

Dr. S. PONMALAR

Associate Professor

Department of Electronics Engineering (VLSI design and Technology)

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Scopus Author ID: 9636617100

**Educational Qualification:**

Degree obtained	Year	Branch	University/Institute	Any other details
Ph.D	2013	Information & Communication Engineering	Anna University	-
M.E	2004	Communication Systems	Anna University	First Class
B.E	1997	Electronics and Communication Engineering	University of Madras	First Class

Experience:**a.Academic Experience:** (as on 30.06.2025)

Employer	Designation	Joining Date	Relieving Date
Velammal College of Engineering and Technology	Associate Professor	05.07.2022	-
NPR College of Engineering & Technology	Professor	01.10.2021	27.06.2022
Thiagarajar College of Engineering,	Assistant Professor	15.07.2005	30.05.2020
Thiagarajar College of Engineering,	Part Time Lecturer	Mar 2001	July 2002

b. Industrial Experience: -

Employer	Designation	Joining Date	Relieving Date
Industrial Consultancy & Sponsored Research Electrical Engineering Department, IIT-Madras,	Project Associate Grade I	May, 1999	Nov, 2000
Institute of Remote Sensing, Anna University	Junior Project Associate	June, 1997	Mar, 1999

Total Experience : 23 Years

PhD Supervisor Details:

- ✓ Name of the University as a Recognized Supervisor: **Anna University**
- ✓ Supervisor Recognition No.: **2340227**
- ✓ No. of Research Scholars Registered: Supervisor: 4 Joint Supervisor: 3
- ✓ No. of Research Scholars Completed: 4

Interested Research Areas: Optical Communication & Networks, AI and Machine Learning, Quantum Computing

Publication Details:

1. Research Papers Published in SCI/SCIE/Scopus indexed Journals:

S. No	Author(s)	Title	Name of Journal	Volume/Page/Year
1.	S. Ponmalar V.Anusooya	Design of All-Optical NOR and NAND Gate Using Hybrid Material Corner Scatters in Photonic Crystal Ring Resonators	Physica Scripta (SCIE)	100/1-10/2025 https://doi.org/10.1088/1402-4896/adbe14
2.	S. Ponmalar V.Anusooya M.S.K.Manikandan	Design and analysis of corner scatter inclusion in photonic crystal-based ring resonator	Optica Applicata (SCIE)	Vol. LIV, Issue 2/135-147/2024
3.	S. Ponmalar V.Anusooya M.S.K.Manikandan	Simulation of All-Optical NOR Gate Design with Improved Extinction Ratio using Semiconductor Optical Amplifier	Microwave and Optical Technology Letters (SCIE)	66 (1): /1-7/2024
4.	V.Anusooya S. Ponmalar M.S.K.Manikandan	Simulation and numerical analysis of SOA- based all optical NAND gate for high data rate communication	J.Natn.Sci.Foundation Sri Lanka (SCIE)	51(2)/225-235/2023 http://dx.doi.org/10.4038/jnsf.v51i2.11080
5.	V.Anusooya S. Ponmalar M.S.K.Manikandan	Photonic-crystal-based design and FDTD simulation of all-opticalNAND and NOR gates with improved contrastratio	Laser Physics (SCIE)	32 016202 (8pp)/1-8/2022
6.	Vince Leona. V, Abirami.M, Niriksha S, S. Ponmalar	Tungsten DiSulphide FBG Sensor for Temperature Monitoring in Float Glass Manufacturing	Journal of Information Technology and Digital World	Vol.02/ No. 04/191-200/2020
7.	S. Ponmalar S.Spartagus	Magnetic Fluid PhotonicCrystal Based Sensor	InternationalJournal of Applied Engineering Research (Scopus)	Vol. 10No.2/ 1317-1321/2015
8.	S. Ponmalar S. Spartagus	All-Optical XOR and NOT Logic Gate Using Beam Interference in 2DPhotonic Crystal	InternationalJournal of Applied Engineering Research (Scopus)	Vol. 10 No.20/16640 -16643/2015
9.	S. Spartagus S. Ponmalar	Integrated All-Optical ORLogic Gate Using Constructive Beam Interference in 2D Photonic Crystal	Journal of Engineeringand AppliedSciences (Scopus)	Vol. 10 No.8/3721/3 726/2015
10.	S.Ponmalar S.Sundaravaduvelu	Design of Ultra Fast polymer Electro-Opticwaveguide Switch for Intelligent Optical Networks	Journal of Scientific and Industrial Research (Scopus)	Vol.70/36-40/2011

