

Faculty Profile

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| Name of Faculty | Dr. Subodh Kumar Panda |
| Department | Electronics & Communication Engineering |
| Qualification | AMIE, M. Tech., Ph.D. |
| Designation | Associate Professor |
| Area of specialization | Digital System Design using VHDL and Verilog, Embedded Systems, Sensors and Nanotechnology. |
| Date of Joining BNMIT | 01.07.2005 |
| Nature of Association (Regular/Contractual/Adjunct) | Regular |
| Mobile Number | 9945532930 |
| e-mail | subodhkumpanda@bnmit.in, subodhpanda2013@gmail.com |
| No. of years of Experience | Teaching: 17 years Industry: 1 year |



Academic Qualifications

- **Ph.D.** (2018), Electrical & Electronics Engineering Sciences, VTU, Belgaum, India.
- **M.Tech.** (2000), Computer Application in Industrial Drives, VTU, Belgaum, India.
- **AMIE** (1996), Electronics & Communication Engineering, Institution of Engineers, India.

Working Experience Details

- Associate Professor, Dept. of Electronics & Communication Engineering, BNMIT, Bengaluru, India, (2012 – Till date).
- Asst. Professor, Dept. Electronics & Communication Engineering, BNMIT, Bengaluru, India, (2008 – 2012).
- Lecturer, Dept. of Electronics & Communication Engineering, BNMIT, Bengaluru, India (2005 - 2008).
- Lecturer, Dept. of Electronics & Communication Engineering, Bengaluru College of Engineering & Technology, Bengaluru, India (2001 - 2005).
- Sr. VLSI Design Engineer, WIPRO GLOBAL R&D, Bengaluru, India, (2000 – 2001).

Subject taught

Basic Electronics, Analog Electronics, Linear Integrated Circuits, Analog and Digital Communications, Computer Organization, Logic Design, Microprocessor 8086, Microcontroller 8085, MSP430, Motorola Microcontroller, VHDL, Fundamentals of HDL, Verilog, VLSI Design & System Verilog.

Academic Positions and other Responsibilities (Institute Level):

1. **Deputy Chief Superintendent** (External) for two weeks at SJBIT, Bengaluru, for the conduction of B.E./MBA examinations 2011 of VTU, Belgaum.

Academic Positions and other Responsibilities (Department Level):

1. PAAC member, July 2019 to June 2020
2. Institution of Engineers (India) Coordinator
3. Program Coordinator for Faculty Development Programme on IoT based Project Design and Development from 24th to 29th June, 2019 at BNMIT, Bangalore
4. NBA Criterion 6 Main Coordinator (2016 to 2018)
5. Member, Organizing Committee for Faculty Development Programme on MSP430 microcontroller and its applications, at BNMIT, Bangalore, from 31st July to 5th August 2017
6. Member, Organizing Committee Faculty Development Programme on Physical Design Challenges in DSM Node VLSI Systems, at BNMIT, Bangalore, from 16th to 21st January 2017
7. Member, Organizing Committee for Faculty Development Programme on Computer and Wireless Networks held in Dept. of ECE from 11th to 16th July, 2016

Instruments Handled/Software/Hardware handled:

- UV-VIS Spectrophotometer
- GL 800 Data Logger
- Cadence Tool
- PSPICS
- TINA
- Xilinx ISE Simulator
- Programming FPGAs
- MASM 8086
- MSP430 IAR Workbench
- Embedded C for 8051 Microcontroller
- Flash Magic
- Arduino Uno
- VHDL
- Verilog
- System Verilog
- Mentor Tessent Tool Suite

Research Experience Details:

Ph.D:

A new technique has been developed to measure SHU (Scoville Heat Unit) by headspace volatiles of green chillies using electronic sensor array. Pungency (hotness) in chilli fruit is caused by chemicals grouped under capsaicinoids. The quantity of capsaicinoids which determines the pungency of the pepper is measured in Scoville heat units (SHU) using organoleptic test. But organoleptic test is not accurate and palate dependent. At present the most dominant technique used to measure capsaicin accurately in chillies is (High Performance Liquid Chromatography) HPLC. HPLC method requires extraction of

capsaicin in a liquid solvent which is a lengthy and chemical process. But HPLC measurement is expensive, time consuming and experts are required to handle the instrument. HPLC need to be installed in a sophisticated laboratory for its use. For the normal public such as farmers, wholesale buyers, who have no access to these expensive instrumentations, a simple in situ method of measuring heat content or a way of relative grading is essential. The electronic sensor array can be used to identify the variety of chillies. The SHU value of Chilli can be measured and how hot chilli is identified. The measurements include aromatic compounds which is absent in dry chilli and contributes to true value of quality. SHU can be used to grade chillies at site of growth so that they can be picked at right place and time.

