

## Report on

### Faculty Development Program on Engineering Statistics and Linear Algebra

**Venue:** ECE Seminar hall, SJCIT

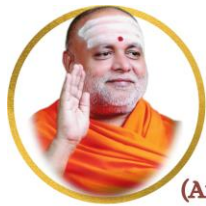
**Date:** 15<sup>th</sup> April, 2021 to 17<sup>th</sup> April, 2021

**Association:** Institutions Innovation Council (IIC) and IEEE

#### Registration Details

Sl No		
1	External Faculties	25
2	Internal Faculties	29
	Total	54

Poster



|| Jai Sri Gurudev ||

Sri Adichunchanagiri Shikshana Trust ®

**S J C Institute of Technology**

Chickballapur - 562101

(Affiliated to VTU, Belagavi, Recognized by AICTE, New Delhi, Accredited by NAAC, NBA(ECE, CSE, MED))



**Department of Electronics and Communication Engineering**

Faculty Development Program

On

**Engineering Statistics and Linear Algebra**

April 15 - 17, 2021

**VENUE:**

EC SEMINAR HALL  
SJCIT

**By**

**MANAGEMENT, PRINCIPAL AND STUDENTS**

**TIMINGS:**

**9.45 AM ONWARDS**

**Objective:** The aim of FDP is to help faculties in Understanding Single and Multiple Random Variables, Random Processes. Develop familiarity with the concept of Vector spaces and orthogonality with qualitative insight into applications in communications. Compute the quantitative parameters for Matrices and Linear Transformations. This FDP covers all the five modules specified in the VTU syllabus

**Invitation:**

|| Jai Sri Gurudev ||  
Sri Adichunchanagiri Shikshana Trust ®  
**S J C INSTITUTE OF TECHNOLOGY**  
CHICKBALLAPUR - 562101  
(Affiliated to VTU, Belagavi, Recognized by AICTE, New Delhi, Accredited by NAAC, NBA(ECE, CSE, MED))

**THREE DAYS (OFFLINE MODE)  
FACULTY DEVELOPMENT PROGRAM  
ON  
ENGINEERING STATISTICS AND LINEAR  
ALGEBRA  
APRIL 15 - 17, 2021**

**ORGANIZED BY  
DEPARTMENT OF ELECTRONICS AND COMMUNICATION  
ENGINEERING  
IN ASSOCIATION WITH**

**IEEE** **INSTITUTION'S  
INNOVATION  
COUNCIL**  
(Ministry of HRD Initiative)

Website: [www.sjcit.ac.in](http://www.sjcit.ac.in)

**DIVINE BLESSINGS**  
HIS HOLINESS JAGADGURU PADMABHUSHANA BYRAVAIKYA  
SRI SRI SRI DR. BALAGANGADHARANATHA MAHA SWAMIJI

**CHIEF PATRON**  
HIS HOLINESS PARAMAPODHYA JAGADGURU  
SRI SRI SRI DR. NIRMALANANDANATHA MAHA SWAMIJI

**PATRONS**  
PODHYA SRI SRI MANGALANATHA SWAMIJI  
SECRETARY SASTRO, CHICKBALLAPUR  
**DR. N SHIVARAM REDDY**  
CAO, SASTRO, CHICKBALLAPUR

**ORGANISING CHAIR**  
**DR. G T RAJU**  
PRINCIPAL, SJCIT

**CONVENER**  
**DR. B N SHOBHA**  
PROFESSOR & HOD, ECE

**CO-ORDINATOR**  
**Dr. Sudir P**  
ASSOCIATE PROFESSOR, ECE  
[sudheer1696.ece@sjcit.ac.in](mailto:sudheer1696.ece@sjcit.ac.in)  
9844383890

**CO-COORDINATORS**  
**SRIVANI E N** 9164154766  
**RAVI KIRAN R** 9738228959  
**SHWETHA V** 9620707800  
**ROOPA M** 9964850555

