

Faculty Profile



Dr. D. Lingaraja , M.E., Ph.D
Assistant Professor(OG)

HIGHLIGHTS:

- Number of Journal Publications:6
- H-Index:8
- I10 index:5
- Project Funding Received: 1
- Patents Published:5
- Patents Granted: Nil

PROFESSIONAL LINKS:

- Scopus ID: 57140660400
- Scopus Link: <https://www.scopus.com/authid/detail.uri?authorId=57140660400>
- Google Scholar ID:
https://scholar.google.com/citations?user=NtM_C1kAAAAJ&hl=en
- Anna University Faculty ID: 311172
- AICTE Faculty ID: 1-3184798271
- LinkedIn: <https://www.linkedin.com/in/lingaraja-d-487170133/>

PROFESSIONAL BACKGROUND:

- Teaching Experience till date: 4.5 years

AREA OF SPECIALIZATION:

- Bio sensor ,
- Porous silicon
- Solar Energy
- MEMS
- Microfluidics

SPONSORED RESEARCH / FUNDING APPLIED / CONSULTANCY:

- Received Intramural Research Grant of Rs.15,36,000/- for project titled "**Enhancing stability and reduced reflectance in high efficiency PV cells through the development of samarium silicon nanostructures**" Saveetha Accredited by, Ref. No: SEC/P/R&D/2024-2025/181.

PATENTS PUBLISHED/GRANTED: Published

- Published a patent on “Microfluidic blood cell separation and detection kit for point of care diagnosis” (2021).
- Published a patent on “A Novel fabrication approach of testosterone meter kit for hormone level detection” (2021).
- Published a patent on “Force controlled electrothermally activated micro-gripper for biomanipulation” (2021).
- Published a patent on “A Novel fabrication approach in porous silicon based biosensing device for cholesterol detection” (2022).
- Published a patent on “Paper Microfluidics and lateral flow Immunoassay Techniques based kit for Detection of TSH” (2023).

JOURNAL PUBLICATIONS

- S Ramya, **S Praveen Kumar**, G Dinesh Ram, D Lingaraja, " Numerical Simulation of Inertial Based PDMS Microchannel for Blood Cell Sorting", Transactions on Electrical and Electronic Materials (2023).
- D Lingaraja, **S Praveen Kumar**, G Dinesh Ram, S Ramya, "Experimental Investigation of influence of electrolytic solution in porous silicon formation for solar energy conversion", Silicon (2023).
- S Ramya, **S Praveen Kumar**, G Dinesh Ram, D Lingaraja, "A short review of spiral microfluidic devices with distinct cross-sectional geometries", Microfluidics and Nanofluidics (2022).
- **S Praveenkumar**, D Lingaraja, P Mahiz Mathi, G Dinesh Ram, “An experimental study of optoelectronic properties of porous silicon for solar cell application”, Optik (2019), 178, 216- 223.
- **S Praveenkumar**, S Manikandan, D Lingaraja, T Sugapriya, “A review of doped and undoped ZnO nanoparticles for fabrication of gas sensor”, Sensor letters (2018), 16, 889-900.
- **Praveenkumar S**, Sridhar P Arjunan, Lingaraja D, Dinesh Ram G, “Design and computational modeling of spiral microfluidic channel for sorting and separating the biomolecules”, Current signal transduction therapy (2018), 13, 1-6.

INTERNATIONAL CONFERENCES

- Mathi, P Mahiz, **Lingaraja**, D, Ramya, S, Ram, G Dinesh, (2017). Design of pinched flow fractionation based mems device for size and density based cell separation. *Journal of Chemical and Pharmaceutical Sciences
- Praveenkumar, S, Manikandan, S, **Lingaraja**, D, Sugapriya, T, (2018). A review of doped and undoped zno nanoparticles for fabrication of gas sensor. *Sensor Letters*. American Scientific Publishers.
- Charishma, CB, Deepika, P, **Lingaraja**, D, (2019). Design and simulation of mems based intra ocular drug delivery device. *Engineering reports*. nan.
- Praveenkumar, S, Sridhar, P Arjunan, **Lingaraja**, D, Dinesh, Ram G, (2020). Design and computational modeling of spiral microfluidic channel for sorting and separating

the biomolecules. *Current Signal Transduction Therapy*. Bentham Science Publishers.

