

Curriculum Vitae

Dr. Kalpana Seelam



Designation : Assistant Professor
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Contact at : EI-458, Dept. of Electronics & Instrumentation Engineering, Velegapudi Ramakrishna Siddhartha School of Engineering, Kanuru, Vijayawada, Andhra Pradesh 520007.

Education

Program	Field of Study	Period of study	University	Points/CGPA	Class obtained
Ph.D	Flexible Supercapacitors	2018-2026	Andhra University	-	
M.Tech	Embedded systems	2009 - 2012	S.R. Engineering College, Warangal JNTUH	73.62	First class with Distinction
B.Tech	Electronics and Control Engineering	2002 - 2006	PVP SIT, JNTUH, Vijayawada,	66.62	First class

Experience

Period	Designation	Institution / Organization	Total Experience
2007 – Till Date	Assistant Professor	Velagapudi Ramakrishna Siddhartha Engineering College	18 Y 6M

RESEARCH PUBLICATIONS: 30

The recent publications and research contributions can be viewed from the following URLs

Google Scholar	https://scholar.google.com/citations?user=9RAiF1UAAAAJ&hl=en
Scopus	https://www.scopus.com/authid/detail.uri?authorId=57195363031
ORCID	https://orcid.org/0000-0003-4691-0723

i. Research Papers:

IEEE Transaction:01

SCIE 01

SCOPUS 05

IEEE & Scopus Indexed Conferences: 19

ii. UGC/Peer Reviewed journals: 04

iii. Patents: 02

iv. Received a Seed Grant of ₹95,000 for the research project on fabrication of a VOC gas sensor in A.Y 2025-26.

IEEE Transactions: 01

1. **Kalpana. Seelam**, A. Daisy Rani, K. Rambabu, B. Ali Al-Asbahi, S. M. H. Qaid and P. S. Srinivasa Babu, "Flexible Supercapacitors With Improved Energy Density Using OPBI-Coated Polyaniline- Carbon Nanotube Blends," in IEEE Transactions on Electron Devices, vol. 71, no. 8, pp. 5103-5109, **Aug. 2024**, doi: 10.1109/TED.2024.3415575. (**IEEE Transactions and Scopus , Impact Factor: 3.2, (Q2)**)

SCIE publications: 01

1. **Seelam, Kalpana.**, Alli, D. R., Rambabu, K., Karuppaiah, M., Al-Asbahi, B. A., & Babu, P. S. S. (2025). Highly flexible OPBI membrane as solid-state electrolyte for organic-polymer-based supercapacitor applications. *Journal of Applied Polymer Science*, 142(27), e57115. <https://doi.org/10.1002/app.57115> (**SCIE and Scopus Impact Factor: 2.8, (Q2)**)

SCOPUS Publications: Journals: 05 Conferences : 19

1. **Kalpana. Seelam** and A. D. Rani, "Numerical modeling of flow through the vertical rectangular microchannel for drug screening applications," *Journal of Physics: Conference Series*, vol. 1979, p. 012041, 2021. 1. (**Scopus Indexed**)
2. **Kalpana. Seelam** and A. D. Rani, "Microfluidic based platform for drug screening – A review," *International Journal of Research in Pharmaceutical Sciences*, vol. 11, no. 3, pp. 2999–3004, 2020, doi:10.26452/ijrps.v11i3.2394. (**Scopus Indexed**)
3. P. Korapati and **Kalpana. Seelam**, "Protection of cultivated fields during heavy rains and air," *Journal of Green Engineering*, vol. 10, no. 12, pp. 13311–13320, Dec. 2020. (**Scopus Indexed**)
4. **S. Kalpana** and A. Lakshmi Baghyam, "Electronic-nose system for classification of fruits and freshness measurement using K-NN algorithm," *International Journal of Innovative Technology and Exploring Engineering*, vol. 8, no. 6S4, pp. 641–644, 2019. (**Scopus Indexed**)
5. Ch. Jayalakshmi, **S. Kalpana**, and G. N. Swamy, "Water quality monitoring and control for shrimp cultivation," *Journal of Advanced Research in Dynamical and Control Systems*, vol. 12, no. 6, June 2020, doi:10.5373/JARDCS/V12I6/S20201033. (**Scopus Indexed**).