**ABOUT THE INSTITUTION**  
Sri Jagadguru Chandrashekaranatha Swamiji Institute of Technology (SJCIT) since 1986 is dedicated to impart quality education. With the divine blessings of Paramapoojya Jagadguru Byravaikya Padmabhushan Sri Sri Sri Dr. Balagangadharanatha Maha Swamiji the Institute is managed by Sri Adichunchanagiri Shikshana Trust (R). The trust is under the astute visionary & spiritual guidance of Paramapoojya Jagadguru Sri Sri Sri Dr. Nirmalanandanatha Maha Swamiji. The college campus is spread over 62 acres of lush green environment and is located near Muddenahalli, the birth place of the Architect of Modern India, Sir M. Visvesvaraya. The college is situated on Bengaluru - Bellary National Highway (NH44) about 60 Kms from Bengaluru and 20 Kms from Kempegowda International Airport. The institution offers seven Under Graduate Programmes (ECE, ME, CV, CS, IS, AE, AS) and six Post Graduate programme namely Machine Design, Digital Communication & Networking, Computer Science & Engineering, Infrastructure and Management Engineering, Structural Engineering and MBA and also has Eight VTU Recognized R&D Centers.

**ABOUT THE DEPARTMENT**  
The Department of ECE, established during the inception of the Institution, offering UG degree in ECE with an intake of 180 and PG degree in Digital Communication & Networking. It is well equipped with state-of-the-art laboratories. The department is strengthened with the dedicated faculty to exploit all the available teaching and training aids to impart quality education. Various Training Activities / Seminars / Workshops are regularly organized to improve the Technical Skills of both faculty and Students. The department provides best training to face campus recruitment for better future of the students. Students of the department have been placed in the top most companies with good packages. Major IT & Electronics companies do visit our campus during recruitment period.

**OBJECTIVE**  
The aim of this FDP is to help faculty members in understanding Single and Multiple Random variables, Random Processes, Develop familiarity with the concept of Vector spaces and orthogonality with qualitative insight into applications in Electronics and Communications and to compute the quantitative parameters for Matrices and Linear Transformations. This FDP focuses on covering the complete contents of subject (18EC42) as prescribed by VTU.

**ELIGIBILITY & REGISTRATION FEE**

- This FDP is interdisciplinary, open to the faculty members from AICTE approved institutions, Research Scholars, Participants from Industry and R&D Organizations.
- Registration fee is Rs 750/- per participant. Number of participants is restricted to 40.
- Kindly register online with the google form and QR code given.
- Outstation participants will be provided accommodation and boarding in the institute hostel.

**VISION AND MISSION**

**VISION:**  
To achieve academic excellence in electronics and communication engineering by imparting quality technical education and facilitating research activities.

**MISSION:**

- Establishing state of the art laboratory facilities and infrastructure to develop the spirit of innovation and entrepreneurship.
- Nurturing the students with technical expertise along with professional ethics to provide solutions for societal needs.
- Encourage lifelong learning and research among the students and faculty

**IMPORTANT GUIDELINES AND DATES**

- Eligible participants will be selected based on "First Come First Serve" basis.
- Certificate to the participants will be issued after successful completion.
- Transportation from Bengaluru will be provided through college bus.
- Last date for Registration: 12-04-2021

**ONLINE REGISTRATION:**  
<https://forms.gle/dGit9zjyJx9ZC8TZ9>



**ONLINE PAYMENT:**



**RESOURCE PERSONS**

- Dr. H V KUMARASWAMY**  
PROFESSOR, ASSOC. DEAN, RVCE, BENGALURU
- Dr. A SRINIVAS MURTHY**  
PROFESSOR, DEPT OF ECE UVCE, BENGALURU
- Mr. SANDEEP ACHARYA**  
PRINCIPAL ENGINEER, NXP SEMICONDUCTOR, BENGALURU
- Dr. N SRINIVAS RAO**  
ASSOC. PROFESSOR, DEPT OF TCE, BMSCE, BENGALURU
- Dr. RANGASWAMY**  
ASSOC. PROFESSOR, DEPT OF MATHS, BMSCE, BENGALURU