Awards/ Achievements/Memberships:

- Received Memento from “Texas Instruments India Analog Design Contest 2012-2013 (National Level) for mentoring project “The safest Key – Smart Key” Won 1st Runner up Prize.
- Life Member, Indian Society for Technical Education (ISTE).

Organized:

- Texas Instruments Innovation Challenge-India Analog design Contest Competition 2013 (College Level at BNMIT).2. Texas Instruments India Analog Maker Competition 2014 (College Level at BNMIT).

Publications:

I. In National & International Journals

International Journals:

1. Rekha P, Bindu S , **Subodh Kumar Panda**, An active device-JFET for sensing Jasmine aroma, International Journal of Computer Sciences and Engineering, Volume-7, Issue-4, Apr 2019.
2. Pavan Kumar M P, **Subodh Kumar Panda**, Design and VLSI Verification of DDR SDRAM Controller Using VHDL, International Research Journal of Engineering and Technology, Volume: 06, Issue: 03, March 2019.
3. Hindupur Smitha, **Subodh Kumar Panda**, Sachin munji, An FPGA implementation of 2D filter using Vedic multiplier, International Research Journal of Engineering and Technology (IRJET), Volume: 05 Issue: 05 | May-2018, e-ISSN: 2395-0056, p-ISSN: 2395-0072.
4. **Subodh Kumar Panda**, M. S. Suresh, Estimation of pungency of green chillies using UV spectrophotometer, International Journal of Innovative Research in Electrical, Electronics, Instrumentation and Control Engineering, Vol. 6, Issue 2, February 2018, DOI 10.17148/IJIREEICE.2018.6212.
5. Anoop H K, **Subodh Kumar Panda**, Vasudeva G, Implementation of single bit Error detection and correction using Embedded hamming scheme, International journal of trends in Engineering and Research, Volume 03, Issue 05, May 2016./ISSN(online) : 2349-9745; ISSN (print) 2393-8161.
6. Niranjana B S, **Subodh Kumar Panda**, Shanthi V A, Design and Development of Verification Environment to Verify UART Protocol Using UVM, International Journal of VLSI System Design and Communication, Hyderabad, India, 17th June 2015.

II. Papers presented in International/National Conferences

International Conference Proceedings:

1. Pavan Kumar M P, **Subodh Kumar Panda**, Design and Verification of DDR SDRAM Memory Controller Using SystemVerilog For Higher Coverage, International Conference on Intelligent Computing and Control Systems [ICICCS 2019], 15-17 May 2019, Madurai, India. Publication in Scopus-Indexed IEEE Xplore Digital library.
2. Rekha P, **Subodh Kumar Panda**, M. S. Suresh, Pencil Drawn Films as Ammonia gas sensor, IEEE International Conference on Trends on smart grids, power and Advanced control engineering [ICSPACE- 2017] from 17th – 19th August 2017. DOI: 10.1109/ICSPACE.2017.8343459.
3. **Subodh Kumar Panda**, M. S. Suresh, Carbon Nanopowder based Fragrance Sensor, Proceedings of International Conference on Trends in Automation, Communication and Computing Technologies. (ITACT-15), 978-1-5090-1887-1/15 2015-IEEE DOI: 10.1109/ITACT. 2015. 7492662
4. P. Prabhavathi, N. B. Mahesha, **Subodh Kumar Panda**, Design of 12-Bit Cyclic Vernier Ring Time-to-Digital Converter, Proceedings of International Conference on VLSI, Communication, Advanced Devices, Signals & Systems and Networking (VCASAN-2013), Springer India 2013.