- Ramya, S, **Lingaraja**, D, Ram, G Dinesh, Kumar, S Praveen, Aravind, T, (2021). Microfluidic circulating tumour cell sorter using deterministic lateral displacement. *2021 IEEE International Conference on Distributed Computing, VLSI, Electrical Circuits and Robotics (DISCOVER)*. IEEE.
- **Lingaraja**, D, Kumar, S Praveen, Aravind, T, Srinivasan, TK, Ramya, S, Ram, G Dinesh,, (2022). Microfluidic analysis of micro needle array for drug delivery applications. *2022 International Conference on Distributed Computing, VLSI, Electrical Circuits and Robotics (DISCOVER)*. IEEE.
- Ram, G Dinesh, Kumar, S Praveen, Srinivasan, TK, Aravind, T, **Lingaraja**, D, Ramya, S, , (2022). Simulation and investigation of wide-band piezoelectric mems energy harvester for smart electronic applications. *2022 IEEE International Conference on Service Operations and Logistics, and Informatics (SOLI)*. IEEE.
- Ram, G Dinesh, Kumar, S Praveen, Srinivasan, TK, Aravind, T, Ramya, S, **Lingaraja**, D, , (2022). Simulation and investigation of dual axis mems scanning mirror for lidar applications. *2022 3rd International Conference on Electronics and Sustainable Communication Systems (ICESC)*. IEEE.
- Ramya, S, Kumar, S Praveen, Aravind, T, Srinivasan, TK, **Lingaraja**, D, Ram, G Dinesh, , (2022). Air damping effects on perforated rf mems switches. *2022 3rd International Conference on Electronics and Sustainable Communication Systems (ICESC)*. IEEE.
- Ram, G Dinesh, Kumar, S Praveen, Aravind, T, Ramya, S, **Lingaraja**, D, Srinivasan, KT, , (2022). Design and analysis of stress distribution in v-beam electrothermal actuator. *2022 8th International Conference on Smart Structures and Systems (ICSSS)*. IEEE.
- **Lingaraja**, D, Kumar, S Praveen, Aravind, T, Srinivasan, TK, Ramya, S, Ram, G Dinesh, , (2022). Design and analysis of mems bimaterial cantilever using piezoelectric layer for solar energy conversion. *2022 3rd International Conference on Electronics and Sustainable Communication Systems (ICESC)*. IEEE.
- Ramya, S, Kumar, S Praveen, **Lingaraja**, D, Ram, G Dinesh, , (2022). Design and simulation of microfilter for separation of plasma. *2022 8th International Conference on Smart Structures and Systems (ICSSS)*. IEEE.
- **Lingaraja**, D, Kumar, S Praveen, Ram, G Dinesh, Ramya, S, , (2022). Optimization of flow rate in mems based drug delivery systems. *2022 8th International Conference on Smart Structures and Systems (ICSSS)*. IEEE.
- **Lingaraja**, D, Kumar, S Praveen, Ram, G Dinesh, Ramya, S, , (2022). Design and analysis of microneedle array for transdermal drug delivery. *2022 8th International Conference on Smart Structures and Systems (ICSSS)*. IEEE.
- Ramya, S, Kumar, S Praveen, Aravind, T, Srinivasan, TK, Ram, G Dinesh, **Lingaraja**, D, , (2022). Thermal inplane microgripper for handling micro-objects. *2022 7th International Conference on Communication and Electronics Systems (ICCES)*. IEEE.
- Ram, G Dinesh, Kumar, S Praveen, Srinivasan, TK, Aravind, T, Ramya, S, **Lingaraja**, D, , (2022). Analysis of piezoelectric based mems micromirror for optical communication. *2022 3rd International Conference on Smart Electronics and Communication (ICOSEC)*. IEEE.

