

Faculty Profile

Name of Faculty	Shubha Rao K
Department	Electrical and Electronics Engg
Qualification	B.E, M.Tech.(Ph.D)
Designation	Associate Professor
Area of specialization	Low Power SMPS, VLSI, Digital Control.
Date of Joining BNMIT	11.08.2004
Nature of Association (Regular/Contractual/Adjunct)	Regular
e-mail	shubharaok@bnmit.in, shubhak112003@yahoo.co.in
No. of years of Experience	Teaching:21



Academic Qualifications

- **M.Tech.** in VLSI Design and Embedded systems (2008), VTU.
- **B.E.** in Electrical and Electronics Engg (1997), NIE, Mysore University.

Working Experience Details

- **Associate Professor**, Dept. of EEE, BNMIT, Bangalore, India, (05.03.2012 – Till date).
- **Asst. Professor**, Dept. of EEE, BNMIT, Bangalore, India, (24.08.2011–04.03.2012).
- **Senior Lecturer, Dept. of EEE, BNMIT, Bangalore, India, (21.08.2008-23.08.2011).**
- **Lecturer, Dept. of EEE, BNMIT, Bangalore, India, (11.08.2004-20.08.2008).**
- **Lecturer, Dept. of ECE, K.S.Polytechnic, Bangalore, India, (01.08.2001-31.07.2004).**
- **Lecturer**, Dept. of ECE, A.P.S.College of Engineering, Bangalore, India,(01.09.1998-31.1.2001).

Subjects taught

- **B.E**– Basic Electrical Engineering, Logic design, Electrical power generation, Electrical and Electronics Measurements, Field Theory, Op-amps and linear ICs, Modern Control theory, Embedded systems, OOPs with C++,VLSI Design, Digital Design Using VHDL,AI applications to power systems, Renewable Energy Sources.
- **M.Tech.** – VLSI design, Dynamics of linear systems, Advanced Control systems, Embedded systems and its applications and Predictive control of drives.

Research Experience Details:

Ph.D:

Submitted long synopsis and thesis. My research topic is “Design and implementation of load aware, high performance switching mode power supply for system on chip (soc)”.

Academic Positions and other Responsibilities (Institute Level):

1. **Deputy Chief Superintendent (External)** at City Engg College, Bangalore from 18-12-2017 to 12-01-2018 for the conduction of Dec 2017/Jan 2018 B.E. examinations of VTU, Belgaum.

2. **Deputy Chief Superintendent** (External) at DSCE, Bangalore from 14-12-2015 to 04-01-2016 for the conduction of Dec 2015/Jan 2016 B.E. examinations of VTU, Belgaum.
3. **Chief Test-Coordinator**, BNMIT (2014-15).

Academic Positions and other Responsibilities (Department Level):

1. Dept NAAC Coordinator(2016-17)
2. Dept NBA Coordinator (2015-17)
3. Project Coordinator for the Academic year 2013-14
4. Lab In-charge for Circuit and Simulation Lab (2014-15, 2015-16), Control Systems lab(2017-18), Electronics Lab(2018-19).
5. Alummi Co-ordinator, Website Co-ordinator and Project Co-ordinator (2019-20)

Awards / Achievements / Memberships:

- **Won best paper presentation award** in 7th International Conference on Applied Science Engineering and Technology (ICASET-19) held on 20^{3rd} May 2019 in Sri Sai Ram College of Engineering, Bengaluru, Karnataka.
- Served as session chair of 2019 IEEE 2nd International conference on Power and Energy Applications (ICPEA2019) held in Singapore during April 27-30,2019.
- Life Member, Indian Society for Technical Education (ISTE).

Workshops /Seminars Organized:

1. Introduction to Research Investigations in Recent years in Electrical and Electronics Engg', March 2009, BNMIT, Bangalore
2. Organized a workshop "Programmable Logic Controllers and SCADA systems" for a period of 5 days in EEE Dept BNMIT, Bangalore from 9th to 23rd Jan 2015
3. Organized a workshop on "Recent trends in Power Quality Issues and Mitigations in Electrical Systems", B.N.M. Institute of Technology, Bengaluru, 18th to 23rd Jan 2016
4. One week faculty development program on "Modern Power Electronic Drives: Design and Future Trends" from 16th to 20th January 2018

Research Publications:

1. In a Book Series

1. Shubha Rao K, Veena S chakravarthi, "Digital-controlled dual-mode switching mode power supply for low power applications," , Springer book series: Advances in Bioinformatics, Multimedia, and Electronics Circuits and Signals, Advances in Intelligent Systems and Computing 1064, <https://doi.org/10.1007/978-981-15-0339-9>, Proceedings of GUCON 2019, Volume 1064, ISSN 2194-5357, ISSN 2194-5365(electronic), ISBN 978-981-15-0338-2, ISBN 978-981-15-0339-9 (eBook), pp.183-195, Sept,2019.

