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## ISEA Workshop on **IoT Ecosystem: Security Challenges and Opportunities**

Organised by

Indian Institute of Technology, Guwahati under ISEA Project Phase- II

in association with

Centre of Excellence in Cyber Security, JNTUH, Hyderabad

**09.01.2023 (Monday) from 10.00AM to 12.30PM**

Venue : UGC-HRDC Auditorium, JNTUH

### About ISEA:

Information Security Education and Awareness (ISEA) project is an initiative of Ministry of Electronics and Information Technology, Government of India to reach out to the students, faculty members and researchers in order to make them aware and educate them in the domain of information security. In view of the pervasive nature and impact of cyber security on all walks of life, Government of India has identified Information Security as one of the major thrust areas for launching various research, development and awareness programs. Most essential element for information security is availability of right kind of qualified and well trained human resources, who could take up Research & Development (R&D), develop indigenous solutions, secure and maintain various systems including critical infrastructure. With this objective ISEA project facilitate fully funded academic research, internships for faculty and students, conduct various online and offline events across the country.

### About IIT Guwahati:

Indian Institute of Technology Guwahati (IITG), the sixth member of the IIT fraternity was established in 1994. IITG has been able to build up world class infrastructure for carrying out advanced research and has been equipped with state-of-the-art scientific and engineering instruments. The Department of Computer Science and Engineering, started its academic program in the year 1995 and is celebrating 25<sup>th</sup> year of its inception. It provides an outstanding research environment complemented by excellence in teaching. The department offers B.Tech, M.Tech, and Ph.D degree programs. The department has around 30 faculty members actively involved in various cutting edge research in the field of computer science engineering. System security is one of the prominent research groups at IIT Guwahati.

### About JNTUH:

Jawaharlal Nehru Technological University, Hyderabad, was established on 2nd october 1972 by the Legislature of the State of Andhra Pradesh as the first Technological University in the country. It has been in the forefront for the past 44 years in providing quality technological education of relevance in the State of Andhra Pradesh. After 36 years of existence it was restructured into 4 different Universities by the Government vide Government Ordinance No.13, dated 18th August 2008 and Act of State Legislature No.30 dated September 2008 and this new University has been designated as Jawaharlal Nehru Technological University Hyderabad (JNTUH).

JNTUH is situated in a sprawling 89-acre campus at Kukatpally, Hyderabad. It has now 4 Constituent Engineering Colleges, one at Hyderabad, one at Kondagattu (Jagithyal), one at Manthani and one at Sultanpur (Medak dist.) and 15 other constituent units on Hyderabad campus. JNTUH offers B.Tech. programmes in 24 disciplines and B.Pharm at UG level; Integrated 5-year dual degree Masters programme; M.Tech. Programmes in 68 disciplines, M.Pharm. in 11 disciplines; M.Sc. in 10 disciplines; MCA, MBA and Double Degree Programmes at P.G. level; in addition to the offer of M.S., M.Phil., Ph.D. Research Programmes in various disciplines of Engineering, Technology, Science, Management and Humanities. JNTUH has 423 affiliated colleges spread over the Telangana State.

## Workshop Overview

In recent years, with large data explosion, need for high performance computing systems are on an exponential rise. IoT and cloud-based architectures with powerful computing systems at the back end are crucial to meet the growing demand of data and compute intensive applications. Security of this eco system depends on the security of edge, fog, cloud and underlying system infrastructure. We explore how these devices impacts our life and the challenges of the same from security point of view. Workshop also provides a platform for formal as well as informal interaction between participants and resource persons to discuss about possible avenues of collaborations, internships and career opportunities in IITs and C-DAC.

## Workshop Objectives

- To comprehend the role of IoT in day-to-day life and to introduce IoT infrastructure and applications.
- To unfold the security challenges and issues in IoT and embedded edge devices.
- To understand security vulnerabilities and mitigation strategies in emerging memory systems used in IoT and edge devices.
- To introduce emerging on-chip interconnects and selected security challenges and mitigation techniques.

## Workshop Contents

- Role of IoT, edge, and cloud devices in the modern world.
- IoT building blocks, applications, and case studies. IoT security challenges and countermeasures.
- Security challenges in embedded edge devices.
- Security vulnerabilities and mitigations in memory systems.
- Secure interconnect design for embedded and edge devices.

## Resource Persons

**Prof. Sukumar Nandi**  
Senior Professor  
IIT Guwahati

**Dr. John Jose**  
Associate Professor  
IIT Guwahati

## Conveners

**Dr. R Sridevi**  
Professor in CSE & Coordinator,  
CoE in Cyber Security, JNTUH

**Ch A S Murty**  
Sr. Director  
C-DAC Hyderabad

## Who can Attend ?

Faculty, Research scholars and PG students from CSE, ECE and IT branches.

## Registration Details

Registration link :

<https://www.infosecawareness.in/ioteco>

No  
registration  
fee

**250 seats only**

- Shortlisting is on **First Come First Serve Basis**
- Shortlisted candidate will receive a confirmation email within **24 hours** to complete registration formalities.
- Certificates will be given **ONLY** to participants who attend the program in-person.

**Last date for registration: 07.01.2023 (Friday) by 10.00 PM**



Ministry of Electronics & Information Technology  
Government of India



प्रगत संगणन विकास केन्द्र

CENTRE FOR DEVELOPMENT OF ADVANCED COMPUTING

इलेक्ट्रॉनिक्स और सूचना प्रौद्योगिकी मंत्रालय की वैज्ञानिक संस्था, भारत सरकार

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