**FOR TRANSPORTATION & ACCOMMODATION, CONTACT**

- MR. KALIAH J B**  
ASSISTANT PROFESSOR, ECE  
9742140800
- MR. MOHAN BABU**  
ASSISTANT PROFESSOR, ECE  
9036939207



**Program Schedule:**

**Venue: EC Seminar Hall**

Day/Date	Time	Name and Organization of the Resource Person	Topic
<b>Day-1 Thursday [15/04/2021]</b>	9:00AM to 10:00AM	Registration	
	10:00AM to 10:30AM	Dr. Kumaraswamy H V, Professor & Associate Dean, RVCE	Inauguration and Keynote Address
	10:30 AM to 10.45 AM	Tea Break	
	10.45 AM to 1:30 PM	Dr. Kumaraswamy H V, Professor & Associate Dean, RVCE	Overview of Engineering Statistics and Linear Algebra
	1:30 PM to 2:30 PM	Lunch break	
	2:30 PM to 3:45 PM	Dr. B N Shobha Professor & HOD, Department of ECE, SJGIT	Application of special distributions
	3:45 PM to 4:00 PM	Tea Break	
<b>Day-2 Friday [16/04/2021]</b>	09.30 AM to 11:00 AM	Dr A Srinivas Murthy Professor, Dept of ECE UVCE Bangalore	Multiple random variables
	11:00 AM to 11:15 AM	Tea Break	
	11:15 AM to 1:00 PM	Dr A Srinivas Murthy Professor, Dept of ECE UVCE Bangalore	Multiple random variables, Random processes and applications
	1:00 PM to 2:00 PM	Lunch break	
	2:00 PM to 4:00 PM	Dr Shobha B N Professor, HOD, Dept of ECE SJGIT	Probability Distribution Types, Applications
<b>Day-3 Saturday [17/04/2021]</b>	09.30 AM to 11:00 AM	Mr. Sandeep Acharya Principal Engineer NXP Semiconductors Bangalore	Vector, spaces, and its applications Particularly in DSP
	11:00 AM to 11:15 AM	Tea Break	
	11:15 AM to 1:00 PM	Dr Malharjun Assistant Professor Department of Mathematics BMSCE, Bangalore	Determinants: Properties of Determinants, Eigen values and Eigen vectors, Permutations and Cofactors
	1:00 PM to 2:00 PM	Lunch break	
	2:00 PM to 3:00 PM	Valedictory	

- Inaugural Schedule:



|| JAI SRI GURUDEV ||

# S J C Institute of Technology

Chickballapur-562101



Cordially invites you for Inaugural function of

**Three Days (OFFLINE MODE)  
FACULTY DEVELOPMENT PROGRAM**

On

**ENGINEERING STATISTICS AND LINEAR ALGEBRA**

**Date:** 15<sup>th</sup> April, 2021

**Venue:** ECE Seminar hall, SJCIT

**Time:** 10:00 AM to 10:30 AM

10:00 AM to 10:10 AM	Invocation by <b>Ms. Pavithra L</b> Welcome address by <b>Dr. G T Raju</b> Principal, SJCIT
10.10 AM to 10:15 AM	About FDP Programme by <b>Dr. B N SHOBHA</b> Professor & Head, Department of Electronics & Communication Engineering
10:15 AM to 10:20 AM	Presidential Remarks <b>Dr. N Shivarama Reddy</b> CAO, Sri Adichunchanagiri Shikshana Trust@ Chickballapur Division
10:20 AM to 10:25 AM	Ashuvachana by Sri Sri Mangalanatha Swamiji
10:25 AM to 10:30 AM	Vote of Thanks by <b>Dr. Sudir P</b> Associate Professor, Department of Electronics & Communication Engineering
10:35AM to 12:00PM	Keynote Address By <b>Dr. Kumaraswamy H V</b> Professor & Associate Dean RVCE, Bangalore

