ELIGIBILITY:

The ISTE-AICTE Refresher programme is open to all faculty members from AICTE approved Institutions, research scholars, participants from Government organizations and Industries. Priority should be given to ISTE Life Members. On completion of each day an online objective test/ quiz-based assessment will be conducted. Those who have an attendance of minimum 80% and score more than 60% in the test will be issued a digital certificate.

FEE:

No registration fee is charged for the programme, since the program is fully sponsored by AICTE-ISTE, New Delhi.

Important Dates:

Last Date of Registration: 19th **Dec, 2021**

Announcement of selected candidates: **20th Dec, 2021**

Schedule of the event: **22nd December to 29th December, 2021**

ONLINE REGISTRATION: To join this Online FDP, you are requested to register your name and whatsapp number by clicking the registration link:

https://forms.gle/uZKFMs63LUgiM6q58

ADDRESS FOR CORRESPONDENCE:

Coordinator

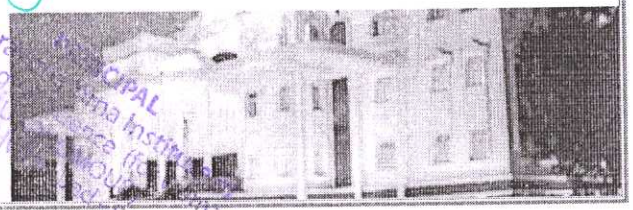
Dr. C. Padmaja

Assistant Professor

Dept. of Electronics & Communication Engineering, GNITS, Hyderabad, Telangana State, India- 500104

Mobile: +91 9866649611, 9502407938

Email: padmaja.chennapragada@gmail.com



CHIEF PATRONS

Sri. P. SUBBA REDDY, Chairman

Smt. G. SRIVIDYA REDDY, Secretary

CHIEF GUESTS

Col. B VENKAT, Director Faculty Development, AICTE

Prof. VIJAY D. VAIDYA, Executive Secretary, ISTE

PATRON

Dr. K. RAMESH REDDY, Principal

PROGRAMME ADVISORS

Dr. P.V.D. SOMA SEKHAR RAO, Professor, Dean Academics

Dr. P. SUDHAKAR RAO, Professor, Dean R&D

CONVENER

Dr. B. VENKATESHULU, Professor, HOD-ECE

COORDINATOR

Dr. C. PADMAJA, Assistant Professor, ECE

RESOURCE PERSONS

Eminent faculty from IIT's, NIT's, IIITH, SAU, MNIT's, NITTTRC and Nokia Network will deliver lectures and hands-on sessions.

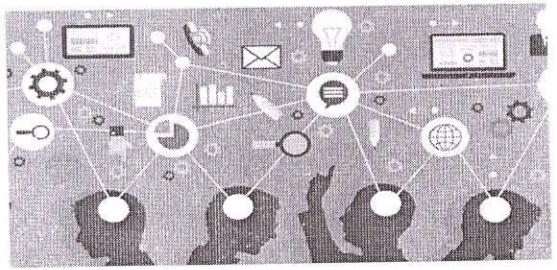
Dr. Chella Sastry, IITH
Dr. Rajib Kumar Bhattacharjya, IIT Guwahati
Dr. P. Ubaidulla, IIIT Hyderabad
Dr. Neeraj Sharma, IIT BHU
Dr Ravi Kumar Jatoth, NITW
Dr. Satish Kumar, NIT Jamshedpur
Amitav Panda, Solution Specialist, Nokia Network
Dr. Jagdish Chand Bansal, South Asian University
Prof. Rajesh Kumar, MNIT, Jaipur
Dr. S. J. Nanda, MNIT, Jaipur
Dr. Urvashi P.Shukla, Banasthali Vidyapith
Dr. Balwinder S. Dhaliwal, NITTTR Chandigarh
Prof. Sitanshu Sekhar Sahu, Birla Institute
Dr. N.S. Murthy, Vasavi College of Engg, Hyderabad
Dr. C. Padmaja, GNITS, Hyderabad

