi Narayanan, Dr. G.Rajakumar, A METHOD AND DEVICE OF UNDERGROUND MINE DETECTING ROBOT USING SENSOR NETWORK, 202241001181.

3. **Dr. K.Lakshmi Narayanan**, Dr.P.Kannan, Mr.Pradeep.T.Rajan, Mrs.M.Radha, AUTONOMOUS NURSING ROBOT FOR HOSPITALS BASED ON WIRELESS BEACON NETWORK, 202241001152.
4. **Mrs. J.Friska**, Dr. S.Allwin Devaraj, Mr. S.Essaki Rajavel, ARM BASED SHIP NAVIGATION SYSTEM FOR SAFETY IN SEA BORDER USING ZIGBEE, 202241004650.
5. **Dr. A.Andrew Roobert**, Mr.M.Suresh Chinnathampy, Mr. C.Amarsingh Feroz, Dr. N. Muthukumaran, A DIGITALLY ASSISTED 28GHZ CMOS VGLNA FOR 5G COMMUNICATIONS, 202241001394.
6. **Dr. A. Andrew Roobert**, Ms. R. Subitha, Ms. A. Subbulakshmi, Ms. R. Subbulakshmi, SMART STABILIZER FOR AIR CONDITIONER, 202241072385A
7. **Dr. R Prem Ananth** , Dr. N. Muthukumaran, Dr. N. Muthukumaran, A NEW TRACKING METHODOLOGY USING DIGITAL FOR FINDING MISSING PETS, 202241006209 A
8. **Dr. N. Muthukumaran**, Ms. C. Shiny Cross, Ms. A. Syed Noorul Jasmine, Ms. Vethanbu Libertin Christiana, IOT BASED SOLUTION FOR RECORDING AND STORING METRICS OF NORMAL AND ORTHOTIC LEG FOR THE ANALYSIS BY ORTHOTIST, 202241038322A.
9. **Dr. N. Muthukumaran**, Mr. S. Sai Meenakshinathan, Mr. M. Thayaneshwaran, Mr. I. Natesan, DESIGN AND PERFORMANCE ANALYSIS OF HOOKWORM DETECTION USING DEEP CONVOLUTIONAL NEURAL NETWORK, 202241051835A.
- 10.**Dr. N. Muthukumaran**, Mr. S. Sai Meenakshinathan, Mr. S. Sai Kutthalingam, Mr. N.Saran, TEA LEAF DISEASE IDENTIFICATION AND DETECTION USING IMAGE ANALYSIS AND DEEP LEARNING, 202241051841A.
- 11.**Dr. N. Muthukumaran**, SOLAR PANEL MOBILE COVER, 364104-001.
- 12.**Dr. N. Subbulakshmi**, Mrs. M. Navaneetha Velammal, Dr. R.Kabilan, Mrs.M.Chitra Evangeline Christina, AN INTELLIGENT WEARABLE SHIELD FOR WOMEN AND CHILDREN SAFETY, 202241001124A.

13. **Mr.T.Baskar**, Mr.M.Karthick, Mr.M.Anand, Dr. K.Lakshmi Narayanan, A SMART MANHOLE MONITORING SYSTEM USING GSM & INTERNET OF THINGS (IOT), 202241024034A.
14. **Dr. P. Kannan**, Mr. Sheik Mahaboob Basha M, Mr. Ribas khan M, Mr. Valathi Hari P, CONTACTLESS ATTENDANCE SYSTEM, 202241038320A.
15. **Mrs.J.Friska**, Ms. J. Fatima Kingsy Shibani, Ms. V. Divya Jegasakthi , Ms.S.M. Hazeena Barveen, IOT BASED LANDSLIDE DETECTION DEVICE, 202241049070A.
16. **Mrs.M. Chitra Evangelin Christina**, Ms. M.D. Priya, Ms. K. Priyanka, Ms. V. Sadhana Sree, METHOD AND SYSTEM FOR CROP DISEASE DETECTOR, 202241048866 A.
17. **Dr. A.Andrew Roobert**, Ms.R.Subitha, Ms.A.Ragavi, Ms.R.Sivakami , DESIGN OF ALERT SYSTEM TO SAVE THE LIVES ON RAILWAY TRACK, 202241049071A.
18. **Dr. A.Andrew Roobert**, Ms.S.R.Sherlin Dhaya, Ms.P.Steffi Leesma Paulin, Ms.M.Yamuna, SMART CLOTHING FOR THE SAFETY OF MINE WORKERS, 202241049072A.
19. **Mrs.E. Francy Irudaya Rani**, Ms. A. Amsath Mehamoodha Nazrin, Ms. A. Beaulah Gifta, Ms. J. Helen Nivetha, SMART NUTRITION MIRROR FOR FITNESS FREAK, 202241048965A
20. **Dr. M. Suresh Chinnathampy**, Ms. A. Jessie, Ms. M. D. Laranya Shree, Ms. R. Sundhari, A MODERN SMART DEVICE FOR MONITORING HEALTHCARE, 202241069788 A.

