Name : Dr. K. Nagarajan
Designation : Assistant Professor (Sl. G)
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- **Research Area:**

Photonic Crystal, Optical Networks, Embedded & IoT and Deep Learning

Educational Qualifications:

Qualification	Department	Year
Ph.D.,	I & C Engg.	2023
M.E.,	Optical Communication	2008
B.E.,	Electronics and Communication Engg.	2004

- **Experience: (20 Years)**

Name of Company / Institutions	Designation of Post	From	To	Relived on	Experience in Year
		DD-MM-YYYY	DD-MM-YYYY		
UNIVERSITY COLLEGE OF ENGG, ARIYALUR	ASSISTANT PROFESSOR	25-08-2009	Till now	-	15Yrs & 5Mns
ROEVER COLLEGE OF ENGG AND TECH, PERAMBALUR	SR. LECTURER	08-07-2009	24-08-2009	24-08-2009	2Mns
ROEVER ENGG COLLEGE, PERAMBALUR	SR. LECTURER	20-12-2008	07-07-2009	07-07-2009	7Mns
Dr. NAVALAR NEDUNCHEZHIYAN COLLEGE OF ENGG., THOLUDUR	LECTURER	05-08-2004	04-08-2006	04-08-2006	2Yrs

- **Additional / Academic Responsibilities at Institution/University:**

  a) Head of the department i/c (2020 -)
  b) Executive Warden (2023 -)
  c) Deputy Warden (Boys) (2015 -2023)
  d) Exam Cell Coordinator (2022 – 2024)
  e) NSS Programming Officer (2016 - 2022)

- **Professional Activities:**
- **UG/PG Projects Completed:**

  a) Number of ME Projects Completed: Nil
  b) Number of BE Project Completed: 28 Nos

- **Sponsored Research Activities: Nil**

- **Membership in Professional Societies: MISTE**

- **List of Seminar / Short Term Course /FDP/ Workshop attended:**

  a) Two Days Workshop (2010), "NETWORKING SIMULATORS ", organized by Dept. of ECE Anna University Tiruchirappalli, BIT Campus during 17-07-2010 and 18-07-2010. (Two Days)

  b) Two Weeks AICTE Sponsored FDP (2013), "DEVELOPING PEDAGOGICAL SKILLS FOR TEACHERS THROUGH ACTIVE LEARNING TECHNIQUES", organized by Department of Management studies, MAM College of Engineering, Trichy during 10.06.2013 to 22.06.2013. (13 Days)

  c) Two Weeks Training Program (2014), "TRAINING PROGRAM ON RESEARCH METHODOLOGIES OF INFORMATION AND COMMUNICATION ENGINEERING", organized by Department of Computer Science and Engineering, Meenakshi Ramasamy Engg. College, Thathanur during 12.06.2014 to 22.06.2014. (11Days)

  d) Three Days TSCST - Chennai Sponsored program (2014), " SCIENCE AND TECHNOLOGY CAPACITY BUILDING FOR INDUSTRIAL NEEDS ", organized by University College of Engineering, Ariyalur during 07.07.2014 to 09.07.2014. (3 Days)

  e) Two Days National workshop (2014), " RECENT TRENDS IN MICROWAVE AND OPTICAL COMMUNICATION NETWORKS", organized by Department of Electronics and Communication Engg, Mount Zion

College of Engineering and Technology, Pudukkottai during 21.08.2014 to 22.08.2014. (2Days)

f) Three Days National level workshop (2014), "NETWORKING AND TROUBLESHOTING", organized by Sparcs at University College of Engineering, Ariyalur during 29.09.2014 to 01.10.2014 (3 Days).

g) One Day FDP (2014), "DESIGN TECHNIQUES OF RECONFIGURABLE SYSTEM", organized by Enix Technology at University College of Engineering, Pattukottai during 26.08.2014 (1 Day)

h) One Day National workshop (2014), "INFORMATION SECURITY AGAINST HACKING", organized by Department of Training and Placement at University College of Engineering, Ariyalur during 07.10.2014 (1 Day).

