ABOUT THE INSTITUTION

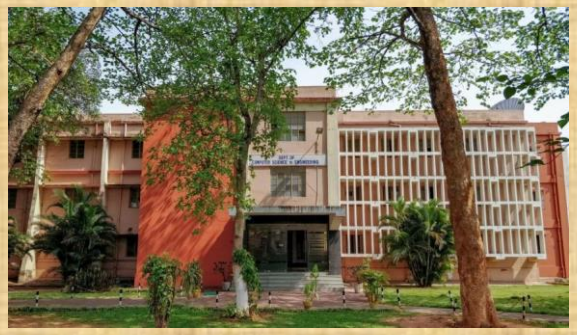
National Institute of Technology Rourkela is an institute of national importance created under the act of parliament. NIT Rourkela has been ranked at 215 and 27th position in QS Asia University Ranking, and QS Indian University Ranking 2019 respectively. It has also been ranked in 121 positions in QS BRICS category, 2019. Times Higher Education has figured NIT Rourkela in the group of 601-800 in World University Ranking 2019. The Institute provides quality education in a diverse and multi-cultural environment. The mission of the institute is to become an internationally acclaimed institution of higher learning that will serve as a source of knowledge and expertise for the society and be a preferred destination for undergraduate and graduate studies. The institute is offering Ph.D. and M.Tech by Research programme in 21 branches of Engineering. The institute research centres are engaged in consultancy and research activities of several bodies such as DST, DAE, CSIR, DRDO, BARC, ISRO and private industries.

HOW TO REACH ROURKELA

Rourkela is located on the Howrah (Kolkata)-Mumbai main line of South Eastern railway. The railway station and mofussil bus stand are 6 km and 2 km from NIT campus respectively. The airports near to Rourkela are Jharsuguda, Ranchi, Bhubaneswar and Kolkata. Rourkela is well connected to these cities by rail and road.

TRAVEL AND ACCOMODATION

The participants will have to make their own arrangements for travel. Boarding and lodging can be arranged on payment basis in the institute's guest house based upon prior request and availability. There are also many good hotels in Rourkela; the same can be booked on request and prior payment. Hostel accommodation may be available on payment basis for students on prior request.



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Department of Computer Science & Engineering. NIT, Rourkela was established in 1982, since its inception, the Department is under dynamic progress and is able to establish the reputation for imparting quality education both at undergraduate and graduate programmes. The department has well equipped modern laboratories such as Advanced Networking and Wireless Sensors and Iot, Information Security & Software Engineering. Image Processing &Cluster Computing and Advanced Database Engineering Labs for pursuing research keeping in view of the technological advancement.

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SHORT TERM COURSE

ON

WIRELESS NETWORKS TECHNOLOGIES:

THEORY AND SIMULATIONS

(WNT-2019)

16th-20th DECEMBER 2019

PATRON

Prof. Animesh Biswas
Director, NIT Rourkela

COORDINATORS

Prof. Suchismita Chinara
Prof. Judhistir Mahapatro

ORGANISED BY

Dept. Of Computer science & Engineering
National Institute of Technology
Rourkela-769008
Odisha

ABOUT THE COURSE

Wireless networks technologies have evolved exponentially over last few decades. Researchers have taken up several issues in wireless networks as their domain of interest and have come up with established solutions in few areas. Still the growth in this area is continuing and related areas like mobile adhoc networks(MANET), wireless sensor networks (WSN) and more importantly Internet of Things (IoT) have taken the front seat in the research domain. However, all these recent trends and technologies have enabled wireless sensor networks (WSN) and IoTs to be used in military sensing, traffic surveillance, target tracking and health care monitoring and so on to make our life safe and comfortable. It is believed that 20 billion things will be connected wirelessly in near future. Wireless networking is one of the major technologies used in the IoT domain. This short term course aims to provide the knowledge on basics of wireless networks that sets as the foundation stone for the advances in network domain that includes sensor networks and Internet of Things, It will provide a forum for discussing theoretical and practical aspects of wireless networking. This program will help the researchers and practitioners to exchange their ideas and exploring possible solutions and finding future directions for their research problems. The lecture delivered by the expert will help the budding academicians and practitioners to explore a new horizon in the area of wireless networks and beyond.

TOPICS TO BE COVERED

1. Infrastructure-based Wireless Networks
- PCF Vs DCF
- IEEE 802.11 MAC layer protocols
- Contention-based and Reservation based MAC Protocols.
- MACA, MACAW, DPRAMA, FAMA etc.
- Hands on practice on NS3 simulation of MAC protocols during practical sessions

2. Infrastructure-less wireless Networks
- Introduction to MANET
- Mobility models
- Routing in MANETs
- Interferences and Jamming
- NS3 simulation of mobility models for MANET

3. Wireless Sensor Networks
- Introduction to WSN
- MAC protocols in WSN (TMAC, SMAC etc.)
- Routing protocols in WSN (SPIN, LEACH etc.)
- Simulation on MAC & routing protocols for WSN

4. Internet of Things
- Introduction to IoT & application architecture of IoT
- RPL;6LOWPAN;ROLL
- IoT networks and protocols
- Contiki simulation of IoT protocols

5. Discussion on various research issues in this domain

TARGET AUDIENCE

The target audience will be the students, researchers, academicians from institutes and practitioners from industries. However, we have limited number of participants due to constraint in accommodation. So, application will be considered on first come first served basis.

MODE OF PAYMENT

DD/Cheque should be on the name of '**CONTINUING EDUCATION, NIT ROURKELA'**. Payable at SBI NIT RKL.

For Online transaction:

Account number: 10138951784

SBI NIT RKL Branch (IFSC: SBIN0002109)

If paid by online transaction, then it is required to submit the transaction proof at the time of registration.

Registration Fees include course material, tea and snacks during the course.

REGISTRATION FEE

Practitioners from the industry and R&D organisations	Rs.5000/-
Faculty members from Academic Institutes	Rs.3000/-
Students and Research Scholars	Rs.2000/-

COURSE REGISTRATION FORM

SHORT TERM COURSE ON
WIRELESS NETWORKS TECHNOLOGIES: THEORY AND SIMULATIONS
(WNT-2019)
16th-20th DECEMBER 2019

1. Name:
2. Designation:
3. Organization:
4. Address:

5. Phone:

6. E-mail:
7. Accommodation Required: YES/NO
8. Gender: Male/Female
9. Registration Fee Details:
Amount: Rs.
DD/Cheque No/Online Transaction ID:

Drawn on:
Branch:
Place:
Date:

Signature of the Applicant

Please fill in the online form with the link [https://docs.google.com/forms/d/e/1FAIpQLSftsa4VAryRqsiVy6eKOc5RFtRgZWWgqMoQ_jpbiacICIjIpA/viewform] and a copy of the same may be mailed along with the proof of the registration fee paid to the coordinator on or before 30th Nov 2019.

The details of the course can be downloaded