Faculty Profile

Dr. M. Navaneetha Velammal , M.E., Ph.D
Assistant Professor –ECE

HIGHLIGHTS:

- Number of Journal Publications:12
- H-Index:3
- Project Funding Received:nil
- Patents Published:5
- Patents Granted:nil

PROFESSIONAL LINKS:

- Scopus ID: 56604301200
- Scopus Link: https://www.scopus.com/authid/detail.uri?authorId=56604301200
- Google Scholar
  ID : https://scholar.google.com/citations?user=OKAkz1AAAAAJ&hl=en
- Anna University Faculty ID: 275755
- AICTE Faculty ID: 1-441462051
- Anna University Supervisor ID: nil
- LinkedIn: www.linkedin.com/in/navaneetha-rayan-7b4b06120

PROFESSIONAL BACKGROUND:

- Teaching Experience till date: 19 years
- Industrial Experience: 7 Months

INTERNATIONAL EXPOSURE:

- Navaneetha Velammal M, Nirmal Kumar P (2021), 'Efficient underdetermined speech signal separation using encompassed Hammersley- Clifford algorithm and hardware implementation', Microprocessors and Microsystems, Volume 85, June 2021, 104300 (ISSN:0141-9331) Publisher: Elsevier, Impact Factor: 1.525

- Navaneetha Velammal M, Nirmal Kumar, "A Speech Recognizer" a tool to recognize the high clarity speech signal based on existing speech using ISCA" An International Journal on Analog Integrated Circuits And Signal Processing. Publisher: Springer ISSN 0925-1030, 13 August 2018.

- Navaneetha Velammal P Hannah Blessy , J Friska and A Rajeshwari "Design of Quantum Encoders with Minimum Area Overhead" Springer-Lecture Notes in Electrical Engineering (LNEE ,volume 903), 12 September 2022

- J Friska A Rajeshwari Navaneetha Velammal and P Hannah Blessy "Identification of Rice Adulteration and Bacterial Blight Using Optimized Boosting Classifier" Lecture Notes in Electrical Engineering,Volume 903,2022.

- Navaneetha Velammal M,Steffi Anto "Design of High speed Nanoscale Adder logic circuit for Low Power Consumption", 2021 IEEE Pune Section International Conference, PuneCon 2021

- M.Navaneetha Velammal, M.Ajitha, P.Hari Priya, A.S.Bavadharani, 'Evaluation of FINFET And Nanowire MOSFET With High K Dielectric', (2021), 2nd International Conference on Smart Electronics and Communication (ICOSEC) , IEEE Conference, ISBN:978-1-6654-3368-6

- M Navaneetha Velammal, P Hannah Blessy , J Friska and A Rajeshwari "A Novel Coplanar Based Adder Logic Design Using QCA" International Conference on Recent Trends in Computing (ICRTCE- 2021) Journal of Physics: Conference Series 1979 (2021) 012052 IOP Publishing doi:10.1088/1742-6596/1979/1/012052

- J Friska, M Navaneetha Velammal, A Rajeshwari, and P Hannah Blessy, Random Forest (RF) based identification of rice powder mixture using terahertz spectroscopy" International Conference on Recent Trends in Computing (ICRTCE- 2021), Journal of Physics: Conference Series, 1979 (2021) 012056 , IOP Publishing doi:10.1088/1742-6596/1979/1/012056

- M. Suryaganesh, T. S. Arun Samuel. Ananth Kumar. Navaneetha Velammal "Advanced FET-Based Biosensors—A Detailed Review" , Contemporary Issues in Communication, Cloud and Big Data Analytics pp 273-284, Part of the Lecture Notes in Networks and Systems book series (LNNS, volume 281, 01 December 2021)

- Navaneetha Velammal, Nirmal Kumar, A Getzie Prija, "Testing of Faults in VLSI Circuits Using Online BIST Techniques Based On Window of Vectors", published in ARPN Journal of Engineering and Applied Sciences, April 2015.

- Navaneetha Velammal, Nirmal Kumar, P Surya Priyanka, "Independent Component Analysis Based on Blind Source Separation by Using Markovian and Invertible Filter Model", published in ARPN Journal of Engineering and Applied Sciences, April 2015.

