



### **Dr. C K Smitha**

Associate Professor & Head  
Department of Electronics & Communication Engineering  
College of Engineering Vadakara  
Mobile: 9747605515  
Email: smithack@cev.ac.in

### **Qualifications:**

- B.Tech in Electrical and Electronics Engineering
- M.Tech in Biomedical Engineering
- PhD in Information Technology (Biomedical Signal Processing -interdisciplinary)

### **Experience:**

- Working as Associate Professor in Electronics & Communication Engineering College of Engineering Vadakara since
- Worked as Associate Professor in Electronics & Instrumentation Engineering College of Engineering Vadakara from 1/11/2011 to
- Worked as Assistant Professor in Electronics & Instrumentation Engineering, College of Engineering Vadakara from 10/9/2007 to 31/10/2011
- Worked as Lecturer in Electrical and Electronics Engineering, College of Engineering Vadakara from 22/1/2001 to 9/9/2007
- Worked as Lecturer in Electrical and Electronics Engineering, MES College of Engineering, Kutipuram from 18/1/2000 to 19/1/2001
- Worked as Lecturer in Electrical and Electronics Engineering, LBS College of Engineering Kasaragod from 22/7/1998 to 17/1/2000
- Worked as Adhoc Lecturer in Electrical and Electronics Engineering, REC Calicut from 3/11/1997 to 31/3/1998

**Total service: 28 years**

### **Areas of Interest:**

- Machine Learning,
- Digital Signal Processing ,
- Biomedical signal processing
- Control System
- Robotics

### **Positions held:**

1. **Head of the Department, ECE**

Serving as the Head of the Department of Electronics and Communication Engineering since August 1, 2022

2. **Principal In-Charge (April 1, 2010 – December 19, 2011)**

During this period:

- Launched the Postgraduate program in MCA.
- Initiated the college's first Technical Festival, Quasso Liberum (QL)
- Submitted the proposal for TEQIP Phase-II funding, with a project value of ₹10 crore to support institutional development.
- Started and established the IEEE Student Branch at the college.

3. **TEQIP Coordinator**

- Served as the TEQIP Coordinator from January 1, 2012 to June 30, 2012. During this period, the application process for TEQIP Phase II for an amount of 10 crore was completed.
- TEQIO coordinator during the tenure of Four funds (2017-22)

4. **IQAC Coordinator**

Appointed as the IQAC Coordinator in November 2015. Under this role, Campus Management Software (CMS) is established and the college applied for NAAC accreditation .

5. **R&D Coordinator**

Serving as the Research and Development Coordinator since December 1, 2017. In this capacity, projects from all departments were reviewed, and students were motivated to develop products based on their project outcomes.

6. **IEEE Membership and Councillorship**

An IEEE member since 2012 and served as the IEEE Student Branch Councillor from August 1, 2018 to December 31, 2022. During this tenure:

- Initiated three new chapters: CSI, PES, and Education Society.
- Launched the 24-hour hackathon "MAGNETHON 1.0".

7. **e-Yantra Trainer and Lab Establishment**

A trained e-Yantra instructor, involved in establishing the e-Yantra Lab in the college using TEQIP-IV funds.

**Proposals Prepared :**

1. **Proposal for New BTech Programs in 2008**

Submitted a proposal for new undergraduate programs in Electrical and Electronics Engineering (EEE) and Civil Engineering.in 2008

2. **TEQIP Phase-II Proposal (2011–2012)**

Successfully prepared and submitted the proposal for TEQIP Phase-II during the academic year 2011–2012.

3. **Proposal for Autonomous Status (2012)**

Prepared proposal for granting Autonomous Status to the college in 2012.

4. **NAAC Accreditation Proposal (2017)**

Prepared the proposal for the NAAC Accreditation in 2017.

