Narender Reddy Kampelli, Ph.D.

Assistant Professor, JNTUH UCEST

Research Interests:Wireless Communication Networks, Analog IC Design

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My Blog: `https://vlsiarchitect.com/`

Ph.D. in Wireless Communication (M2M Networks – IoT) with 15 years of academic teaching experience. Skilled in Analog IC Design and MAC protocol development for IoT/M2M systems. Proficient in simulation and design tools such as Cadence Virtuoso, LTspice, NS2, NS3, and MATLAB. Deeply passionate about research and teaching.

Academic Qualifications

Year	Degree	Specialization	Institute	Marks
2025	Ph.D.	Wireless Communication	JNTUH	NA
2012	M.Tech.	VLSI System Design	CVRCE, JNTUH	71.75%
2006	B.E.	E.C.E	MVSREC, Osmania University	65.52%
2001	XII	IPE – MPC	Nalanda Junior College, Vijayawada	93.7%
1999	X	CBSE	Jawahar Navodaya Vidyalaya, Nalgonda	81.6%

Academic Achievements & Competitive Exam Ranks

- Qualified GATE-2013 (Score: 381) & GATE-2025 (Score: 358)
- Qualified UGC-NET for Assistant Professorship (Dec 2014)
- Ranked 3rd in Embedded Systems and 11th in ECE in PGECET 2009
- Ranked 617 in EAMCET 2002

Projects

- **B.E:** Simulation of various modules of a Micro-Controller using VHDL

- **M.Tech:** Design of VCO-based ADC in 180nm CMOS Process using Cadence Tools

- **Ph.D.:** Development of Efficient Energy and Resource Utilization Using Dynamic MAC Protocol. Developed three MAC protocols (CE-MAC, EE-DMAC, and EMAC-ATDMA). Used Harris Hawks Optimization & Markov Chain for clustering/scheduling. NS-3 simulations show improved energy efficiency, delay, and throughput.

Technical Skills

- **EDA Tools:** Cadence Virtuoso, LTspice, Xilinx

- **Simulators:** MATLAB, NS2, NS3

- **Languages:** Verilog, C, C++

- **Operating Systems:** Windows, Linux

Work Experience: Teaching (15 Years)

- Asst. Professor, (on contract) JNTUH University College of Engineering, Science & Technology, Kukatpally (July 2014 – Present)

- Asst. Professor, CMR Institute of Technology, Hyderabad (June 2013 – June 2014)

- Asst. Professor, Bharat Institute of Engineering & Technology, Hyderabad (2012–2013)

- Asst. Professor, Madhira Institute of Science & Technology, Hyderabad (2008–2009)

- Asst. Professor, Bharat Institute of Engineering & Technology, Hyderabad (2006–2007)

Courses Taught

Basic ECE Subjects:

- Digital Circuits, Electrical Circuit Analysis

- Analog Electronic Circuits, Electronic Devices and Circuits

VLSI and Design:

- CMOS VLSI Design, VLSI System Design, Analog IC Design

Communication and Advanced Networks:

- Analog Communication, Wireless Communication Networks

- Advanced Data Communication, 4G Technology

EM and RF Courses:

- EMTL, Antennas & Wave Propagation, Microwave Engineering

Professional Memberships

Life Member, Indian Society for Technical Education (ISTE)

Research Publications

1. Kampelli, N. R., & Bhandari, B. N. (2020). Energy Efficient MAC Protocol for M2M Communication in IoT. *Journal of Critical Reviews*, 7(2), 1678–1683. ISSN: 2394-5125. DOI: https://doi.org/10.31838/jcr.07.02.268

2. Kampelli, N. R., & Bhandari, B. N. (2020). NS-3 Module for Machine Type Communication Device Energy Consumption. *Turkish Journal of Computer and Mathematics Education*, 11(2), 1233–1237. ISSN: 1309-4653. DOI:https://doi.org/10.17762/turcomat.v11i2.14159

3. Kampelli, N. R., & Bhandari, B. N. (2022). A Systematic Survey of MAC Layer Protocols and Challenges in M2M Networks. *Computer Integrated Manufacturing Systems*, 28(11), 907–938.