- P. Thayammal M.Navaneetha Velammal "Multichannel Complex Nonnegative Matrix Factorization in Beamforming of Sound Source Separation", Published in International journal of Applied Engineering Research -10(20), pp. 15780–15785, May 2015.

AREA OF SPECIALIZATION:

- Digital/Analog VLSI

- Communication Systems

Ph.Ds AWARDED WITH DETAILS: Nil

S:No	Name of Scholar	Title of Thesis	Year of Completion	Full Time/Part Time

Ph.Ds GUIDING:

- **Full Time Scholars: Nil**
- **Part Time Scholars : Nil**

SPONSORED RESEARCH / FUNDING APPLIED / CONSULTANCY:Nil

PATENTS PUBLISHED/GRANTED:

- An Intelligent Wearable Shield for Women and Children Safety – Application Number 202241001124 A - Published on 11/03/2022

- Autonomous Robotic Foliar Sprayer for precision Agriculture- Application Number 202441047082 A - Published on 28/06/2024

- Explainable AI System with Interactive Visualization of Decision-Making Processes - Application Number 202441066014 A - Published on 13/09/2024

- Real-Time Voice-Activated Humanoid Information Assistant - Application Number 202441071360 A - Published on 04/10/2024

- Real-Time Ground Water For Identification And Monitoring System - Application Number 202441080354 A - Published on 25/10/2024

COURSES CERTIFIED:

- VLSI Design Flow - RTL to GDS-12 Week Course- July –Oct 2024- Awarded with Elite+Silver - NPTEL

- Accreditation and Outcome Based Learning - 8 Week Course - July-Sep 2021 - Awarded with Elite - NPTEL

- NBA Accreditation and Teaching – Learning In Engineering - 12 Week Course - Jan-April -2021 - Awarded with Elite - NPTEL

- Digital VLSI Design - 8 Week Course - Jan-Mar 2021 - Awarded with Elite - NPTEL

- Introduction to Embedded System Design - 12 Week Course - July-Dec 2020 - Awarded with Elite - NPTEL
- Digital Circuits - 12 Week Course - July-Dec 2020 - Awarded with Elite - NPTEL

- VLSI physical design - 12 Week Course - Jan –Apr 2020 - Successfully completed – NPTEL
- Hardware Modeling using Verilog - 12 Week Course - Aug-Oct 2019 - Successfully completed – NPTEL
- Advanced Diploma in ASIC Design - VLSI Design Center, Bengaluru

ACHIEVEMENTS AND AWARDS:

- Received best performance award for the paper presentation during the year 2009

- Received Best Department award during 2014

- Received recognition award for the training Programme Psychology of vision.

- Awarded with cash prize for the centum results produced for the following courses

III-Sem/II PG	VL5091 MEMS &NEMS
VII-Sem/IV(UG)	VLSI Design
III-Sem/II(UG)	Digital Electronics
II-Sem/I(PG)	System On Chip Design
III-Sem/II(PG)	Testing of VLSI Circuits
II-Sem/I(PG)	ASIC Design
VIII-Sem/IV(UG)	Embedded Systems

SPECIAL SESSIONS DELIVERED:

- Resource person for Two days online faculty development program on, "Outcome based Education (OBE) and NBA Accreditation" delivered lecture on the topic "NBA SAR Filling (Criterion 5) & (Criterion 8) on 3-8 January, 2022 Sponsored by AICTE, (Margdarshan Scheme for Share & Mentor Institutions)

- Resource person for Two days online faculty development program on Outcome Based Education Framework and Its Process, delivered lecture on the topic "Documentation on NBA Criterion 4,5, and 6 on 24 September, 2021 Sponsored by AICTE, (Margdarshan Scheme for Share & Mentor Institutions)

- Resource person for one- week online faculty development program on Outcome Based Education Framework and Its Process delivered lecture on the topic "NBA SAR filling Criterion 8" on JULY 16, 2021 Sponsored by AICTE, (Margdarshan Scheme for Share & Mentor Institutions)

- Resource person for one-week online faculty development program on Outcome Based Education Framework and Its Process delivered lecture on the topic "NBA SAR filling Criterion 5" on JULY 15, 2021 Sponsored by AICTE, (Margdarshan Scheme for Share & Mentor Institutions)

- Resource person for One Day online Seminar on CO Vs PO Mapping and Assessment in NBA Accreditation Process and delivered lecture on the topic "Attainment of Course Outcome "on APRIL 09, 2021 Sponsored by AICTE, (Margdarshan Scheme for Share & Mentor Institutions)

- Presented Webinar on "Emerging Trends and Solutions for Low Power VLSI Circuits" on 10th June 2020, This event hosted in YouTube Channel Fx-ETuber.

