

Dr.T.KAVITHA, (TTS 2196),
Associate Professor,
Department of ECE,
Veltch Dr.RR Dr.SR Technical University,
Chennai.

To

The Vice Chancellor,
Veltech Dr.RR Dr.SR Technical University,
Chennai

Through

The Director Academics,
Veltech Dr.RR Dr.SR Technical University,
Chennai.

Respected Sir,

Sub: Requesting Permission to attend GAIN course, sanction of special CL and Requesting Financial assistance-Reg.

I am writing to request permission to attend GAIN course on “Advanced Wireless Communication Technologies: A PHY-layer perspective (Cognitive Radio, Spectrum Sharing, and Optical Wireless Communications” organized by Department of Electronics and Communication Engineering, Visvesvaraya National Institute of Technology, Nagpur. It will be held on 12th Dec 2016 - 17th Dec 2016. I believe this course provides the opportunity to boost the knowledge in advanced wireless communication technologies and also useful for me to guide the students to do their research work. I kindly request you to grant permission to attend the above mentioned short course, provide Financial Assistance (Registration Fee + Travel Expenditure + Accommodation) and sanction special CL from 12/12/16 to 17/12/16 (6 days). Kindly do the needful.

Expenditure:

- | | |
|---|------------------------------|
| 1. Registration Fee | = ₹ 3,800/- ✓ |
| 2. Travel Both Ways (₹ 515+ ₹ 515) | = ₹ 1,030/- ✓ |
| 3. Accommodation for 6 days (Breakfast+ Dinner) | = ₹ 1,830/- (₹ 305 x 6 days) |
| Total | = ₹ 6,660/- |

In Words - Six Thousand Six Hundred and Sixty Only.

Thanking you,

Date: 19/10/16

Encl: Workshop Details

Yours Sincerely,

T. Kavitha 19/10/16
[T.KAVITHA]

the faculty is handling By semester course which will be completed on 05th Nov 2016. The request may be considered as per the norms.

HOD/ECE

Submitted to Director Academic

19.10.16

DIRECTOR
- 2983)

C-1309
VIT



Visvesvaraya National Institute of Technology
Nagpur, India



Ministry of Human Resource Development
Government of India



GLOBAL INITIATIVE OF ACADEMIC NETWORKS

Certificate of Participation

This is to certify that Prof./Dr./Mr./Ms. Dr. T. Kavitha

from Veltech Dr. RR and Dr. SR University participated in the course

Advanced Wireless Communication Technologies: A PHY-layer Perspective

from

12 - 17 December 2016

N. S. Chaudhari

Dr. N. S. Chaudhari
(Director VNIT)

A. S. Gandhi

Dr. A. S. Gandhi
(Head, ECE)

K. M. Bhurchandi

Dr. K. M. Bhurchandi
(Local Coordinator)

P. K. Sharma

Dr. P. K. Sharma
(Course Coordinator)



Advanced Wireless Communication Technologies: Cognitive Radio, Spectrum Sharing, and Optical Wireless Communications

Overview

After years of advances and developments in telecommunications industry, mobile cellular systems are becoming mature. Physical layer (PHY-Layer) was at the forefront of rapid changes in the previous decades and still remains an important research area in new radio frequency (RF) technologies such as: Cognitive Radio (CR) and Spectrum Sharing, Energy Harvesting and Wireless Powered Communications, and Optical Wireless Communications (OWC).

CR has emerged as one of the most promising technologies to resolve the issue of spectrum scarcity, caused by the escalating growth in wireless data traffic. One of the principal requirements of CR is the effectiveness of spectrum sharing performed by secondary (unlicensed) nodes, which is expected to intelligently mitigate any harmful interference caused to the primary (licensed) network nodes. The concept of spectrum sharing was originally proposed in CR networks to allow secondary or unlicensed users to opportunistically access the temporally or spatially unused spectrum bands of the primary or licensed users. OWC (indoor and outdoor) is an alternative effective way of transmitting information with considerably higher bandwidth compared to RF communications. Energy harvesting through RF transmissions technique seems to be a very promising solution to power hungry applications such as wireless sensor networks where limited lifetime degrades the performance of the network.

The topics in the module include i) Cooperative Cognitive Radio, ii) Spectrum Sharing and Carrier Aggregation, iii) Energy Harvesting and Wireless Power Transfer, and iv) Optical Wireless Communications (FSO & VLC). Course participants will learn the above topics through lectures. Also tutorials will be organized during different topics of the course to stimulate research motivation of participants.

Modules	A: Cooperative Cognitive Radio: Dec 13 Spectrum Sharing and Carrier Aggregation: Dec 14 Energy Harvesting and Wireless Power Transfer: Dec 15 B: Optical Wireless Communications Dec 16 - Dec 17 The course inauguration and desk registration will take place on Dec 12, 2016 (Evening).
You Should Attend If...	- You are a student (B.Tech./M.Sc./M.Tech./Ph.D.) and aspiring researcher within broad domain of communication engineering. - You are an Executive/engineer or researcher from manufacturing, service and government organizations including R&D laboratories. - You are Faculty and staff from reputed academic institutions and technical institutions.
Fees	The participation fees per person for attending the course is as follows: Participants from abroad : US \$300 Industry/ Research Organizations: Rs. 5000/- Academic Institutions: Students: Rs. 1000/- (For SC/ST students course fee is Rs. 500/- only) Non-Students: Rs. 3000/- For five days Lunch, each participant will be charged Rs. 800/- only in addition to the course fees. The above fees include all instructional materials, computer use for tutorials, free internet facility. The participants will be provided with single bedded shared accommodation and dinner on additional payment basis.