

AICTE Sponsored
Two Week Faculty Development Programme (FDP)
on
Hands on Project-Based Approach for
Biomedical Signal Analysis using MATLAB

December, 2020 & February, 2021

Registration Form

Name: _____

Designation: _____

Organization: _____

Correspondence Address: _____

PIN code

Phone # _____

E-mail: _____

WhatsApp Mobile No _____

Category: Academic/Industry/others

Signature of the Participant: _____

Date: _____

Place: _____

Participants need to fill this registration form and upload the scanned copy in PDF format in the below registration link.

Registration Link

<https://forms.gle/pcBcoDBxtGrCVW1k8>

Last Date for Registration: on or before 26.12.2020

ELIGIBILITY & REGISTRATION: No registration fee

The Faculty members, research scholars, PG students of AICTE approved Engineering colleges, Polytechnics working in the field of Signal processing, communications and instrumentation are eligible to apply. Admissions will be offered subject to the availability on a first-come, first-served basis & area of specialization with a maximum attendance of 100

MODE OF CONDUCTION: Online Mode – 2 times as per the dates announced, on the same theme but with different audience.

Online meeting link will be sent through WhatsApp and registered email. Since Hands on sessions will be conducted in MATLAB, all the participants are informed to get MATLAB installed in their systems

CERTIFICATION:

E-Certificates will be issued to those participants who attend all the sessions of the programme and clear the online exam as per the norms stipulated by the AICTE

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AICTE
Sponsored
Two Week
Faculty
Development
Programme(FDP)



“Hands on Project-Based Approach for
Biomedical Signal Analysis using
MATLAB”

FDP phase-I: Dec 28,2020-Jan 10,2021

FDP phase-II: February 01-13,2021

Coordinator

Prof. K. Ashoka Reddy

Dept. of ECE

Co-coordinators

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Organized by

Department of Electronics & Communication Engineering

Kakatiya Institute of Technology & Science, Warangal

(An Autonomous Institute under Kakatiya University)

(Accredited by NAAC with 'A' Grade)

**Opp: Yerragutta Gutta, Hasanparthy (M),
Warangal-506015 (TS), INDIA.**

Check more details on:

<http://www.kitsw.ac.in/csfiw.html>

ABOUT THE INSTITUTE

Kakatiya Institute of Technology and Science, Warangal popularly known as **KITSW**, was established in 1980 by **Ekasila Educational Society (EES), Warangal**, a philanthropic society, with a primary objective of providing quality technical education. KITSW is recognized by the AICTE and also under section 2(F) and 12(B) of UGC act 1956. The UGC has granted autonomous status in 2014 under Kakatiya University (KU), Warangal. It is accredited by NAAC with A grade (CGPA: 3.21) and all the UG engineering programmes are accredited by NBA, New Delhi.

KITSW is Located in 68 acres of lush green sprawling campus, it is one of the premier institutes of Telangana. Over the years, it has attracted academicians of proven competence onto its faculty, augmented the infrastructural facilities, modernized laboratories, placed its products in reputed organizations all over the world and thus received recognition in industry and academia. At present, it is offering UG in nine branches of engineering, PG in six engineering specializations and MBA. The KU recognized CE, ME, E&I and CSE departments as research centers for PhD programmes. The faculty at KITSW is now integrating research, innovation and incubation culture into course teaching to prepare students to gain tech skills for industry 4.0. The institute is located on Warangal - Karimnagar highway.

ABOUT ECE DEPARTMENT

The Department of Electronics and Communication Engineering was established in 2000 with an intake of 45 and subsequently increased to 180. In 2008, the department was accredited for the first time by National Board of Accreditation (NBA), New Delhi under Tier II for a period of 3 years. Since then, the department has been getting timely reaccredited and at present its accreditation status is active till June 2021. M. Tech Course in Digital Communications was started in the year 2004 in association with E & I Engineering department with an intake of 18 students which was later enhanced to 25 and presently it is under the department of ECE. The department has started new PG course Communication Engineering and Signal Processing for academic year 2020-21. During the academic year 2019-20, the dept has started B.Tech in Electronic Communication and Instrumentation (ECI) engineering with an intake of 60.