- Guest Lecture on the topic "Digital communication at SCAD College of Engineering and Technology, Department of ECE, Tirunelveli on March 2020.

- Guest Speaker on the topic of "An Overview About Digital Nano Scale System Physical Design" for AICTE Sponsored 5 days workshop on Nano Technology based VLSI Physical Design at Francis Xavier Engineering College, Department of CSE, Tirunelveli on 7th December 2017.

- Guest Lecture given on the topic of "The Corporate Etiquette" to III Year Students of Computer Applications, Francis Xavier Engineering College, Department of MCA, Tirunelveli on 04.07.2016

- Delivered Guest lecture on Electronics Circuits-II, one-week Faculty Development Training Programme sponsored by Anna University, Chennai at Francis Xavier

Engineering College, Department of Electronics and Communication Engineering, Tirunelveli on December 2, 2015

- Guest talk given on the topic of "The Corporate Etiquette" to III Year Students of Computer Applications, Francis Xavier Engineering College, Department of MCA, Tirunelveli on 22.06.2015.

CONFERENCES/SEMINARS/WORKSHOPS ATTENDED:

CONFERENCES:

- Presented paper on International conference on current Research in Engineering Science and Technology (ICCREST-2018). Jeyaram College of Engineering and Technology, 30/04/2018

- Presented paper on the title Design of an Efficient Multi-Modulus Prescaler unit using Gate Diffusion Unit, International Conference on Green Technologies for Power Generation and Communication, 2014

- Presented paper on the title Design of A Low Power Multiprocessing Element Coprocessor Architecture for Continuous Hidden Markov Model Based Speech Recognition System, International conference on Modeling optimization and computing, Noorul Islam Centre for Higher Education Kumaracoil. Nagercoil. 10&11 April 2012

- An efficient low power circuit design for high performance of ASIC using threshold logic, National Conference at Dr. M.G.R Educational and Research Institute University, April 27th & 28th, 2017

- Presented paper on national conference "Underdetermined Source Estimation Using Sparse Component Analysis", National Conference at St. Xavier's Catholic College of Engineering, Nagercoil. 29th March 2016

- Design of SMO Chip Feasible for Large Number of Training Samples, Jeyaram College of Engineering and Technology. DRDO Sponsored National Conference on "ETVIPC-13", 2013

- ASIC Design of SVM Training and Recognition Suitable for Standalone Devices, National Conference at Einstein College of Engineering Tirunelveli. 2013

- Architecture for SMO Chip Viable for Large Data, National Conference on Computing and Application –NACCA '13, National Engineering College Kovilpatti, April 10th 2013

- Presented paper on the title A Redesigned FIR Filter Architecture to Improve the Power And Performance Using Pipelining, National conference held at University College of Engineering, Nagercoil. 09th April 2013

- Presented paper on the title A Signal Identification Model For MIMO Design, National conference held at Cape Institute of Technology, Levengipuram, 07th March 2013

- Presented paper on the title FPGA Coprocessor Architecture for Speech Recognition National Conference on Emerging Trends in Signal Processing & Wireless Technology Sponsored by DRDO, New Delhi. Dr. Sivanthi Aditanar College of Engineering, Tiruchendur, 17th March 2012

- Presented paper on the title High Fault Coverage Test Pattern Generation of Asynchronous Circuits using ATPG, 4th National Conference on Electrical and

Instrumentation Systems NCEIS 2011, Government College of Technology, Coimbatore. 17th March 2011

- Presented paper on the title VLSI Implementation of Pipelined FASTICA, National Level Conference at PET Engineering College. Tirunelveli and received best performance award, 2009

TRAINING

- APR (Auto Place and Route) Flow: Quick review CADENCE Strategies -Saveetha Engineering College, Chennai -29.07.2024 -30.07.204

- One week International Virtual FDP on Exploring Emerging Trends and Future Directions in Machine Learning -Integrated VLSI Design- SRM Institute of Science and Technology Ramapuram Chennai-03.07.2024 -10.07.2024