IEEE & SCOPUS indexed Conferences :19

1. P. V. Jayasree, **S. Kalpana**, Kannamba and A. V. Siva Reddy, "Eco-Friendly based Product Recommendation System using Machine Learning," *2025 8th International Conference on Computing Methodologies and Communication (ICCMC)*, Erode, India, 2025, pp. 1958-1966, doi: 10.1109/ICCMC65190.2025.11140653.
2. P. Abhishiktha, **S. Kalpana**, A. Sivakumar, G. S. Rani and P. S. S. Ganesh, "Early Detection of Land Sliding During Heavy Rains Using Accelerometer and Rain Sensor," *2025 8th International Conference on Trends in Electronics and Informatics (ICOEI)*, Tirunelveli, India, 2025, pp. 116-121, doi: 10.1109/ICOEI65986.2025.11013475.
3. **S. Kalpana**, S. R. Srither, N. R. Dhineshababu and G. Nikitha, "Simple Non-Invasive Coronary Artery Disease Detection Using Machine Learning," *2024 4th International Conference on Innovative Practices in Technology and Management (ICIPTM)*, Noida, India, 2024, pp. 1-6, doi: 10.1109/ICIPTM59628.2024.10563565.
4. G. J. Chowdary, **Kalpana.Seelam**, J. Likhitha and C. V. Vinod, "Monitoring of Hazardous Gases in Cattle Manure Pits for Protection of Cattle Farm Workers," *2024 International Conference on Intelligent Systems for Cybersecurity (ISCS)*, Gurugram, India, 2024, pp. 1-4, doi: 10.1109/ISCS61804.2024.10581036.
5. S. D. Challamalla, **K. Seelam**, V. c. Sanapathi and L. Donepudi, "Detection of Bacteria on Food using Deep Learning," *2024 First International Conference on Electronics, Communication and Signal Processing (ICECSP)*, New Delhi, India, 2024, pp. 1-5, doi: 10.1109/ICECSP61809.2024.10698509.
6. P. Abhishiktha, **S. Kalpana**, A. Sivakumar, G. S. Rani and P. S. S. Ganesh, "Rover-for Small Scale Plastic Collecting Applications," *2024 5th International Conference on Smart Electronics and Communication (ICOSEC)*, Trichy, India, 2024, pp. 382-386, doi: 10.1109/ICOSEC61587.2024.10722149.
7. P. Venkata Jayasree, **S. Kalpana**, S. Naga Manasa, P. Divya and A. Venkata Siva Reddy, "Non-Invasive Prediction of Vitamin-D Status by Using Machine Learning Algorithm," *2024 International Conference on IoT Based Control Networks and Intelligent Systems (ICICNIS)*, Bengaluru, India, 2024, pp. 1635-1641, doi: 10.1109/ICICNIS64247.2024.10823185.
8. C. S. Deepthi, **S. Kalpana**, S. V. Charan and D. Lekhana, "Automatic Fish Feeder Using Tracking Of Solar Energy and Internet of Things," *2023 10th IEEE Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering (UPCON)*, Gautam Buddha Nagar, India, 2023, pp. 311-315, doi: 10.1109/UPCON59197.2023.10434688.
9. G. J. Chowdary, **S. Kalpana**, B. Ramya, J. Likhitha and C. V. Vinod, "Milk Fever Detection Device for Cattle Using Internet of Things," *2023 International Conference on Sustainable Communication Networks and Application (ICSCNA)*, Theni, India, 2023, pp. 407-412, doi: 10.1109/ICSCNA58489.2023.10370625.
10. N. S. Garapati, **K. Seelam**, S. Jasti, T. Kasani and S. S. Palanki, "Non-Invasive Detection of Coronary Artery Disease Symptoms using Cardiocare Application," *2023 7th International Conference on Computing Methodologies and Communication (ICCMC)*, Erode, India, 2023, pp. 632-638, doi: 10.1109/ICCMC56507.2023.10084255.
11. MD.Masood ,**S.Kalpana** presented a paper on Design and Development of Automated Marine Trash Collector for Trash collecting applications International conference on Instrumentation, MEMS and Bio sensing technology (ICIMBT 2022) organized by Department of Electronics and Instrumentation Engineering , SRM institute of science

and technology Kattankulathur during 17^h -18^h February 2022.