The department has 33 dedicated and qualified faculty members with 3 Professors, 5 Associate Professors, 25 Assistant Professors. Eleven faculty members have Ph.D. and 20 faculty members are pursuing Ph.D.

Three centers of excellence are established in the department: (i) Transfinite iLab, (ii) TIIC in association with TITA, and (iii) BLACKBUCK CoE.

The department has very well equipped and modernized laboratories to cater to the needs of UG and PG courses.

- Analog Communication Laboratory
- Analog & Digital Simulation Laboratory
- Digital Communication Laboratory
- Microprocessor & Microcontroller Laboratory
- Microwave & Optical Fiber Communication Laboratory
- Pulse & Digital Circuits Laboratory
- Signal Processing Laboratory
- Integrated Circuits Laboratory
- Digital Electronics Laboratory.

PREVIOUSLY RECEIVED FUNDS BY THE DEPT

Prof. K. Ashoka Reddy received Rs. 6.5 lakh in 2017 from AICTE toward a 2 Week FDP on "Hands on approach of OFDM system designing in MATLAB: Dr. M. Chandrasekhar, Asst. Prof., got Rs. 45.00 lakh research grant in 2018 from SERB of DST on "Design and Development of printed micro strip Antennas for LTE & GPS Applications". Sri A. Srinivas, Asst. Prof., received a seminar grant of Rs. 7.0 lakh on "Deep Learning," in 2019 from DST. For academic year 2020-21, the AICTE has sanctioned one STIP with Rs. 3.4 lakh, one FDP with Rs. 5.6 lakh to Prof. K. Ashoka Reddy and one MODROBS with grant of Rs. 6.78 lakh sanctioned to Prof. B. Rama Devi, Head Dept. of ECE

ABOUT THE FDP

Biomedical signal analysis is a scientific discipline as well as technology frontier, with immense applications. It is a growing research field where many revolutionary ideas and efficient algorithms have been developed over the past few decades. This FDP will provide an opportunity to highlight recent trends and developments in the field of Biomedical signal processing. It will further give impetus to the participants towards bringing out newer and efficient techniques. Expert invited speakers from both industry and academia with their vast research experience in various fields will arouse the participants for the development of Biomedical signal processing. Hands-on exercises with MATLAB software will open the door for programming in Biomedical signal processing

The objectives of this FDP are to

- Learn basic signal processing concepts for convolution and peak detection, heart rate detection and others.
- Understand and analyze the frequency domain concepts of ECG, EEG, EMG, PCG and PPG signals.
- Design and implementation of a matched filter to detect spike-and-wave complexes in EEG signals.
- Detect spike-and-wave complexes in EEG signals using template matching.

In India, the UG and PG programmes of Electronics and communication engineering offer various advanced courses in the field of Biomedical signal processing. Biomedical signal processing is a very potential area of study where students can be guided to take up projects both at UG and PG level. Hence hands-on training to the ECE faculty of engineering colleges will make them competent to guide students on good projects/Mini-projects/dissertations.

BENEFITS TO THE FACULTY

- Faculty will get trained in the area of Biomedical signal processing
- Faculty will start guiding meaningful projects to UG and PG students

FDP COURSE CONTENTS

- Biomedical signals- signal processing techniques
- Modern ECG signal processing
- Classification of Biomedical Signals
- Estimation of the PSD
- Time-varying Analysis of Heart-rate Variability
- Principal Component Analysis and Independent Component Analysis
- Analysis of ECG, EEG & PPG signals using MATLAB

Resource Persons

Eminent faculty from IITs, NITs, IIITs, reputed Universities /colleges and industry experts

Address for Communication

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