Faculty Profile

Dr. S. Praveen Kumar, M.E., M.B.A., Ph.D
Professor - ECE
Head - Centre for Micro Nano Design and Fabrication

HIGHLIGHTS:

- Number of Journal Publications: 102
- H-Index: 9
- Project Funding Received: 03
- Patents Published: 09

PROFESSIONAL LINKS:

- Scopus ID:
- Scopus Link: https://www.scopus.com/authid/detail.uri?authorId=57069967300
- Google Scholar ID: HDqBeoEAAAAJ
- Anna University Faculty ID: 2122146
- AICTE Faculty ID: 1-479375979
- Anna University Supervisor ID: 3340031
- LinkedIn: https://www.linkedin.com/in/praveenkumar-s-a650b524/

PROFESSIONAL BACKGROUND:

- Teaching Experience till date: 19.7 Years
- Industrial Experience: 2 Months 27 Days

INTERNATIONAL EXPOSURE:

- Worked as Design Engineer in Vantage Power Supply from 09.05.2005 to 05.08.2005

AREA OF SPECIALIZATION:

- MEMS
- BioMEMS
- Microfluidics
- Biosensor
- Energy Harvesters
- Nanomaterials

Ph.Ds AWARDED WITH DETAILS:

S:No	Name of Scholar	Title of Thesis	Year of Completion	Full Time/Part Time
1	G Dinesh Ram	Development of Biosensor For Hormone Detection using Lab on Chip	Thesis Submitted in Dec 2024	Full Time
2	D Lingaraja	Fabrication and Analysis of Porous Silicon for Solar Cell Applications	Thesis Submitted in Dec 2024	Full Time
3	S Ramya	Design Fabrication and Analysis of PDMS Microchannel for Cell Separation	Thesis Submitted in Feb 2025	Full Time
4	T Archana (Annamalai University)	Certain Investigation on PDMS based Microfluidic Channel for Controlled Drug Delivery System	Thesis Submitted in Feb 2025	Part Time (Co-Guide)

Ph.Ds GUIDING:

- **Full Time Scholars: 05**
- **Part Time Scholars : 05**

SPONSORED RESEARCH / FUNDING APPLIED / CONSULTANCY:

- Intramural Research Grant of Rs.9,84,000/- for project titled "PORTABLE MALEHORMONE BIOSENSOR FOR INFERTILITY MANAGEMENT: A POINT OF CARESOLUTION", Ref. No: SEC/P/R&D/2024-2025/183.
- Received Intramural Research Grant of Rs.10,47,000/- for project titled " Fabrication and testing of microfludic device for blood cell separation", Ref. No: SEC/P/R&D/2024-2025/184.
- 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" Ref. No: SEC/P/R&D/2024-2025/181

PATENTS PUBLISHED/GRANTED:

1. Srinivasan TK, **S Praveen Kumar**, Vinothkumar Panjanathan, " Green Synthesis of Zinc Oxide Nanoparticles using Pomegranate Leaf Extract for White Light Emitting Applications", **Application No: 202541010867 A** (2025).
2. Srinivasan TK, **S Praveen Kumar**, Vinothkumar Panjanathan, " A Novel Approach to Fabricating Graphene Nanostructures for High-Performance Solar Energy Conversion", **Application NO: 202541010870 A** (2025).
3. 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).
4. 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).

5. **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).
6. **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).
7. **S Praveen Kumar**, K Anitha, T Aravind, Srigitha S Nath, T Merlin Inbamalar, "Fabrication of Paper Based Microfluidic Device for Lipid Profile analysis", **Application No: 202141058975A** (2021).
8. **S Praveen Kumar**, P Preethi, R Pradeep, Srigitha S Nath, N Raja Rajeswari, "Automated prediction of chronic obstructive pulmonary disease using deep learning based SCANAPI", **Application No: 202141059096A** (2021).
9. **S Praveen Kumar**, T Aravind, S Ramya, G Dinesh Ram, D Lingaraja, "Force controlled electrothermally activated micro-gripper for biomanipulation", **Application No: 202141059793A** (2021).

COURSES CERTIFIED:

1. Online course on "Cambridge English Entry Level in ESOL International (Entry 3) (Business), organized by University of Cambridge, 2019.
2. Short term course on "Bioengineering", organized by Indian Institute of Sciences, Bangalore, 2018.
3. Online course on "Technical Communication for Scientists and Engineers", organized by IIT BombayX.
4. Short term course on "Technical Communication for Scientists and Engineers", organized by Cadence Design Systems India Pvt Ltd, 2010.