- Online FDP on Synergizing VLSI Design with Artificial Intelligence and Machine Learning Techniques- SRM Institute of Science and Technology Ramapuram Chennai-27.05.2024 -03.06.2024

- Workshop on Cadence EDA Tools- Saveetha Engineering College, Chennai-11.01.2024 & 12.01.2024

- Familiarization Workshop on Nanofabrication Technologies (online)- INUP i2i IISC Bangalore-17.07.2023-19.07.2023

- Two Weeks International Faculty Development Program on Research Tools(online)- Easwari Engineering College Department of Artificial Intelligence and Data Science-03.07.2023-14.07.2023

- Hands-on Training program on Synopsys Technology CAD- VIT Vellore, Department of Micro & Nano Electronics- VIT Vellore, Department of Micro & Nano Electronics, 20-22, April 2023

- INUP hands on workshop on Nanofabrication Technologies- IIT Bombay, Mumbai-16/04/2018 to 20/04/2018

- Participated Five Days Training of Trainer (ToT) Programme conducted by Indian Centre for Research and Development of Community Education (ICRDCE) Bangalore. Organized by Francis Xavier Engineering College, Tirunelveli-23/01/2018 to 27/01/2018

- One-day Psychology of Vision Training on "Self Evaluation"- Facilitated by Jeff Allen & Sue Allen held at SCAD India. 14th February 2017

- Faculty Training Programme on LATEX- Francis Xavier Engineering College, Department of IT, Tirunelveli, 12 January 2016

- FTP on "Real Time Embedded systems - R-2013"- Government College of Engineering, Tirunelveli- July11&12-2014

- Two days skill based training program on Digital Signal Processing Design- ICT Academy of TamilNadu in Association with National Instruments at Einstein College of Engineering,Tirunelveli-20th to 21st May,2010

- Three day Psychology of Vision Training on Awakening to Our Power- Facilitated by Sue Allen held at SCAD India-31st July - 2 Aug 2010

- Three day Psychology of Vision Training on Awakening to Our Power- Facilitated by Julie Patricia Wookey held at SCAD India-8th Nov – 10 Nov 2010

- Five day Psychology of Vision Training on Steps To Leadership Module 1-10- Facilitated by Katie Allen held at SCAD India- December 2010

- One day Training Programme KNOW YOUR INSTRUMENTS- M/S Supreme Scientific Corporation, Madurai-15.12.2009

SEMINARS

- Participated in the AICTE sponsored 3 Day National Seminar on "Research Issues and Opportunities in VLSI Nanoelectronic Device- Thiagarajar College of Engineering, Department of ECE, Madurai - 12th to 14th April,19

- Participated ICMR Sponsored Two Days International Seminar- "IoT Technologies for Health Care" Francis Xavier Engineering College, Department of Electronics and Communication Engineering, Tirunelveli 28 &29 December 2017

- Participated ICMR Sponsored Two Days National Seminar- "A multi-Disciplinary Activity in Wireless Sensor Network Regarding Structural Health Monitoring- Francis Xavier Engineering College, Department of Electronics and Communication Engineering, Tirunelveli -27 & 28 November 2017

- Participated ICMR Sponsored Two Days National Seminar – "A Computational Intelligence in the Future of Bioinformatics, Forensics and Biomedical Engineering Sciences-Strategies and Innovation"- Francis Xavier Engineering College, Department of Information and Technology, Tirunelveli. 23 &24 November 2017

- Participated two day Seminar on Contemporary Research Avenues And Challenges in intelligent control systems using Labview - Francis Xavier Engineering College, Department of Information Technology, Tirunelveli- 07th and 08th October 2016

- Attended One day National Level Seminar on Clustering Techniques in Fuzzy sets &Systems- University V.O.C College of Engineering, Anna University (Thoothukudi Campus), Department of Mathematics & Department of ECE -30th October, 2015

- National on "Big-Data Anatytics, Hadoop And level seminar Map-Reduce"- Department of Information Technology, Francis Xavier Engineering College, Tirunelveli-13th April 2015

- International Seminar- 2015- Sustainable Development on India's Urban Future, Francis Xavier Engineering College, Department of Management studies. Tirunelveli-5th February 2015

