

Faculty Profile

Name of Faculty	Ms. Kruthi Jayaram
Department	Electrical & Electronics Engineering
Qualification	B.E., M.Tech.
Designation	Assistant Professor
Area of specialization	Renewable energy sources, Power electronics
Date of Joining BNMIT	19.06.2013
Nature of Association (Regular/Contractual/Adjunct)	Regular
e-mail	kruthijayaram@bnmit.in kruthijay@gmail.com
No. of years of Experience	Teaching: 6 years



Academic Qualifications

- **M.Tech.**(2013), Department of Electrical & Electronics Engineering, CAID, VTU, India(**I Rank**).
- **B.E.** (2011), Department of Electrical & Electronics Engineering, VTU, India(**FCD**).

Working Experience Details

- Assistant Professor, Department of Electrical & Electronics Engineering, BNMIT, Bangalore, India, (2013 – Till date).

Courses taught

- Power electronics, Basic electrical Engineering, Renewable energy sources, Electrical power generation, Power generation & Economics, HVDC Transmission, Power system planning, Management & Entrepreneurship

Research Experience details

- **B.E.**

“ANALYSIS AND DESIGN OF PULSE WIDTH PULSE FREQUENCY MODULATOR”

After a spacecraft is launched, the main factor deciding the life time of the spacecraft is fuel. If the spacecraft can reduce its fuel consumption, the lifetime can be increased or the launch weight can be similarly reduced. Both options have economic advantages for the operator. This calls for fuel optimal attitude control solutions, and in this work the focus is on the unit translating the continuous desired torque signal to an on/off signal to the spacecraft thruster.

A presentation of different ways to translate a continuous commanded torque signal to an on/off signal is done. Out of the presented translators a PWPF modulator is chosen and a thorough analysis of its characteristics and behavior is performed.

In this project “ANALYSIS AND DESIGN OF PULSE WIDTH PULSE FREQUENCY MODULATOR” has been realized for producing command signals to the on/off thrusters which is employed in Modern Spacecraft Attitude Control Systems.

Varying ranges of PWPF modulator parameters are then analyzed through system simulations, and a general conclusion is drawn based upon the simulation results.

- **M.Tech.**

“MOTOR DRIVE CONTROL FOR ELECTRIC VEHICLE”

With the resource supply becoming severe recently, the use of Hybrid car or Electric car is a necessity that it can reduce the need of oil. For the last decade, research and development work pertaining to Electric Vehicle’s has been intense. Transportation is a critical part of the energy crisis. In recognition of this fact, goals for urban EV’s and for batteries for these EV’s have been set.

This project provides an Electric Vehicle controlled by a motor drive. The main component of an electric vehicle is the Motor. BLDC motor is on demand for in-wheel application because of its high efficiency, torque/speed characteristics, high power to size ratio, high operating life and noiseless operation. Therefore BLDC motors are used. To drive the BLDC motor we make use of MOSFET drivers.

In detail the characteristics of BLDC, MOSFET will be gone through and for the control logic we make use of atmega16 microcontroller. PSPICE simulation and hardware development are the contributions in the project work

Academic Positions and other Responsibilities (Department Level)

- Test Coordinator (2018-2019)
- Project guide for B.E. and M.Tech. projects (2015- Till date)
- Counselor (2013- Till date)
- ABEEE In-charge(2015- Till date)
- BNMIT Chronicle newsletter (2016- Till date)
- T5, TW5 coordinator (2017- Till date)
- NBA Coordinator (2017-18, 2018-19)
- NAAC Coordinator (2016-17, 2017-18)
- ISO-Coordinator (2017-2018)
- Nature club coordinator (2015-2016, 2016-2017, 2017-2018)
- Newsletter coordinator (2015-2016, 2016-2017)
- Cultural Club coordinator (2016-2017)
- Power Electronics Lab In-charge(Even Sem 2015-2016)
- DC Machines Lab In-charge(Even Sem 2013-2014)
- Time-Table coordinator (2014-2015)

Awards/ Achievements/Memberships:

- First Rank with Gold medal in M.Tech, VTU, 2013

Workshops /Seminars Organized

- Organized a Workshop on “Programmable Logic Controllers on SCADA Systems” for a period of 5 days (19th -23rd Jan 2015) in EEE Dept BNMIT, Bangalore

I. In National & International Journals

International Journals:

- Paper “Power Generation on Highway using Vertical Axis Wind Turbine and Solar Energy”, published in IJESRT, Volume 8, Issue 6, ISSN No: 2277-9655, Impact Factor: 5.164, 25th June 2019.
- Paper “Design & development of a laboratory kit module for a dc-dc converter”, published in IJSR, volume 7, issue 5, May, 2018.
- Paper “Simulation of closed loop control dual input DC-DC converter using solar cell”, published in International journal for science and advanced research in technology, volume4, issue5, Pg 844-847, May, 2018.
- Paper “Solar Panel Control and Power Optimization Using 2 axis Stepper Motors”, published in IJRERD, Volume 2, Issue 7, Pg No: 236-241, July 2017.
- Paper “Total Harmonic Distortion Analysis of Voltage Source, Current Source and Z-source inverter”, published in IJRCCE, Volume5, Issue4, Pg 8785-8793, April 2017.
- Paper “Design and Implementation of OCP(Open Core Protocol)” selected in ICESMART-2015 first international conference/journal organized by T.John IT, Bannerghatta Road, Bangalore-83
- Paper presented on “Simulation & Analysis of closed loop speed control of brushless DC Motor”, Volume 25 Issue 25, IJAIST on May 2014.

Papers presented in International/National Conferences

International

- Paper presented on “Entrepreneurship in Rural Area – Globalizing Local Talent”, International Conference on “Innovative Practices in Management and Entrepreneurship”, Dept of MBA, BNMIT, Bengaluru, 27-28, December, 2018.
- Paper presented on “Design & Implementation of drive control for electric vehicle”, International Conference on Information & Communication Engineering (ICICE-2013) (An International Conference), Dr. Ambedkar Institute of Technology, 28th June, 2013 Bangalore, India.
- Paper presented on “Power Flow Control by UPFC Method” ICEEIE at HKBK on 9th & 10th May 2014.

National

- Paper presented on “Motor drive control for electric vehicle”, National Conference on Wireless, Signal processing & Embedded systems (WiSE – 2013), BMS College of engineering, 21st & 22nd June, 2013 Bangalore, India.

Participation in Training courses/Seminars/Workshops

- Attended workshop WISSAP-2015 held at Gandhi Nagar Gujarat India, 4th – 7th January 2015
- Participated in the “Young Researchers Meet” organized by IEEE PES Bangalore Chapter, 6th December 2014.
- FDP program on “Intellectual property rights” held at BNMIT, Bangalore
- Attended workshop on “Preparation for Accreditation by NBA”, BNMIT, Bengaluru, 3rd to 5th December 2015.
- “Integration of green energy with smart grid- opportunities and challenges” held at BNMIT, Bangalore, and 11th – 16th July 2016.
- “Recent trends in power quality issues and mitigations” held at BNMIT, Bangalore, and 18th – 23rd Jan 2016.
- One week workshop on “Innovative teaching methods” conducted by NITTTR, Chennai held at BNMIT, 18th – 23rd July 2016.
- One week FDP on “Role of IT in power sector” conducted by BNMIT, Bengaluru, 9th – 13th January 2017.
- One week FDP on “Modern Power electronic drives: Design & future trends” conducted by BNMIT, Bengaluru, 16th – 20th January 2017
- Two days workshop on “A to Z of transformer design” conducted by BNMIT, Bengaluru, 17th & 18th February, 2018.
- TEQIP sponsored One week workshop on “Smart Grid and Internet of Things” conducted by Dept of EEE, NIE, Mysuru, 18th – 22nd June, 2018.
- One week workshop on “AICTE-ISTE Induction Program For Faculty of Technical Institutions” conducted by Dept of ECE, AMCEC, Bengaluru, 23rd to 28th July, 2018
- One week faculty development program on “ Application of Computational Intelligence in Engineering”, conducted by Dept of EEE, BNMIT, Bengaluru, 24th – 29th June 2019.

Personal Details:

- **Date of Birth:** 11-12-1989; **Sex:** Female.
- **Family Details:** Father’s Name: Mr. K.S.Jayaram (Chartered Accountant)
Mother’s Name: Mrs. Saroja Jayaram (Housewife)
Elder Brother: Mr. Karthik Jayaram
Twin Sister: Mrs. Kavya Jayaram
- **Passport Number:** J4654861

19th July 2019

Ms. KRUTHI JAYARAM