ELECTRICAL AND ELECTRONICS ENGINEERING

1. **Dr. P. Annapandi**, Dr. A. Ravi, Dr. R. Rajagopal, Mrs. R AANDAL, A NEW SOLUTION TO THE PROBLEM OF POWER SAG, IN THE POWER SUPPLY, 202241008000A.

2. **Dr. J. Jasper Gnana Chandran**, Dr. A. Justin Diraviam, Dr. A .Gnana Saravanan, Dr. U. Muthuraman, NEW USEFUL TECHNOLOGY IN POWER SUPPLY TO PREVENT BULB FAILURE , 202241008061A.
3. **Dr. A Ravi**, Dr. J Jasper Gnana Chandran, Dr. J Sivadasan, Mrs. S. Chithra, NEW SOLUTION TO THE PROBLEM OF POWER LINE NOISE IN POWER SUPPLY, 202241008048A.
4. **Dr. A. Justin Diraviam**, Dr. P. Annapandi, Mr. J .Daniel Sathyaraj, Mr. N V Selvam, NEW SOLUTION TO THE PROBLEM OF HIGH VOLTAGE SPIKES IN THE POWER SUPPLY, 202241008030A.
5. **Dr.U.Muthuraman**, Dr.A. Ravi, Mrs.N.S. Pratheeba, Dr. A.Gnana Saravanan, CONSUMER NEW DIGITAL PAYMENT SYSTEM IN ELECTRICITY SUPPLY, 202241009706A.
6. **Dr.J.Sivadasan**, Dr.P. Annapandi, Mr. N.Subramanian, Mr .A.Sheik Sidthik, NEW ARRANGEMENT OF HIGH QUALITY POWER EARTH SYSTEM IN POWER SUPPLY, 202241009707A.
7. **Dr. A.Gnana Saravanan**, Dr. J. Jasper Gnana Chandran, Mr.J.Antony Robinson, Mrs.A.Amala Manuela, NEW SOLUTION TO THE PROBLEM OF VOLTAGE STEP DOWN IN TRANSMISSION PATH IN POWER SUPPLY, 202241009708A.
8. **Dr. R. Rajagopal**, NEW SOLUTION TO THE PROBLEM OF POWER SURGES IN POWER SUPPLY, 202241009743A.
9. **Selvakumar S**, Dr. Justin Diraviam A, Selvam N. V., Dr. Sivadasan J, NEW TECHNOLOGY TO KEEP SAVE LED BULB IN BOX IN WAREHOUSE, 202241017717.
- 10.**Mr.J. Daniel Sathyaraj**, NEW SOLUTION TO THE IMPULSE AND FREQUENCY VARIATION IN POWER SUPPLY.
- 11.**Mr.N.Subramanian**, Dr.A.Ravi, Mrs.S.Chithra, Mr.J.Antony Robinson, TECHNIQUES FOR REPAIRING LOOSE WIRES IN POWER SUPPLIES, 202241023423A.