4. Kampelli, N. R., & Reddy, P. C. (2024). Energy Efficient MAC for M2M Communication Using Dynamic TDMA in IoT Network. *Advances in Research in Applied Science, Engineering and Technology*, 32(2), 327–345. DOI:https://doi.org/10.37934/araset.32.2.327345

5. Kampelli, N. R., & Bhandari, B. N. (2024). A Scalable and Power-Efficient MAC Protocol with Adaptive TDMA for M2M Communication. *Cluster Computing*, 27, 14811–14834. DOI:https://doi.org/10.1007/s10586-024-04681-3

6. Kampelli, N. R., & Puttha, C. R. (2024). Energy-Efficient Dynamic MAC Protocol for M2M Communication. *International Research Journal of Advanced Engineering and Humanities (IRJAEH)*. DOI:https://doi.org/10.47392/IRJAEH.2024.0020

Personal Interests

- Guiding students in academic career growth

- Exploring AI applications, academic events

Workshops, Conferences & Activities

Faculty Development Programs (FDPs):

- Ten-Day Online Winter FDP on "Intricacies of Analog & Mixed Signal IC Design", Electronics & ICT Academies, 17–26 Feb 2025.

- FDP on "5G Wireless Communications", E&ICT Academy, NIT Warangal & JNTUHCEH, 18–23 Dec 2017.

- FDP on "Signals and Stochastic Processes", JNTUH with TASK, 6–11 Mar 2017.

- FDP on "Digital Design using Verilog & VHDL", Dept. of ECE, MGIT, Hyderabad, 15–19 Dec 2014.

Workshops:

- One-Week Workshop on "Design and Analysis of Microwave Antennas Using HFSS", IEEE MTT-S, Vardhaman College of Engineering, 26 Jun – 1 Jul 2023.

- One-Day Workshop on "Equity Action Plan", TEQIP-III, JNTUH, 11 Jul 2019.

- Workshop on NBA Accreditation (SAR & Assessment), ESCI under TEQIP-III, UGC HRD Auditorium, JNTUH, 14–16 Dec 2017.

- Workshop on "Simulation of Wireless Networks using NS2", Dept. of ECE, JNTUH, 26–28 May 2016.

- Workshop on "VLSI Design Methodology Using Mentor Graphics Tools", JNTUH & Trident Techlabs, 9–13 Aug 2010.

- Workshop on Embedded Systems, Dept. of ECE, CVR College of Engineering (QIP), 19 Feb 2011.

- Two-Day Workshop on VLSI Design Using Xilinx Tools, CVR College of Engineering, 2–3 Dec 2010.

Courses and Tutorials:

- GIAN Course on IoT in Smart Living & Cyber-Physical-Social Systems, IIT Kanpur at JNTUH, 8–17 Jan 2018.

- Pre-Conference Tutorial on "Low Power VLSI" (NCCSPS-2014), JNTUH & IEEE Hyderabad Section, 23 Aug 2014.

- Tutorial on Advanced Mixed-Signal System and Circuit Techniques, 24th Int. Conf. on VLSI Design, IIT Madras, 2–7 Jan 2011.

- Orientation Programme on National IPR Policy, DST, Gujarat Science City, Ahmedabad, 28–30 Jan 2019.

Conferences & Symposiums:

- International Student Conference on VLSI Design & Embedded Systems, 9–10 Jan 2012.

- RASDAT-2012: 3rd IEEE Workshop on Reliability Aware System Design and Test, with 25th Int. Conf. on VLSI Design, Hyderabad, 7–8 Jan 2012.

- 3rd National Seminar on e-Learning & e-Learning Technologies (ELELTECH INDIA 2009), C-DAC Hyderabad & JNTUH, 5–6 Nov 2009.

- Poster Presentation on ULSI at SINCHRONISM-2005, MVSR Engineering College, Feb 2005.

Certifications & Online Courses

Learning Analytics Tools – NPTEL (IIT Madras), Jul–Oct 2023, 12 Weeks , Course ID: NPTEL23GE42S637409942

Place: Hyderabad   **Dr. Narender Reddy Kampelli**
Date: June 28, 2025