2. In National & International Journals

International Journals:

1. Chandana E Gowda, Gaganashree P, Akarsh H R, Abhishek C, Shubha Rao.K, “An Efficient Battery Management System For A Series Connected Battery Pack using Arduino UNO”, International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering (IJAREEIE),Volume 9, Issue 6, June 2020,e-ISSN: 2278 – 8875, p-ISSN: 2320 – 3765,www.ijareeie.com ,Impact Factor: 7.122.
2. Shubha Rao K, Veena S chakravarthi,” High-Resolution DPWM for DC-DC Buck Converter using Sigma-Delta Modulation Techniques,” International Journal of Recent Technology and Engineering (IJRTE) ISSN: 2277-3878, Volume-8 Issue-2S8,Impact factor 5.92, DOI:10.35940/ijrte.B1039.0882S819,August 2019.
3. Shubha Rao K, Veena S chakravarthi, “Analysis of power conversion Efficiency of buck converter operating in continuous current mode”, *Journal of Emerging Technologies and Innovative Research* (ISSN : 2349-5162, UGC Approved & 5.87 Impact Factor),Volume 6, Issue 2, Feb 2019.
4. Shreyas R H,Vishrutha G,Shubha Rao K, “Type III Compensator Design for Buck converter”, IJIRCCE,Volume 6,Issue 5,May 2018, www.ijircce.com, ISSN(online): 2320-9801,ISSN(Print) : 2320-9798,DOI 10.15680/ IJIRCCE.2018.0605048, Impact factor-7.194
5. Veena P, Shubha Rao K ,” Co-Simulation of a BLDC motor with a front end converter using an FPGA based controller in MATLAB/SIMULINK and Xilinx System generator”, IJIRCCE, Volume 5, Issue 4, April 2017, Website: www.ijircce.com, ISSN(online): 2320-9801,ISSN(Print) : 2320-9798, DOI: 10.15680/IJIRCCE.2017. 0504334, page no 8914-8921, Impact factor-6.577.
6. Shubha Rao K, Abhinav Prabhu, “Design and FPGA Implementation of sliding mode controller for buck converter”, IJIEEE, Volume-3 , ISSUE-7, July 2015, ISSN: 2347-6982,DOI: 10.15680/ijircce.2015.0305096, Page.no 48-53.Impact Factor 2.51
7. Shubha Rao K ,Mamatha S, Veena S Chakravarthi, “FPGA Based Digital controller for DC-DC buck converter”, IJIRCCE, Volume 3 , ISSUE 5,MAY 2015, ISSN(Online): 2320-9801, ISSN (Print): 2320-9798,Impact Factor:5.618.Page no.4616- 4623.
8. Shubha Rao K, Veena S Chakravarthi, Soumya P Maharajanvar, “ Design of Digitally controlled switched mode power supply for low power high frequency applications” IJISSET, Volume 1, Issue 4 ,June 2014, ISSN 2348 – 7968. PP.529-532 Impact factor 5.264

II. In National/International Conferences

International Conferences

1. Shubha Rao K, Veena S chakravarthi, “Design and Performance analysis of digital control laws for low power high frequency switching power supply,” *IEEE 2nd International Conference on Power and Energy Applications (ICPEA 2019)*,Singapore, April 27-30,2019.
2. Shubha Rao K, Abhinav Prabhu, Veena S Chakravarthi, “Design of FPGA-Based Sliding mode controller for Low-voltage High-frequency Buck converter”, IEEE-International conference on Power and Advanced Control Engineering (ICPACE), BNMIT, Bangalore, August 2015,PP 147-151.
3. Shubha Rao K, Veena S chakravarthi, “FPGA implementation of voltage regulator module for System On Chip”, IEEE sponsored 2nd International Conference on Electronics and Communication Systems,Coimbatore,26 and 27 February,2015.PP 297-302.
4. Shubha Rao K,Laxmi Deshpande,Mamatha S, “A Novel Digital current mode control technique for Buck Converter” Proceedings of 09th IRF International Conference, 27th July-2014, Bengaluru, India, ISBN: 978-93-84209-40-7,pp35-39.
5. Shubha Rao K, Dr.Veena S Chakravarthi, “Digital Modeling of Switching Mode Power Supply for SOC’s” , International Conference on Electrical Computer and Communication Engineering (ICECCE) ,pp 929-934, Paris , 14-16 Nov 2011.

