



**Indian Institute of Information Technology Kottayam  
Department of Computer Science and Engineering**

**Organizes**

**Science and Engineering Research Board (SERB)**

**sponsored**

**One Week High – End Workshop on**

## **SDN: Software Defined Networking Architectures and Applications**

**(Physical Mode)**

**(17 – 23 July, 2023)**

### **About IIIT Kottayam**

Indian Institute of Information Technology Kottayam at Valavoor, Pala, Kerala is one among the IIITs that have been established as "Institution of National Importance" by MoE, Govt. of India under the ambit of IIIT PPP act 2017. IIIT Kottayam campus is situated at Valavoor, Pala, Kottayam - a picturesque location, spread over in 53 acres of land - allotted by Govt. of Kerala in the southern part of the Country commonly referred to as God's Own Country. B.Tech students are admitted against the JoSAA/CSAB counselling against the JEE main rank list. Institute offers year B.Tech and B.Tech (Hons) programs in ECE, CSE and Cybersecurity. In addition, Institute also offers Ph.D programs in ECE, CSE and Mathematics as well as M.Tech programme in (1) AI & Data Science (2) Cyber Security for the working professionals.



### **About SERB**

SERB has a vision to position science and technology as the fulcrum for social and economic change by supporting competitive, relevant and quality scientific research and development. As the premier national research funding agency, the mission is to raise the quality and footprint of Indian science and engineering to the highest global levels in an accelerated mode, through calibrated, competitive support of research and development.

Although a nascent organization, SERB can trace its existence to the erstwhile Science and Engineering Research Council (SERC), a division of Department of Science & Technology that provided extramural funding for S&T research in India for more than four decades. Creation of SERB, in year 2011, is considered as an important institutional milestone in the Indian S&T ecosystem.

### **Karyashala (High-End Workshop)**

Karyashala (High-End Workshop) 'KARYASHALA' scheme by SERB is meant for skill development training on topics required for scientific research work. It is an effort to improve research productivity of promising PG and PhD students from universities and colleges through high-end workshops on specific themes. This program aims to provide opportunities to acquire specialized research knowledge. For More Information Visit Website: [Click Here](#).

### **About the Workshop**

The one-week high-end workshop on "SDN: Software Defined Networking Architectures and Applications" focuses on how networking techniques that communicates with underlying hardware infrastructure and directs traffic on a network using software-based controllers or application programming interfaces (APIs). Software-defined networking provides a new way to control data packet routing through a centralized server.

The main objectives of the workshop are:

- Introduction of SDN comparison with traditional Networks
- Different types of SDN controllers
- Control Plane functions and its challenges – Scalability, Consistency, Reliability, Load Balancing, Security
- Data plane functions and its challenges – Scalability, Consistency, Reliability, Load Balancing, Security
- Controller placement and its challenges.
- SDN and its programming languages.
- Open Flow, Data Plane programmability using P4 & BMV2 tutorial, L2 forwarding demo with DPDK, eBPF, XDP, smartNIC, and Tofino switch, FPGA, Kubernetes
- SDN and network functions virtualization,
- Network slicing, service chain functions and softwarization.
- SDN in Data Centers, SDN in WAN
- SDN with Cloud and Open Stack
- SDN with WSN (IOT, 5G,6G etc.),
- SDN with segment routing,
- SDN Intent Based Networking and Future,
- SDN Open RAN
- Hardware Level Security using FPGA in SDN
- Security & privacy in SDN
- Mininet for creating topology and running controller
- Creating distributed controllers and working and Data plane programmability switch.

## Registration Fee

Registration fee is **not charged**. The course is completely sponsored by SERB Accelerate Vigyan Karyashala (High-End Work-shop) program.

## Participants

Targeted participants are PG students, Research Scholars, faculty members of academic institutions and scientists /researchers from industries and research organizations involved in scientific research.

Other Important Information for Participants:

- The workshop will be conducted in **physical mode**.
- Registration is free for all participants.
- Seats are limited (**only 25**) and the participants will be selected based on **first come first serve/ merit**.
- The candidate must upload a letter of authentication about your current affiliation and No Objection Certificate (NOC) from Supervisor/ Head of the Department/ Head of the Institute in the registration link for participating in the workshop. The format for the same is provided herewith <[link](#)>. It must be obtained on the institute/ university letterhead.
- After last date of registration, shortlisted candidates will be informed through email.
- Selected candidates will have to acknowledge participating in the workshop through return email failing which the waitlisted candidates may be called for attending the workshop.
- **Accommodation** for participants may be provided at IIIT Kottayam hostel with catering facilities, if requested.
- TA will be provided to the participants by producing the tickets with shortest routes as per norms

## Speakers

- Dr. Praveen Thamanna, IIT Hyderabad
- Dr. Rinku Shah, IIIT Delhi
- Ranjitha K, IIT Hyderabad
- Prashanth P S, IIT Hyderabad
- Harish. S. A, IIT Hyderabad
- Shiv Kumar, IIT Hyderabad
- Keshav Gambhir, Microsoft India
- Neeraj Kumar Yadav, IIIT Delhi
- Dr. Venkanna U, IIIT Naya Raipur
- Dr. Tamal Das, IIT Dharward
- Dr. Ganesh Chennimalai Sankaran, University of Southern California
- Dr. Arun Raj Kumar, NIT Calicut
- Dr. Preeth, IIIT Kanchipuram
- Dr. Manjith B C, IIIT Kottayam



## Address

**Indian Institute of Information Technology Kottayam**  
**Valavoor P.O.,**  
**Pala, Kottayam- 686635, Kerala.**  
Visit us at: [www.iiitkottayam.ac.in](http://www.iiitkottayam.ac.in)

## Registration

Participants interested to attend the program should register online in the below mentioned link.

[Registration Link](#)

Format for NOC: <[link](#)>

(or)



The last date of registration is: **20<sup>th</sup> June 2023**

## Organizing Committee

### Patrons

- Prof. Rajiv V. Dharaskar, Director, IIIT Kottayam.
- Dr. M. Radhakrishnan, Registrar, IIIT Kottayam.
- Prof. P. Mohanan, Prof. in-Charge (Academics), IIIT Kottayam.

## Contact Details

### Workshop Coordinator

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### For Further Assistance

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