**Master of Ceremony:** Prof. Shwetha V  
Assistant Professor  
Department of Electronics & Communication Engineering



**Speaker 1 Profile : Dr. H.V. Kumaraswamy (Professor, Assoc Dean, RVCE, Bengaluru)**

Educational Qualification: Ph. D

Experience : Teaching: 27 Years

Area of Interest : DSP, Statistical Signal Processing, Smart Antenna, Wireless Communication

Publications:

1. National Conference: 26
2. International Journals: 23
3. International Conferences: 21

Books Published: "Signals & Systems" Published by: Scitech Publication, Chennai, ISB No.8188429260. (Released Revised Edition also)

Interaction with Outside World:

1. As a Member of BoE of: IETE, JU Bangalore, VTU Belgaum, SIT (Autonomous) Tumkur, PESIT Bangalore, BMSCE Bangalore, MSRIT Bangalore, Mangalore University
2. As a Member of BoS: Jain university.( Resource person for Edu-sat program, VTU, Resource person for NPTEL course material preparation, Resource person for NBA activities)

Awards:

3. Honored by ISTE, RVCE Chapter on 7-04-2004 for publishing Book titled "SIGNALS & SYSTEMS" Published by Scitech Publication Chennai
4. Honoured by RSST Bangalore for academic excellence in 2007,2008 & 2009

**Brief Content of Speaker Speech**

Dr. H.V. Kumaraswamy explained about Basics of probability function. He explained about need for probability in real Life. He touched upon topics such as random space, Sample Space, Conditional Probability , Bayes Theorem and their applications in Engineering perspective.

**Speaker 2 Profile : Dr. A. Srinivas Murthy (Professor, Dept of ECE, UVCE, Bengaluru )**

**Profile:**

Educational Qualification:

PUC from MES College 1975-77

BE (ELECTRONIS) UVCE, 1977-1982

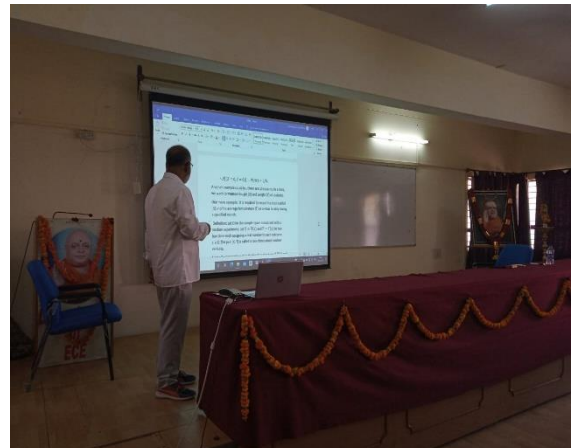
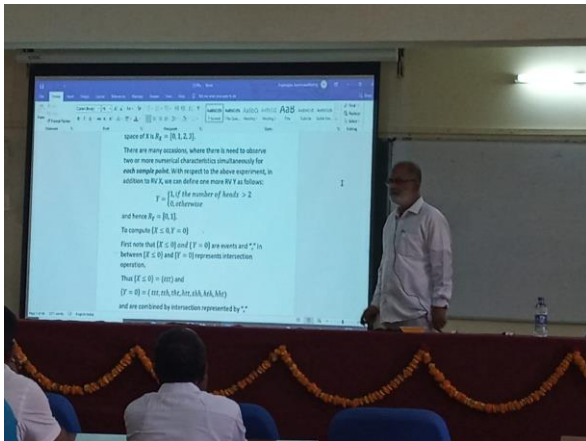
ME (System science & automation) from IISc 1992-94

PhD (Signal processing) from IISc, completed in 2013

Experience : Teaching: 33 Years

Area of Interest : Electronic devices & circuits, Pulse & digital circuits, Microprocessors, DSP, Probability & Random processes, Information theory & coding & Speech signal processing

**Photo of event**



**Brief Content of Speaker Speech**

**Dr. A. Srinivas Murthy** explained about Basics of Random variables, Multiple Random Variable, Bi variant Random Variables. He explained about need for random variables in various technologies. He touched upon topics such as Two-dimensional Gaussian Random Variable, their mathematical Aspects, Correlation and power spectral density and their applications in Engineering perspective.

