

CYBER SECURITY

THE REAL WORLD CHALLENGES

CONDUCTED BY: ICSB CLUB

Presented By

DR. PATTATHIL DHANYA MENON

Venue: Multipurpose hall

Duration: 10:30 to 12:45

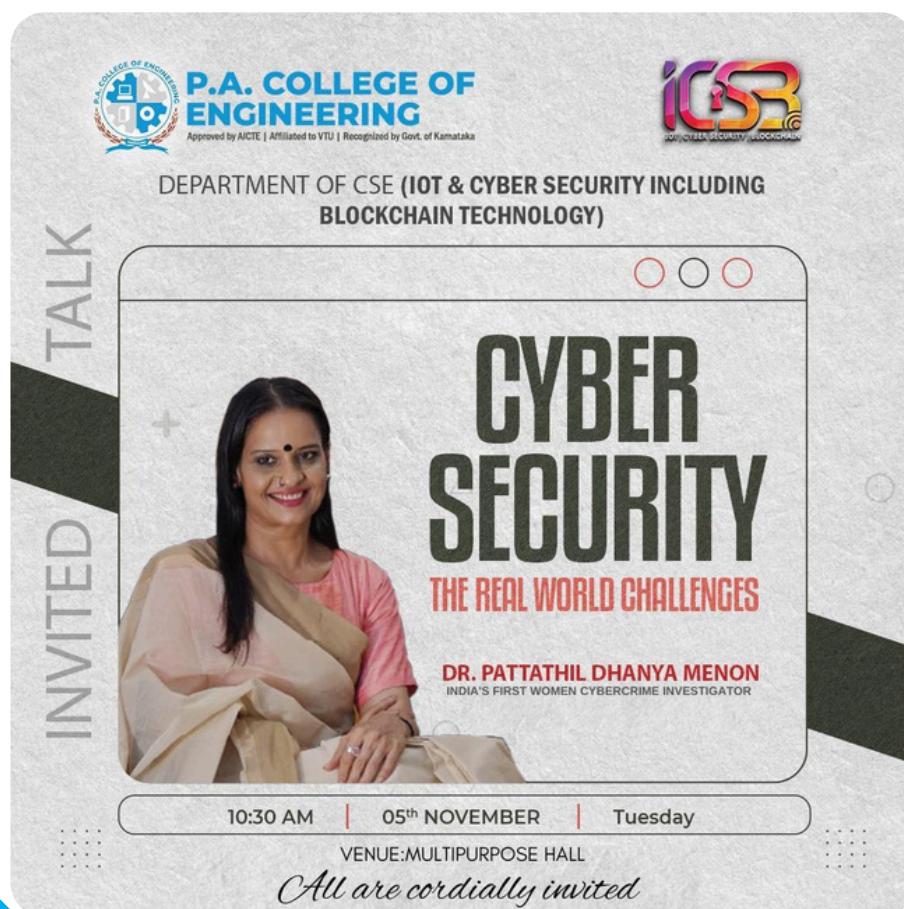
Introduction

On 5 November 2024, a session titled “Cybersecurity - The Real World Challenges” was held, featuring Dr. Pattathil Dhanya Menon, an expert in the field of cybersecurity. The event was further enriched by the presence of distinguished guests, including:

- Mr. Roshan Satya, a renowned Stress Management Trainer, who has helped countless individuals build resilience and manage stress effectively.
- Mr. Santhosh, a dedicated Gender Specialist, known for his valuable insights on gender inclusivity and equality.
- Mr. Ajith Kumar, the esteemed Director of Avanzo Cyber Security Solutions Pvt Ltd, whose leadership has driven significant advancements in cybersecurity.

Their combined expertise provided a multidimensional perspective on the challenges and critical needs in today's digital landscape.

The session covered a range of topics that provided valuable insights into the complex nature of cybersecurity and the factors that influence it. Dr. Menon led the main discussions, with supplementary insights from the honored guests.