AICTE-ISTE Sponsored One Week

INDUCTION/REFRESHER PROGRAMME – 2021-22

On

OPTIMIZATION in COMMUNICATION ENGINEERING



DECEMBER 22-29, 2021

Coordinator

Dr. C. PADMAJA

Assistant Professor, ECE

Organized by

Department of Electronics and Communication Engineering

G. NARAYANAMMA INSTITUTE OF TECHNOLOGY & SCIENCE (For Women)

(Autonomous)

Approved by AICTE, New Delhi & Affiliated to JNTUH, Accredited by NBA &NAAC, ISO 9001:2015 Certified, Shaikpet, Hyderabad, Telangana, India – **500 104**

ABOUT THE INSTITUTE

G.Narayanamma Institute of Technology & Science, a leading Engineering college in Hyderabad for women, was founded by late Sri G.Pulla Reddy garu in 1997, with an objective of providing excellent learning facilities for women to pursue education in Engineering since two decades. The aim is to promote Technical Education among women to enhance and build-up a new generation of thinkers, innovators and planners in the realms of Science and Technology. GNITS received UGC autonomous status for 10 years from 2018 and is affiliated to Jawaharlal Nehru Technological University Hyderabad. It is approved by All India Council for Technical Education, accredited by NAAC & NBA (AICTE) and ISO 9001:2015 Certified Institution. "AICTE Internshala Award" by AICTE in August, 2018. "National Employability Award" 3 times in a row for being among top colleges in the State from AMCAT from 2017 to 2019.

ABOUT DEPARTMENT

The department of ECE was started in the year 1997 with an intake of 60 students. The intake was increased to 180 students. A Separate block is provided to develop the department as a centre of excellence. The department has established laboratories which are fully equipped with test & measuring equipment and trainers specially designed for lab work. The department has R & D Equipment such as 2×2 MIMO, Nexys 4 A7 FPGA boards, XILINX Vivado system edition 2018.1 version, NetSim, HFSS, LABVIEW, MATLAB, Mentor graphics HEP1 and 2, LIDAR, RFID Reader, ADS 1198 kit for ECG, EKG interface board, Smart Vision Camera, GSM/GPRS module.Node MCU,Ultra sonic & MQ3 Sensor, CHIPKIT Microcontroller etc of worth 12 Lakhs are available. The Alumnae are well-placed in reputed organizations like INFOSYS, Micron, Deloitte, NCR, Accenture FSE, Quantium Analytics, Ford, Optum, Colruyt, Virtusa, ADP, LVL7, Value labs and many more.

ABOUT AICTE-ISTE INDUCTION/ REFRESHER PROGRAMMES

All India Council for Technical Education (AICTE) was setup in November 1945 as a national level Apex Advisory Body to conduct survey on the facilities on technical education and to promote development in the country in a coordinated and integrated manner. The Indian Society for Technical Education (ISTE) is the leading National Professional Non-Profit making Society for the Technical Education System in our country with the motto of Career Development of Teachers and Personality Development of Students and overall development of our Technical Education System.

The major objective of the AICTE-ISTE Induction/Refresher Programme are:

- Providing quality training programmes to teachers and administrators of technical institutions to update their knowledge and skills in their fields of activity.
- To assist and contribute in the production and development of top quality professional engineers and technicians needed by the industry and other organizations.

OVERVIEW OF THE COURSE

The Induction/Refresher programme is to provide a platform for the participants to learn and share the knowledge through the lecture delivered by the eminent speakers and discussions with the practitioners. It is intended to describe the systematic approach of optimization, which includes problem definition, its mathematical formulation, selection of a suitable optimization method, and detailed analysis of the solution obtained. The participants will not only exposed to traditional theoretical developments and natured inspired techniques in the field of optimization but also learn about the practical applications of optimization techniques in diverse areas. Both theories and practices of optimization techniques will be covered during the course of the workshop.

OBJECTIVES OF THE COURSE

1. Exposure to the basic concepts of mathematics to formulate an optimization problem.
2. Inculcate and promote research interest in applying optimization techniques in solving problems of Engineering and Technology.
3. Acquire a multi-objective problem through weighted and constrained methods.
4. Exploit elaborated the evolutionary algorithms and steps involved with special emphasis on their application in the field of communications.
5. Apply the latest development in convex optimization to the design and analysis of communication systems
6. To promote quality teaching and research projects in the field of Optimization.

