

Faculty Profile

Name of Faculty	Dr. Jyoti Raghavendra Munavalli
Department	Electronics & Communication Engineering
Qualification	B.E., M.Tech., Ph.D.
Designation	Associate Professor
Area of specialization	Real-time scheduling and tracking systems, health informatics, operations research & management, multi-agent system modelling, AI, Smart devices, Data Analytics, Prediction modeling, Biomedical Applications
Date of Joining BNMIT	26.02.2018
Nature of Association (Regular/Contractual/Adjunct)	Regular
No. of years of Experience	Teaching : 7 years Research : 6 years



Academic Qualifications

- **Ph.D.** (2017), “Real-time scheduling in outpatient clinics”, Maastricht University, Netherlands.
- **M. Tech.** (2009), Digital Electronics & Communication, Visvesvaraya Technological University, India (I Class with Distinction).
- **B.E.** (2001), Karnataka University Dharwad, India (I Class with Distinction).

Working Experience Details

- Associate Professor, Dept. of ECE, BNMIT, Bangalore, India, (Feb 2018 – Till date).
- Asst. Professor, Dept. of Health IT, Institute of Health Management and Research, Bangalore, India, (Oct 2017 – Feb 2018).
- Research Associate, Health Service Research, Maastricht University, Netherlands (2013 – 2017).
- Research Associate, PES Institute of Technology, Bangalore (2010 – 2013).
- Lecturer, Dept. of Telecommunication (M. Tech -DEC), AMC Engineering College, Bangalore (July 2009 – July 2010).
- Lecturer, Dept. of ECE, Islamiah Institute of Technology, Bangalore (May 2007 – July 2009).
- Lecturer, Dept. of ECE, Dayanand Sagar College of Engineering, Bangalore (Jan 2005 – June 2005).
- Lecturer, Dept. of ECE, Oxford Polytechnic College, Bangalore (Nov 2003-Jan 2005).
- Lecturer, Dept. of Computer Science, Anjuman-E-Islam Polytechnic College, Gadag (July 2002 – Sept 2002).

Subjects taught

B.Tech: Computer Communication Networks, Management & Entrepreneurship, Electronic Instrumentation, Logic Design/Digital Electronics, Microprocessor-8085,8086, Antennas & Propagation, Wireless communication, Microwave & Radar, Operations Research & Management, Project Management, Software Engineering, C++, Simulation, Embedded System Design, Digital communication, Operating Systems, Microelectronics circuits.

M.Tech: CMOS VLSI, Advanced VLSI, Advances in VLSI Design.

Research Experience Details:

M. Tech:

A pattern recognition model using Artificial Neural Network was developed. A test sample is compared with the existing data sets, using unsupervised learning. The data that is corrupted to certain extent was retrieved from this pattern recognition.

Ph.D:

A real-time operating system was designed, developed and implemented for hospital workflow management. In this research, a robust predictive resource planning and scheduling model was developed. Also, real-time patient scheduling and a coordination mechanism using Multi-agent system modelling was developed. An auction-bidding module was proposed that scheduled all the resources and patients in real-time. The research models were incorporated in the software of Aravind Eye Hospital (AEH), Madurai. The performance of hospital improved in terms of waiting times, cycle times and resource utilization.

Academic Positions and other Responsibilities

Test Coordinator : July 2018-June 2019

ISTE Coordinator : Feb 2018-Dec 2019

Newsletter : July 2018-till date

Reviewer for

- International Journal of Healthcare Management (IHM)
- Health Informatics Journal (HIJ)
- International Journal of Healthcare Information Systems and Informatics (IJHISI)

Instruments Handled/Software's handled:

- Matlab
- Mathematica & workbench
- Data Analysis
- Statistical Tools
- Eclipse -Java
- Network Simulator

Awards/ Achievements/Memberships:

- Scholarship for Ph.D., Maastricht University, Netherlands.
- Second rank in 1stSem, M. Tech., AMC Engineering College, Bangalore.

Professional Memberships:

- **Member**, IAENG-International Association of Engineers, membership number: 117105

Patent:

Patent applied with number **201941027532** for Detachable Smart Faucet Device.