12. **Mr.J.Antony Robinson**, Dr.P.Annapandi, Mrs.R.Aandal, Mr. J. Daniel Sathyaraj, A NEW SOLUTION TO THE PROBLEM OF BROW NOUTS IN THE POWER SUPPLY, 202241023424A
13. **Mr. Selvam N V**, Dr. J.Jasper Gnana Chandran, Dr. Justin Diraviam A, Mr. Selvakumar.S, NEW TECHNOLOGY FOR MAKING OIL SEALS FOR TRANSFORMERS, 202241032010A.
14. **Mr. Pratheeba N S**, Dr. J.Jasper Gnana Chandran, Dr. Annapandi P, Ms. Aandal R, NEW TECHNOLOGY TO PROTECT POWER SUPPLY WIRES FROM WATER, 202241032012A.
15. **Ms.Chithra S**, Dr Ravi A, Mr. J. Daniel Sathyaraj, Mr. Antony Robinson, SELF-POWERED ELECTRIC DRIVERLESS BUS, 202241038266A.
16. **Mrs. R. Aandal**, Dr. Justin Diraviam A, Dr. Annapandi P, Mr.Subramanian.N, DEVELOPMENT OF LOW-POWER WIRELESS REMOTE MONITORING SENSORS, 202241038269A.

INFORMATION TECHNOLOGY

1. **B.Balaji**, A.Jael Jessica, Arumugapriya (Dr.T.C.Subbulakshmi), IMPLEMENTATION OF SMART TECHNIQUE TO IMPROVE THE EFFICIENCY IN BORDER SECURITY SURVEILLANCE SYSTEM, 202241029755.
2. **Dr.J.B.Shajilin Loreet**, Mr.Prince Devaraj, Ms.A.H.Nishan, NEW TECHNOLOGY TO PROTECT COMPUTER'S IC CIRCUITS FROM OVERHEATING, 202241035656A.
3. **Dr. A. Anitha**, Ms. M. Dharshini, Mr. I. Noor Mohamed, Ms. K. S. Abbiramy, VOICE ASSISTED SMART WHEEL CHAIR, 202241064811A.

MECHANICAL ENGINEERING

1. **Dr. R.Samuel Hansen**, Dr.I.Neethi Manickam, Dr. R.K.A.Bhalaji, Dr. S.Balakrishnan, A NEW TECHNOLOGY, EGG BOILING MACHINE, 202241008304A.

2. **Dr.I.NeethiManickam**, Dr. R.K.A.Bhalaji, Dr. S.Balakrishnan, Dr. R.Samuel Hansen, A NEW TECHNOLOGY HIGH SPEED WATER BOAT, 202241008301A.
3. **Dr. S.Balakrishnan** , Dr. R.K.A.Bhalaji, Dr. I.Neethi Manickam, Dr. R.Samuel Hansen, A NEW TECHNOLOGY, A LOW-WEIGHT FOLDING TOOTH BRUSH, 202241008499A.
4. **Dr. R.K.A.Bhalaji**, Dr. S.Balakrishnan, Dr.I.Neethi Manickam, Dr.R.Samuel Hansen, A NEW TECHNOLOGY, TRUCK LOADING MACHINE AT HIGH SPEED, 202241008510A.
5. **Dr. V. Velmurugan**, A NEW TECHNOLOGY FOR AGRICULTURAL WASTE, 202241050450A.
6. **R.S.Arun**, Mohammad Aboobacker, Ashok Kumar, Babu and Prof. Sheik Sulaiman, FERTILIZER FEEDING GUN, 202241071052 A.

SCIENCE & HUMANITIES

1. **Dr. R. Suman**, Dr. P.S. Suja Ponmini, Mr. M. Robinson, Dr. P. Jona, HIGH QUALITY NEW HOME AIR VENTILATOR FOR AIR PURIFICATION, 202241045327A.



PhD Viva-Voce Completed

Faculty Members



Prof. M. SURESH CHINNATHAMPY, Assistant Professor of Electronics and Communications Engineering defended his thesis entitled “Design Development of Microstrip Patch Antenna and Conventional Power Allocation Policies for Spectrum Utilization in Cognitive Radio Networks” on 04.02.2022 under the Guidance of Dr. T. Aruna, Professor / ECE, Paavai Engineering College, Namakkal and Dr. N. Muthukumaran, Professor / ECE, Francis Xavier Engineering College, Tirunelveli.



Prof. K. ROBINSTON JEYASINGH SWIKKER, Associate Professor of Mechanical Engineering defended his thesis entitled “Characteristics Investigation on Copper Graphene Composite Fabricated Through Flake Powder Metallurgy” on 10.10.2022 under the Guidance of Dr.H.Kanagasabapathy, Professor/MECH, P.S.R. Engineering College, Sivakasi.



