

OBJECTIVE

The aim of this Winter School is to raise awareness and understanding on the issues involved in network and information security. The Winter School also aims at providing a forum for members of the research and academic community, to interact on cutting-edge and ground-breaking topics: Adversarial Machine Learning, Privacy Preserving Techniques, Side Channel Attacks, Cyber Threat Intelligence, Evasive Malware Detection, Secure Multiparty Computations, and Cyber Forensics.

ELIGIBILITY

Winter School is open to the faculty members and research scholars, post graduate / under graduate students of AICTE / UGC approved institutions.

SELECTION PROCESS

Participants will be selected on a first come first serve basis and selected candidates will be intimated through email.

RESOURCE PERSONS

All sessions will be handled by experts from industry and academia.

FOR REGISTRATION

<https://forms.gle/yqGkKEWgtxu1AAPcA>

Registration Fee : 590/- (Including 18% GST)

Account Name : Head Department of Computer Applications

Account Number : 67216724749

IFSC : SBIN0070235

For more details visit

<https://dca.cusat.ac.in/CyberWS2022/>



PATRON

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Vice Chancellor
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Kochi – 22

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TWO WEEK INTERNATIONAL WINTER SCHOOL ON CYBER SECURITY AND THREAT INTELLIGENCE (ONLINE)

17-01-2022 to 28-01-2022



Organised by

**Cyber Intelligence Research Lab,
Department of Computer Applications,
Cochin University of Science and Technology
(CUSAT)**

ABOUT CUSAT

Cochin University of Science and Technology (CUSAT) was established in 1971 with an emphasis on post-graduate studies and research in applied science, industry, and commerce. Now, it is excelling in research and academic activities solving significant societal, science, and engineering problems. It's vision is to strive for excellence, be competitive in technical education on a global basis and focus on knowledge assimilation, generation, and dissemination. In it's pursuit of international excellence, CUSAT has established academic links with various universities in India and abroad. CUSAT is accredited by National Assessment and Accreditation Council, India and is consistently placed amongst the top universities in NIRF ranking.

DEPARTMENT OF COMPUTER APPLICATIONS

The Department of Computer Applications is a pioneer department of the Cochin University of Science and Technology, established in the year 1994. Currently, the department offers MCA (Master of Computer Applications), M.Sc Computer Science with Specialization in Artificial Intelligence, M.Sc Computer Science with Specialization in Data Science and Ph.D. in Technology. The department is bestowed with an experienced team of faculty members with an excellent academic track record and proficiency in data science, machine learning, and cybersecurity. The researchers of the department has published more than a hundred research articles in reputed peer-reviewed journals and conferences. Also, the faculty has more than one crore worth of funded projects. Curriculum of the department provides a good theoretical foundation through high-quality teaching and extensive practical

training. In addition to regular curriculum the department organizes workshops, technical seminars, Faculty Development Programmes (FDP), Short Term Training Programmes (STTP), and conferences to expose the students, faculty members and researchers with real world problems catering to industrial and societal needs.

ABOUT THE WORKSHOP

This International Winter School is organized as a part of golden jubilee celebration of Cochin University. The Winter School aims to bring together expert cyber security researchers or practitioners to a common platform for discussing a wide range of topics covering recent advances in security, network and system management solutions.

The advent of Internet of Things has gained high popularity amongst different sections of users. Recent advances in networking, computation, software, and hardware technologies have reformed the ways in which humans, smart things, and engineered systems interact and exchange information. Heterogeneous device computing is at the heart of communication, equipped with pervasive technologies such as RFID and smartdust together with tiny sensors, actuators and machine-to-machine communication technologies. IoT has the potential to offer innovative solutions to global challenges faced by ageing populations, growing cost of healthcare, climate change, biosecurity, as well as disaster management.

While these technologies offer a lot of new possibilities, an incremental complexity of hardware, software and their accessibility

have led to new vulnerabilities resulting in an increased number of attacks and exploitation. It is not practical to store and access data at centralized servers from local devices. Adversaries can infer sensitive information by launching poisoning and membership inference attacks. Also the surge in internet usage during the pandemic has led to attacks which exfiltrate vital information from connected devices. Presently attackers concealing their identity, existing privacy laws for data collection and usage about user data privacy are the challenges to cyber security. Furthermore, reliance on social media have impacted adversarial attacks in the form of deep fakes and fake news. Cyber threat intelligence is sought as a solution to mitigate attacks and to prepare multiple institutions to prevent, detect and react agninst real time attacks.

Hence, it is required to revise existing security solutions to counter unseen threats. Innovative security methods and privacy protection solutions are needed to provide more secure and efficient privacy-preserving intelligent systems. To achieve this, security systems need to adapt to the changing cyber security threats with minimal user intervention and maximum protection against cyber-attacks, intrusions, malware and various types of data breaches. Artificial Intrelligence has the potential to be leveraged in different aspects of cybersecurity and cyber threat detection. It has received significant interest recently, where, a plethora of AI and other intelligent learning solutions are now being integrated into cybersecurity systems for security. Such integration will play a vital role in providing enhanced security for intelligent autonomous systems and enable organizations to make crucial changes to their security landscape.

OUR RESOURCE PERSONS

1. Prof. Manoj Singh Gaur,
Director, IIT Jammu, India.
2. Dr. Eric Filiol,
Professor, ENSIBS and HSE, France.
3. Dr. Akka Zemhari,
Full Professor,
University of Bordeaux, France.
4. Dr. Tegawendé. F. Bissyandé,
Professor/ Chief Scientist,
University of Luxembourg.
5. Dr. Vijay laxmi,
Professor,
Malaviya National Institute of Technology,
Jaipur, India.
6. Dr. Corrado Aaron Vissagio,
Associate Professor,
University of Sannio, Italy.
7. Dr. Battista Biggio,
Assistant Professor,
University of Cagliari, Italy.
8. Dr. Zekeriya Erkin,
Associate Professor,
Cyber Security Group,
Delft University of Technology,
Netherlands.
9. Dr. Stjepan Picek,
Assistant Professor,
Delft University of Technology,
Netherlands.
10. Dr. Irene Amerini,
Assistant Professor,
Sapienza University, Rome.
11. Dr. Ponnurangam Kumaraguru,
Professor, IIIT, Hyderabad, India.
12. Dr. Emmanuel S Pilli,
Associate Professor,
Malaviya National Institute of Technology, Jaipur, India.
13. Dr. Eleonora Losiouk,
Assistant Professor, University of Padua, Italy.
14. Dr. Parag Rughani,
Associate Professor,
Science University, Gujarat, India.
15. Dr. Yamuna Prasad,
Assistant Professor,
Indian Institute of Technology,
Jammu, India.
16. Dr. Vinit Jakhetiya,
Assistant Professor,
Indian Institute of Technology, Jammu, India.
17. Dr. Tony Thomas,
Associate Professor,
Kerala University of Digital Sciences,
Innovation and Technology,
(Digital University Kerala), India.
18. Dr. Sashank Dara,
Co-Founder & CTO, Seconize Bangalore, India.
19. Sri. Shyam Sundar Ramaswami,
Sr. Research Scientist,
Email Security, CISCO, Bangalore, India.
20. Mr. Swapneel Patnekar,
Shreshtha IT Technologies Pvt. Ltd,
Bangalore, India.
21. Dr. Smita Naval,
Assistant Professor, LoLo
Malaviya National Institute of Technology,
Jaipur, India.
22. Dr. Jyoti Gajrani,
Assistant Professor,
GEC, Ajmer, India.
23. Dr. Preeti Mishra,
Assistant Professor,
Department of Computer Science,
Doon University, Dehradun, India.
24. Dr. Rajbir Kaur
Assistant Professor, LNMIIT, Jaipur. India
25. Dr. Shweta Bhandari,
Assistant Professor,
LNM Institute of Information Technology,
Jaipur, India.
26. Dr. Vinieeta Jain,
Assistant Professor,
LNM Institute of Information Technology,
Jaipur, India.
27. Dr. Chhagan Lal,
Researcher,
Faculty of EEMC Cyber Security Research Group,
TUDelft, Netherlands.
28. Dr. Pallavi Kaliyar,
ERCIM Research Fellow, NTNU, Norway.
29. Dr. Luca Demetriois,
Postdoctoral Researcher,
University of Cagliari, Italy.
30. Shri. Rajendra Kumar Solanki,
Scientific Officer, IIT, Jammu, India.
31. Dr. Eduard Marin,
Research Scientist,
Telefonica Research, Barcelona, Spain.