NITTTR CHANDIGARH SPONSORED

Five Days
Online Faculty Development Program
On

Nanotechnology Enabled Wireless Communication and Internet of Things

25 April – 29 April, 2022

Organized by

Department of Computer Science and Engineering
School of Studies in Engineering & Technology

Guru Ghasidas Vishwavidyalaya

(A Central University)

Bilaspur - 495009

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ABOUT THE UNIVERSITY

Guru Ghasidas Vishwavidyalaya is a Central University of India, located in Bilaspur C.G. State, established under Central Universities Act 2009, No. 25 of 2009. Formerly called Guru Ghasidas University (GGU), established by an Act of the State Legislative Assembly, was formally inaugurated on June 16, 1983.

GGU is an active member of the Association of Indian Universities and Association of Commonwealth Universities. Situated in a socially and economically challenged area, the university is appropriately named to honour the great Satnami Saint Guru Ghasidas (born in the 17th century), who championed the cause of the downtrodden and waged a relentless struggle against all forms of social evils and injustice prevailing in the society.

The University is a residential cum affiliating institution, having its jurisdiction spread over Bilaspur Revenue Division of the state of Chhattisgarh.

Guru Ghasidas Vishwavidyalaya, Bilaspur

ABOUT THE DEPARTMENT

The department of computer science was established in 1997. The department is committed to provide quality higher education in the field of Computer Science & Engineering With the understanding, knowledge and practical competence to participate in a long revolution. The knowledge will enable you to understand and foresee the great changes and challenges that Computer Science presents to the world, now and in the future. Besides teaching there is also a doubt removal session. The department has specialized laboratories such as NETWORKING LAB, ADVANCE PROGRAMMING LAB, DATABASE & UNIX LAB, PROJECT LAB. The department provides opportunities for carrying projects by students under the joint supervision of the faculty and experts from the industry. The department has been involved in providing training in reputed government and public sectors like DRDO Delhi, Microsoft Hyderabad, CMC Kolkata, Orbit IT Hyderabad, S.E.C.L., B.S.N.L., Indian Railways, Bokaro Steel Plant & Bhilai Steel Plant (SAIL), Software Tech & ISM Banglore. Our students are working in reputed private, public and govt. organizations. Some of them are American Express, Infosys, Gemini Solutions, Wipro, Persistent, IBM, TCS, Mahindra BT, Syntel, Satyam, BSNL, NTPC, INFLIBNET.

School of Studies in Engineering & Technology

ABOUT FDP

This FDP is aimed at imparting knowledge and training on the fundamentals of the Nano-technology, Internet of Things (IoT) and wireless communication network. The main objective is to make the participants familiar with the emerging frontiers and interesting applications of these technologies. Expert lectures & hands-on sessions will be delivered by faculty members from academia (NITTTR/NITs/IIITs/Central Universities) and practitioners from industry. The program will have a nice blend of theoretical and practical aspects of the field. More emphasis will be given to practical hands.-on exposure by solving some real-life problems using IoT and nanotechnology.

The participants of this FDP will be able to understand the underlying concepts in nanotechnology and its applications in wireless communication and IOT. They will learn how to use nano-electronics devices along with WSN in the realm of developing some interesting applications. IoT applications in smart cities, healthcare, rural development, human-computer interaction, computer vision etc, will be discussed. Experts will also discuss various issues, challenges and research directions in the field. The theme of the FDP has been chosen to be interdisciplinary so that it may benefit a large segment of researchers and faculty.

RESOURCE PERSON

Faculty experts from reputed institutes, and invited academic experts from NITTTR/NITs/IIITs/Central Universities

FDP CONTENTS

- **Nano-Technology:** Basics of Nano-Technology, flexible WSN, Nano-electronics devices and circuits.
- **Wireless Technology:** Wireless Body Area Network, Antennas for 5G Wireless Communication.
- **IoT:** Introduction to IoT, Applications in different domains; Trends in IoT Market. Protocols Introduction (MQTT, AMQP, CoAP)
- **Energy Efficiency:** How energy efficiency relates to IoT, Impact of IoT in Energy Efficiency.
- **Simulation Tools:** Hands on Practical & Simulation of WSN and IoT.
- **Cloud Computing:** Importance of cloud in IoT, Top Cloud providers, Service Models, Service catalogues, Different cloud services.
- **IoT Architecture and Communication Theory**: IoT Layered Architecture and IPV6, RF Zigbee, Wifi BLE e. LPWAN.
- **IoT Security:** How secure is IoT, Issues and vulnerabilities, Key aspects for securing IoT Solutions.
- **Wireless Security:** Security Threats in Wireless Sensor Network.

TARGET AUDIENCE

The faculty members of the AICTE approved institutions, research scholars, participants from Government and Industry.

REGISTRATION

Registration Fee - FREE

To Register, please visit NITTTR official website
http://fdp.nitttrchd.ac.in/

- Login or register as a new user
- Click in **Apply for STC**, at left hand side, select Department as **Applied Science** and select mode of course as "**online mode**" and click submit.
- Choose our FDP and Apply.
- In the next page select the venue as "**From registered remote centre**" as **Guru Ghasidas Vishwavidyalaya, Bilaspur, Chhattisgarh**
- Click on Submit button