- **Lingaraja, D, Kumar, S Praveen, Aravind, T, Srinivasan, TK, Ramya, S, Ram, G Dinesh,** , (2022). Design and analysis of mems based actuator using shape memory alloy. *2022 3rd International Conference on Smart Electronics and Communication (ICOSEC)*. IEEE.
- Ramya, S, Kumar, S Praveen, Aravind, T, Srinivasan, TK, Ram, G Dinesh, **Lingaraja, D,** , (2022). Design of electrothermally actuated micromirror for low power switching applications. *2022 6th International Conference on Electronics, Communication and Aerospace Technology*. IEEE.
- Ramya, S, Kumar, S Praveen, Srinivasan, TK, Aravind, T, Ram, G Dinesh, **Lingaraja, D,** , (2022). Mems based chip for blood cell sorting using microfluidic channel. *2022 3rd International Conference on Smart Electronics and Communication (ICOSEC)*. IEEE.
- Ramya, S, Kumar, S Praveen, Aravind, T, Srinivasan, TK, **Lingaraja, D,** Ram, G Dinesh, , (2022). Robotic electrothermal microgripper with v-beam configuration for handling microobjects. *2022 IEEE International Conference on Service Operations and Logistics, and Informatics (SOLI)*. IEEE.
- Ramya, S, Kumar, S Praveen, Srinivasan, TK, Aravind, T, Ram, G Dinesh, **Lingaraja, D,** , (2022). Mems based chip for blood cell sorting using microfluidic channel. *2022 3rd International Conference on Smart Electronics and Communication (ICOSEC)*. IEEE.
- Nath, Srigitha S, **Lingaraja, D,** Aravind, P, Thangavel, P, Kumar, P Arun, Ram, G Dinesh, , (2023). Comparison of different shapes mems based piezo electric pressure sensor for smart devices. *2023 5th International Conference on Smart Systems and Inventive Technology (ICSSIT)*. IEEE.
- Ramya, S, Kumar, S Praveen, Srinivasan, TK, Aravind, T, **Lingaraja, D,** Ram, G Dinesh, Bhuvaneshwari, G, , (2023). Green synthesis of ag-doped zno using nelumbo nucifera flower extract for antibacterial activity. *Materials Today: Proceedings*. Elsevier.
- Ramya, S, Kumar, S Praveen, Kalaivani, K, Ram, G Dinesh, **Lingaraja, D,** (2023). Eigen frequency analysis of single axis 3d comb drive accelerometer. *2023 5th International Conference on Smart Systems and Inventive Technology (ICSSIT)*. IEEE.
- **Lingaraja, D,** Kumar, S Praveen, Aravind, T, Srinivasan, TK, Ram, G Dinesh, Ramya, S, , (2023). Design of solar energy harvester for smart home application. *2023 5th International Conference on Smart Systems and Inventive Technology (ICSSIT)*. IEEE.
- **Lingaraja, D,** Aravind, T, Kumar, S Praveen, Vamsidharreddy, Bollavaram, Rohith, Mannur, Kumar, Thopugunta Pavan, , (2023). Collecting dataset for machine learning using iot: based electricity consumption in residential and commercial area. *2023 International Conference on Artificial Intelligence and Knowledge Discovery in Concurrent Engineering (ICECONF)*. IEEE.
- Ramya, S, Kumar, S Praveen, Aravind, T, Rasan, U, Ram, G Dinesh, **Lingaraja, D,** , (2023). Design of chevron electrothermal actuator for high force defense applications. *2023 7th International Conference on Computing Methodologies and Communication (ICCMC)*. IEEE.
- Ramya, S, Kumar, S Praveen, Vinodhini, S Padhma, **Lingaraja, D,** Ram, G Dinesh, , (2023). Design of mems based micro-pumps transdermal insulin administration. *2023

Second International Conference on Electronics and Renewable Systems (ICEARS)*. IEEE.

