

1. The Institute

National Institute of Technology, Tiruchirappalli (NITT) was established in the year 1964. It offers 10 undergraduate programmes in Engineering including Architecture. It offers 21 post-Graduate programmes in Engineering as well as Science and Doctoral Programmes in all Engineering, Science, and Humanities disciplines. All the departments of NITT are accredited by the NBA. Currently about 5000 students are pursuing their under-graduate, post-graduate, and research studies in various disciplines. The objectives of TEQIP programme are to provide financial support to PhD scholars, funds to PG programme, organise technical workshops and develop the research facility of the institution. In TEQIP phase - I, NIT, Trichy was selected as a Lead Institution and currently executing TEQIP phase-II.

2. The Department

Electronics and Communication Engineering department of NITT offers a B.Tech programme and M.Tech as well as Doctoral programmes on Communication Systems and VLSI System. It has the reputation of having successfully completed several R&D projects in the last twenty five years. It has been upgrading its infrastructure for teaching, learning, research and development. It has executed several R&D projects funded by FIST, UKIERI, DST and DeitY, New Delhi. It has the state of the art laboratories with testing & measuring instruments, CAD tools and hardware kits. This includes DST-FIST funded Wireless System Design Lab. (WSDL) with fund outlay of Rs.60 lakhs, Communication and MIC labs. Funded by MHRD, and VLSI laboratories funded by DeitY. Several ICs and antennas have been taped out, fabricated and tested successfully.

3. Workshop Agenda:

Day-1:

9.00	– 9.15	Registration
9.15	– 10.45	High Speed System Design
10.45	– 11.00	Tea Break
11.00	– 12.30	Wireless Networks for IoT Application
12.30	– 1.30	Lunch
1.30	– 3.00	MIMO Concepts
3.00	– 3.15	Tea Break
3.15	– 4.45	Demonstration on WARP Kit by EdGate, Bangalore

Day-2:

9.15	– 10.45	Massive MIMO for 5G
10.45	– 11.00	Tea Break
11.00	– 12.30	Cooperative Communication
12.30	– 1.30	Lunch
1.30	– 2.30	Hardware Implementation details by Keysight Tech., Bangalore.
2.30	– 2.45	Tea Break
2.45	– 3.45	Hardware Implementation details
3.45	– 4.45	Valediction

Lab session and demos will be conducted using the resources procured for Wireless System Design Lab established under DST-FIST fund.



**NATIONAL INSTITUTE OF TECHNOLOGY
TIRUCHIRAPPALLI-620015
DEPARTMENT OF ELECTRONICS AND
COMMUNICATION ENGINEERING**

TEQIP Sponsored Two Day Workshop on

**Evolution of 5G and IoT through
Cognitive Radio Networks**

On May 6 & 7, 2016

1. Name:
2. Email id:
3. Degree:
4. Specialization:
5. Designation (optional):
6. Name of the Institution:
7. Details of previous Experience, if any:
8. Address for Correspondence : (with Phone No.)
9. Is Accommodation Required? YES / NO
10. DD No. :

Date:

Signature of Applicant

Signature of Head of the Institution

4. About the workshop:

Cognitive radio (CR) and the fifth generation of cellular wireless standards (5G) are considered to be the future technologies. The CR offers the possibility to significantly increase the spectrum efficiency by flexible secondary users using the free licensed user's spectrum. The 5G implies the whole wireless world interconnection, together with very high data rates, Quality of Service (QoS) service applications. In Internet of Things, a prominent role will be played by wireless communications technologies, which will enable smart objects to become networked. The global adoption of the wireless medium for exchanging data may pose issues in terms of spectrum availability, pushing towards the adoption of cognitive radio networks.

The objective of this workshop is to extend the application of cognitive radio networks to 5G and Internet-of-Things concepts and development including critical revision of application fields, enabling technologies and research challenges.

Topics including:

- High speed system design
- Wireless networks for IoT application
- Cooperative Communication
- Massive MIMO for 5G

Achievable skills:

- Physical layer design of CRN
- Role of Massive MIMO and Cooperative communication in CRN
- Application of CRN to 5G and IoT
- Hardware realization and Challenges

5. Course Faculty

Experts from leading Industries, Institutions and Research Organizations.

Course Fee

Registration: **Rs.220/- for two days**

Accommodation may be provided if required.

Mode of payment

The amount is to be paid by D.D drawn in favour of **“The Director, National Institute of Technology, Tiruchirappalli”** and payable at Tiruchirappalli.

Note

Only limited number of participants can be admitted to the workshop. The admission is on first come first served basis. The workshop is exclusively meant for Researchers, PG Students and Teaching Faculty. **No TA/DA will be paid for the participants.**

Address for Correspondence

Completely filled up Application forms accompanied by D.D. should reach the coordinator on or before **27.04.2016**. Selected candidates will be intimated by e-mail.

Dr. P. Muthuchidambaranathan

Associate Professor

Department of ECE

National Institute of Technology

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Evolution of 5G and IoT through
Cognitive Radio Networks**

On May 6 & 7, 2016

**FOR RESEARCHERS, POST GRADUATE
STUDENTS AND FACULTY**



Coordinators

Dr. P. Muthuchidambaranathan

Dr. G. Lakshminarayanan

Dr. B. Venkataramani

Prof. P. Somaskandan



DEPARTMENT OF ECE

**NATIONAL INSTITUTE OF TECHNOLOGY
TIRUCHIRAPPALLI – 620015, TAMIL NADU.**