

REGISTRATION FORM

**Short Term Course
On
Software-defined
Networks and its
Applications**

Dt: June 22 - July 2, 2021

Name: _____

Gender: _____

Designation and Department: _____

Address for Correspondence:

Phone: _____

Mobile: _____

Email: _____

Educational Qualification: _____

Area of Research: _____

Participant Category (QIP/Sponsored participant): _____

Payment Details: Transaction ID.....

Transaction Date..... Amount.....

Date.....

Signature of the Applicant:

Endorsement of Head of the Institution/Department:

Mr/Ms/Dr.....of

Department.....

Organization/Institute.....

is Permitted to attend the STC in

..... at IIT Bhubaneswar.

Date:

Signature of the Head (Seal):

Note:

This application form should reach to the course coordinator latest by 15/06/2021.

Please mail your registration forms at plb@iitbbs.ac.in



AICTE SPONSORED

2-WEEK SHORT TERM COURSE on

**Software-defined Networks
and its Applications**

Course Coordinator:

Dr. Padmalochan Bera

Phone: +91-674-7135736/+91-7327811812

E-mail: plb@iitbbs.ac.in

Dt: June 22 - July 2, 2021



ORGANIZERS

School Electrical Sciences
IIT Bhubaneswar

Office of the CONTINUING EDUCATION
IIT BHUBANESWAR

Argul, Khordha - 752050 Odisha.

Bank Details for Payment

A/c Name: CEP, IIT Bhubaneswar
A/c No.: 24282010001960
IFSC Code: CNRB0017282
Bank Name: Canara Bank, IIT Bhubaneswar
GST No: 21AAAAI2760A1ZJ

Important Dates:

1. Last date of registration: 15th June, 2021.
2. The selected candidates will be informed through email latest by: 18/06/2021.
3. Course: June 22 – July 2, 2021

Venue for Course

Course will be held **online**.

Registration Fee

- There is no course fee for the first 30 participants (holding faculty position) from AICTE approved engineering colleges. The selection is on first-come-first-serve basis. Participants must send the endorsement certificate duly signed by the Head of the Department/Institution along with their application form at plb@iitbbs.ac.in.
- After the first 30 participants, a participation fee of Rs. 1000 + 18% GST is applicable for the Industry/ Research Organizations, Faculties/Officials and Rs. 500 + 18%GST for the research scholars / students. Participants are requested to send online payment proof along with their application form at plb@iitbbs.ac.in.

You Should Attend If...

- You are a Computer Scientist or Electronic Engineer interested in developing tools and solutions for future generation data and communication networks.
- You are a faculty from academic institutions interested on Software-defined Networks and its real-life implications.

About Indian Institute of Technology Bhubaneswar

IIT Bhubaneswar, a prominent institute among the eight new IITs started in 2008. The institute campus is located on the foot of the historic Barunei hills and is well connected by rail, road and airways.

Institute has seven schools delivering UG, PG and PhD level programmes. Out of the seven schools in the institute, the School of Electrical Sciences was established in 2008 along with the establishment of the institute.

The school offers UG programmes in Computer Science and Engineering, Electronics and Communication Engineering, and Electrical Engineering. Among PG programmes it offers MTech in Computer Science and Engineering, Electronics and Communication Engineering, Power Systems Engineering and Power Electronics and Drives, specializations. School is also actively engaged in imparting various outreach programs throughout the year.

COURSE CO-ORDINATOR

Dr. Padmalochan Bera

Phone: +91-674-7135736/+91-7327811812

E-mail: plb@iitbbs.ac.in

School of Electrical Sciences

Indian Institute of Technology Bhubaneswar

RESOURCE PERSONS

Lectures will be delivered by the experts from different Indian institutions, Research and Development organizations and industry.

Overview of the Course

Software-defined Network (SDN) is considered as one of the promising paradigms for the Future Internet. It allows users to configure the network depending on the application-level requirements due to the separation of control programs from data plane. However, there lies certain challenges in SDN– the capability of heterogeneous packet processing leads to imbalance of traffic load in the network. Due to the increase of traffic load, the network devices consume a large amount of energy. This creates emission of CO₂ to the environment. In addition, it is necessary to understand the impact of end-to-end security violations in SDN and possible attacks on controller, data plane, and applications. Thus, it is essential to consider heterogeneous scenarios with multiple control attack types that need to cooperate and share data, and yet defend against the potential of malicious or disruptive behavior of the attacker. On the other hand, enabling various control functions in the control plane requires implementation of function virtualization technology. Moreover, for enhanced performance and strengthening security perimeter, placement of different controllers in network topology is yet another challenge to be solved. The vision of this course is to make the community aware of the performance, security, reliability, and scalability issues of Software-defined Network from both fundamental theoretical and practical deployment perspectives. The course will highlight the existing performance and security challenges in SDN across various domains and the potential solutions for those challenges. In addition, the course will cover practical sessions on simulating existing controller's functions and analyzing performance with heterogeneous topology and case studies in different applications.

Content of the Course

The Topics to be broadly covered are:

A: Introduction to Software-defined Networks (SDN)

B: Traffic Management & Load Balancing

C: Network Function Virtualization, Distributed Controller Design and Controller Placement

D: Security Challenges in SDN

E: Applications of SDN and Case Studies

F: SDN for Cloud Computing and IOT applications