i) One Week TEQIP sponsored Training Program (2014), "RESEARCH ISSUES IN OPTICAL COMMUNICATION AND NETWORKS", organized by Department of Electronics and Communication Engineering, ACCET, Karaikudi during 03.12.2014 to 09.12.2014. (7 Days)

j) One Day workshop (2015), "ETAP SOFTWARE AND ITS APPLICATION", organized by ETAP Automations at University College of Engineering, Ariyalur on 03.03.2015. (1 Day)

k) Two Weeks ISTE STTP (2015), "INTRODUCTION TO DESIGN OF ALGORITHMS", organized by Indian Institute of Technology Kharagpur during 27.04.2015 to 30.05.2015. (Two weeks)

l) Two Week TEQIP sponsored FDP (2016), "HEURISTIC APPROACH FOR INFORMATION AND COMMUNICATION ENGINEERING RESEARCH PROBLEMS", organized by Bharathidasan Institute of Technology, Anna University, Tiruchirappalli during 15.06.2016 to 25.06.2016. (14Days)

m) One Week Orientation Program (2017), "NSS ORIENTATION COURSE", organized by ETI, Madras school of social Works, Chennai during 08.06.2017 to 14.06.2017. (7Days)

n) Two Weeks AICTE Approved FDP (2017), "FOUNDATION PROGRAM IN ICT FOR EDUCATION", organized by Indian Institute of Technology, Bombay during 03.08.2017 to 07.09.2017. (Two weeks)

o) Two Weeks AICTE Approved FDP (2017), "PEDAGOGY FOR ONLINE AND BLENDED TEACHING – LEARNING PROCESS", organized by

Indian Institute of Technology, Bombay during 14.09.2017 to 12.10.2017. (Two weeks)

p) Online Course (2018), "WORKPLACE COMMUNICATION", under College to Corporate Program organized by Indian Institute of Technology, Bombay, IITBombayX during 04.10.2018 to 12.11.2018.

q) Online Course (2018), "SOFT SKILLS", under College to Corporate Program organized by Indian Institute of Technology, Bombay, IITBombayX during 04.09.2018 to 04.10.2018.

r) Online Course (2018), "EFFECTIVE USE OF IT FOR PROFESSIONAL ACTIVITIES", under College to Corporate Program organized by Indian Institute of Technology, Bombay, IITBombayX during 06.09.2018 to 11.11.2018.

s) Online Course (2019), "ENGLISH FOR ORAL COMMUNICATION", under College to Corporate Program organized by Indian Institute of Technology, Bombay, IITBombayX during 19.02.2019 to 17.04.2019.

t) Online Course (2019), "FINANCIAL LITERACY", under College to Corporate Program organized by Indian Institute of Technology, Bombay, IITBombayX during 19.02.2019 to 18.03.2019.

u) Online Course (2019), "HANDLING LARGE PROJECTS", under College to Corporate Program organized by Indian Institute of Technology, Bombay, IITBombayX during 26.03.2019 to 22.04.2019.

v) Online Course (2019), "BASIC 3D MODELING USING BLENDER", organized by Indian Institute of Technology, Bombay, IITBombayX during 05.11.2019 to 23.12.2019.

w) Online Course (2019), "BASIC 3D ANIMATION USING BLENDER", organized by Indian Institute of Technology, Bombay, IITBombayX during 05.11.2019 to 23.12.2019.

x) Online Course (2019), "FUNDAMENTALS OF 3D VISUALIZATION", organized by Indian Institute of Technology, Bombay, IITBombayX during 05.11.2019 to 23.12.2019.

y) Three Weeks Industrial Training (2020), “Communication and Networking Technologies”, at Rajiv Gandhi Memorial Telecom Training Centre, BSNL, Ariyalur during 30.06.2020 to 20.07.2020.

z) Two Week UGC Sponsored Online Refresher Course (2022), "Material Science (Interdisciplinary)", at Bharathidasan University, Tiruchirappalli during 05.07.2022 to 18.07.2022.

aa) Online Faculty Development Programme (2024), "Introduction to Internet of Things", organized by NPTEL - AICTE during July – October 2024 (12 Weeks) with score of 80%.

- **List of Seminar / Short Term Course /FDP/ Workshop Conducted:**

a) Organized One Day "Placement Training Program" conducted by Department of Electronics and Communication Engineering, University College of Engineering, Ariyalur on 29.07.2011.

b) Organized One Day National Level Technical symposium "Elctrocalifa 2k12" conducted by Department of Electronics and Communication Engineering, University College of Engineering, Ariyalur on 28.09.2012.

c) Organized One Day National Level Technical symposium "Tekpew 2k14" conducted by Department of Electronics and Communication Engineering, University College of Engineering, Ariyalur on 04.09.2014.

d) Organized One Day National Level Technical Workshop on "Recent Trends and Application of Nano Photonics in Optical Communication" conducted by Department of Electronics and Communication Engineering, University College of Engineering, Ariyalur on 11.10.2014.