Research Publications:

I. In National & International Journals

International Journals:

1. **Jyoti R Munavalli**, Shyam Vasudeva Rao, S. Aravind, G.G van Merode, “Integral patient scheduling in outpatient clinics under demand uncertainty to minimize patient waiting times”, online first, Health Informatics Journal, 2019.
2. **Jyoti R Munavalli**, Veena S Murthy, “An Impact of Healthcare Innovations on Big-data and VLSI Trends”, International Journal of Advanced Research Trends in Engineering and Technology, Vol. 5, No. 7, 2018.
3. **Jyoti R Munavalli**, Real-time Scheduling in Outpatient clinics, Maastricht University.
4. **Jyoti R Munavalli**, Shyam Vasudeva Rao, S. Aravind, Usha Manjunath, G. G. van Merode “A robust predictive resource planning under demand uncertainty to improve waiting times in outpatient clinics”, Journal of Health Management, Vol.19, No.4, 2017.
5. **Jyoti R Munavalli**, Shyam Vasudeva Rao, S. Aravind, G. G. van Merode “Optimization in Workflow Management: Ophthalmology”, Journal of Health Management, Vol. 18, No.1, 2016.
6. **Jyoti R Munavalli**, Frits van Merode, Shyam Vasudeva Rao, A. Srinivas, “Healthcare of India: Today and Tomorrow”, International Journal of Innovative Research and Development, vol.3, 2014.

Papers presented in International/National Conferences

International

1. **Jyoti R Munavalli**, Shyam Vasudeva Rao, A. Srinivas, S. Aravind, Frits van Merode, “Takt-Time Based Resource Optimization Model to Minimize Patient Wait Time in a Hospital” at EURO (European Conference on Operations Research) XV, Vilnius, Lithuania 2012.

National

1. Swetha Rani, **Jyoti R Munavalli**, “An efficient hardware design of an elliptic curve cryptosystem on FPGA” in a national level technical symposium in Shirdi Sai Engineering College, Bangalore, 2010.
2. **Jyoti R Munavalli**, “Processing of Bit-Map Image Data for Pattern Recognition using Artificial Neural Network” at a Conference in New Horizon College of Engineering, Bangalore, 2009.

Invited Talks Delivered:

1. Aravind Eye Hospitals, Madurai on Real-time workflow optimizations.
2. SIHFW, Bangalore on Hospital Management System and HMIS.
3. IHMR, Bangalore on Data Analysis.
4. Training for professionals on operations management tools and quality management tools, IHMR, Bangalore.

5. "Case Study and Hands on Training on TQM Tools" on 21 Sept 2018, IHMR, Bangalore.
6. Talk on Research Methodology-Design in BNMIT, Bangalore.
7. Tools for quality management in hospitals at IHMR, Bangalore.

Participation in Training courses/Seminars/Workshops

1. One-week FDP on "*IoT based Project Design and Development*" during 24-29 June 2019 organized by ECE Dept., BNMIT, Bangalore
2. One and half week FDP on "*Introduction to IoT*" during Feb-April 2019 by AICTE through NPTEL course.
3. National Conference "*ADWITYA – Convergence in Healthcare*" on 11-12 Jan 2019 at Hotel Raddison Blu, Marathahalli, Bangalore.
4. Two-Day Workshop on "*Machine Learning in AWS Console*" on Dec 2-3, 2018, Psitron Technologies, Bangalore.
5. Two-day Healthcare Conference in India on "*Smart Tech Healthcare 2018*" on 1st to 2nd Feb 2018, at Movenpick Hotel, Bangalore.
6. One day program on "*Wolfram technology Conference – 2016*" on 18th January 2016 organized by Wolfram Research Inc, at Hotel La Marvella, Jayanagar, Bangalore.
7. Five-day workshop on "*Health Technology Assessment*" during 8th to 12th Dec 2014 at St. John's Research Institute, Bangalore in collaboration with Maastricht University, Netherlands.
8. TEQIP-II Sponsored International Symposium "*Horizon 2020 - The EU Framework Programme for Research and Innovation*", on 20th to 21st, Nov 2013, organized by MUMC, The Netherlands and Dept. of Medical Electronics, BMSCE, Bangalore.
9. 3-day FDP on "*Alan Turing Machine-Simplification in Intelligent Computing Theory and Algorithms*" held during 18th to 20th Dec, 2012 at PES Institute of Technology, in association with Foundation for Advancement of Education and Research, Computer society of India-Division II (Software), NASSCOM, IFIP TC-1 & TC-2, ACM India Council and PES Institute of Technology, Bangalore.
10. Two-day workshop on "*Research Methodologies*", 3rd to 4th May 2012, organized by Dept. of Telecommunication Engineering, PES Institute of Technology, Bangalore.
11. One-day High Performance Computing Pre-Conference Workshop on "*Research paper writing*" held on 23rd July 2011 at PES Institute of Technology, Bangalore.

Personal Details:

- **Date of Birth:** 29 - 09 –1979
- **Gender:** Female.
- **Marital Status:** Married

1st August 2019

JYOTI R MUNAVALLI