11.	S.Ponmalar S.Sundaravaduvelu	Design of Reconfigurable multi-channel optical add drop multiplexer for intelligent optical network	Optical Review, (SCIE)	<u>Vol.18No. 4/305-310/2011</u>
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2. Research Papers Published in SCI/SCIE/Scopus indexed Book Chapter:

	Author Names	Title	Book Name	Date
1.	S. Ponmalar J.J. Shiny	Performance of Dc Biased Optical Orthogonal Frequency Division Multiplexing in Visible Light Communication.	AI and IOT based Intelligent Automation in Robotics (Scopus book chapter)	2021

3. Research Papers Published in SCI/SCIE/Scopus indexed Conference:

S.No	Author Names	Title	Conference Name	Year
1.	S. Ponmalar S.Kayalvizhi	Patient monitoring in WBAN based on ZigBee for Energy optimization with Block chain	IEEE International Conference on Electronics and Renewable Systems	2025
2.	S. Ponmalar K. Naveen Kumar R.Vishva Balaji T. Rohith A.K. Naren Kaarthick	Ethical Challenges and Bias in Real-World AI: A Fairness-Oriented Approach to Resume Screening Systems	IEEE International Conference on Augmented Intelligence and Sustainable Systems (ICAISS-2025)	2025
3.	S. Ponmalar Ms. N. Affrin Fowmiya C. Nandhini	Creating user Profiles through Sentiment Analysis of Social Media	IEEE International Conference on Communication and Electronics Systems	2024
4.	S. Ponmalar Iswaryapriyadharshni V Iswaryapriyadharshni V	A Smart AI Based Solution For Traffic Management With Adaptation Of Traffic Light	IEEE International Conference on Communication, Computing, Smart Materials & Devices	2024
5.	S. Ponmalar	AI-Driven Retention : A Hybrid Approach to Employee Turnover Prediction	Proceedings of the Ninth IEEE International Conference on Communication and Electronics Systems	2024
6.	S. Ponmalar, S., Devavaishne, M., Priya, M.K.I.	Classification of Rice Varieties Using VGG-19 and Alexnet	IEEE International Conference on Smart Generation Computing, Communication and Networking,	Dec 2023
7.	S. Ponmalar, Priya dharshini K, Pooja V, Swathi M	Advance Genome Disorder Prediction Model using Deep Learning algorithms	IEEE International Conference For Innovation In Technology	2024
8.	V.Anusooya S. Ponmalar	Design and simulation of all optical passive components using two dimensional photonic crystals	Virtual International Conference on Innovations in Research	Jun, 2020

9.	S. Ponmalar J.J. Shiny	Performance Analysis of Visible Light Communication using OFDM-NOMA	International Conference on Instrumentation and Control Engineering	Dec, 2019
10.	S.Ponmalar, D.Pon Sheila M.Raja Gomathi S.T.Susmeena	Temperature Monitoring in Oil Immersed Transformer using PMMA based Fibre Bragg Grating Sensor	International Conference on Instrumentation and Control Engineering (<i>ICECON - 2019</i>).	Dec, 2019
11.	S. Ponmalar Hari Saravanan	Performance analysis of visible light communication system over various modulation techniques	International Conference on modern global research in engineering and technology,	Mar 2018
12.	G.Nivetha Dr.S. Ponmalar	A Fiber Bragg Grating (FBG) Optical Sensor For Detecting Corrosion, Temperature and Stress	International conference on Electrical, Electronics and Computer Engineering	Mar 2016
13.	S. Ponmalar S.Kannan & A.Mohammed Imran	Implementing OCDM Technique in Passive Optical network for Signal Monitoring	International conference on Electrical, Electronics and Computer Engineering	Mar 2016
14.	M. Kavitha B. Kalaiselvi	Design of Photonic Crystal sensor for detection of Hemoglobin concentration in blood	IEEE international Conference on Innovations in Information, Embedded and Communication Systems	Mar 2015
15.	S. Spartagus S. Ponmalar	Magnetic fluid based novel tunable mid-IR filter	International conference on emerging materials: characterization and application,	Dec, 2014
16.	S.Ponmalar Dr.S.Sundarav aduvelu	Analysis of 3×3 Polymer Electro-optic Trapezoidal Grating Waveguide Switch for High Speed Intelligent Optical Network	IEEE International Conference on Computational Intelligence and Computing Research , ICCIC'11	Dec 2011
17.	S.Ponmalar Dr.S.Sundarav aduvelu	Analysis of 3×3 Trapezoidal Grating Reconfigurable Wavelength Add drop multiplexer	IEEE International Conference on Computational Intelligence and Computing Research ICCIC'11	Dec 2011
18.	S.Ponmalar Dr.S.Sundarav aduvelu	Design of high speed optical switches for intelligent optical networks	IEEE international conference on communication, computing and networks	Dec 2008
19.	L.R.D.Suresh Dr.S.Sundarav aduvelu S.Ponmalar	Analysis of Optical Waveguide Structure Using Beam Propagation Method for Optical Wireless Communications	IEEE conference on wireless and optical communication networks	Dec 2006