Prof. ALLWIN DEVARAJ, Assistant Professor of Electronics and Communications Engineering defended his thesis entitled “Cluster based Cooperative Spectrum Sensing for Cognitive Radio Networks” on 5.12.2021 under the Guidance of Dr. T. Aruna, Professor / ECE, Paavai Engineering College, Namakkal and Dr. N. Muthukumaran, Professor / ECE, Francis Xavier Engineering College, Tirunelveli.



PhD Viva-Voce Completed

Research Scholar



Mr. J. PRINCE ANTONY JOEL, Research Scholar of Electronics and Communication Engineering defended his thesis entitled “Optimization of Human Adaptive Mechatronics an Integrated Approach with Cybernetics” on 04.04.2022 under the Guidance of Dr. N. Muthukumaran, Professor / ECE, Francis Xavier Engineering College, Tirunelveli.




Ms. A. KARTHIKA, Research Scholar of Electronics and Communications Engineering defended his thesis entitled “The Impact of Reliable Cloud Storage Model for Direct and Indirect Attacks” on 07.06.2022 under the Guidance of Dr. N. Muthukumaran, Professor / ECE, Francis Xavier Engineering College, Tirunelveli.


Other Highlights

Ongoing Funded Research Projects

Title of the project	Principal Investigator	Duration	Funding Agency	Amount Sanctioned
Design and development of pyrolyser for processing various agricultural biomass and to demonstrate its technical feasibility	Dr.V.Velmurugan	2019 To 2023	DST	Rs. 97,55,970
Identification of cyber criminals and prevention of cyber-crime using Advanced Cyber Forensics tools	Dr.R.Ravi	2019 To 2023	AICTE	Rs. 16,74,000



World's Top Researchers



Dr. V. Velmurugan and Dr. N. Muthukumaran listed Top Researchers amongst the 2% of scientists across the world by Stanford University based on the Elsevier and Scopus publications.

16 of our Faculty are
Recognized as World
Top Researchers
- World Scientific and
University
Ranking 2022



21 of our Faculty are
Recognized as World
Top Researchers
- World Scientific and
University
Ranking 2023

World Top Researchers

AD Scientific Index – 2023 (21 Researchers)





