e) Organized One Day National Level Technical symposium "Electrocalifa 2k15" conducted by Department of Electronics and Communication Engineering, University College of Engineering, Ariyalur on 30.09.2015.

f) Organized One Day National Level Technical symposium "Electrocalifa 2k16" conducted by Department of Electronics and Communication Engineering, University College of Engineering, Ariyalur on 08.09.2016.

g) Organized One Day National Level Technical symposium "Elcommelfia 2k17" conducted by Department of Electronics and Communication Engineering, University College of Engineering, Ariyalur on 08.09.2017.

h) Organized One Day National Level Technical symposium "Technophilia 2k18" conducted by Department of Electronics and Communication Engineering, University College of Engineering, Ariyalur on 25.09.2018.

i) Organized One Day National Level Technical symposium "Technovanza 2k19" conducted by Department of Electronics and Communication Engineering, University College of Engineering, Ariyalur on 27.09.2019.

j) Organized One Day Workshop on "Digital Image processing and Its Applications" conducted by Department of Electronics and

Communication Engineering, University College of Engineering, Ariyalur on 06.09.2019.

k) Organized One Day Workshop on "PCB Designing" conducted by Department of Electronics and Communication Engineering, University College of Engineering, Ariyalur on 10.03.2020.

l) Organized One Day Webinar on "Opportunities in Medical Devices Development – Post COVID'19" conducted by Department of Electronics and Communication Engineering, University College of Engineering, Ariyalur on 06.06.2020.

- **List of Patents:**

a) Design patent has been registered on "IOT AND MACHINE LEARNING BASED DEVICE FOR WEATHER MONITORING" in the name of Dr. Ajay N. Upadhyaya, Mr. Amitava Chakraborty, **Dr. K. Nagarajan**, and Mrs. V. Vinodhini. Design No: 400568-001, 23/11/2023.

- **Publications: -**

a. Books:

a) Published a book on "**Deep Learning Algorithms and Techniques**". Scientific International Publishing House (SPIH), 2023, ISBN: 978-93-5757-813-4**.**

b. International Journals:

a) Nagarajan Kaliyan, N. Shobanadevi, Mahaboob Beevi Mohamed Yusuf and M. Muthupriya (2024). " Structural, Optical and Dielectric Properties of Sn-doped ZnO thin Films: Effect of Doping Concentration." Semiconductors, Vol. 58, No. 10, pp. 741–749.

b) M. Phemina Selvi, N. Shobanadevi, and **Nagarajan Kaliyan** (2023). "Fabrication of nanohybrids of 1D nickel selenide on 2D graphitic carbon nitride photodetectors for enhanced optoelectronic applications." Chemical Papers 77.9 5409-5420.

c) Shobanadevi, N., Selvi, M. P., & **Kaliyan, N.** (2023). Fabrication of CNT encapsulated CuS/Ni3S4 nanohybrid for enhanced productions of solar fuels. Diamond and Related Materials, 135, 109784.

d) Nagarajan, K., Malleswaran, M., & Robinson, S. (2022). High bit rate with ultracompact design of an all-optical half adder in two-dimensional photonic crystals. Optical Engineering, 61(6), 067102-067102.

e) **Nagarajan, K.,** & Malleswaran, M. (2021). High bit rate all-optical 4 to 1 multiplexer by cascading of AND and OR gates in two-dimensional photonic crystals. Optical Engineering, 60(12), 127110-127110.

f) G.Murugesan, M.Padmaa, **K.Nagarajan** and N.Premkumar (2019) "Secured and Efficient Data Transmission in Manets Against Malicious Attack using DSR Routing and BCS Clustering with Hybrid AES-ECC Cryptanalysis" International Journal of Innovative Technology and Exploring Engineering (IJITEE), 8(11), 2019. (ISSN: 2278-3075)

g) **Nagarajan, K.,** and Malleswaran, M. (2016) "Design and Analysis of XOR Logic Gate Using Two dimensional Photonic Crystal with Square Lattice Structure" Singaporean Journal of Scientific Research 8(1), Pp 1-5, 2016. (ISSN: 1205-2421)

c. **National Journals: Nil**

- **Conferences**

a. International Conferences:

a) Presented a Paper (2016), on "Performance Analysis of 640Gpbs Capacity Wavelength Division Multiplexing Passive Optical Network", International Conference on Emerging Trends In Electrical, Electronics And Communication Systems (ICEEECS), organized by University College of Engineering, BIT, Anna University, Tiruchirappalli during 24.09.2016to 26.09.2016.

