

Name: Dr. ChakravarthulaKiran

Designation: Associate Professor

Department: Electronics & Instrumentation Engineering

Mail ID: kiran_c@vnrvjiet.in



Experience (in years): Teaching: 3.5 Research: 9.25 Others (ITES):

1. Educational / Technical qualifications:

S. No.	Level (UG / PG / Ph.D)	Year of passing	Specialization
1	Ph.D. (Engineering)	2012	Engineering Physics
2	Master of Science	2010	Applied Physics
3	Master of Science Microsystems Engineering	2007	Microsystems Engineering
4	Master of Science Engineering	2006	Biomedical Engineering
5	Bachelor of Technology	1999	Electronics & Instrumentation

2 Teaching and Learning:

2.1 Teaching Interests:

- Taught “Electronic Circuit Analysis” for II year B.Tech. (EIE) students
- Taught “Virtual Instrumentation” for IV year B.Tech. (EIE) students
- Taught “Environmental Studies” for I year B.Tech. (EIE) students
- Taught “Professional Ethics and Human Values” for III year B.Tech. (EIE) students
- Taught “Green IT” for III year B.Tech. (EIE) student
- Taught “Biomedical Instrumentation” for III year B.Tech. (EIE) students
- Taught “Micro Electro Mechanical Systems (MEMS)” for IV year B.Tech. (EIE) students
- Taught various Laboratory Courses: Electronic Circuit Analysis, Electronic Devices & Circuits, Pulse & Digital Circuits, Sensors & Measurements, Elements of Electrical & Electronics Engineering (CSE/IT), Basic Electrical Engineering (ME/AE)
- Other teaching interests: Micro-Electro-Mechanical-Systems (MEMS), Nanotechnology, Sensors and Signal Conditioning, Electronic Devices and Circuits, Digital Electronics, Electronic Measurements

2.2 Novel Teaching & Learning Techniques adopted:

- Discovery Learning and Guided-Inquiry Learning
- Learning by Doing (Laboratories)
- Videos and Presentations
- Video Lectures

2.3 Involvement in curriculum updating / Design:

- Member, Board of Studies (2013–’16), Department of EIE
- Designed the entire syllabus for “Principles and Applications of Nanotechnology” (5EI72) for R15 regulation
- Designed the entire syllabus for “Micro ElectroMechanical Systems” (5EI75) for R15 regulation

- Provided inputs to update the syllabi for various subjects for R15 regulation (EIE)
- **Co-curricular and Extra-Curricular Activities**

3.1. Professional Society memberships:

3.2. Interests and Hobbies:

- Reading books (English & Telugu)
- Writing poetry/prose in Telugu, also for print/online magazines & websites
- Writing lyrics for Telugu films and private audio albums
- Writing film-related articles, film/music reviews in English for websites
- Blogging (English & Telugu)
- Pencil art
- Photography
- Debating
- Astrology
- Social networking
- Social service

3.3 CCA/ECA Organized:

Co-Curricular Activities:

- **Coordinator**, International Workshop on “Reviving Education by Implementing Active & Guided Inquiry Experiences in STEM (Science, Technology, Engineering & Math) (REIMAGINE STEM)” (2013)
- Faculty Coordinator, Industrial Tour for II year B.Tech. (EIE) students (2013–’14)
- Faculty Coordinator, Matrixing for I–IV year B.Tech. (EIE) students (2014)
- Faculty Coordinator, Freshers’ Day for I year B.Tech. (EIE) students (2014)
- Faculty Coordinator, Farewell Event for IV B.Tech. (EIE) students (2014)

Extra-Curricular Activities:

- Coordinator, Workshop by IIT researchers on “Telugu in Information Technology” as a part of Convergence 2k15, through “విజ్ఞానజ్యోతిసాహితీవనం” (2015)
- Intramural Competitions for the Institute’s Telugu Literary Club “విజ్ఞానజ్యోతిసాహితీవనం” (2014–Present)
- Inter-collegiate Competitions for “విజ్ఞానజ్యోతిసాహితీవనం” for Sintillashunz (2014–Present)

3.4 CCA/ECA participated:

Co-Curricular Activities:

- Industrial Visits with students:
- Faculty Associate, Industrial Visit to Cal-Lite Instant Foods India Pvt. Ltd., Mahalingapuram, Medak District, for II year B.Tech. (EIE) students (2014)
- Faculty Associate, XVIII batch of Shadow Engineering for II year B.Tech. students’ visit to Keerthi Industries Limited, Mellacheruvu (2014)
- Faculty Associate, Industrial Tour to BBMB Pandoh Dam, Pandoh, Himachal Pradesh for II year B.Tech. (EIE) students (2013)
- Faculty Associate, Industrial Visit to Ikon Systems, Hyderabad, for II year B.Tech. (EIE) students (2013)