ACHIEVEMENTS AND AWARDS:

- Selected one among the 10 teams for the final of SUKSHMA SAMRACHANA-21 MEMS INNOVATION CHALLENGE conducted at national level in the year 2021-2022.
- Organized – Two - weeks Online certification courses under CMNDF(Centre for Micro and Nano Fabrication) on MEMS, Saveetha Engineering College in the year 2020
- Organized – Two - weeks Online certification courses under CMNDF(Centre for Micro and Nano Fabrication) on Microfluidics, Saveetha Engineering College in the year 2020

SPECIAL SESSIONS DELIVERED:

1. "Rapid tooling and its product development", Webinar on Applications of 3D printing, India (2024).
2. "3D Printing and its applications in Biomedical Industry", Webinar on Recent trends and challenges in 3D Printing, India (2023).
3. "Cost-effective fabrication of porous silicon for optical biosensing applications" Webminar on Biosensor and Bioelectrsonics, London (2022).
4. "Advanced technology in engineering and management", International conference on advanced technology in engineering and management, Taylor School of Engineering, Malaysia (2019).
5. "Biomolecule sepration: A Biofilter", World congress & expo on biotechnology and bioengineering, Bio Core, Dubai (2017).

6. “Biosensors”, FDP on MEMS and Sensors, RVS college of Engineering & Technology, Dindigul (2012).
7. “MEMS and its simulations on COMSOL tool”, Two days wokshop on MEMS and its simulations, Dr M G R Educational and Research Institute University, Chennai (2011)

CONFERENCES/SEMINARS/WORKSHOPS ATTENDED:

International

- Raja Rajeswari, N, **Praveen Kumar S**, Gnanavel B K, “Microfluidic flow in Hollow Microneedle for Transdermal Drug Delivery”, International Conference on Advancement in Technology of Engineering & Management (ICATEM 2019), MDIS University, Singapore & Taylor’s University, Malaysia, February 14-19, 2019.
- R. Ramesh, **S. Praveen Kumar**, T. Aravind, G. Karman Frances Raj, “Design and Optimization of A Infected Cell using Polymerized MicroGripper”, International Conference on Advancement in Technology of Engineering & Management (ICATEM 2019), MDIS University, Singapore & Taylor’s University, Malaysia, February 14-19, 2019.
- **Praveen kumarS**, Ramesh R, Aravind T, “Selective adsorption of low density lipoprotein from blood using porous silicon”, European Advanced material congress (2017), vbripress, Sweden.
- MahizMathi, P, **Praveen Kumar, S**, Lingaraja, D, “Review on Fabrication of Porous Silicon Formation and analyze its effective Parameters”, International Conference on Emerging Management and Technology for Economic Sustainability (2017), Abudhabi.

National

- G Dinesh Ram, **S Praveen Kumar**, R Priya, "Design and simulation of piezoresistive based MEMS cantilever for sensing level of potassium in soil", International conference on advanced semiconductor materials and devices, Hyderabad, March 8-10 2018.
- **S.Praveenkumar**, M.Rohini, "Review on synthesis and analysis of graphene with nanocomposites", International conference on advances in new materials, University of Madras, June 8-9, 2018.
- K Kannan, G Muthuraman, I S Moon, **S Praveenkumar**, T K Srinivasan, "Preparation and characteriazation of Ti/SnO_2-Sb_2O_3/PbO_2 electrode using sol-gel electrochemical combined coating towards long term stability study", International conference on advances in new materials, University of Madras, June 8-9, 2018.
- **S. Praveenkumar**, V.A. Kokila, "Synthesis and analysis of cadmium Selenide", International conference on advances in new materials, University of Madras, June 8-9, 2018.
- R Sundari, **S Praveenkumar**, "Design and simulation of MEMS based pneumatic gripper for biological applications", International conference on innovations in science, engineering and technology for sustanable development, March 30-31, 2018.

PROFESSIONAL MEMBERSHIPS:

- **IEEE - Institution for Electrical and Electronics Engineers (Senior member)**
- **ISSS - Institution of Smart Structures and Systems**
- **ISTE - Indian Society for Technical Education**
- **IAAM - International Association of Advance Materials**
- **IEI - Institute of Engineers India**
- **IEI - Chartered Engineer**