- Two Days Seminar on Solid State Device Modeling- Francis Xavier Engineering College, Department of ECE, Tirunelveli-18&19th November,2013

WORKSHOPS

- Participated in Two Day Technical workshop on "Intellectual Property Rights"- Organized by Centre for Research & Development, Francis Xavier Engineering College, Tirunelveli. Sponsored by Tamilnadu State Council for Science and Technology, Government of India - On 8 & 9 April ,2019

- Participated in the guest talk on "Electronics performance Quality Metrics- An Interdisciplinary Approach"- Organized by the Department of Information and Technology, Francis Xavier Engineering College, Tirunelveli- On 26th March, 2019

- Two-day Workshop on Trends and Developments in Signal Processing and Its Application"- SSN College of Engineering, Kalavakkam, Chennai. - Aug 19 and 20,2013

- NPTEL Workshop- National College of Engineering, Maruthakulam - 5.10.12

- Three-day Workshop on Soft Computing Tools in Signal and Image Processing- Research & Development centre, St.Xavier's Catholic College of Engineeering, Nagercoil - 21st to 23rd May,2012

- National Workshop on "VLSI Signal Processing"- Musaliar College of Engineering And Technology,Pathanamthiitta in association with IETE-1st& 2nd March 2012.

- Three-day Workshop on Advanced Signal Processing –Theory and Practice- TIFAC – CORE & Thiyagarajar College of Engineering, Madurai - Aug 10-13,2011

- Two-day Workshop on Digital Image Processing using MATLAB- Francis Xavier Engineering College, Tirunelveli in association with Raghuram Associates, Chennai. Sep 6th- 7th 2010

- Mission 10X Workshop- Francis Xavier Engineering College, Tirunelveli in association with Wipro & ISTE - 19th to 23rdApril 2010

- Management Education – FDP- 28.11.2020

- Participated in the one-day Faculty Workshop on "Arduino Programming" Organized by the Department of Information and Technology, Francis Xavier Engineering College, Tirunelveli, 26th April 2018

- Participated AICTE Sponsored 5 days workshop on Nano Technology based VLSI Physical Design, Francis Xavier Engineering College, Department of CSE , Tirunelveli. 04 to 08 December 2017

- Participated One Day Workshop on Internet of Things- K K M Soft Pvt.Ltd., Chennai in association with Francis Xavier Engineering College, Department of CSE, Tirunelveli 30th November 2017

- Two days National Workshop Applications of Soft Computing Techniques in Engineering organized by Department of EEE , Francis Xavier Engineering College, Tirunelveli, February 16 and 17,2017

- One-day workshop- Research Methodology at Kings Engineering College-3rd December 2016

- Two-day Workshop on "Image &Signal Processing Using MATLAB"- Pantech ProEd Pvt Ltd in association with Department of ECE, Francis Xavier Engineering College. 11th &12th August 2015

- Two Days Workshop on "Image & Audio Processing   Using MATLAB"- Francis Xavier Engineering College, Department of ECE, Tirunelveli Oct 16&17,2014

- Workshop Two week ISTE workshop on signals and systems conducted by IIIT kharagpur- Regional centre of Anna University, Tirunelveli. 2nd-12th January, 2014

- Designing Teaching under Outcome Based Education - Short Term Training Programme through ICT Mode, NITTTR, Kolkata- one week 06.07.2020-10.07.2020

- Advances in Antenna Design Techniques and Simulations using CST Studio Suite - NITTTR, Chandigarh, Online AICTE Recognized Faculty Development Programme one week 22.06.2020-26.06.2020

- EC8791-Embedded and real time systems –Saveetha Engineering College, Chennai Virtual FDP - 5 Days 15.06.2020 - 19.06.2020

- OBE Framework and Process for Mentee Institutions - AICTE Sponsored (Margdarshan Scheme for Share & Mentor Institutions) - FXEC/ECE- Virtual FDP 3 Days 11.06.2020-13.06.2020

- One-day Faculty Development Programme on "Outcome Based Education and Examination Reforms" – Francis Xavier Engineering College, Tirunelveli 17.06.2019

- Five Days Faculty Development Programme - Data Science and Big data Analytics, EMC2 Acadamic Associate - June 6th to 10th 2016