- Faculty Associate, Industrial Visit to Precision Engineering, Hyderabad, for II year B.Tech. (EIE) students (2013)
- Faculty Associate, Engineer-in-Mirror for III year B.Tech. (EIE) students, at Delta Sigma Instrumentation

Research-related Activities:

- Visit to Centre for Environment, Institute of Science & Technology at JNTU, Hyderabad to interact with faculty members and discuss a research proposal (2014)
- Visit to Centre for Nano Science & Engineering (CeNSE), IISc, Bengaluru as a Faculty Associate in Centre of Excellence for Nano Science & Engineering (2013)
- Visit to Centre for Knowledge Management of Nanoscience at Tarnaka, Hyderabad as a Faculty Associate in Centre of Excellence for Nano Science & Engineering (2013)
- Visit to Centre for Nanotechnology at JNTU, Hyderabad as a Faculty Associate in Centre of Excellence for Nano Science & Engineering (2013)
- Visit to Dr. Reddy's Laboratories, Bolaram, Hyderabad to study reactor instrumentation (2013)

Other Co-Curricular Activities:

- Attended numerous seminars and presentations organized at the Institute, including a few workshops intended for students and faculty (2013–Present)
- Extra-Curricular Activities:
- Prize-winner, “*antyaakshari*” competition by Crescendo (Music Club) during Sintillashunz '15 and Sintillashunz '16
- Moderator & Participant, “Social Assembly” by VNRSF during Convergence 2k15, 2k16, and 2k17
- Faculty Coordinator, Telugu Literary Club “విజ్ఞానజ్యోతిసాహితీవనం” (2013–'15)
- Volunteer, NSS Unit VNRVJIET
- Volunteer, VNRSF

3.5 Counseling and Mentoring Activity:

- Mentor for 6 students of II year B.Tech. (EIE), 8 students of III year B.Tech. (EIE), and 8 students of IV year B.Tech. (EIE)
- Mentees in III year B.Tech. (EIE) are active participants and prizewinners in co-curricular activities including Poster/Paper Presentations at the Institute and other peer institutions, IEEE-Google Little Box Challenge, Weekend Projects, Mini Projects, Show and Tell activities
- Encouraged students of I, II, III, and IV years to participate in Open House 2k16 and 2k17
- Guided I year B.Tech. (EIE) students to present at the Open House 2k16 and I year B.Tech. (EIE) and I year B.Tech. (EEE) students to present at the Open House 2k17 – I year students participating in the Open House was unprecedented!
- Guided a Major Project in 2016, which went on to win the 2nd prize of USD250 in the “2016 IEEE Maker Project” at an international level, among 180 entries!
- Constantly being in touch with students and guiding them and helping them out of individual responsibility, even after some of them graduated

3.6 Committees involved in:

Department Level:

- Board of Studies (2013–'16)
- Class Review Committee (2013–'14)

Institute Level:

- Editorial Board, VignanaVartha (2013–Present)
- Anti-Ragging (2013–'14)

4.Conference / Workshop / Seminar / Guest Lectures:

4.1Conducted:

- International Workshop on “Reviving Education by Implementing Active & Guided Inquiry Experiences in STEM (Science, Technology, Engineering & Math) (REIMAGINE STEM)” at VNRVJIET (2013)

4.2Attended:

- TEDx VNRVJIET: “Paradigm Shift” (2017)
- Workshop on “Advanced Engineering Materials & Applications” at VNRVJIET (2017)
- Faculty Development Programme on “Sensor Networks and Internet of Things” by NIT-W, held at VNRVJIET (2016)
- Faculty Development Programme on “Use of ICT in Education for Online and Blended Learning” by IIT-Bombay, held at VNRVJIET (2016)
- Workshop on “Design and Fabrication of MEMS” at VNRVJIET (2016)
- TEDx VNRVJIET: “Unshell” (2016)
- Workshop on “Telugu in Information Technology” at VNRVJIET (2015)
- Seminar on “MATLAB & Simulink for Engineering Education” by Mathworks Inc. (2014)
- Workshop on “Design of POGIL activities for Outcome Based Education” at VNRVJIET (2014)
- Workshop on “Engineering the Education Scenario towards a Learner-Centric Environment” at VNRVJIET (2014)
- National Workshop on “Quality Initiatives in Technical and Higher Educational Institutions” at the ESCI, Hyderabad (2013)
- National Summit on Quality in Education (NSQE) Workshop with the theme “Smart Measurements for a Sustainable Educational Institution” at Christ University, Bengaluru (2013)
- “Art of Teaching” at VNRVJIET (2013)
- “POGIL Workshop” at VNRVJIET (2013)
- International Workshop on “Reviving Education by Implementing Active & Guided Inquiry Experiences in STEM (Science, Technology, Engineering & Math) (REIMAGINE STEM)” at VNRVJIET (2013)