National Conference Proceedings:

1. Arun Hiremath, **Subodh Kumar Panda**, Implementation of CAN Network for Intelligent Home Automation Based on ARM, National level Conference on “VLSI, Signal and Image Processing” on August 22- 23, 2014 at JSSATE, Bengaluru.
2. Keerti, **Subodh Kumar Panda**, Ramudu B, Development of Memory Monitor for LPDDR2 Memory Controller in UVM, National Conference on VLSI, Communication and computer, AMC, Bengaluru, May 9, 2014.
3. Raghav A, Shashanka D, Sumukha Chandra P S, Tejas D C, **Subodh Kumar Panda**, The Safest Key-Smart Key, Texas Instruments India Educators’ Conference, at Bengaluru on 4th – 6th April, 2013, ISBN: 978-1-4799-2014-3 pp. 182-188. IEEE explore digital library, doi: 10.1109/TIIEC.2013.39.
4. **Subodh Kumar Panda**, M. S. Suresh, Techniques for Measurement / Identification of SWNT and MWNT, National level conference on “Modern Trends in Communication on Oct. 15- 16, 2008 at Vemana Institute of Technology, Bengaluru.

Participation in Faculty Development Programme

1. Attended 6 days FDP on “IoT based Project Design and Development”, from 24th to 29th June, 2019 at BNMIT, Bangalore
2. Attended 2 days FDP on “Design For Test using Mentor Tessent Tool Suite, Organized by Dept. of ECE, PES University, Bengaluru from 13th to 14th June 2019.
3. FDP on “Embedded System Design with ARM”, January to March 2019, NPTEL online Certification.
4. FDP on “Modern Materials and their Applications”, Organized by Department of Physics, BNMIT, Bengaluru from 16th to 20th, January 2018.
5. FDP on “MSP430 Microcontroller and its Applications” Organized by Department of Electronics and Communication Engineering, BNMIT, Bengaluru from 31st July to 5th August 2017.
6. FDP on “Physical Design Challenges in DSM Node VLSI Systems” Organized by Department of Electronics and Communication Engineering, BNMIT, Bengaluru from 16th to 21st January 2017.

7. FDP on “Computer and Wireless Networks” Organized by Department of Electronics and Communication Engineering, BNMIT, Bengaluru from 11th to 16th July 2016.
8. FDP on “ARM CORTEX M3 (Practically Intensive) Organized by Department of Electronics and Communication Engineering, BNMIT, Bengaluru from 8th to 14th January 2016.
9. FDP on “Electronic Communication & Trends “by Department of Electronics and Communication Engineering, BNMIT, Bengaluru from 19th to 23rd January 2015.

Participation in Training courses/Seminars/Workshops

1. Attended 3 days workshop on “Pedagogic & Personal Effectiveness”, Organized at PES University, Bengaluru from 18th to 20th December 2017.
2. Attended Symposium on “Tech Treat on Emerging Technologies” from August 4th to 5th 2016, jointly organized by IEEE- Nanotechnology council Bengaluru & IEEE-BNMIT student branch.
3. Attended Seminar on “spices and aromatic crops” Organized by GKVK, Bengaluru 12th March 2016.
4. Attended Workshop on “Preparation for Accreditation by NBA” from December 3rd – 5th, 2015, BNMIT, Bengaluru.
5. Attended Workshop on “Author Workshop” on 13th February, 2014, Central College, City Campus, Bengaluru University, Bengaluru.
6. Attended Training on “MSP430 Microcontroller and programming” on January 27, 2012, RNSIT, Bengaluru.
7. Attended International conference on “Frontiers of Nanotechnology: Impact on India” from December 8th – 9th, 2010, The Lalit Ashok, Bengaluru.
8. Attended Seminar on “FPGAs for Signal Processing and Embedded Applications” from March 4th – 6th, 2010, MSRIT, Bengaluru.
9. Attended Seminar on “Nanotechnology” on 25th May 2009, JSSATE, Bengaluru.
10. Attended Workshop on “Research Methodology & Report Writing” from May 28th to 29th, 2009, BNMIT, Bengaluru.
11. Attended Workshop on “Analog and Mixed mode design using Cadence tool” from Feb 2nd to 4th, 2009, BNMIT, Bengaluru.
12. Attended one week Training on “Cadence Tools training” June 2008, Cadence Training Centre, Bengaluru
13. Attended one week Training on “Cadence –VTU VLSI Lab” March 2006, Cadence Training Centre, Bengaluru
14. Attended Workshop on “VLSI Design Labs” from August 7th to 9th, 2004, BIT, Bengaluru.

Personal Details:

- **Date of Birth:** 11 - 05 –1971
- **Gender:** Male.
- **Marital Status :** Married

01st August 2019

Dr. SUBODH KUMAR PANDA