12. **S.Kalpana** ,A.Daisyrani published a paper on Numerical Modeling of Flow through the Vertical Rectangular Microchannel for Drug Screening Applications in Journal of Physics a conference series 2021 volume 1979 , 1, 012041.
13. K.Prasanti , **S.Kalpana**, Ch.Jayalakshmi Dept. of EIE Presented a paper on “Preventive system for forest protection using wireless communication” at the International conference on advanced computing and communication systems (ICACCS-2019)” held during 15-16 march 2019, at Shri Eshware engg college, Coimbatore , India
14. Ch.Jayalakshmi , K.Prasanti , **S.Kalpana** Dept. of EIE Presented a paper on “Visual Enhancement techniques for underwater images” at the International conference on advanced computing and communication systems (ICACCS-2019)” held during 15-16 march 2019, at Shri Eshware engg college, Coimbatore , India.
15. **S.Kalpana** ,K.Prasanti Dept. of EIE Presented a paper on “A Novel Approach to provide protection for women by using Smart Security” at the 2nd international Conference on Inventive Systems and Control (ICISC 2018)” held during 19-20 January 2018, at JCT Engineering college , Pichanur, Coimbatore, India
16. Ch.Jayalakshmi, **S.kalpana** Dept. of EIE Presented a paper on “Secure and transparent Voting System Using Biometrics” at the 2nd international Conference on Inventive Systems and Control (ICISC 2018)” held during 19-20 January 2018, at JCT Engineering college , Pichanur, Coimbatore, India
17. K.Prasanti , **S.Kalpana** , Dept. of EIE Presented a paper on “A Novel Feature Of Increased Safety During Car Crashes” at the 2nd international Conference on Inventive Systems and Control (ICISC 2018)” held during 19-20 January 2018, at JCT Engineering college , Pichanur, Coimbatore, India
18. **S.Kalpana** and Ch.Jayalakshmi Dept. of EIE, VRSEC, , Presented a paper entitled “An Arduino based Embedded System in Passenger Car for Road Safety” in the “International Conference on Inventive Communication and Computational Technologies(ICICCT-2017) held during 10-11 march 2017 , at the Ranganathan Engineering College Coimbatore , India.
19. Ch.Jayalakshmi and **S.Kalpana** Dept. of EIE ,VRSEC, Presented a paper entitled “Intelligent Traffic signaling System” in the “International Conference on Inventive Communication and Computational Technologies(ICICCT-2017) held during 10-11 march 2017 , at the Ranganathan Engineering College Coimbatore , India.

UGC/Peer Reviewed journals: 04

1. **S.Kalpana** and Ch. Jayalakshmi Dept. of EIE , VRSEC Published a paper in “International Journal of Scientific Development and Research (IJS DR)” on “Password based Circuit Breaker Using DTMF Decoder for Electric Lineman Safety” Vol1, Issue 7,1-3. ISSN -2455-2631.
2. Ch.Jayalakshmi and **S.Kalpana** Dept. of EIE Vrsec Published a paper in “International Journal of Innovative Research in Technology” on “Fabric Fault Identification System” Vol1, Issue 12, 1630-1633.ISSN2349-6002.
3. **S.Kalpana** Dept of .EIE VRSEC Published a paper in “International Journal of Advanced Engineering Sciences and Technologies” on “Wireless Sensor Network for Remote Monitoring of Crop Field” , Vol No. 8, Issue No. 2, 243 – 246.

- Jalau, G., Paik, H. and **Kalpana, S.**, 2013. Design and implementation of compensator for optimizing linear time invariant system parameters. International Journals of Engineering Research and Development, 7(10), pp.76-79.

Patents: 02

- S.Kalpana** Dr P.Sushma Chowdary Dr A.Sumalatha et al., published an Indian patent on Smart Home Appliances For Wi-Fi Device Using Iot For Old Age And Disabled Person with application number 202041044233(**Published**)
- Dr A.Sumalatha ,S.Kalpana et al.**, published an Indian patent Method for providing a multi directional theft monitoring system for tracking vehicles and altering owners in real- time with application number 202241004999 on 4/02/2022(**Published**)

Training Programs completed in Industry:

- Completed a one month training program on embedded systems at Effetronics during 29-11-2014 to 24-12-2014.

CERTIFICATE COURSES COMPLETED:

NPTEL: 10

Timeline	Name	Course Name	Final Score
Jan–Apr 2025	Kalpana Seelam	Microsystems, Implantable Devices and Rodent Surgeries for Biomedical Applications	75
Jan–Apr 2024	Kalpana Seelam	Machine Learning For Soil And Crop Management	73
Jul–Oct 2023	Kalpana Seelam	Electronic Systems For Cancer Diagnosis	83
Jul–Oct 2022	Kalpana Seelam	Introduction To Industry 4.0 And Industrial Internet Of Things	78
Jul–Sep 2021	Kalpana Seelam	Design for Internet of Things	75
Jul–Oct 2019	S. Kalpana	Fabrication Techniques for MEMS-Based Sensors: Clinical Perspective	61
Jul–Oct 2019	S. Kalpana	Sensors and Actuators	68
Feb–Apr 2019	S. Kalpana	BioMEMS and Microsystems	71
Jul–Oct 2018	S. Kalpana	Introduction to Internet of Things	73
Jul–Oct 2017	S. Kalpana	Industrial Instrumentation	67

****Awarded the NPTEL Discipline Star in 2023****

COURSE ERA: 01

- i. Completed a certificate course on “**Programming for Everybody-Getting started with Python**”.