**Subjects Taught:**

- Basics of Electrical & Electronics Engineering.,

- Electrical Technology,
- Microprocessors and Micro controllers,
- Network theory,
- Control System,
- Advanced Control System,
- Power plant Engineering,
- Signals and Systems,
- Digital signal Processing
- Advanced Digital signal Processing

### **Projects Guided:**

#### **i) Projects guided during last 3 years**

- Rag Picking Robot
- .Antitheft autonomous delivery robot for Food and E-Commerce
- .Women safety corridor -Deep Learning and IOT Based Hybrid Approach for Women Safety
- Trash E- Intellegent Robotic Arm for Waste aggregation using Machine Learning

#### **ii) Projects funded**

- Automated Solar Irrigation System TEQIP seed mony Project in 2015
- Automated Manhole surveillance system using drone KSCSTE funded in 2018

### **Publications:**

#### **i) Book Chapter**

1. C.K. Smitha, N.K. Narayanan ,”Analysis of the Complexity of Brain Under Mobile Phone Radiation Using Largest Lyapunov Exponent”, Lecture Notes in Electrical Engineering , LNEE Vol 396:pp147-154 Oct 2016 DOI: 10.1007/978-81-322-3589-7\_15

#### **ii) International Journal**

1. Roshith K and C K Smitha , “Vehicle Event Data Recorder and Driver Review System (VEDRAR) Using Machine Learning” International Journal of Innovative Research in Technology (JIRT) - an UGC approved journal, Volume: 12, Page No: 81-85, July 2025, ISSN online 2349-6002,
2. C. K. Smitha and Roshith K, Ragi R G,N K Narayanan,” Propagation of Action Potential in Neuron – A New approach with Magnetic Effect of Current ”, International Journal of Electrical Engineering and Technology (IJEET) Volume 12, Issue 2, pp. 100-113, February 2021, ISSN Online: 0976-6553, DOI: 10.34218/IJEET.12.2.2021.010.
3. C. K. Smitha, N.K. Narayanan,” Complexity Analysis of Brain under Mobile Phone Radiation using Lyapunov Exponent”, International Journal of Science and Research (IJSR) , Vol.10 , Issue2, pp.1558-1563, Feb 2021, ISSN: 2319-7064 , DOI: 10.21275/SR21224074153
4. C.K. Smitha, N.K. Narayanan, “ Computation of Successive Absorption Rate in Brain using simulation of Electromagnetic Radiation - FDTD Method”, International journal of Research in Engineering and Technology (IJRET), Vol.5, Issue 19, pp.29-34, ISSN 2319-1163, Oct 2016

5. C.K. Smitha, N.K. Narayanan, "Increase in Specific Absorption Rate (SAR) of Mobile Phone - A Threat to Human", International Research Journal of Electronics and Computer Engineering (IRJECE), Vol 2(2), ISSN: 2412-4370, Jun 2016
6. C. K. Smitha, N. K. Narayanan, "Effects of Mobile Phone Radiation on Brain Using Statistical Parameters and Its Derivatives", International Journal of Innovative Research in Computer and Communication Engineering, (IJIRCC), Vol.2, Special Issue 5, pp 326- 331, ISSN (O): ISSN (P): 2320-9798, oct 2014
7. C. K. Smitha, N. K. Narayanan, "Effect of Mobile Phone Radiation on EEG Using Various Fractal Dimension Methods", International Journal of Advancements in Research & Technology, Volume 2, Issue5, IJOART, (ISSN 2278-7763), (ISSN 2278-7763), 2013.