1. The Evolving Threat Landscape

- Dr. Menon highlighted how cyber threats have evolved from simple virus attacks to sophisticated cyber espionage, ransomware, and advanced persistent threats (APTs). She discussed how these attacks are often orchestrated by well-organized groups, including cybercriminals and even state actors.
- She noted the rapid evolution of attack vectors, especially with the growth of IoT devices, remote work, and the widespread adoption of cloud technology. Attackers are now leveraging AI and machine learning to conduct more sophisticated attacks, making it crucial for cybersecurity defenses to adapt at an equally rapid pace.



- **CHALLENGES IN DATA PROTECTION**

- The session addressed the importance of data protection and the challenges associated with securing sensitive data, particularly in industries like finance, healthcare, and critical infrastructure. Dr. Menon emphasized the need for encryption, strong access controls, and comprehensive data protection policies.
- Dr. Menon also discussed the role of privacy laws, such as the GDPR and CCPA, in guiding organizations to handle data responsibly, highlighting how compliance has become a significant part of cybersecurity.

- **Human Factor in Cybersecurity**

- Dr. Menon underscored the importance of managing human error, a frequent vulnerability in cybersecurity. Phishing, social engineering, and insider threats continue to be common, with employees inadvertently contributing to security breaches.
- Mr. Roshan Satya contributed insights on stress management and resilience, explaining how stress can impact decision-making and increase susceptibility to errors, especially in high-stakes environments. He recommended regular training and stress management strategies to minimize human-related security risks.

CYBERSECURITY

IN CRITICAL INFRASTRUCTURE

Dr. Menon discussed the unique security challenges in protecting critical infrastructure, such as power grids, transportation, and healthcare facilities, as cyber attacks on these systems can have severe consequences for national security and public safety.

• Mr. Ajith Kumar shared insights from his experience at Avanzo Cyber Security Solutions Pvt Ltd, where he has driven initiatives to safeguard critical sectors. He stressed the importance of public-private partnerships to secure essential systems and foster resilience against potential attacks.

5. The Role of Artificial Intelligence and Machine Learning

• AI and machine learning are increasingly used in both offensive and defensive cybersecurity. Dr. Menon discussed how AI can aid in threat detection, behavior analysis, and vulnerability assessment, but also warned of its potential use in automating cyber attacks.

• She highlighted the importance of continuous research to leverage AI for threat mitigation while remaining vigilant against AI-driven cyber threats.



CYBERSECURITY POLICY AND GOVERNANCE

Dr. Menon addressed the importance of policy and governance in creating a secure digital environment. National policies that promote collaboration and standardized cybersecurity practices are vital.

• Mr. Santhosh shared his expertise in gender inclusivity and equality, stressing the importance of building diverse, inclusive cybersecurity teams. He noted that diverse perspectives can strengthen cybersecurity strategy and help address the complex social and ethical dimensions of security challenges.

Interactive Q&A Session

After her presentation, Dr. Menon engaged in a lively Q&A session, addressing questions from the audience. Key topics discussed included:

- Effective ways for individuals and small businesses to protect against ransomware attacks.
- The future of quantum computing and its implications on encryption and data security.
- Best practices for creating a security-first culture within organizations.



CONCLUSION:

The session was highly interactive, with students and faculty asking insightful questions, and the discussions provided valuable takeaways for everyone involved.

The event was smoothly coordinated under the guidance of HOD Dr. Shamna N V, with support from Prof. Afeefa Nazneen, Prof. Seetha Das V, and Ms. Meghashree. The ICSB Club coordinators played a key role in organizing and ensuring the event's success.

The session, led by Dr. Pattathil Dhanya Menon and enriched by contributions from Mr. Roshan Satya, Mr. Santhosh, and Mr. Ajith Kumar, provided a comprehensive view of the real-world challenges in cybersecurity. Each speaker brought unique insights, emphasizing the importance of resilience, inclusivity, and collaboration in tackling these issues. Together, their expertise illuminated the path forward for addressing the evolving landscape of cybersecurity threats.

In closing, Dr. Ramis M.K., Principal of PACE, and Dr. Sharmila Kumari, Vice Principal, expressed gratitude to Dr. Menon with a heartfelt vote of thanks, acknowledging her invaluable insights and dedication to advancing cybersecurity awareness.