20.	S.Ponmalar Dr.S.Sundarav aduvolu L.R.D.Suresh	Analysis and evaluation of various optical waveguide grating couplers for integrated optics,	IEEE conference on wireless and optical communication networks	Dec 2006
21.	L.R.D.Suresh Dr.S.Sundarav aduvolu S.Ponmalar	Analysis Of Optical Grating Filter For Optical Wireless Communication	International Conference on Signal Processing and Communication	Dec 2004

Organization of Industry supported Courses:

Programme	Duration	Period	No. of Participants	Nature of Involvement
Industry supported course on “ Data science and machine learning ”	2 months	May 2020 – June 2020 (online)	60	Involved in forming syllabus along with CTS and coordinated the programme. Resource Person: Mr. Shanthababu Pandian, Sr. Data & Analytics Technical Delivery Manager (Projects), CTS

Guest Lectures Delivered

Topic	Delivered at	Period
Hunting an Off-Campus Internship? Tips to Success	Velammal College of Engineering and Technology	10.04.2021
Recent trends in Optical Network	Vaigai College of Engineering	09-03-2017
High speed Optical Networks and Switches	Alagappa Chettiyar College of Engineering and Technology	31-08-2016
High speed optical switching	Alagappa Chettiyar College of Engineering and Technology	09-12-2014
Recent trends in Optical Network	Sudharsan College of Engineering	16-05-2013

Online Courses like COURSERA, MOOC, NPTEL, etc., qualified and Details:

- NPTEL online certification in Python for Data Science, Aug 2024
- NPTEL certification on “Design and Analysis of Algorithms, Jan 2024
- NPTEL certification on “Blockchain Technology and its Application, Apr 2022.
- NPTEL certification on “Embedded System Design with ARM”, Sep 2022.
- NPTEL certification on “Technical English for Engineers”, 72019
- NPTEL certification on “Joy of computing using python”, Elite Gold, 90%, 2018
- NPTEL certification on “Introduction to IOT”, 87%, 2018
- NPTEL certification on “Programming, data structure and algorithms using Python”, 74%, 2018
- Coursera certification on “Neural Network and Deep Learning”, Professor Andrew Ng, Deep Learning org., 2020.
- Coursera Certification on “Covid19 Data Analysis using Python”, a guided Project Course, 2020.
- Coursera Certification on “AI for everyone”, Professor Andrew Ng, Deep Learning org., 2020.
- Coursera Certification on “[Introduction to Data Science in Python](#)”, University of Michigan, 2020.

- Certification on “Digital Transformation in teaching Learning Process”, conducted by IIT Bombay, Apr, 2020.
- Certificate Course on Effective Patent Search and Drafting - 2019 (PAT DRAFT - 2019) conducted by Centre for Intellectual Property Rights (CIPR), Anna University.
- MOOCs certification on Foundation Program in ICT for Education (FDP 101x) conducted by IIT Bombay, during Sep 2018
- MOOCs certification on Pedagogy for online and Blender Teaching Learning Process (FDP201x) conducted by IIT Bombay during Oct., 2018
- Short term course on “C++ programming and data structures”, conducted by IIT Kharagpur during Dec 26-31, 2016.
- Short term course on “Optical Communication and Networks”, IIT, Kharagpur, Jun 22-Jul 03, 2009

Distinctions and Awards received:

- Secured 90% in FDP101x certification on Foundation Program in ICT for Education conducted by IIT Bombay, Sep13-oct 27, 2018
- Secured 95% in FDP201x certification on Pedagogy for online and Blender Teaching Learning Process, Oct 30 to Dec 13, 2018 conducted by IIT Bombay
- NPTEL certification on Joy of computing using python, Elite Gold, 90%
- Reviewer in International Journal for Light and Electron Optics
- Reviewer in IEEE Wireless Communication Magazine
- Reviewer in Proceedings of the National Academy of Sciences, Physical Sciences,(springer)
- Reviewer in Optical and Quantum Electronics (Springer journal)

Membership of Professional Bodies:

Professional Body	Type of Membership	Position Held
IAENG	Life Member (No. 62632)	Member
CSI	Member ID: 62632	Member

Google Scholar report:

