

**ACM India Summer School 2023 on “Cybersecurity”
(for women students only)
Hosted by Sri Sivasubramaniya Nadar College of Engineering, Chennai
Sponsored by Cisco**

12-June-2023 – 23-June-2023

- **Name of the school:** ACM India Summer School on Cybersecurity (for women students only)
- **Host institution’s name and address:** Sri Sivasubramaniya Nadar College of Engineering (SSN), Rajiv Gandhi Salai, Kalavakkam – 603110, Chennai, India
- **Dates:** 12-June-2023 to 23-June-2023
- **Local coordinators:**
 - Name: Dr. S. Karthika, Associate Prof & Certified Ethical Hacker, Dept of IT, SSN CE
 - Email: skarthika@ssn.edu.in

 - Name: Dr. S. Chithra, Associate Prof & Certified Ethical Hacker, Dept of IT, SSN CE
 - Email: chithras@ssn.edu.in
- **Academic coordinator**
 - Name: Dr. V. Mahendran, Assistant Professor, Dept of CSE, IIT Tirupati
 - Email: mahendran@iittp.ac.in
- **Industry sponsor:**

Cisco

- **Description of school:**

Cybersecurity is the state or process of protecting and recovering computer systems, networks, devices, and programs from any type of attacks, hijacking and injections. Cyber-attacks are an increasingly sophisticated and evolving danger to your sensitive data, as attackers employ new methods powered by social engineering and artificial intelligence (AI) to circumvent traditional data security controls. This school will equip the students with few state-of-art skills needed to become an expert in this rapidly growing domain and can explore the roadmap to become an ethical hacker. They will learn comprehensive approaches to protecting infrastructure, including securing data and information, running risk analysis and mitigation, architecting cloud-based security, and much more from the best experts of this domain. The school will expose the current cybersecurity issues and the best practices adapted by industrial experts. The students will get to hear the career prospects and the scope of research in cyber security.

- **List of sub-topics:**

- Cryptography
- Network Security
- IoT Security
 - Light-Weight encryption
 - Trust Schemes for IoT
 - Privacy protection in IoT
- Quantum Cryptography
- Post-Quantum Cryptography
- Privacy preservation techniques

- Blockchain Technology
- Open-source intelligence
- Risk analysis and mitigation
- Cloud-based security
- Career opportunities, challenges, and support

- **List of speakers (with affiliation):**

Prof. John Augustine (IIT Madras)

Dr. Chester Rebeiro (IIT Madras)

Dr. Shyamapada Mukherjee (NIT Silchar)

Prof. Bibhudatta Sahoo (NIT Rourkela)

Dr. Vani V (NIT Karaikal)

Prof. Aswani Kumar Cherukuri (VIT Vellore)

Prof. M. Sethumadhavan (TIFAC-CORE in Cyber Security, Amrita University, CBE)

Prof. S. Bose (Anna University Chennai)

Dr. Ravi Sheth (Rashtriya Raksha University Gandhinagar)

Industry expert(s) from Cisco

- **Background / prior courses recommended:**

Basic knowledge in Python programming and networks

Schedule

Date	Session 1 (08:00 am – 10:15 am)		Session 2 (10:30 am – 12:30 pm)		Session 3 (1:30 pm – 3:30 pm)	
12-06-2023	<p>Inaugural</p> <p>Mathematical foundations for Cryptography – Dr. Kannan, Arputharaj, Senior Professor, School of CSE, VIT Vellore</p>	<p>Break (10:15 a.m to 10:30 a.m)</p>	<p>Classical cryptography – Dr. Kannan Arputharaj, Senior Professor, School of CSE, VIT Vellore</p>	<p>Lunch (12:30 p.m to 01:30 p.m)</p>	<p>Cryptographic functions – modular arithmetic, number theory, elliptic curve crypto – Hands-on - Dr. Kannan Arputharaj, Senior Professor, School of CSE, VIT Vellore</p>	<p>High Tea (03:30 p.m to 03:40 p.m)</p>
13-06-2023	<p>Modern cryptography – Academic expert – Dr. Sethumathavan, Professor and Director In-Charge, TIFAC-CORE, Coimbatore</p>		<p>Authentication and hashing techniques - Academic expert - Dr. Sethumathavan, Professor and Director In-Charge, TIFAC- CORE, Coimbatore</p>		<p>Implementation of modern cryptographic algorithms – Hands-on – Tutors - Dr. Sethumathavan, Professor and Director In- Charge, TIFAC-CORE, Coimbatore</p>	
14-06-2023	<p>Network security overview – Dr. V.</p>		<p>Network security protocols and</p>		<p>Network security using Kali Linux – Hands- on – Wireshark Tool – Mr. Pownraj, Founder &</p>	

	Mahendran, Assistant Professor, Dept of CSE, IIT Tirupati		mechanisms - Dr. V. Mahendran, Assistant Professor, Dept of CSE, IIT Tirupati		CEO, NetworkGeek. Chennai
15-06-2023	Introduction to IoT Security – Dr. S. Bose, Professor, Department of CSE, Anna University, Chennai		IoT Security protocols and mechanisms - Dr. S. Bose, Professor, Department of CSE, Anna University, Chennai		Light weight encryption for IoT – Tutors - R. Yugha, Assistant Professor, Sathyabama University
16-06-2023	Introduction to Ethical Hacking - Dr. Sumaiya Thaseen, Associate Professor, Department of Software and Systems Engineering, Vellore Institute of Technology, Vellore		Footprinting and Reconnaissance and Scanning Networks - Dr. Sumaiya Thaseen, Associate Professor, Department of Software and Systems Engineering, Vellore Institute of Technology, Vellore		Footprinting and Reconnaissance and Scanning Networks – Hands-on – Speaker from EC-Council
17-06-2023	Cybersecurity using		Web security – Injection		Web attacks – Nmap - OWASP – Hands-on – Tutors – Mr.

	Python – Hands on – Tutors – Mr. Riyaz, Chargebee, Chennai		attacks - Mr. Karthikeyan, Product Security Leader, Logitech, Chennai		Karthikeyan, Product Security Leader, Logitech, Chennai
18-06-2023	HOLIDAY		HOLIDAY		HOLIDAY
19-06-2023	AI in cybersecurity – Speaker from CISCO		Hardware Security – Mr. Harikrishnan, CISCO		Privacy preservation techniques – differential privacy - Dr. Shanmugha Priya, Crossbow Labs LLP
20-06-2023	Introduction to Blockchain – architecture and concepts - Speaker from Rapidqube Technologies		Smart contracts – Solidity on Ethereum platform – Speaker from Rapidqube Technologies		Blockchain research and industrial use cases – Industry expert – Speaker from Rapidqube Technologies
21-06-2023	Introduction to Social engineering and its impact on cyber security - Mr. Ashok, Assistant Professor, TIFAC-CORE in		Risk analysis and mitigation – OSINT Tool – Maltego, Shodan.io - Mr. Ashok, Assistant Professor, TIFAC-CORE in Cyber Security,		VAPT – Hands-on – Nessus tool – Industry expert – Mr. Ranjith Deloitte, Chennai

	Cyber Security, Coimbatore		Coimbatore		
22-06-2023	Cloud security – Mr. Mugunthan Soundararajan (CEO Xprus, Chennai)		Secure coding practices – Industry expert - Mr. Mugunthan Soundararajan (CEO Xprus, Chennai)		Career opportunities, challenges, and support – Industry expert – Mr. Harish Ramani, TevelCyber Corps, Chennai
23-06-2023	Quantum cryptography – Dr. Aswani Kumar Cherukuri, Professor, Vellore Institute of Technology, Vellore.		Post quantum crypto algorithms - Dr. Aswani Kumar Cherukuri, Professor, Vellore Institute of Technology, Vellore.		Valedictory function

Other useful links:

[College of Engineering – SSN Institutions](#)

[Chennai International Airport to Sri Sivasubramaniya Nadar College of Engineering - Google Maps](#)

<https://sites.google.com/ssn.edu.in/acm-summer-school-cybersec/home>

