

## One Week Online

### Atal Faculty Development Program

On

# Fog and Edge Computing Challenges and Research Directions

25<sup>th</sup>-29<sup>th</sup> September, 2021

Jointly Organized by



Department  
of

Computer Science and Engineering  
National Institute of Technology Sikkim

Under the Aegis of



All India Council for Technical Education  
New Delhi

## About NIT Sikkim

NIT Sikkim is a public, technical and research institute located at Ravangla in the state of Sikkim, India. It was established under the act of Parliament in the year 2010, as a part of the Eleventh Five Year Plan. Since 2010, NIT Sikkim has been successfully catering the needs of thousands of students from all over the country as it aspires to become a globally recognized institution. The institute is offering B.Tech. programs in Computer Science and Engineering, Electrical and Electronics Engineering, Electronics and Communication Engineering, Mechanical Engineering and Civil Engineering, and M.Tech. programs in Computer Science and Engineering, Microelectronics & VLSI Design and Electrical and Electronics Engineering. The Institute also runs M.Sc. program in Chemistry and Ph.D. programs in all departments. Presently, the institute is working as a temporary campus in Ravangla which is a tourist town that lies between Pelling and Gangtok, and is connected by a national highway to other major towns in the state. The New Jalpaiguri Railway Station and Bagdogra Airport are 124 km and 130 km away from the campus respectively. Ravangla is situated at an elevation of 2100 meters surrounded by the Himalayan terrain, and is internationally famous for tourist spots like Buddha Park, Ralong Monastery, Temi Tea Garden etc.

## About the Department of CSE

The department was established in 2010 with the laying of the foundation of National Institute of Technology Sikkim. The department aims to provide and outstanding research environment complemented by excellence in teaching to produce engineering professionals leading a successful career in industry, academics and entrepreneurial endeavors. The department offers research in the areas of Cloud Computing, Fog and Edge Computing, Internet of Things, Wireless Sensor Network, Parallel-Distributed, High-Performance Computing, Algorithms and Security. The Dept. has good laboratory facility with modern equipment to encourage the students to cope up with latest technologies. The Department offers B. tech in CSE, M. Tech in CSE and PhD in Engineering. The Department offers B. Tech in CSE with an intake of 45

students/ year, M. Tech with an intake of 22 students/year and Ph. D in Engineering.

## Objective of the FDP

The Faculty Development Program (FDP) intends to include fundamental knowledge, present and futuristic applications in the field of Fog, Edge and Mobile Edge Computing (MEC). The FDP focuses on Fog, Edge and MEC, its architecture, functionalities, user-oriented use cases, computation offloading, security aspects, applications, open challenges and future research directions. During this program the academicians and industry personnel in their respective areas of expertise will discuss the fundamental learning and recent advancement in the above mention domains.

## FDP Contents

- Genesis of Cloud Computing.
- Green Cloud Computing
- Fog and Edge Computing and Architecture
- Virtualization Techniques.
- Static and Dynamic VM Migration.
- Mobile Edge Computing Functionalities and Applications.
- Scheduling and Load balancing.
- Data Analytics.
- Scalability issues in cloud, fog and edge computing.
- Open research challenges and Future research directions.
- Security issues in fog and edge computing.
- Various case studies and hands-on.



## Resource Persons

Eminent experts from Industry, Premium Institute from Foreign University, IITs, NITs, CFTIs will share their knowledge and expertise as per the theme of the FDP.

## Target participants

Target participants of this FDP are PG students (MTech, PhD scholars), faculty members of the various Engineering Institution and the professionals from industries and research organizations.

## Registration

- No registration fees to attend the FDP, however registration is compulsory for participation.
- Seat are limited and it will be filled up on first come first serve basis.
- Participants need to apply through AICTE-ATAL portal on or before the last date of registration as mentioned in the AICTE-ATAL portal.
- Follow the following steps to complete the registration:
  - Visit <https://atalacademy.aicteindia.org/signup> and register as a participant by filling your details.

- Select Workshop
- Select State Sikkim
- Select Month
- Select Thrust Area
- Select Mode off line
- Select Cloud Computing



## Certificate

Certificate will be provided to the participants after conformation and attendance criteria and securing the minimum eligibility marks in the test at the end of FDP.

## Contact Persons

**Dr. B. Balaji Naik,**  
Assistant Professor,  
Department of CSE,  
NIT Sikkim  
Email: [balajinaik07@nitsikkim.ac.in](mailto:balajinaik07@nitsikkim.ac.in)  
Mobile: 7479013223



## Organizing Committee

### Coordinator

**Prof. Mahesh Chandra Govil**

Director, NIT Sikkim

### Program Committee

**Dr. Sangram Ray,** Asst. Prof., Department of CSE

**Dr. Pratyay Kuila,** Asst. Prof., Department of CSE

**Dr. Sarfaraj Alam Ansari,** Asst. Prof., Department of CSE

**Dr. Gopa Bhaumik,** Asst. Prof., Department of CSE

**Dr. Pankaj Kr. Kesarwani,** Asst. Prof., Department of CSE

**Dr. Tarun Biswas,** Asst. Prof., Department of CSE

**Dr. B Balaji Naik,** Asst. Prof., Department of CSE

### Advisory Committee

**Prof. Lalit K. Awasthi,** Director, NIT Jalandhar

**Prof. Rajkumar Buyya,** University of Melbourne, Australia

**Prof. A. K. Singh,** CSE Dept., NIT Kurukshetra

**Prof. Chandrasekaran K.,** CSE Dept., NIT Surathkal

**Prof. Dhananjay Singh,** HUFs, South Korea

**Dr. Pilli E. S.,** CSE Dept, MNIT Jaipur

## Contact Us

National Institute of Technology Sikkim

Barfung Block Ravangla Sub-Division

South Sikkim - 737 139

Director Office: +91 7479013180