### iii) . International conference

1. C. K. Smitha, N. K. Narayanan," Effect of mobile phone radiation on brain using EEG analysis by Higuichi's fractal dimension method ", Proc. SPIE 8760 of International Conference on Communication and Electronic System Design, 87601C Jaipur, January 28, 2013, SPIE, doi 10.1117/12.2012177
2. C. K. Smitha, N. K. Narayanan, "Study of Brain Dynamics under Mobile Phone Radiation Using Various Fractal Dimension Methods", Proce. ICSIPR2013, International Conference on Signal processing, image processing and pattern recognition, Coimbatore, February7, p 288-292, 2013, doi 10.1109/ ICSIPR. 2013.6497942
3. C. K. Smitha, N. K. Narayanan, "Effect of Mobile Phone Radiation on EEG" , Proce of the third International Conference on Advances in Computing and Communications ACC-2013, Kochi, 29-31 August 2013, DOI 10.1109/ ICACC.2013.2
4. C. K. Smitha, N. K. Narayanan, "Effect of Mobile Phone Radiation on Brain using Wavelet Energy", IFMBE proce. of the 15th International Conference on Biomedical Engineering ICBME, Singapore, Volume 43, Dec 2013, pp 192-195, 2013, Springer, DOI:10.1007/978-3-319-02913-9\_49, Print ISBN : 978-3-319-02912-2 Series ISSN 1680-0737
5. C. K. Smitha, N. K. Narayanan, "Effect of Mobile Phone Radiation on Brain – Wavelet Power Approach", Proce. of the 18th World Multi-conference on Systemics, Cybernetics and Informatics WMSCI at Orlando, Volume 1, pp 213-218, July 2014
6. C. K. Smitha, N.K. Narayanan, "Interaction of Mobile Phone radiation with Brain ", Proce. of 14th Biennial International Symposium on Antenna and Propagation APSYM 2014, Dec 2014, CUSAT, Cochin, Vol -1, pp 57-60, ISBN 978-93-80098-60-8
7. C. K. Smitha and N.K. Narayanan, "Analysis of Fractal Dimension of EEG Signals under Mobile Phone Radiation", Proce of the IEEE International Conference on Signal Processing, Informatics, Communication and Energy Systems (IEEE SPICES), Feb 2015, pp 1-5, DOI: 10.1109/SPICES.2015. 7091494.IEEE
8. C. K. Smitha and N.K. Narayanan, "Analysis of the Effects of Mobile Phone Radiation on Brain using Approximate Entropy", Proce. of Joint International Conferences on ITC and PEIE 2015. Published by McGraw-Hill Education, pp 208-215 , 2015
9. C. K. Smitha and N.K. Narayanan, "Entropy Analysis to Study the Effects of Mobile Phone Radiation on Brain", Proce. of International Conference on Information and Communication Technology Research ICTRC 2015, Abu Dhabi, 17 May 2015, pp 251-254, DOI : 978-1-4799-8966-9/15©2015 IEEE
10. C.K. Smitha, N.K. Narayanan, "Analysis of the complexity of Brain under Mobile Phone Radiation using Largest Lyapunov Exponent", Proce of the International Conference on Signal, Networks, Computing, and Systems ICSNCS-2016, Feb 2016,

JNU Delhi, Lecture notes in Electrical Engineering 396, Springer, pp. 147-154, ISBN : 978-81-322-3592-7, DOI . 10.1007/978-81-322-3589-7\_15.

11. C.K. Smitha, N.K. Narayanan, "Energy changes in Brain under Mobile Phone Radiation", Proce. of SAI Computing Conference 2016, July 13-15, 2016 London, UK, pp 990-995, DOI : 978-1-4673-8460-5/16 /2016 IEEE
12. C.K. Smitha, N.K. Narayanan, "Analysis of the Effects of Mobile Phone Radiation on Brain using Statistical and Hjorth Parameters", Accepted for International Conference on Signal, Power, Communication, Security and Computing Applications ICSPSCA2016, Oct 2016, pp.117-123, 2016

#### **iv) . National conference**

1. N.K. Narayanan, C. K. Smitha, "Effect of Mobile Phone Radiation on Brain. Dynamics ", presented at the proce. of 24th Swdeshi Science Congress by Swdeshi science Movement at Malayalam University Kerala on 6-8 Nov 2014
2. C.K. Smitha, N.K. Narayanan, "Entropy changes in brain due to Mobile phone radiation", Proce. of the National Conference on Recent Trends in Computational Intelligence & Image Processing (RCIP '2016), pp.156-162, Feb 2016

#### **Conference Organised :**

1. Coordinator, International Conference on Recent Advancements in Computing and System Design (InRACs-2025), scheduled on June 2025.
2. Coordinator, International Conference on Signal, Power, Communication, Security, and Computing Applications (ICSPSCA-2016), held in October 2016.

