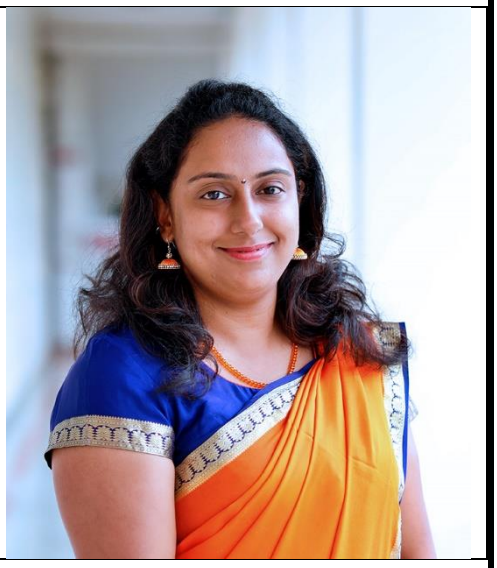
Faculty Profile

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: 7 years 3months



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, FACTS & HVDC Transmission, Operation & Maintenance of Solar Electric Systems.

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, 2020-2021)
- Project guide for B.E. projects (2015-Till date)
- Counselor (2013-Till date)
- ABEEE Department Association In-charge (2015-Till date)
- BNMIT Chronicle newsletter (2016-18)
- T5, TW5 coordinator (2017-2018)
- NBA Criteria In-charge (2017- Till date)
- NAAC Coordinator (2016-17, 2017- Till date)
- ISO-Coordinator (2017-2018)
- College Magazine In-charge (2018-2019)
- Nature club coordinator (2015-2016, 2016-2017, 2017-2018)
- Newsletter coordinator (2015-2016, 2016-2017)
- Cultural Club coordinator (2016-2017, 2019-Till date)

- Power Electronics Lab In-charge (2015-2016, 2019-2020)
- DC Machines Lab In-charge (Even Sem 2013-2014)
- Time-Table coordinator (2014-2015, 2019-2020)

Awards/ Achievements/Memberships:

- Received Staff Appreciation Letter for securing more than 90% in Staff Appraisal for the academic year 2018-2019.
- First Rank with Gold medal in M.Tech,VTU,2013
- ISTE Member
- IE Member

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 "LPG Leakage Detection and Controlling using IOT Module", published in IJRASET, Volume 8, Issue5, Impact Factor: 7.429, Index Copernicus: 45.98, DOI:10.22 with Crossref, Page No: 1040-1045, ISSN: 2321-9653, May 2020. http://doi.org/10.22214/ijraset.2020.5165
- 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 IJIRCCE, Volume5, Issue4, Pg 8785-8793, April 2017.
- Paper "Design and Implementation of OCP(Open Core Protocol)" selected in ICESMART-2015 firs 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, 4^{th} – 7^{th} January 2015
- Participated in the "Young Researchers Meet" organized by IEEE PES Bangalore Chapter, 6^{th}December 2014.
- FDP program on "Intellectual property rights" held at BNMIT, Bangalore
- Attended workshop on "Preparation for Accreditation by NBA", BNMIT, Bengaluru, 3^{rd} to 5^{th} December 2015.
- "Integration of green energy with smart grid- opportunities and challenges" held at BNMIT, Bangalore, and 11th – 16^{th} July 2016.
- "Recent trends in power quality issues and mitigations" held at BNMIT, Bangalore, and 18th – 23^{rd} Jan 2016.
- One week workshop on "Innovative teaching methods" conducted by NITTTR, Chennai held at BNMIT, 18^{th} – 23^{rd} July 2016.
- One week FDP on "Role of IT in power sector" conducted by BNMIT, Bengaluru, 9^{th} – 13^{th} January 2017.
- One week FDP on "Modern Power electronic drives: Design & future trends" conducted by BNMIT, Bengaluru, 16^{th} – 20^{th} 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, 24^{th} – 29^{th} June 2019.
- Completed 8-week NPTEL course certification on "Advanced Power Electronics" offered by IIT Roorkee, Jan-March 2019.
- One-week faculty development program on "AI applications in Electric Power Systems and Locomotives", conducted by Dept of EEE, BNMIT, Bengaluru, 20^{th} – 24^{th} January 2020.
- Certificate of achievement for outstanding contribution as participant in the Online quiz on "Research Methodology-2020" organized by IQAC of SKIT, Bangalore, May 7^{th} ,2020.
- Participated in Online faculty development programme on "Contemporary tools and techniques for Teachers and researchers in higher education: Experience of using virtual classrooms" at Cambridge Institute of technology, Bangalore, 9^{th} May,2020.