TOPICS TO BE COVERED

- Introduction to properties of Vectors, Norms, Positive Semi-Definite matrices, Sparsity promoting optimization techniques
- Linear Programming, Constrained & Unconstrained Optimization Techniques
- Fundamentals of Optimization: Optimization to Clustering & Classification
- Convex optimization for communications
- Multi-objective Optimization
- Particle Swarm Optimization, Differential Evolution
- Genetic Algorithm and Bio inspired algorithms
- Social spider optimization, grey wolf optimization
- Implementation of using Excel Solver and MATLAB Optimization Toolbox
- Design of Linear Phase FIR Low Pass Filter Using Mutation-Based Particle Swarm Optimization Technique
- Optimization to System Identification
- Application to Channel Equalization using Bio-inspired Algorithm
- Numerical Optimization and Applications with Lab classes
- Application in the area of biomedical engineering

Certificate

This is to certify that ***GVNSK SRAVYA*** has successfully completed the AICTE-ISTE approved Orientation/Refresher Programme on ***"Optimization in Communication Engineering"*** held during **22.12.2021** to **29.12.2021** organized by ***G. Narayanamma Institute of Technology and Science (For Women), Shaikpet, Hyderabad, Telangana.***

Director (FDC) AICTE, ND	Executive Secretary ISTE, ND	Program Coordinator GNITS, Hyderabad	Principal GNITS, Hyderabad

Principal
G. Narayanamma Institute of
Technology & Science (for women)
(AUTONOMOUS)
Shaikpet, Hyderabad - 500 104

PRINCIPAL
G. Narayanamma Institute of
Technology & Science (for women)
(AUTONOMOUS)
Shaikpet, Hyderabad - 500 104

G.NARAYANAMMA INSTITUTE OF TECHNOLOGY & SCIENCE (For Women)
(AUTONOMOUS)
Shaikpet, Hyderabad – 500104

Department: Electronics and Communication Engineering

2021-2022

REPORT

FDP on " **Optimization in Communication Engineering**"

Date of program: **22.12.2021-29.12.2021**

Resource person: Dr. Chella Sastry, IITH,Dr. Rajib Kumar Bhattacharjya, IIT Guwahati, Dr. P.Ubaidulla, IIIT Hyderabad, Dr. Neeraj Sharma, IIT BHU, Dr Ravi Kumar Jatoth, NITW, Dr. Satish Kumar, NIT Jamshedpur, Amitav Panda, Solution Specialist, Nokia Network, Dr. Jagdish Chand Bansal, South Asian University, Prof. Rajesh Kumar, MNIT, Jaipur, Dr. S. J. Nanda, MNIT, Jaipur, Dr. Urvashi P.Shukla, Banasthali Vidyapith, Dr. Balwinder S. Dhaliwal, NITTTR Chandigarh, Prof. Sitanshu Sekhar Sahu, Birla Institute, Dr. N.S. Murthy, Vasavi College of Engg.

About the Program: The AICTE-ISTE Online Refresher Programme, conducted over a week, focused on the pivotal theme of "Optimization in Communication Engineering." This intensive program aimed to equip participants with advanced insights and strategies to optimize communication systems, exploring the nexus between theory and practical applications.

Day 1-2: Introduction to Optimization in Communication Engineering, covering foundational concepts and methodologies.

Day 3-4: In-depth exploration of Optimization Techniques in Wireless Communication, including resource allocation and spectrum management.

Day 5: Advanced Topics, such as Machine Learning in Communication Optimization and Case Studies on Best Practices.

The AICTE-ISTE Online Refresher Programme proved to be a valuable platform for professionals seeking to expand their expertise in optimizing communication systems. The comprehensive week-long initiative facilitated a rich learning environment, fostering collaboration and knowledge exchange among participants, ultimately contributing to the advancement of communication engineering practices.

Signature of the Faculty member

PRINCIPAL
G. Narayanamma Institute of
Technology & Science (for women)
(AUTONOMOUS)