FXEC

R&D

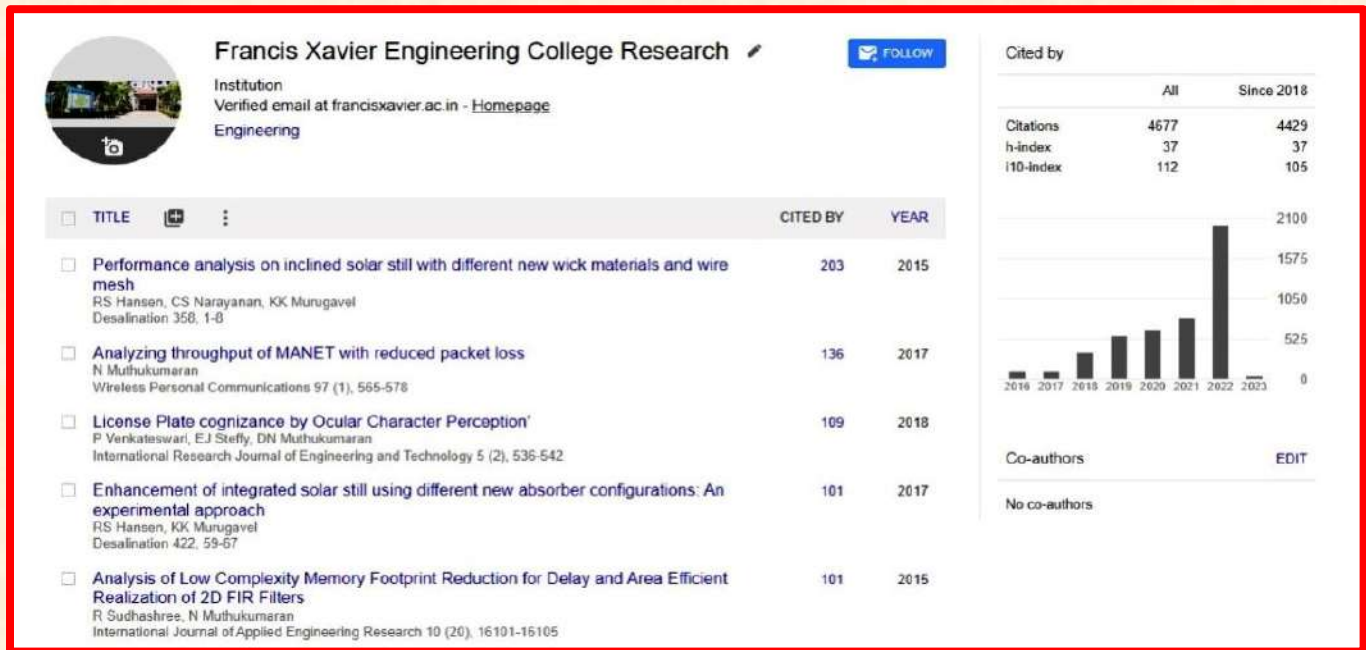
Jan'22 - Dec'22

AD Scientific Index - FXEC Researchers-23

University / Institution	Country	Region	World	AD Scientific Index - World Scientist Rankings - 2023				H INDEX			I10 INDEX		
				Name	Country	University / Institution	Subject	Total	Last 5 year	Last 5 year/total	Total	Last 5 year	Last 5 year/total
1	2619	23349	163430	N Muthukumarar	India	Francis Xavier Engineering College	Engineering & Technology / Electrical & Electronic Engineering Digital Image Processing VLSI Networks Embedded Electronics Communication	33	33	1.000	47	47	1.000
2	13042	87970	481213	S. Joe Patrick Gnanaraj	India	Francis Xavier Engineering College	Professor Francis Xavier Engineering College Affiliated to Anna University Tamilnadu ... Energy Desalination Thermal	17	17	1.000	28	27	0.964
3	13140	88560	484438	Velmurugan Vellaipandian	India	Francis Xavier Engineering College	FRANCISXAVIERENGINEERING Energy	16	16	1.000	17	16	0.941
4	21578	133483	686589	R. Ravi	India	Francis Xavier Engineering College	Engineering & Technology / Computer Science Networks	12	12	1.000	13	13	1.000
5	22771	138773	707374	R. Kabilan	India	Francis Xavier Engineering College	Assistant Professor of Electronics and Communication Engineering, Francis Xavier ... VLSI Image Processing	12	12	1.000	12	12	1.000
6	22951	139509	709836	K.Lakshmi Narayanan	India	Francis Xavier Engineering College	Engineering & Technology / Electrical & Electronic Engineering Embedded systems Internet of Things Digital Image Processing Artificial Intelligence and Deep Learning	12	12	1.000	16	16	1.000
7	34909	191298	906278	MuthuRaman U	India	Francis Xavier Engineering College	Engineering & Technology / Electrical & Electronic Engineering Embedded Systems Structural Health Monitoring	8	8	1.000	7	7	1.000
8	35936	195209	914917	Gomathi S	India	Francis Xavier Engineering College	Anna University,Chennai,India Grid Computing Cloud Computing	8	7	0.875	7	5	0.714
9	36596	199521	926977	Samuel Hansen R	India	Francis Xavier Engineering College	Engineering & Technology / Energy Engineering solar desalination energy	7	7	1.000	7	7	1.000
10	37545	203555	942096	EEE HOD	India	Francis Xavier Engineering College	Francis xavier Engineering College	7	5	0.714	5	4	0.800
11	40048	215723	967692	SU Kannan	India	Francis Xavier Engineering College	Engineering & Technology / Civil Engineering Civil and Structural Engineering	7	4	0.571	4	2	0.500
12	40118	216121	968479	Subramania Bala Jeshurun	India	Francis Xavier Engineering College	Assistant Professor, Management Studies Marketing and Finacne	7	7	1.000	4	4	1.000
13	41894	224194	991994	RKA BHALAJI	India	Francis Xavier Engineering College	Engineering & Technology / Mechanical Engineering Multi-Criteria Decision Making Industrial engineering & Safety Management Fuzzy Logic in soft computing	6	6	1.000	5	5	1.000