b) Presented a Paper (2018), on "Design and Analysis of Tristate OR logic gate using square lattice in 2D photonic crystal", International Conference on Engineering materials and renewable energy (ICEMRE), organized by University College of Engineering, Villupuram during 04.01.2018 to 05.01.2018.

c) Presented a Paper (2020), on " "STRUCTURE SUBJECT MODEL BASED VISUAL INVESTIGATION SYSTEM FOR RAILROAD MAINTENANCE", AICTE Sponsored International e - Conference on Cutting Edge Technologies in Electrical, Communication, Embedded System and Soft Computing Techniques (ICECES'20) organized by Saranathan College of Engineering, Trichy during 05.11.2020 & 06.11.2020.

b. National Conferences:

a) Presented a Paper (2012), on "People Tracking System Using Background Estimation", National Conference on Advancement in electrical power, signal processing and communication network systems (ESCON), organized by Department of ECE and EEE, Selvam College of Technology, Namakkal during 09.03.2012 and 10.03.2013.

b) Presented a Paper (2012), on "Counter for Ingression and Egression Using Edge Detection Algorithm", National Conference on Innovations In Electrical, Electronics And Communication Engineering, organized by Department of ECE and EEE, Roever Engineering College, Perambalur on 22.03.2012.

c) Presented a Paper (2013), on "High Channel capacity in optical networks by OADM Based DWDM Technology", National Conference On Emerging Trends in communication Systems (ETCS), organized by Department of ECE, Dr.NNCE, Tholudur on 12.04.2013.

d) Presented a Paper (2015), on “Design of logic gates in Photonic crystal", National Conference on Advanced Intelligent Computing and Applications organized by Department of Computer Science and Engineering, Meenakshi Ramasamy engineering College, Thathanur on 09.02.2015.

e) Presented a Paper (2015), on “Tristate AND Gate using Photonic crystal", National Conference on Advanced Research in VLSI and Microprocessor/ Controller (ARIVAM) organized by Department of Electronics and Communication Engineering, Kalasalingam Institute of Technology, Krishnankoil on 26.03.2015.

f) Presented a Paper (2015), on “Design and Analysis of Tristate OR logic gate in Photonic crystal", National Conference On Emerging Trends in communication Systems (ETCS), organized by Department of ECE, Dr.NNCE, Tholudur on 27.03.2015.

g) Presented a Paper (2015), on “Trust Enhanced Anonymous Privacy Preserving Routing for MANETs ", National Conference On Emerging Trends in communication Systems (ETCS), organized by Department of ECE, Dr.NNCE, Tholudur on 27.03.2015.

h) Presented a Paper (2016), on “Performance Analysis of 160Gpbs Capacity Wavelength Division Multiplexing Passive Optical Network", National Conference On Advanced Computing Techniques on Power Conversion and control Systems (ACTOPCCS) organized by Department of EEE, University College of Engineering, Ariyalur on 16.03.2016.

i) Presented a Paper (2020), on “Identification of Cashew Plants Disease by Using K-Means Clustering and SVM in Image Processing", National

Conference On Emerging Trends in Computing, Control and Communication (ETCCCT'20) organized by Kings College of Engineering, Punalkulam on 13.03.2020.

- **Invited Lectures:**

  a) Delivered a special key note address in National level Technical Symposium "Glits 2k13" conducted by Department of Electronics and Communication Engineering, University College of Engineering, Panruti on 20.09.2013.

  b) Resource Person for Anna University approved Faculty Development Program "EC-6402 Communication Theory" conducted by Department of Electronics and Communication Engineering, MRK Institute of Technology, Kattumannarkoil on 05.12.2016.

  c) Resource Person for One day Technical Seminar on "Nano Electronics and its Applications" conducted by Department of Electronics and Communication Engineering, Meenakshi Ramaswamy Engineering College, Thathanur, Ariyalur on 04.05.2023.

  d) Resource Person for a Science and Technology Capacity Building program organized by Meenakshi Ramaswamy Polytechnic College and TNSCST at Thathanur, Ariyalur on 13.09.2023.

  e) Resource Person for a National Engineers Day celebration conducted by Meenakshi Ramaswamy Engineering College, Thathanur, Ariyalur on 15.09.2023.

- **Awards: -** Received the Best Paper Award for "Tristate AND Gate using Photonic crystal", in National Conference On Advanced Research in VLSI and Microprocessor/ Controller (ARIVAM) organized by Department of Electronics and Communication Engineering, Kalasalingam Institute of Technology, Krishnankoil during 26.03.2015.