

विद्युत अभियांत्रिकी विभाग
DEPARTMENT OF ELECTRICAL ENGINEERING
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6th February, 2017

Dear Sir/Madam,

A short course on "Spectrum Sensing for MIMO-OFDM Cognitive Radio Systems" is being organized by IIT Kanpur from 21st to 23rd April 2017. Cognitive Radio is a latest wireless technology, designed to meet the tremendous increase in demand for higher data rates in current and upcoming 4G/5G networks. Cognitive radio devices require powerful signal processing capabilities to sense the spectrum to detect vacant spectral bands, termed as spectral holes or white spaces. This course will introduce participants to various spectrum sensing techniques such as Matched Filtering, Energy Detection, Cooperative Sensing, Eigenvalue-based Sensing, Cyclostationary Sensing and several others, especially for MIMO-OFDM Cognitive Radio systems. It is geared towards B.Tech/ M.Tech/ Ph.D. students, faculty members and industry participants. The course program includes lecture/ tutorial modules together with a MATLAB demonstration. Detailed lecture notes, tutorial assignments and solutions will be provided to the participants. More details regarding the course can be found at


<http://www.iitk.ac.in/mwn/spectrum/>

Also, please find the *course flyer* enclosed. Kindly display it in your institution. Topics intended to be covered are given below.

1. Cognitive Radio
2. Spectrum Sensing
3. MIMO-OFDM Systems
4. Likelihood Ratio Test
5. Matched Filter
6. Energy Detection
7. Generalized Likelihood Ratio Test
8. Cooperative Spectrum Sensing
9. Eigenvalue based Sensing
10. Cyclostationary Sensing
11. Sequential Spectrum Sensing
12. Change Point Sensing

Please do not hesitate to contact us for any further information

Thanking you,
Sincerely


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