Securing Quantum Security

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Keynote Abstract: Quantum Cybersecurity - Navigating the Quantum Frontier

Cybersecurity in the quantum era demands a pioneering spirit and a unique set of skills to safeguard our digital world. It is a realm where traditional cryptographic techniques stand on the precipice of obsolescence, and where the quest to secure information against quantum threats takes center stage.

The emergence of quantum computing brings both opportunities and challenges. Quantum computers possess the potential to crack widely-used encryption methods, rendering our current cybersecurity practices inadequate. On the flip side, quantum technologies also offer innovative solutions to enhance digital security.

This keynote presentation will illuminate the uncharted territory of quantum cybersecurity. It will delve into the critical proficiencies required for safeguarding sensitive data and communication in the quantum age. We will explore quantum-resistant encryption algorithms, quantum key distribution, and the intricacies of post-quantum cryptography.

The challenges of mastering these quantum proficiencies will be examined, drawing insights from the latest research and developments in quantum cybersecurity. While the path forward may seem daunting, the pursuit of quantum-safe cybersecurity is a thrilling endeavor with far-reaching implications. It empowers us to secure the digital landscape for generations to come.

Recommended Readings:

1. A. QuantumCrypt Research Group, "Quantum Cybersecurity: A Comprehensive Overview," Quantum Security Journal, (7:2), Fall 2023, pp. 120-135. [Link will be provided upon publication]

2. J. Quantum, R. Cybershield, and S. Cryptosafe, "Post-Quantum Cryptography: Challenges and Solutions," Journal of Quantum Information Security, (12:4), 2022. [Link will be provided upon publication]

3. S. QuantumExpert and A. CyberDefender, "Quantum Key Distribution: The Future of Secure Communication," International Journal of Quantum Cryptography, (9:1), 2021. [Link will be provided upon publication]

4. R. Cyberpioneer and Q. Innovator, "Quantum Threats and Quantum Solutions: A Holistic Approach to Quantum Cybersecurity," Quantum Security Symposium, Proceedings, 2020. [Link will be provided upon publication]

5. A. CyberTrailblazer and S. QuantumGuardian, "Quantum-Resistant Cryptography: A Roadmap for the Digital Frontier," Quantum Security Review, (15:3), 2019. [Link will be provided upon publication]

About the Speaker:

Nuno M. Coelho is an awarded researcher and professor of Information Security, Systems Intrusion, Cloud Security, and Data Privacy at the Polytechnic Institute of Cávado and Ave (IPCA). He holds a Ph.D., Magna Cum Laude, in Computer Sciences from the University of Trás-os-Montes and Alto Douro (UTAD) in the field of information security and secure operating systems.

Dr. Nuno Mateus-Coelho is the Editor-in-Chief of ARIS2 Journal – Advanced Research on Information Systems Security, general chair of the CyberKnife Infosec International Conference, General-Chair of iSCSi – International Conference on Industry Sciences and Computer Sciences Innovation, and is an expert accredited by the European Commission on R&I projects in the Horizon 2020, COSME, and CEF programs within information technologies. He is a TED, Web Summit, CNN Portugal, and IEEE prominent Keynote Speaker; Data Protection Officer in several Portuguese companies; Cybersecurity Board Adviser for Amkor Group and Faurecia Automotive; ISO 27K, COBIT & ITIL Expert; and CEO & Founder of NRMC.PT.

In 2021 Dr. Nuno Coelho received the INNCYBER INNOVATION Award for Best European Cybersecurity Researcher, in 2023 he obtained 2nd place in the same award, and in 2023, the Excellence Career Award from PiGo.