### **Speaker 3 Profile : Dr. B N Shobha (Professor & HOD, Department of ECE, SJCIT )**

Experience : 28 years of experience in teaching, training and research

She has been involved in teaching students for courses of B.E., MCA, MBA, MTech and Msc[Engg.]. She is associated with universities like Bangalore University, Visvesvaraya Technological University, Manipal University, Indira Gandhi National Open University and Adichunchanagiri University.

She has delivered trainings to corporate companies and organizations like BEL, Altair Corp, Wipro, Tata-Elxsi, LRDE, Infosys, Tejas Networks, TCS, ISRO, L&T, ATOS, Robert Bosch, Tata Motors & Mahindra

Dr. Shobha is a Fellow and elected member of Institute of Engineers (India), Karnataka State Centre and member of various professional bodies. She has 57 papers in international and national journals and conferences. She has guided and evaluated 45 Masters' theses and guiding 5 PhD scholars

She has held position as Academic Council member, Board of Examiner, Board of studies, Editorial board member, project review member for L&T infotech, faculty recruitment committee member, Advisory committee board member for conferences, has chaired more than 10 national and international conferences. She is also a Chartered Engineer (India) and certified ISO Internal Auditor for ISO 9000:2015

### **Photo of event:**



### **Brief Content of Speaker Speech**

The following points were discussed in the speech

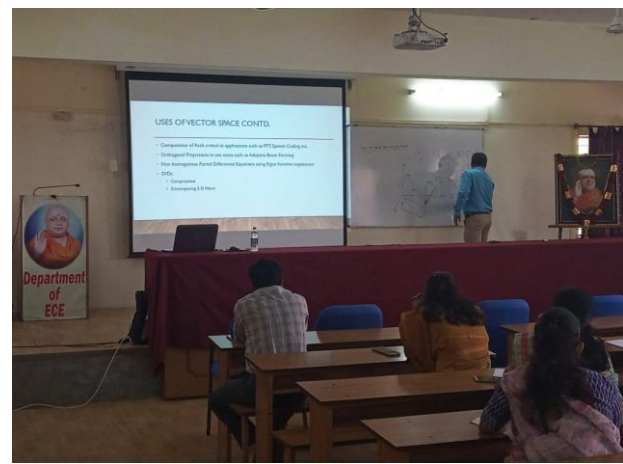
- The distribution provides a mathematical function that can be used to calculate the probability for any individual observation from the sample space
- This distribution describes the grouping or the density of the observations, called the probability density function
- Common distributions such as Uniform, Exponential, Binomial, Poisson, Laplace, Gaussian were explained with their applications in Engineering

### Speaker 3 Profile : Mr. Sandeep Acharya (Principal Engineer, NXP Semiconductors )

DSP Engineer with 15years of Experience in the field of ADAS, Embedded Systems, Multimedia Codecs, Audio Post Processing Systems, Audio Drivers. Have worked on a variety of Image processing algorithms, codecs, Embedded Systems and platforms with driver and system integration from scratch. Have been actively involved in various customer oriented projects with building the whole Audio Driver implementation, Signal processing for Eureka 147 DAB receiver SW toolchain, Audio Post Processing Effects viz EQ, Stereo Widening, Loud Speaker Freq Response Correction etc.

