

WORKSHOP PROPOSAL

“SIGNAL PROCESSING”

Submitted by: -

E2MATRIX

(An ISO 9001:2008 Certified Company)

The Value of Trust



Return on Influence

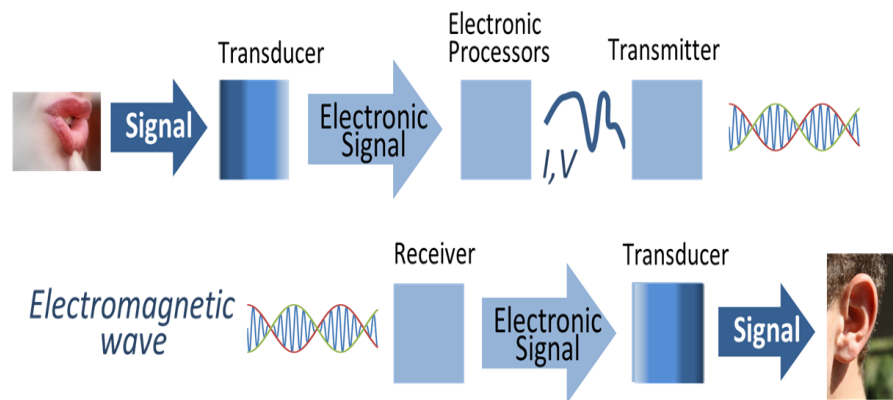
***“Join hands for long relations because trust
matter”***

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Signal processing is an enabling technology that encompasses the fundamental theory, applications, algorithms, and implementations of processing or transferring information contained in many different physical, symbolic, or abstract formats broadly designated as signals. It uses mathematical, statistical, computational, heuristic, and linguistic representations, formalisms, and techniques for representation, modelling, analysis, synthesis, discovery, recovery, sensing, acquisition, extraction, learning, security, or forensics

Digital signal processing is the processing of digitized discrete-time sampled signals. Processing is done by general-purpose computers or by digital circuits such as ASICs, field-programmable gate arrays or specialized

digital signal processors (DSP chips). Typical arithmetical operations include fixed-point and floating-point, real-valued and complex-valued, multiplication and addition.



Other typical operations supported by the hardware are circular buffers and look-up tables. Examples of algorithms are the Fast Fourier transform (FFT), finite impulse response (FIR) filter, Infinite impulse response (IIR) filter, and adaptive filters such as the Wiener and Kalman filters.

The main purpose of this “Hands-on Training on Signal Processing” is to create awareness and enrich knowledge for research scholars, faculty and students in the area of Signal processing using MATLAB.

1-DAY WORKSHOP

Module 1 SIGNALS IN MATLAB

Creating and importing signals

1. Sampling and resampling
2. Visualizing signals
3. Modeling noise
4. Signal statistics and correlation

TIME DURATION: 4 hours

COST: 200/- PER STUDENT

2-DAYS WORKSHOP

Module 1 SIGNALS IN MATLAB

Creating and importing signals

5. Sampling and resampling
6. Visualizing signals
7. Modeling noise
8. Signal statistics and correlation

Module 2 SPECTRAL ANALYSIS

1. Discrete Fourier transform
2. Windowing and zero padding
3. Power spectral density estimation
4. Spectrum objects
5. Time-varying spectral

Module 3 LTI SYSTEM

1. LTI system representations
2. z-transform
3. Frequency and impulse response
4. Introduction to filtering

TIME DURATION: 4 hours/day

COST: 300/- PER STUDENT

3-DAYS WORKSHOP

Module 1 SIGNALS IN MATLAB

Creating and importing signals

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1. LTI system representations
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Module 4 FILTER DESIGN

1. FIR Filter
2. IIR Filter
3. Median Filter
4. Adaptive Filter
5. Multirate Filter

Module 5 FILTER IMPLEMENTATION AND PRACTICAL APPLICATIONS

1. Filter architectures
2. Filter realization
3. Filter quantization
4. Frequency Representation of Signal
5. Signals Encoding and Decoding
6. DB Calculation of Real Time Signal

TIME DURATION: 4 hours/day

COST: 500/- PER STUDENT