- One-day Faculty Development Programme – Quality Improvement assurance at SCAD College of Engineering, Cheranmahadevi, Tirunelveli - May 25th 2016

- Two day Faculty Development Programme EC6711 Embedded Laboratory Organized by Department of ECE, Francis Xavier Engineering College, Tirunelveli May 17th and 18th 2016

- Attended Faculty Development Program organized and conducted by SCAD Grroup of Institution, Tirunelveli

- Francis   Xavier Engineering College, Department 28-29 August, 2015

- A One Day Management Development Programme on Institutional Development - SCAD Campus,Cheranmahadhevi -1st August 2014

FDP

- One week AICTE-ISTE orientation/Refresher Programme on Low Power VLSI system Design Walchand Institute of Technology, Solapur, Maharashtra.

- ASIC Design Flow: Low Power Perspective Faculty Development Programme (FDP), E & ICT Academy, NIT Warangal Two week 01.07.2021- 10.07.2021

- ECE Virtual Lab Practices using Free Online Simulations - Online AICTE Recognized Faculty Development Programme, Electronics and Communication Engineering Department NITTTR, Ministry of Human Resource Development, Chandigarh (one Week) 14/06/2021-18/06/2021

- NBA Accreditation and Examination Reforms Online AICTE Recognized Faculty Development Programme, Electronics and Communication Engineering Department NITTTR, Ministry of Human Resource Development, Chandigarh (one Week) 17/05/2021-21/05/2021

- Free and Open Source Software (FOSS) Tools for Effective Teaching- Learning - Electronics and Communication Engineering Department NITTTR, Ministry of Human Resource Development, Chandigarh Online AICTE Recognized Faculty Development Programme (one Week) 15/02/2021- 19/02/2021

- Outcome based Education- Saintgits Institute of Management .Kottayam AICTE Funded online 12 Days 16.11.2020-28.11.2020

- FDP on Cadence EDA Software Francis Xavier Engineering College, Tirunelveli Jan 10&11- 2012

- Three day FDP on Advanced VLSI Design SSN College of Engineering, Kalavakkam, Chennai. 17th to 19th November 2011.

PROFESSIONAL MEMBERSHIPS:

- IEEE

OTHER DETAILS (If any):

Events organized and responsibility Undertaken

- Organized Two-Days workshop titled "APR (Auto Place and Route) Flow: Quick review CADENCE Strategies " on July 29-30, 2024, hosted at Saveetha Engineering College, Chennai.

- Organized Day 3 of the One-Day Online Seminar titled "Chatbot using AI" on April 26, 2024, hosted at Saveetha Engineering College, Chennai.

- Organized an insightful guest lecture titled "Trends in Physical Design Concepts" on 31st August 2024, hosted via an online platform at Saveetha Engineering College, Chennai.

- Organized a guest lecture on Low Noise Amplifier (LNA) Design on 31.08.2024, hosted via an online platform at Saveetha Engineering College, Chennai

- Coordinated One Day online Seminar on CO Vs PO Mapping and Assessment in NBA Accreditation Process on APRIL 09, 2021 Sponsored by AICTE, (Margdarshan Scheme for Share & Mentor Institutions).

- Coordinated 3 Days Faculty Development Programme on OBE Framework and Process for Mentee Institutions on JUNE 11-13,2020 Sponsored by AICTE, (Margdarshan Scheme for Share & Mentor Institutions).

- NBA coordinator- FOR ECE department during the year from 2014-2022 in Francis Xavier Engineering College Tirunelveli.

- Coordinator, PG Project [Period from 2014-2022 – Francis Xavier Engineering College]

- Convener, College Day Prize Distribution Committee [Period from 2014-2022 – Francis Xavier Engineering College]

- Convener, Graduation Day Certificate Committee [Period from 2014-2022 – Francis Xavier Engineering College]

- Organized various State and National Level symposium for students

- Developed Electronic Devices Laboratories and organized practical oriented short term courses

- Question Paper setter for other Institutions & Universities

- Organized Association Inauguration of the department for every new academic year- 2014-2022.

- Organized Electronics club activities in the department for the year 2021-2022

- Organized national level project expo during the year 2015.

- Organized Skill training programme for the second year students during winter vacation 2018.

- Guided U.G and P.G projects.

- Headed as HOD/ECE during the period from May 22 ,2014 to February 13,2015