5.Academic Contribution and Research & Consultancy:

5.1Invited Lectures: -Nil-

5.2 Articles /Chapters published in Books: -Nil-

5.3Books published as single author or as editor:

- K. Chakravarthula, “Study of Jet Transverse Momentum and Jet Rapidity Dependence of Dijet Azimuthal Decorrelations with the DØ Detector”, *ProQuest, UMI Dissertations Publishing* (ISBN: 9781267765338) (2012)

5.4 Projects Guided:

a) UG (Major):

- Title: Intelligent Distance And Mileage Estimator for Automobiles (IDAMEA)
Objective: To develop a low-cost, practical solution to estimate the distance that can be travelled with the available quantity of fuel in the fuel tank of an automobile.
Outcome: Direct societal impact through an intelligent sensor for two-wheelers
- Title: HPLC Troubleshooting and Analysis Range Increment (Shimadzu LC-2010CHT)
Objective: To systematically isolate, identify, and correct typical problems and increasing working and analysis range of the HPLC system Shimadzu LC-2010CHT
Outcome: Analysis range enhanced from visual spectrum to the entire spectrum
- Title: Head Motion Controlled Wheelchair Using MEMS Accelerometer
Objective: To design and construct an accelerometer-based, head-motion-controlled wheelchair system for physically challenged, and particularly for quadriplegics.
Outcome: Prototype wheelchair that moves by head motion of the seated individual
- Title: Measurement of Blood Conductivity and Clotting Time
Objective: To measure the conductivity of blood and estimate the clotting time based on the measured blood conductivity.
Outcome: Blood Conductivity and Clotting Time correlated through measurement
- Title: Remote Vocal Communication to Aid Speech-Impaired Persons
Objective: To design a device for various speech-impaired persons to communicate easier by using voice commands.
Outcome: Empowerment of speech-impaired people at healthcare centres
- Title: Microsoft Kinect[®] based Wheelchair Navigation
Objective: To design and implement a voice and gesture controlled wheelchair using Microsoft Kinect[®].
Outcome: Smart upgradability for existing wheelchairs to move using voice or gestures. This project won the 2nd prize among 180 entries internationally at the 2016 IEEE Maker Project!
- Title: Adaptive Mentoring System Using Fuzzy Logic
Objective: To streamline the process of assigning a mentor to students by mapping students with faculty members based on common academic, research, and extra-curricular interests.
Outcome: Enhancement to the effectiveness of mentoring
- Title: Visual Music for Hearing Impaired
Objective: To develop a visual aid for the hearing impaired to learn and identify music without the assistance of sound
Outcome: A LabVIEW[®] executable program to display colours corresponding to different music notes in any composition, eventually also usable in live concerts

UG (Minor):

- Title: Water Level Indicator
Objective: To develop a water level indicator with an auditory and visual warning
Outcome: A simple water level indicator where an LED indicates the filling tank level and sounds an alarm before spilling occurs
- Title: FM Transmitter
Objective: To understand the operation of basic wireless telecommunication.

Outcome: Avery small and full functional FM transmitter that we can stick into a plastic mint box.

- Title: Soil Moisture Sensor
Objective: To measure and display, soil moisture locally during various phases of agriculture.
Outcome: Measurement of soil moisture content is accomplished and irrigation system is managed efficiently.
- Title: Automatic street light control using LDR
Objective: To prevent power loss during the day and glow lights only in the dark.
Outcome: A prototype of ambient light-controlled street light
- Title: Application of Rain Sensor
Objective: To automatically roll up window panes of a car when it rains
Outcome: A prototype was developed for use in automobiles and for sprinkler irrigation systems.

c) Other Projects:

