

## About SEAS

**School of Engineering and Applied Science (SEAS)**, an engineering institution which provides a project-based, multidisciplinary education and where faculty and students pursue research and development in areas of societal and industrial significance.

Ahmedabad University, delivers undergraduate and postgraduate engineering programmes with extensive student-centric pedagogies.

## Event Details

### Important Dates

- Apply Before: July 31<sup>st</sup>, 2017
- Commencement of Course: August 16<sup>th</sup>, 2017

### Enrollment Fees

- UG Students: 1500 INR
- PG/Ph.D Students: 2500 INR
- Faculties: 3500 INR
- Industry People: 4000 INR

Enrollment Fees are non-refundable.

Fees can be paid by Demand Draft/cheque drawn in favour of "Ahmedabad University" payable at Ahmedabad.

### For further details, contact:

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Ahmedabad University.

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**Email:** brijesh.soni@ahduni.edu.in

**Website:**

<https://ahduni.edu.in/seas/wireless-fdp/>

## Resource Persons

- Dr. Miguel López-Benítez, University of Liverpool, UK
- Dr. S.N. Merchant, IIT Bombay
- Dr. Y.N. Trivedi, Nirma University
- Dr. Mehul Raval, Ahmedabad University
- Dr. Dhaval Patel, Ahmedabad University

## Program Committee

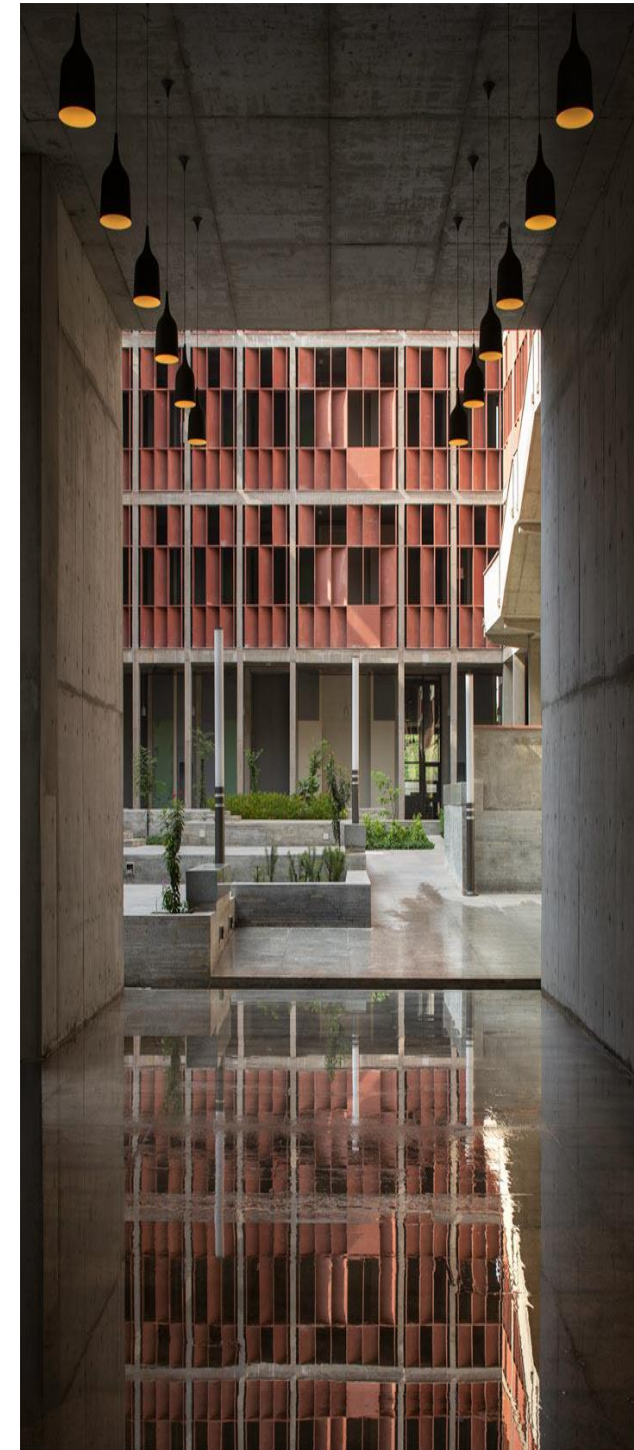
- Dr. Dhaval Patel, Convener
- Dr. Mazad Zaveri, Member
- Mr. Anurag Lakhani, Member
- Mr. Pratik Trivedi, Member

## Organizing Committee

- Dr. Mehul S Raval, Convener
- Prof. Sanjay Chaudhary, Member
- Dr. Ratnik Gandhi, Member
- Dr. Mazad Zaveri, Member

## Lab Coordinators and Local Hospitality

- Mr. Brijesh Soni, JRF, SEAS
- Mr. Vaibhav B Joshi, PhD scholar, SEAS



## Program Overview

The Program includes cognitive radio (CR), Spectrum Sensing techniques like energy detection and improved energy detection, Imperfect Spectrum sensing, Machine learning and OFDM along with three hours of respective lab session on USRP and GNU Radio to further enhance and consolidate understanding of the participant.

## Objective Of The Program

The program intends to equip participants with following objectives:

1. Knowledge of USRP and GNURadio
2. Cognitive Radio and its applications
3. Spectrum Sensing & Machine learning algorithms
4. OFDM followed by 3 hours of lab session
5. GNURadio BlockSet Creation
6. Alamouti encoding for MIMO systems
7. Non-Gaussian Noise and BER Plot

## For Whom?

This Faculty Development Program is especially intended to provide with an in-depth technical exposure of USRP and GNU Radio and their utilities in wireless research to the faculty members of engineering colleges, research scholars in wireless communication, post-graduate students, and engineers. Further few interested undergraduate students with good academic record, who would like to further explore the latest research in current wireless systems, can also be a part of this program.

Timing	16 <sup>th</sup> August	17 <sup>th</sup> August	18 <sup>th</sup> August	19 <sup>th</sup> August	20 <sup>th</sup> August
09:30AM-11:00AM	Cognitive Radio	Non Parametric Sensing#1	Machine Learning Algorithms	Orthogonal Frequency Division Multiplexing(OFDM)	MIMO Alamouti encoding monte carlo simulations
11:00AM-11:30AM	Coffee/Tea break	Coffee/Tea break	Coffee/Tea break	Coffee/Tea break	Coffee/Tea break
11:30AM-01:00PM	Spectrum Sensing Algorithm and Analysis	Non Parametric Sensing#2	Spectrum Duty Cycle and Imperfect Sensing	Orthogonal Frequency Division Multiplexing(OFDM)	Signal processing blockset creation in GNURADIO
01:00 PM-02:00PM	Lunch Break	Lunch Break	Lunch Break	Lunch Break	Lunch Break
02:00 PM-05:00PM	USRP and Monte Carlo Simulations of Spectral Sensing	Monte carlo simulation on non parametric sensing	Machine Learning Algorithms And Spectrum Data Acquisition	OFDM using USRP and GNURADIO	Gaussian and Non-Gaussian Noise BER Plot

## School of Engineering and Applied Science

## AHMEDABAD UNIVERSITY

### APPLICATION FORM

### Faculty Development Program on

### “Advanced Wireless Communication Using USRP/GNU Radio”

August 16-20,2017

(As a Part of DST-UKIERI Research Project)

1. Name Mr/Ms.....

2. Designation.....

3. Organization.....

4. Contact.....

5. Email.....

6. Experience in relevant area

Academic.....

Industry.....

7. Cheque/D.D No.....

Dated.....Bank.....

Date:

Signature of Participant