University / Institution	Country	Region	World	AD Scientific Index - World Scientist Rankings - 2023				H INDEX			I10 INDEX		
				Name	Country	University / Institution	Subject	Total	Last 5 year	Last 5 year/total	Total	Last 5 year	Last 5 year/total
14	42227	226393	996382	G.Rajakumar	 India	 Francis Xavier Engineering College	Controller of Examinations & Professor, Dept. of ECE, Francis Xavier Engineering College VLSI Design and Digital Image Processing	6	6	1.000	5	5	1.000
15	42503	228163	999918	Anitha A	 India	 Francis Xavier Engineering College	Francis Xavier Engineering College	6	5	0.833	4	2	0.500
16	43450	233904	1011719	A Andrew Roobert	 India	 Francis Xavier Engineering College	Francis Xavier Engineering College RFIC Design VLSI Design Low Power Design Physical Design Thermal aware 3D IC Design	6	6	1.000	4	4	1.000
17	44116	237107	1022448	Ravi A	 India	 Francis Xavier Engineering College	Engineering & Technology / Electrical & Electronic Engineering power electronics Solar energy	5	5	1.000	5	4	0.800
18	45753	246542	1040866	A Durai Baskar	 India	 Francis Xavier Engineering College	Associate Professor of Mathematics, Francis Xavier Engineering College, Tirunelveli Graph Theory	5	4	0.800	2	2	1.000
19	45822	246888	1041549	Francy Irudaya Rani	 India	 Francis Xavier Engineering College	Assistant Professor/ Francis Xavier Engineering College Image Processing	5	5	1.000	3	3	1.000
20	47177	253452	1055803	Sm Raj Kumar	 India	 Francis Xavier Engineering College	Francis Xavier Engineering College, Tirunelveli Particle Dynamics Mechanics	5	5	1.000	2	2	1.000
21	47820	256368	1063737	Caroline Viola Stella Mary	 India	 Francis Xavier Engineering College	Francis Xavier Engineering College Digital Image Processing Medical Imaging Pattern Recognition	4	3	0.750	3	3	1.000
22	48692	261640	1073408	M Suresh Chinnathampy	 India	 Francis Xavier Engineering College	ASSISTANT PROFESSOR IN ELECTRONICS AND COMMUNICATION ENGINEERING ... COGNITIVE RADIO NETWORKS WIRELESS COMMUNICATION ANTENNAS	4	4	1.000	4	4	1.000
23	48981	263245	1076717	S Allwin Devaraj	 India	 Francis Xavier Engineering College	Assistant Professor, Francis Xavier Engineering College Cognitive Radio Networks Millimeter Wave Communication Antenna Design Wireless Sensor Networks Cooperative Spectrum Sensing	4	4	1.000	3	3	1.000
24	51598	275521	1101158	Zahariya Gabriel J	 India	 Francis Xavier Engineering College	Assistant Professor, Francis Xavier Engineering College Image Processing Cloud Machine Learning	3	3	1.000	3	3	1.000
25	52215	278704	1107299	R Rajagopal	 India	 Francis Xavier Engineering College	Francis College of Engineering image processing	3	3	1.000	3	2	0.667
26	60050	310514	1161271	Soniya Raj	 India	 Francis Xavier Engineering College	Assistant Professor, Department of ECE, Francis Xavier Engineering College Image Processing Power Systems Networks Electronics	1	1	1.000	1	1	1.000

FXEC Citations & Index



Recognized Anna University Research Centre



Awaiting for Approval

- Mechanical Engineering
- Information technology



Renewed up to 2025

- Computer Science & Engg.
- Electronics & Communication Engg.
- Electrical and Electronics Engg.

**Anna University - Recognized Research Supervisor
(From 2022)**



Dr. J.B Shajilin Loret



Dr. S. Balakrishnan



Dr. R.K.A. Bhalaji



Dr. A. Andrew Roobert



Dr. S. Allwin Devaraj

OUR JOURNAL

Francis Xavier Journal of Science Engineering and Management (FXJSEM)

Our Journal
Got ISSN
Number

FXJSEM
2583-5580

"Francis Xavier Journal of Science
Engineering and Management"

has received the International Standard Serial Number (ISSN)

2583-5580



Address for Communications

Professor – Research
Francis Xavier Engineering College
Tirunelveli
research@francisxavier.ac.in

Editor
Prof. Dr. V. Velmurugan