- Title: Smart, Advanced Upgrades with Low-cost Automation & Bluetooth®-assistance for Homes with Yesteryears' Appliances (SAULABHYA)
Objective:To upgrade existing appliances at home cost efficiently, while incorporating smart automation and to control appliances through smartphone.
Outcome: Smart control of lights, ceiling and pedestal fans, sliding window panes, and water pump and a timed switchboard
- Title: Air-powered Night Illuminating Sensor by Hemanth and Adithya (ANISHA)
Objective: To use renewable energy and prevent power wastage to glow lights only in the dark.
Outcome: A prototype of wind-energy powered LED lamp that glows in the dark
- Title:Shoes for Timely Energy Production Using Piezoelectricity (STEP UP)
Objective:To generate electrical energy through walking, by upgrading regular shoes
Outcome: Conversion of mechanical energy into usable electrical energy without any extra effort except regular walking
- Title: Innovative Counter
- Title: Make Your Home Smarter for Tomorrow (MyHoST)

5.6.Research Interests:

- Sensors, Virtual Instrumentation, Internet of Things, Data Sciences
- Assistive Technologies, Biomedical Sensors, Biomedical Imaging
- High Energy Physics, Particle Physics, Quantum Chromodynamics (QCD)
- Microsystems, Nanotechnology, MEMS/NEMS
- Protein Engineering, Biochemistry, Nanobiotechnology

5.7.Ph.D. students: -Nil-

a) Enrolled: -NA-

b) Submitted: -NA-

c) Awarded: -NA-

5.8Papers published in reviewed journals:

S. No.	Title of the Paper	Journal Name, Vol. No.:pp.	ISBN/ISS N No.	Impact Factor/ Citation Index	National/ International

1	Measurement of the Combined Rapidity and pT Dependence of Dijet Azimuthal Decorrelations in ppbar collisions at $\sqrt{s} = 1.96$ TeV	Physics Letters B, 721:212–219	(Print) ISSN: 0370-2693	6.019 (2015 IF: 4.787)	International
2	A New Quantity for Studies of Dijet Azimuthal Decorrelations	Journal of High Energy Physics 2013:172	(Online) ISSN: 1029-8479	5.618 (2015 IF: 6.023)	International
3	Polypeptide Multilayer Films: Role of Molecular Structure and Charge	Langmuir 20(11):4540–4547	(Print) ISSN: 0743-7463	4.187 (2015 IF: 3.993)	International

5.9 Papers presented at National / International Conferences:

S. No.	Title of the Paper	Names of the Conference/ Seminars	National/ International	Period
1	POGIL for Electronics & Instrumentation Engineering (Poster)	13 th Annual POGIL National Meeting, St. Louis, MO, USA	International	May 30–Jun. 02 2015
2	Enhancing Engineering Education through POGIL and Learning by Doing (Poster)	11 th Annual POGIL National Meeting, St. Louis, MO, USA	International	Jun. 01–04 2013
3	Measurement of the Rapidity Dependence of Dijet Azimuthal Decorrelations and Determination of the Strong Coupling Constant	American Physical Society April Meeting, Atlanta, GA, USA	International	Mar. 31–Apr. 03 2012
4	Triple Differential Measurement of Dijet Azimuthal Decorrelations	DØ Winter Physics Workshop, FNAL, Batavia, IL, USA	International	2012
5	Measurement of Dijet Azimuthal Decorrelations in Proton-Antiproton Collisions at $\sqrt{s} = 1.96$ TeV	American Physical Society April Meeting, Anaheim, CA, USA	International	Apr. 30–May 03 2011
6	Jet Transverse Momentum and Jet Rapidity Dependence of Dijet Azimuthal Decorrelations	DØ Collaboration Meeting, FNAL, Batavia, IL, USA	International	2011
7	A New Observable to Study Dijet Azimuthal Decorrelations	DØ Collaboration Meeting, FNAL, Batavia, IL, USA	International	2010
8	Insight Into Polypeptide LbL Assembly Using Model Peptides Poly-L-Lysine and	Louisiana Materials Research Conference, Baton Rouge, LA, USA	International	2003

	Poly-L-Glutamic Acid (Poster)			
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5.8.Papers published in reviewed journals

5.9. Sponsored research Projects:

S.No	Title	Agency	Period	Grant amount	Ongoing / Completed

5.10 Consultancy Projects:

S.No	Title	Agency	Period	Sanctioned Amount	Ongoing / Completed

6.Awards / Honors received:

- Editor, Journal of Instrument & Control, STM Journals, India (2014–Present)

7.Motto:

“Educating the Literates”