

Dr. M. Sumathi, M.E, Ph.D.

Professor and Head

Department of Electronics & Communication Engineering

Dhirajlal Gandhi College of Technology

Opp. To Salem Airport

Salem – 636 309.

Academic Background

College/University	Degree	Specialization	Year	Percentage/CGPA
Anna University	Ph.D	Optical Networks	2010	-
College of Engineering, Guindy, Anna University	M.E	Optical Communication	2004 (<i>GATE Candidate</i>)	9.2 (CGPA)
PSG College of Technology	B.E	ECE	1992	83.14%

Academic and Industrial Experience

- **23 years** of total work experience
- **18 years** of teaching experience with **10 years** of research experience
- **5 years** of industrial experience

Company/Institute	Designation	Duration
Dhirajlal Gandhi College of Technology, Salem	Professor and Head	22.08.2012 – Till date
Velammal Engineering College, Chennai	Professor	20.06.2011 - 14.08.2012
RMK Engineering College, Chennai	Professor and Head	02.06.2010 - 01.03.2011
Sona College of Technology, Salem	Asst. Professor / Professor and Head	01.03.1999 - 01.05.2010
Ponmari Investments Pvt. Ltd., Salem	Manager	15.05.1995 - 28.02.1999
Sonata Software Limited, Bangalore	Systems Analyst	01.06.1992 - 07.08.1993

Awards/ Honours

- Received **IUCEE Faculty Fellow award** from Indo Universal Collaboration for Engineering Education (IUCEE), 2016

- Received **Senior Woman Educator and Scholar award** from National Foundation for Entrepreneur Development (NFED), 2016
- Listed in '**Marquis Who's Who in the World**' – 2010
- P.G scholarship funded by AICTE for GATE candidates to pursue PG programme during 2002-2004 with GATE score of 96.36 percentile
- Received the award for Best R&D activity during the year 2006-2007, at Sona College of Technology
- Recognized for consistent high student feedback and high percentage of results in university exams
- School 1st and District 2nd in XII board exams
- School 2nd in CBSE, X board exams

Areas of Interest

- Optical Networks
- Optical Communication
- Fiber Optic Sensors
- Computer Networks
- Wireless Communication

Publications

Journals :

International:

- N. Ayyanar, D. Vigneswaran, Mohit Sharma, M. Sumathi, M.S. Mani Rajan and S. Konar, "Hydrostatic Pressure Sensor Using High Birefringence Photonic Crystal Fibers", IEEE Sensor Journal, vol. 17 (3), pp. 650-656, 2017.
- N. Ayyanar, R. Vasantha Jayakantha Raja, D. Vigneswaran, B. Lakshmi, M. Sumathi, and K. Porsezian, "Highly efficient compact temperature sensor using liquid infiltrated asymmetric dual elliptical core photonic crystal fiber" Journal of Optical Material – Elsevier, 64(2017), pp. 574-582, 2017.
- K.SashiRekha, M. Sumathi, "Detection of Link Fault Using Risk Modeling and Improving QOS Parameters in IP/WDM Networks", Journal of Circuits and System, July 2016.
- K. SashiRekha, M. Sumathi, "Efficient Fault Path localization using Dynamic Risk Modeling for link faults" International Journal of Applied Engineering Research (IJAER), vol. 10(87), pp. 95-98, 2015.
- S. Selvakanmani, M. Sumathi, "An Opportunistic Routing Protocol for Mobile Cognitive Radio Ad hoc networks", International Journal of Engineering and Technology (IJET), pp. 692 – 700, April 2014.