- Ramya, S, Haran, MV Hari, Ram, G Dinesh, Srinivasan, TK, Vishnuvardhan, G, Pavan, P Sai, **Lingaraja**, D, , (2023). Smart solid waste collection for a sustainable smart city using arduino uno. *2023 International Conference on Computer Communication and Informatics (ICCCI)*. IEEE.
- Ramya, S, Kumar, S Praveen, Ram, G Dinesh, **Lingaraja**, D, , (2023). Numerical simulation of inertial based pdms microchannel for blood cell sorting. *Transactions on Electrical and Electronic Materials*. The Korean Institute of Electrical and Electronic Material Engineers (KIEEME)
- **Lingaraja**, D, Kumar, S Praveen, Aravind, T, Srinivasan, TK, Ramya, S, Ram, G Dinesh, , (2023). Green synthesis of SnO_2 nanoparticles using chrysopogon zizanioides root extract to degrade the methylene blue dye. *Materials Today: Proceedings*. Elsevier.
- Ram, G Dinesh, Kumar, S Praveen, Srinivasan, TK, Aravind, T, Ramya, S, **Lingaraja**, D, Bhuvaneshwari, G, , (2023). Green synthesis of silver nanoparticles using chrysopogon zizanioides root extract and their antibacterial activities. *Materials Today: Proceedings*. Elsevier.
- Ramya, S, Kumar, S Praveen, Srinivasan, TK, Aravind, T, **Lingaraja**, D, Ram, G Dinesh, Bhuvaneshwari, G, , (2023). Green synthesis of ag-doped zno using nelumbo nucifera flower extract for antibacterial activity. *Materials Today: Proceedings*. Elsevier.
- Ramya, S, Kumar, S Praveen, Ram, G Dinesh, **Lingaraja**, D, Aravind, T, , (2023). Left ventricle segmentation in cardiac mr images using deep neural network models. *2023 3rd International Conference on Pervasive Computing and Social Networking (ICPCSN)*. IEEE.
- Ranganayagi, K Leela, Kumar, S Praveen, **Lingaraja**, D, Aravind, T, Ramya, S, Ram, G Dinesh, , (2024). Energy-efficient communication protocols for 6g wireless sensor network. *2024 2nd International Conference on Networking and Communications (ICNWC)*. IEEE.
- Abinaya, V, Kumar, S Praveen, Ram, G Dinesh, Aravind, T, **Lingaraja**, D, Ramya, S, , (2024). Grossy delaunay triliteration enhancement methods-based on positioning of rsus for optimum lattice capacity in vanets. *2024 2nd International Conference on Networking and Communications (ICNWC)*. IEEE.
- Shanmathi, S, Kumar, S Praveen, **Lingaraja**, D, Aravind, T, Ramya, S, Ram, G Dinesh, , (2024). Optimized routing protocol for enhanced quality of service in 6g wireless sensor networks. *2024 2nd International Conference on Networking and Communications (ICNWC)*. IEEE.
- **Lingaraja**, D, Praveen Kumar, S, Raguraman, J, Ramya, S, Dinesh Ram, G, , (2024). Electrophoretic separation of platelets using cross flow microfluidic channel for clinical assays. *AIP Conference Proceedings*. AIP Publishing.
- Nirmaladevi, K, Chaitanya Reddy, P, Tharun Kumar, P, Asha, S, **Lingaraja**, D, , (2024). Prediction of leaf disease and pest detection using deep learning. *AIP Conference Proceedings*. AIP Publishing.
- Praveen Kumar, S, **Lingaraja**, D, Gayathri, VR, Ramya, S, Dinesh Ram, G, Aravind, T, , (2024). Design and comparison of seutolerant 10t memory cell for radiation

environment applications. *AIP Conference Proceedings*. AIP Publishing.

- Ramya, S, Praveen Kumar, S, Himashinii, M, **Lingaraja, D**, Dinesh Ram, G, Aravind, T, , (2024). Design and development of effective arbitration system in a soc. *AIP Conference Proceedings*. AIP Publishing.
- Ramya, S, Praveen Kumar, S, Abinaya, M, **Lingaraja, D**, Dinesh Ram, G, , (2024). Computational model of an inertially governed pdms microchannel for blood cell sorting. *AIP Conference Proceedings*. AIP Publishing.
- Kumar, S Praveen, Vinay, Chalamapalem, Rohith, G Gowri Sankar, Ramya, S, Aravind, T, **Lingaraja, D**, , (2024). Extracting ecg signals: a singular value and wavelet approach. *2024 International Conference on Sustainable Communication Networks and Application (ICSCNA)*. IEEE.
- Ram, G Dinesh, Kumar, S Praveen, Srinivasan, TK, Ramya, S, **Lingaraja, D**, (2025). Design and analysis of paper-based microfluidic channel to detect potassium concentration in human sweat. *AIP Conference Proceedings*. AIP Publishing.
- **Lingaraja, D.**, Gokul, K., Nithesh Kumar, B. (2026). Reflectance Analysis of Rare Earth Metal Doped Porous Silicon. In: Hassanien, A.E., Anand, S., Jaiswal, A., Kumar, P. (eds) Innovative Computing and Communications. ICICC 2026. Lecture Notes in Networks and Systems, vol 2021. Springer, Cham. https://doi.org/10.1007/978-3-032-28310-8_25.
- **D.Lingaraja**, B. Y. Kumar and V. S. Reddy, "Metamaterial-based Antenna Design for Compact IoT Devices," *2026 6th International Conference on Expert Clouds and Applications (ICOECA)*, Bengaluru, India, 2026, pp. 451-457, doi: 10.1109/ICOECA68095.2026.11485223.