National

1. Shubha Rao K,Shruthi H S,”Design and Implementation of Z source Inverter for Motor Application”,National Conference on Convergence of Science, technology and Management,5th May 2016,Dayananda Sagar Academy of Technology and Management,Bengaluru.
2. Shubha Rao K, Ramya M, ”Implementation and modeling of a Dc-Dc converter and electrical parameters using IOT”,National conference on Emerging trends in engineering Sciences and management, 23rd,24th March 2016,Shridevi Institute of Engineering and Technology,Tumakuru.
3. Shubha Rao K,Kavitha K S,Gurumurthy.G.R,“FPGA Implementation of a Novel Voltage Modulation technique of the space vector PWM”, National conference on Energy systems and Energy Issues,B.M.S.College of Engineering,Bengaluru,18-19 Feb,2011.

Chairmanships at national / International conference / Seminars:

1. Session chair of 2019 IEEE 2nd International Conference on Power and Energy Applications (ICPEA 2019) held in Singapore during April 27-30,2019.

Participation in Training courses/Seminars/Workshops

1. Successfully completed “Introduction to Public Speaking” a MOOC from the University of Washington and offered through Coursera on 25/08/2020
2. Successfully completed “AI For Everyone” an online non-credit course authorized by deeplearning.ai and offered through Coursera on 22/08/2020.

3. Successfully completed “Programming for Everybody (Getting Started with Python)” an online non-credit course authorized by University of Michigan and offered through Coursera on 17/08/2020
4. Five days International Virtual faculty development program on “Upskilling for the future: Technical Innovations and Research Opportunities in power engineering” B.N.M. Institute of Technology, Bengaluru , 10th to 14th August 2020
5. Three day Online Faculty Development Programme on “Recent Trends and Research Directions in Electrical Engineering”, organized by Department of Electrical and Electronics Engineering, Sree Buddha College of Engineering, Pattoor in association with IEEE SBSBCE on 21st , 22nd and 23rd July 2020 through Google Meet.
6. Three day Online Webinar on“ DC to DC Converters for EV, Protection of Photovoltaic(PV) systems, Electric Vehicle Technology” organized by Department of Electrical and Electronics Engineering in association with IEEE SBSBCE on 21st ,22nd and 23rd July 2020 through Google Meet.
7. One-day Webinar on “Data science” on 20-07-2020 organized by Dept of IT,K.J Somaiya Institute of Engg, and Information Technology, Mumbai
8. One-day Webinar on “Internet of Things(IoT)” on 18-07-2020 organized by Dept of IT,K.J Somaiya Institute of Engg, and Information Technology, Mumbai
9. One Week Faculty Development Programme - “International Webinar on AI Applications in Industrial Evolution 4.0”, organized by Dept. of Electrical & Electronics Engineering, BIT, Bengaluru, from 13th to 17th July 2020
1. One-day Webinar on “Augmented Reality” on 18-07-2020 organized by Dept of IT,K.J Somaiya Institute of Engg, and Information Technology, Mumbai.
2. One-day Webinar on “Artificial Intelligence” on 13-07-2020 organized by Dept of IT,K.J Somaiya Institute of Engg, and Information Technology, Mumbai.
3. One-day Webinar on “Introduction to AUTOSAR and its development” on 12-07-2020 organized by Basaveshwar Engg college,Badalkot
4. One-day Webinar on “Industry 4.0” on 04-07-2020 organized by School of Electrical Engg,KIIT,Bhubaneswar and Schneider electric India.
5. One-day Webinar on “power monitoring expert” on 03-07-2020 organized by School of Electrical Engg,KIIT,Bhubaneswar and Schneider electric India
6. Two day webinar on “Intelligent Dynamic Electrical Systems and its Applications” organized by Institution of Engineers India Students’ Chapter, Dept. of EEE, BNMIT, at B.N.M. Institute of Technology, Bengaluru-560070 on 26th and 27th June, 2020.
7. Two day webinar on “Research Trends in Power Engineering - Future Scope” organized by Institution of Engineers India Students’ Chapter, Dept. of EEE, BNMIT, at B.N.M. Institute of Technology, Bengaluru-560070 on 26th and 27th June, 2020.
8. Quiz on “Green and Sustainable energy” from 13th – 18th June, Organized by the Department of Electronics & Communication Engineering, I live Simply Movement & IQAC of Dr. C. V. Raman University.
9. National level webinar on ” Simulation Driven Innovation for E-mobility”, conducted by Department of Electrical and Electronics Engineering, KLE University, Belagavi and ALTAIR on 10-06-2020
10. One- day webinar Program on” Connected Car-A Vehicle Technology", conducted by Department of Electrical and Electronics Engineering, SJBIT, Bengaluru on 06-06-2020.
11. Webinar on” Electric vehicle: Context”, organized by The European Energy Centre, June 2020.