- S. Selvakanmani, M. Sumathi, “Overview and Literature Survey on Routing protocols for Mobile Cognitive radio ad hoc networks”, AIRCC, pp.235-249, July 2012
- M.Sumathi and P.T.Vanathi, “Lightpath reconfiguration with traffic priority consideration”, International Journal of Communication Networks and Distributed Systems, vol. 3(2), pp. 234-248, July 2009.
- M.Sumathi and P.T.Vanathi, “Load balancing in WDM network with single and multiple lightpath additions”, Malaysian Journal of Computer Science, vol. 21(1), pp. 57-65, July 2008.
- M.Sumathi and P.T.Vanathi, “Minimizing congestion in an optical network supporting different classes of traffic”, ICGST – Computer Networks and Internet Research (CNIR), vol. 8(1), pp. 9-16, July 2008.

National:

- S.Sridevi, M.Sumathi and V.J.Vishnuprasad, “A perspective of experiential learning approach followed in Dhirajlal Gandhi College of Technology”, Journal of Engineering Education Transformation, pp. 322-325, January 2015.
- M.Sumathi, “A study on reconfiguration of wavelength routed optical networks”, Sonalesa, vol. 1(2), pp. 25-27, 2008.
- M.Sumathi and P.T.Vanathi, “Reconfiguration of virtual topology with constraint based routing”, National Journal of Technology, vol. 2(3), pp. 49-54, September 2006.

Conferences:

International:

- N. Ayyanar, M. Sumathi, D. Vigneswaran, R. Vasantha Jayakantha Raja and M.S. Manirajan, “Design of twisted dual core photonic crystal fiber for sensing application”, Conference on Nonlinear Systems & Dynamics, IISER Kolkata, 16-18 December 2016.
- N. Ayyanar, M. Sumathi, D. Vigneswaran and M.S. Manirajan “Design of temperature sensor using liquid filled photonic crystal fiber” Conference on Recent Advances in Light wave Technology, IEEE Photonics Society, Bangalore Chapter, September 21-23, 2016.
- N. Ayyanar, M. Sumathi, D. Vigneswaran, M.S. Mani Rajan, “Soliton Propagation in tapered fiber”, International conference on Electrical, Electronics and Communication, Alagappa Chettiar College of Engineering and Technology, Karaikudi., March 2016.
- SoundarRajan M K, Yamuna Raani M, Santhosh S, Sumathi M, “Statistical parametric constructed speaker verification module”, International conference on Energy Environmental and Engineering, Coimbatore Institute of Technology, 2016.

- SoundarRajan M K, Yamuna Raani M, Santhosh S, Sumathi M, “NOAA satellite information receiving cum decoding station”, International conference on Energy Environmental and Engineering, Coimbatore Institute of Technology, 2016.
- Pavithra M, Nithya S C, Premalatha S, Santhosh S, Sumathi M, “OnlineWeather monitoring system using IOT”, International conference on Energy Environmental and Engineering, Coimbatore Institute of Technoogy, 2016.
- Pavithra M, Nithya S C, Premalatha S, Santhosh S, Sumathi M, “Environmental supported transport system using IOT”, International conference on Energy Environmental and Engineering, Coimbatore Institute of Technology, 2016.
- Jayamurugaraja A.P, Karpagambal.S, Karthick M, D. Sumathi , “Artificial Neural Network based character recognition approach for Tamil Characters”, International Conference on Innovation in Information, Embedded and Communication System, 2016.
- S. Venkatesh and M. Sumathi (2015), “Outcome Based Education for affiliated Institutions”, International Conference on Transformations in Engineering Education (ICTIEE- 2015), Bangalore.
- S. Sridevi and M. Sumathi (2015), “A perspective of experiential learning approach followed in Dhirajlal Gandhi College of Technology”, International Conference on Transformations in Engineering Education (ICTIEE- 2015), Bangalore.
- S. Selvakanmani, M. Sumathi, “CRCN CORMEN – An On Demand Opportunistic Routing Protocol for Mobile Cognitive radio Ad Hoc Networks”, Proc. of IEEE International Conference on Computer Communication and Systems (ICCCS’14), Chennai, pp: 265 – 270, Feb 2014.
- S.Selvakanmani and M.Sumathi, “Overview and literature survey on routing protocols for mobile cognitive radio adhoc networks”, Proc. of International Conference of Advanced Computer Science and Information Technology (ACSIT-2012), Chennai, July 2012.
- P.Deeva and M.Sumathi, “Design and implementation of improved solar harvesting using MPPT technique”, Proc. of International Conference on Computing and Control Engineering (ICCCE-2012), Chennai, 12 -13 Apr 2012.
- M.Sumathi and R.Pratheep, “Intensity based fiber optic deflection sensor”, Proc. of International Conference on Optics and Photonics (ICOP-2009), Chandigarh, 2009.
- M.Sumathi and P.T.Vanathi, “Reconfiguration of virtual topology considering class of traffic”, Proc. of International conference on fiber optics and photonics (PHOTONICS 2008), IIT, New Delhi, 2008.
- M.Sumathi and P.T.Vanathi, “Priority based dynamic reconfiguration of lightpath in WDM network”, Proc. of International conference on signal processing and communications and networking (ICSCN-2007), MIT, Chennai, pp. 250-252, 22-24 Feb 2007.