UGC/AICTE Workshops /STTP/FDP attended at various Universities and IITs

1. Completed five days FDP on Embedding simulation techniques in teaching -learning process for the engineering curricula organized by department of automobile engineering, SRM Institute of Science and Technology, Kattankulathur from 8th to 12th September 2025.
2. Trained on NEP 2020 orientation and sensitization programme under Malaviya mission Teacher Training Programme (MM-TTP) of UGC organized by MM-TTC : Ramanujan College, Delhi” from 8 January, 2025 – 17 January, 2025.
3. Recent Advances, Trends, and Challenges in Nanomaterials Characterization and Techniques (RCNMCT – 2024) AT KLEF from 9/09/2024 to 14/9/2024.
4. Faculty Development Program on Emerging Technologies on Wearable Energy Harvesting and Storage Devices for Driving Innovative Sustainability at KONERU LAKSHMAIAH EDUCATION FOUNDATION from 06/11/2023 to 11/11/2023.
5. Faculty Development program on NOVEL MATERIALS, DEVICES AND APPLICATIONS at VELAGAPUDI RAMAKRISHNA SIDDHARTHA ENGINEERING COLLEGE from 11/12/2023 to 16/12/2023.
6. Completed one week FDP on UHV-II organized by AICTE from 23-05-22 to 28- 05-2022.
7. Completed one week FDP on Nano Sensors and Devices from 2-8-21 to 6-8-21 at NITTR Chandigarh .
8. Completed one week ATAL FDP on "Wearable Devices for Assistive Technology" -14-09-2020 to 18-09-2020 organized by Kongu engineering college,Tamilnadu.
9. Completed one-week ATAL FDP on 2020-9-21 to 2020-9-25 at National Institute of Technical Teachers Training and Research Chandigarh.
10. Completed one-week Universal Human Values Basic workshop during 2 to 6th Nov 2020 organized by AICTE.
11. Completed one-week workshop on UHV -1 during 30th nov to 4-dec 2020 organized by AICTE.
12. Completed two weeks training program on Advanced Training program on Nanofabrication and characterization techniques in gas sensors module supported by MHRD, Govt., of India and organized by IISc Bangalore during 03-13 December 2019.
13. Completed 3 days basic training program in Nano science and Technology , Supported by MHRD Govt.of India at the center for Nano Science and Engineering Indian Institute of Science Bangalore during 14-16october 2019.
14. Completed a one week FDP on industrial automation conducted by Andhra Pradesh State Development Corporation –Siemens Center of Excellence, V.R.Siddhartha Engineering College, Vijayawada from 01-06 July 2019.
15. Completed a workshop on Smart Systems organized by Instrument Technology AU, Visakhapatnam during 21st-23 march 2019.
16. Completed a one-week FDP on “Research challenges and Emerging Trends in Control Engineering” organized by dept. Of Instrumentation & Control Engineering, PSG during

15th -21st Nov 2013.

17. Attended a one-week short term training program on “Microcontrollers & Embedded Systems” organized by dept. of CSE, IIT Kharagpur during 1st -6th July 2013.

Department Level Contributions:

- EIE department Attendance incharge for 2nd, 3rd and 4th year B.Tech
- EIE department internal Marks incharge for 2nd, 3rd and 4th year B.Tech
- Department of EIE CMS and CMAPEX incharge
- UHV department coordinator
- Department NEP coordinator
- NBA IV criteria member
- Embedded systems lab incharge
- SUPRAGNA -2k26 Dept Coordinator
- Acts as resource person for one session in Faculty Development Program under EICT academy NIT Warangal in association with VRSEC Recent Trends in MEMS, VLSI and signal processing on 22/02/2025.

Encouraging the students:

- My project students are participating and achieving prizes in hackathons, model presentations, and conferences in NITs, universities, and colleges.

I hereby declare that the information furnished above is true to the best of my knowledge.

Date : 10-03-2026

Place : Vijayawada



Dr. S.Kalpana

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V.R Siddhartha School of Engineering,
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