#### **Training Programmes Organised:**

3. Faculty Development Program (FDP) on "IoT Using Raspberry Pi" conducted from 16th August 2016 to 21st August 2016.
4. One-month High-Intensity Training Program on Industrial Automation, organized in collaboration with Yokogawa, held from 29th August 2016 to 17th September 2016, funded by TEQIP.
5. High-Intensity Training Program for 15 Students on the NEBOSH Safety Certification Course in collaboration with Rig Tech, Ernakulam supported by TEQIP funding.

#### **Training Programmes Attended:**

1. FDP on Future Proofing Research using AI Tools conducted by CE Vadakara from 24<sup>th</sup> 29<sup>th</sup> of June 2025 (6 Days)
2. FDP on Computational Mathematics & AI conducted by IIIT Kottayam on 28/6/2024 & 29/6/2024 (2 Days)
3. e-Yantra Symposium 2023 at IIT Bombay on 5th & 6th April 2023 (2 Days)
4. FDP on Joy of Teaching in CE Vadakara 18/12/2021 20.12.2021 (3 Days)
5. FDP on AI for COVID-19 data analysis and Deep Learning by EDUXLABS (Esoir Business Solution LLP) from 20/4/2020 -24/4/2020 (5 days)
6. 2 Day workshop on introduction to robotics by e yantra initiative by IIT Bombay conducted at NIT Suratkal, Karnataka on 14<sup>th</sup> and 15<sup>th</sup> of Feb 2020 (2 Days)
7. FDP on Research and Application Perspectives of Artificial Intelligence and Machine Learning conducted by MES College of Engineering Kuttippuram, from 8th to 12th July 2019 (5 Days)

8. Faculty development program on Managerial excellence at IIM Calcutta from 2<sup>nd</sup> Mar to 4<sup>th</sup> Mar 2017(3 days)
9. Faculty development program on Leading with Emotional Intelligence at Administrative staff College of India, Hyderabad from 24<sup>th</sup> to 28<sup>th</sup> Oct 2016 (5 days)
10. Faculty development program in Pedagogy by teaching learning center IIT Madras from 28<sup>th</sup> to 30<sup>th</sup> July 2016 (3days)
11. Management development program on Educational Leadership program for CE Vadakara from 23<sup>rd</sup> to 28<sup>th</sup> May'16 at IIM kozhikode. (6 days)
12. Workshop on Design and Engineering from 3<sup>rd</sup> to 5<sup>th</sup> Feb'16 at GEC calicut (3 days)
13. Workshop on "Pattern recognition a practioners approach" at central university of Kerala on 5<sup>th</sup> and 6<sup>th</sup> of Nov '2014 (2 days).
14. Management development program on Academic Leadership program for TEQIP Institutiouns from 23<sup>rd</sup> to 28<sup>th</sup> June'14 at IIM Kozhikode. (6 days).
15. Faculty development program on Intelligent Systems' 2013 from 21<sup>st</sup> to 25<sup>th</sup> Oct'13 at CE Vadakara. (5 days).
16. Three day National workshop on pattern recognition and Application in machine intelligence by Guru from Mysore University from 18<sup>th</sup> to 20<sup>th</sup> of Oct'13 at Kannur University (3 days).
17. Indian Neuroinformatics and Computational Neuroscience Summer Course, ISI Bangalore Center, 4 – 12 June 2012. (9 days).
18. Staff Development Programme on Signal Processing in Biomedical Applications at RASET , 3-14 May 2010 (12 days)

#### **Professional Body Memberships:**

- Member of IEEE bearing Member No : 92174034
- Membership in ISTE with Member No : LM27222
- Membership in Energy Conservation Society (ECS) of India Chapter

**Dr. C K Smitha**  
**(Sd)**