- M.Sumathi and P.T.Vanathi, “Dynamic reconfiguration of lightpath with priority based deletion”, Proc. of IEEE International conference on communication systems (IEEE ICCS-2006), Singapore, 30 Oct – 1 Nov 2006.
- M.Sumathi and P.T.Vanathi, “Load balancing in optical mesh networks for dynamic traffic”, Proc. of International conference on resource utilization and intelligent systems (INCRUIS-2006), Kongu Engg. College, Perundurai, pp. 796-799, 4-6 Jan 2006.
- M.Sumathi and P.T.Vanathi, “Minimizing congestion in optical WDM networks for dynamic traffic”, Proc. of INDICON-2005, IIT, Chennai, pp. 101-104, 11-13 Dec 2005.

National:

- N. Ayyanar, M. Sumathi, D. Vigneswaran, M.S. Mani Rajan, “Design of Elliptical Ring Core Fiber With Support Of Four LP Modes in SDM Applications” National Photonics Symposium and Annual Workshop, Cochin university, Cochin, Kerala, Feb 2016.
- N. Ayyanar, M. Sumathi, D. Vigneswaran, R. Vasantharaja, “Liquid Filled Dual Elliptical Core Photonic Crystal Fiber for Temperature Sensor”, National Conference on Nano Photonics, Bharathidasan University, Tiruchirapalli, Mar 2016.
- M. Sumathi and P.T. Vanathi, “Virtual topology reconfiguration for optical WDM mesh networks”, Proc. of National conference on communications (NCC-05), IIT, Kharagpur, pp. 89-92, 28-30 Jan 2005.
- M. Sumathi “Virtual topology design for optical WDM networks”, Proc. of ACI-2004, National Level Conference organized by St. Joseph’s College, Chennai, pp. 19-26, 28-29 Jan 2004.

Books authored/coauthored:

Title of the Book	Publisher	Year
Electronic Devices and Circuits	Sonaversity	2001
Professional Ethics	Sonaversity	2005

Courses taught

- Optical Communication
- Optical Networks
- Cellular Mobile Communication
- Microprocessors and Microcontrollers
- Digital Electronics
- Linear Integrated Circuits
- Telecommunication switching and networks

- Wireless communication networks
 - Computer & communication networks
 - Electronic devices
 - Analog & digital communication
-

Funds / Grants Received

- Grant of Rs. 14,43,000/- under AICTE - MODROBS Scheme for Modernization of Microwave and Optical Laboratory (2009)
 - Received funding of Rs. 6.5 lakhs under AICTE RPS for the project on reconfiguration of optical networks (2010)
 - Seminar grant of Rs. 50,000/- for National level seminar on “Emerging trends and Research Issues in Intelligent Optical Networks” (2013)
 - Anna University sponsorship for Faculty Development Program on “Optical Communication Networks” (2014)
 - Established NI LabVIEW Academy (2015)
 - Established Texas Instruments Innovation Lab (2016)
 - Established eYantra Robotics Lab (2016)
 - Established IEEE VLSI Blended Learning Lab (2016)
-