- Participated in One day webinar on “Challenges in Power Engineering”, by Dept of EEE, PSR Engineering college, Sivakasi, 13th May, 2020.
- Participated in one-week faculty development program on “Research opportunities in electrical engineering and its applications”, Dept of EEE, PSR Engineering college, Sivakasi, from 18.05.2020 to 23.05.2020.
- Completed a 5 week course on “Getting started with AWS Machine learning” an online non-credit course authorized by Amazon web series and offered through COURSERA on 25/05/2020.
- Completed a one-day course on “Introduction to artificial intelligence (AI for all)”, online course on May 18, 2020 offered through UDEMY.
- Participated in one-week faculty development program on “Renewable energy systems”, organized by, from 1st to 5th June 2020.
- Participated in the Webinar Programme on “Connected Car-A Vehicle Technology", conducted by Department of Electrical and Electronics Engineering, SJBIT, Bengaluru on 06-06-2020.
- Participated in one-day Webinar Programme on “Recent trends in research of Electrical Power Transmission", conducted by Department of Electrical and Electronics Engineering, Sapthagiri college of engineering, Bengaluru on 06-06-2020.
- Completed a 9 week course on “Introduction to Programming with MATLAB” an online non-credit course authorized by Vanderbilt University and offered through COURSERA on 08/06/2020.
- Participated in National level webinar on “Simulation driven Innovation for e-Mobility”, ALTAIR India, 10th June 2020.
- Completed a 7 week course on “Successful career development” an online non-credit course authorized by University System of Georgia and offered through COURSERA on 24/06/2020.
- Completed a 4 week course on “Communication Strategies for a Virtual Age” an online non-credit course authorized by University of Toronto and offered through COURSERA on 24/06/2020.
- Participated in One Week Webinar on “Understanding Power System Simulation Concepts Through Case Studies”, organized by IEEE PES-IAS Chapter Delhi Section and PES India Chapters Council held from 22nd June 2020 to 26th June 2020
- Completed a 5 week course on “Wind energy” an online non-credit course authorized by Technical University of Denmark (DTU)and offered through COURSERA on 07/07/2020
- Completed a 4 week course on “Introduction to Artificial Intelligence(AI)”, an online non-credit course authorized by IBM and offered through COURSERA on 11/07/2020.
- Participated in One-week faculty development Programme on “System Modelling and Control Methods” organized by EEE Dept, SSET, Karukutty, Ernakulum held from 13/07/2020 to 17/07/2020.
- Completed a 4 week course on “e-Learning Ecologies: Innovative Approaches to Teaching and Learning for the Digital Age”, an online non-credit course authorized by University of Illinois at Urbana-Champaign and offered through COURSERA on 26/07/2020.
- Completed a module on “10 tips for writing a truly terrible journal article”, Researcher Academy, ELSEVIER, 30/07/2020.
- Completed a module on “How to identify the right journal to publish in”, Researcher Academy, ELSEVIER, 30/07/2020.
- Completed a 4 week course on “Electric Power Systems”, an online non-credit course authorized by University at Buffalo and The State University of New Yorkand offered through COURSERA on 03/08/2020
- Completed a 5 week course on “Solar Energy Basics”, an online non-credit course authorized by The State University of New York and offered through COURSERA on 16/08/2020
- Completed the online course on “Satellite Photogrammetry and its Applications”. The course was conducted by Indian Institute of Remote Sensing(IIRS), during 29-06-2020 to 03-07-2020.

- Participated in Five Days International Virtual Faculty development Programme on "Upskilling for the Future: Technical Innovations & Research Opportunities in Power Engineering" organized by the Department of Electrical & Electronics Engineering, BNM Institute of Technology, Bengaluru from 10th to 14th August, 2020.
- Completed a 5 week course on "Speak English Professionally: In Person, Online & On the Phone", an online non-credit course authorized by Georgia Institute of Technology and offered through COURSERA on 03/09/2020
- Participated in One Week International Short-Term Training Program on "Power Electronics Applications to Industrial Systems", under the aegis of TEQIP-III, Dept. of EEE, NIT, Silchar, Assam, 7th – 11th September 2020.

Personal Details:

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

12th September 2020 **Ms. KRUTHI JAYARAM**