12. Faculty Development Program on “Renewable Energy Systems “organized by Department of Electrical and Electronics Engineering, RVS college of Engineering and Technology, Coimbatore from 01/06/2020 to 05/06/2020.
13. One week faculty development program on “AI Application in Electric Power Systems and Locomotives” B.N.M. Institute of Technology, Bengaluru , 20th to 24th January 2020
14. Faculty development program on “Transcending Mentoring skills”, BNM Institute of Technology,16th to 18th jan 2020.
15. NPTEL-AICTE Faculty Develop Program on “Hardware Modelling using Verilog”, August-October 2019.
16. Participated in Industry Academia Interface on “Innovative of Engineering Education: Enhancing Skills and Employability”, B.N.M. Institute of Technology, Bengaluru, July, 2019.
17. Six day Faculty Development Program on “Application of Computational Intelligence in Engineering” B.N.M. Institute of Technology, Bengaluru, 24th June 2019 to 29th June 2019.
18. Faculty development program on “Transcending Language skills”, BNM Institute of Technology, 15th to 25th July 2019.
19. One day workshop on “Internet of Things”, B.N.M. Institute of Technology, Bengaluru , 16th to 22nd Sept 2018
20. One week faculty development program on “Modern Power Electronic Drives: Design and Future Trends” B.N.M. Institute of Technology, Bengaluru , 16th to 20th January 2018
21. One day workshop on “Accreditation in Engineering Education”,BMS college of Engineering,Bengaluru,3rd July 2017
22. FDP on “Role of IT in power sector”, B.N.M. Institute of Technology, Bengaluru, 9th -13th Jan 2017.
23. Three Day national workshop on “Advanced Reconfigurable FPGA Architectures for Research and Industrial Applications”, PES Institute of Techonology , Bengaluru, 24th -26th November 2016.
24. One week Short Course on INNOVATIVE TEACHING METHODS conducted by National Institute of Technical Teachers Training & Research at B.N.M.Institute of Technology, Bengaluru,18th -23rd July 2016.
25. FDP on “Integration of Green Energy to Smart grid-Opportunities and Challenges”, B.N.M. Institute of Technology, Bengaluru,11th -16th July 2016.
26. FDP on “Recent trends in Power Quality Issues and Mitigations in Electrical Systems”, B.N.M.Institute of Technology, Bengaluru,18-23 Jan 2016.
27. “Preparation for Accreditation by NBA”, B.N.M.Institute of Technology, Bengaluru,3-5 December 2015.
28. 18th ISTE Karnataka state level annual faculty convention , Main Theme: Technical Education Interventions For make In India and Digital India Initiative, PES university, Bengaluru, November 6-7,2015.
29. Pre conference tutorial of IEEE-International conference on Power and Advanced Control Engineering, ICPACE on 12th August 2015.
30. Two day workshop on “Outcome-Based Education”, BMS College of Engineering, 2nd and 3rd Aug 2015.
31. One Week Faculty Development Program on “IT Infrastructure Management Services”, B.N.M.Institute of Technology, 5th-9th January, 2015.

32. Three day workshop on “Research Methodologies and Latex”, Shree Devi Institute of technology, Mangalore, Sept 2014.
33. Training Cum Faculty Development program on “Cyber Security and Cyber laws”, BNMIT, Bangalore, 20th August 2014.
34. Faculty development program on ‘SoC-System on Chip’ ,BNMIT Bangalore , 17-19th Jan 2011.
35. Faculty Development Program on “VLSI Design Methodology “ , SJB Institute Of Technology , Bangalore , 26th to 30th July 2010,
36. Short Term Training Program on “VLSI System Design, Development and Testing” , S.J.C Institute of Technology, Chickballapur, 20-24th March,2007.
37. Workshop on “Signal and Image Processing” , B.N.M.I.T, 28th and 29th of January, 2010
38. Seminar on “Introduction to Research investigations in recent Years in Electrical and Electronics Engineering”, B.N.M.I.T, 16th March 2009.
39. National workshop on “Embedded solutions engineering and lab view”, University Visvesvaraya College of Engineering, Bangalore, 9th to 14th March 2009.
40. National Workshop on “Developments, Issues and Challenges in Power sector” Nitte Meenakshi Institute of Technology, Bangalore, Feb 02-04, 2009.
41. National Workshop on “Recent Trends in Drives and Power System Protection”, 27th and 28th July 2006 , RVCE Bangalore.

Personal Details:

- **Date of Birth:** 12 .04.1975; Female.
- **Family Details:** Husband Name: Umesh Rao Son Name: Vismay and two daughters-Vinamra and Vinanthi.

15th Sept 2020

SHUBHA RAO K