MOUs Signed

Responsible for carrying out interaction with various industries and MOUs signed with the following

- Steps Knowledge Services Pvt. Ltd. to establish
 - Texas Instruments Innovation Lab
 - Trident Techlabs Pvt. Ltd. to establish
 - Texas Instruments OMAP DSP Design Lab
 - LIVEWIRE for conducting Training Programs
 - Salieabs Electronics Engineers LLP for conducting training programs, consultancy work
 - National Instruments for establishing the NI LabVIEW Academy
-

Membership

- Lifetime member of ISTE (LM30673)
 - Member of IACSIT (80340050)
 - Member of IE (I) (M-1561043)
-

Invited talks/Lectures

- Delivered a presentation on ‘How to make effective presentations’ at Dhirajlal Gandhi College of Technology, Salem, 2016
- Delivered a talk as part of corporate social responsibility at Cluny Matriculation Higher Secondary School, Salem, 2016
- Delivered a lecture on ‘Fundamentals of computer networks’ at Dhirajlal Gandhi College of Technology, Salem, 2015
- Delivered a lecture on ‘Fiber Optic Communication’ at Dhirajlal Gandhi College of Technology, Salem, 2015
- Gave an interview on ‘Entrepreneurship in Education Institutions’ for a student’s National Entrepreneurship Contest organized by IIT Bombay, under the Entrepreneurship Development Cell (EDC).
- Delivered a lecture on “WDM Networks”, “Solitons” at Anna University sponsored FDTP on Optical Communication and Networks at Dhirajlal Gandhi College of Technology, Salem, 2014.
- Delivered a talk on “Taking Care of Personal Health” under Women Empowerment Cell at Dhirajlal Gandhi College of Technology, Salem, 2015.
- Delivered a lecture on “Reconfiguration of WDM Optical Networks” at DRDO sponsored National Seminar at Dhirajlal Gandhi College of Technology, Salem, 2013.
- Delivered a talk at “First Year Bridge Course Orientation – 2013”, Dhirajlal Gandhi College of Technology, Salem, 2013.
- Delivered a talk on “Teaching-Learning Process”, FDP at Dhirajlal Gandhi College of Technology, Salem, 2013.
- Delivered a talk on “How to make effective presentations”, FDP organized at Dhirajlal Gandhi College of Technology, Salem, 2013.
- Delivered a seminar on “Wavelength Routed Networks”, Anna University sponsored FDP at SRK Engineering College, Chennai, 2012.
- Delivered a talk on “Wireless and Mobile Networks”, AICTE sponsored Faculty Development Program conducted at Sona College of Technology, December 09.
- Invited for a Keynote talk on “Optical Networks”, M. Kumarasamy College of Engineering, Karur, September 2007.
- Delivered a talk on “Visit to Singapore”, Sona College of Technology, 2006.
- Delivered a talk on “Optical Communication”, Department of ECE at Sona College of Technology, 2003.

Major Programmes Organized

- Organized Campus Lectures on Personality Development, Entrepreneurship and Technical session, as PALS (PAN IIT Alumni Leadership Series) executive committee member, January 2017
- Organized a seminar on Pink Ribbon – An Awareness Program on Breast Cancer, February 2017, as coordinator of ADITI