BOOK CHAPTERS

- S Praveen Kumar, S Manikandan, P MahizMathi, **D Lingaraja**, “Thermally Induced ZnO Nanoparticles Synthesis through Bulk Addition Method: An Innovative Approach”, *Advances in Nano Instrumentation Systems and Computational Techniques*, NOVA Publications (2018).
- T. Aravind, S. Praveen Kumar, G. Dinesh Ram, **D. Lingaraja**, “Analysis of Material Profile for Polymer-Based Mechanical Microgripper for Thin Plate Holding”, *Signal and Image Processing Techniques for the Development of Intelligent Healthcare Systems* (2020), Springer Publications, pp: 103-17.

PATENTS

- S Praveen Kumar, T Aravind, S Ramya, G Dinesh Ram, **D Lingaraja**, “Force controlled electrothermally activated micro-gripper for biomanipulation”, **Application No: 202141059793A** (2021).
- M Deepa Lakshmi, S Praveen Kumar, T Aravind, G Dinesh Ram, S Ramya, **D Lingaraja**, T K Srinivasan, "Paper Microfluidic and Lateral Flow Immunoassay Techniques based Kit for Detection of TSH", **Application No: 202341013022A** (2023)
- S Praveen Kumar, T Aravind, S Ramya, G Dinesh Ram, **D Lingaraja**, “Microfluidic blood cell separation and detection kit for point of care diagnosis”, **Application No: 202141056273A** (2021).
- S Praveen Kumar, G Dinesh Ram, S Ramya, **D Lingaraja**, T Aravind, “A Novel fabrication approach of testosterone meter kit for hormone level detection”, **Application**

No: 202141058885A (2021).

- **D Lingaraja S Praveen Kumar, S Ramya, G Dinesh Ram, T Aravind, “A Novel fabrication approach in porous silicon based biosensing device for cholesterol detection”, Application No: 202141058878 A (2022).**

COURSES CERTIFIED

- AICTE Training And Learning (ATAL) Academy **Online Advanced FDP on "Advanced Manufacturing of Biomedical Devices for Precision Health Technologies"** from 24/01/2022 to 28/01/2022 **at Indian Institute of Technology Tirupati.**
- AICTE Training And Learning (ATAL) Academy **Online Elementary FDP on "Lab-On-a-Chip"** from 2021-7-12 to 2021-7-16 **at Rajalakshmi Engineering College.**
- AICTE Training And Learning (ATAL) Academy **Online Elementary FDP on "Micro Electro Mechanical Systems (MEMS' 21)" from 2021-7-26 to 2021-7-30 at Annamalai university.**
- AICTE Training And Learning (ATAL) Academy **Online Elementary FDP on "BioMEMS and LAB ON CHIP Technologies for Point of Care Applications" from 2021-7-5 to 2021-7-9 at C ABDUL HAKEEM COLLEGE OF ENGINEERING AND TECHNOLOGY.**

ACHIEVEMENTS AND AWARDS

- Organized – Two weeks online certification courses under CMNDF(Centre for Micro and Nano Fabrication) on **MEMS** (22.06.2020-03.07.2020), Saveetha Engineering college.
- Organized – Two weeks online certification courses under CMNDF(Centre for Micro and Nano Fabrication) on **Microfluidics** (20.07.2020-31.07.2020), Saveetha Engineering college.

EVENTS ORGANIZED

- Coordinated the IETE event “RoboFusion – Where Robotics Meets Industry” organized by the Department of Electronics and Communication Engineering on 29 August 2026.Facilitated the technical session by Dr. G. Prabhakaran, Maintenance Engineer, Hyundai Motor.
- Organized a guest lecture on “Roadmap to Semiconductor Mastery: Key Career Insights & Essential Skillsets” on 1 March 2025, featuring Dr. Swaminathan, Co-Founder of Silicic Innova Technologies Pvt. Ltd.