Specialties: DSP, Multimedia, Audio, Speech, Video, System integration of multimedia algorithms, Postprocessing, Preprocessing etc

### Photo of event



### Brief Content of Speaker Speech:

Author touched upon concepts such as Vectors, Vector Spaces, Matrices as vectors, Reduced row echelon form, Null Space, Column Space, Rank Nullity Theorem and their applications in Engineering



## Speaker 5 Profile : Dr. Bandaru Mallikarjuna

Asst. Professor in Mathematics BMS College of Engineering, Bangalore

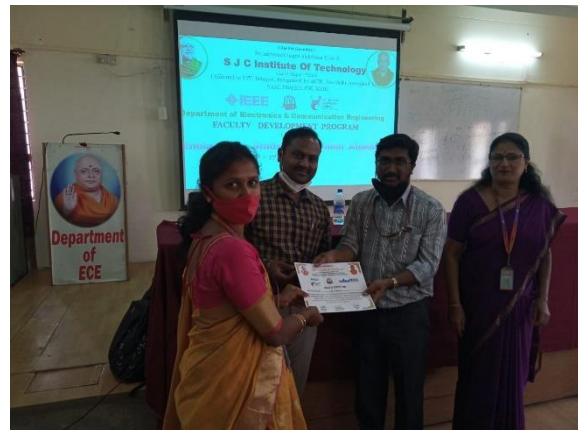
Ph.D. (Mathematics) from Jawaharlal Nehru Technological University Anantapur, Anantapuramu (2010-2015). Title:-“Convective heat and mass transfer in viscous fluid flow over a porous medium”.

- M.Phil. (Mathematics) from Vinayaka Missions University, Salem (2007-2008).
- M.Sc. (Applied Mathematics) from Sri Krishnadevaraya University, Anantapur (2005 - 2007).

Awarded best paper presentation for presenting the paper Effect of Thermophoresis on heat and mass transfer by convective flow along a sinusoidal wavy surface on 3 rd International Conference on Convergent Innovative Technologies” held on 20th May 2016, at Cambridge Institute of Technology, Bangalore.

- Selected for Inspire Fellowship (Equivalent to JRF) from DST (Department of Science and Technology), Delhi for the full time Ph.D program.
- Qualified CSIR-UGC NET JUNE-2010
- Awarded Prof. Sitaramaswamy memorable prize for getting first rank in M.Sc 2007.

## Photo of event



## Brief Content of Speaker Speech

- Speaker Dr. Bandaru Mallikarjuna explained about matrix as Vector, Applications of Linear Algebra in Electronics, Control System, Civil Engineering, Computer Science etc. Speaker touched upon Concepts about Vector Space, Eigen Vector, Eigen value, Applications in Computer Graphics, Singular Value Decomposition and their application in Image Compression and Wavelet Signal Processing.

## Group Photo



## Certificate Issue Event:



|| JAI SRI GURUDEV ||



## SJC INSTITUTE OF TECHNOLOGY

P. B NO .20, 88 ROAD, CHIKKABALLAPUR - 562101  
(AFFILIATED TO VTU, BELAGAVI & APPROVED BY AICTE, NEW DELHI)  
ACCREDITED BY NBA(MED,ECE,CSE),NAAC & GOLD RATED BY QS-1 GAUGE



### THIS IS TO CERTIFY THAT

Mr/Mrs/Dr/Prof \_\_\_\_\_

has Participated In Three Days Faculty Development Program on "**ENGINEERING STATISTICS AND LINEAR ALGEBRA**" organized by Department of Electronics and Communication Engineering, S J C Institute of Technology, in association with IEEE SB SJCIT, IEEE Bangalore Section and Institution Innovation Council from 15th April 2021 to 17th April 2021.

DR. P. SUDIR  
CO-ORDINATOR,  
ECE, SJCIT

DR. B.N. SHORHA  
IEEE SB COUNCELLOR  
HEAD DEPT ECE SJCIT

DR. G.T. RAJU  
PRINCIPAL  
SJCIT