- Organized National Conference on 'Emerging Trends in Communication Systems' with the theme 'Digital India', April 2016
- Organized a workshop on 'Demystifying Electronic System Level Design and Engineering' by ICET Pedagogy Solutions Engineering, Bangalore, 2016
- Organized a seminar on 'Evolving Technologies and its impact on engineering and technology teaching learning process', January 2016
- Convener for IUCEE and SPEED workshop on "Engineering Education for Multifaceted Engineers", 2016
- Organized a workshop on 'Creative Programming', January 2016 in association with Salieabs Electronics Engineers LLP, Salem
- Organized a workshop on 'Internet of Things (IoT)', January 2016 in association with ECE association of NIT Trichy
- Organized a workshop on 'Demystifying Programming' January 2016
- Organized hands on training on 'MATLAB and Arduino', August 2015 in association with Enthu Technologies Pvt. Ltd.
- Organized NI LabVIEW training for faculty with external trainer from National Instrumentns, 2015
- Coordinator for 'Engineers Day' where projects, posters and model presentations were displayed by students, 2015
- Organized 'Hands on training program on TI WEBENCH design tool', June 2015 in association with Steps Knowledge Services Pvt. Ltd.
- Inauguration of NI Labview lab, 2015
- Instrumental in collaborating with Tessolve, Bangalore and organized invited talks by the Founder, Vice Presidents. Coordinated a visit by team members from the institute to Tessolve, 2015
- Conducted the department advisory board meeting with members from industry and institute participated, 2015
- Celebrated the Digital India Week by conducting various events and competitions during first week of July, 2015
- Coordinated a workshop on 'Introduction to Electrical and electronics', July 2015 by LIVEWIRE, Salem
- Coordinator for 'NI LabVIEW Academy Inauguration', March 2015 and organized NI LabVIEW training programs
- Convenor for workshop on 'Introduction to ADS' in association with Sinetech, February 2015
- Organized workshop on 'Introduction to MATLAB' in association with ECE Association NIT, Trichy, January 2015
- Organized an essay, poetry and drawing competition with the theme 'Fulfilling the dreams of a great dreamer' July 2015 as a tribute to Dr. APJ Abdul Kalam
- Coordinator for 'Women Empowerment Cell (ADITI) Inauguration', March 2015
- Organized a guest lecture on 'Eat Healthy Live Healthy' under ADITI –Women Empowerment Cell, 2015

- Established IETE students' forum in the department, which is a professional body to provide a platform for students to interact and participate at national level
- Coordinator for Anna University sponsored FDTP on 'Optical Communication and Networks', June 2014
- Organized 'TI based Embedded and Analog Systems Design' training for faculty, May 2014
- Organized 'Embedded systems using PIC, Aurdino' training program for students, January 2014
- Coordinator for DRDO sponsored National Seminar on 'Emerging Trends and Research Issues in Intelligent Optical Networks' October 2013
- Organized two day workshop on 'Alternative Energy Resources' in association with Roboversity, Skyfi Labs, September 2013
- Workshop on 'Making effective measurement using DSO' in collaboration with Agilent Technology, August 2013
- Convenor for 'Energy Day 2013' a student level project/model/paper/multimedia contest on the theme of renewable energy, February 2013
- Coordinator for FDP on 'Optical Networks' during August 2011 at Velammal Engineering College, Chennai
- Convener for ISTE sponsored workshop on 'Issues and Trends in Data mining' during February 2011 at R.M.K Engineering College, Chennai
- Initiated the conduct of first National Conference on 'Information and Communication Engineering-2011' at R.M.K Engineering College, Chennai
- Convener for National Conference on Trends in Communication-2010 at Sona College of Technology, Salem
- Organizing Secretary for ISTE Regional Conference-2009 on the theme 'Strategies for Enhancing Research in Technical Institutions' during Nov 2009
- Convener for workshop on 'Network Modeling and Simulation using ns2' on Sep 2009
- Coordinator for workshop on 'Optical Networks' on Apr 2008
- Coordinator for National Conference on Trends in Communication-2007

Others

- **Executive Committee member** of **PALS** (PAN IIT Alumni Leadership Series) from Dhirajlal Gandhi College of Technology, Salem
 - **Coordinator for Aditi-** Women Empowerment Cell at Dhirajlal Gandhi College of Technology, Salem
 - **Secretary of PSG Alumni Association, Salem** during the period 2000-2002
 - **BEC Higher level Certification** from University of Cambridge
 - IRCA certified **internal auditor** for ISO 9001:2000
-