SaTC: CORE: Small: A Practical Approach to Study Security in Wireless Networks
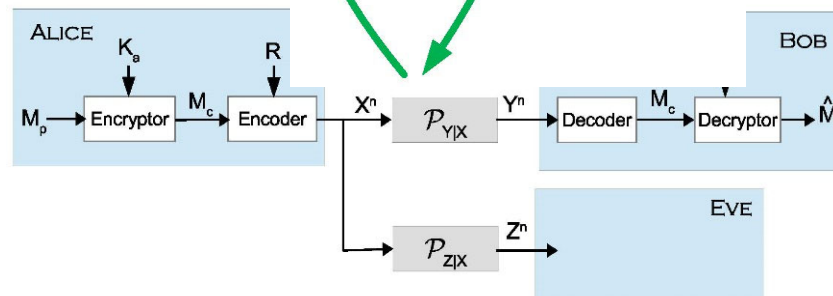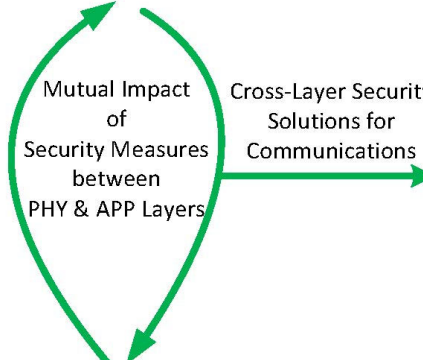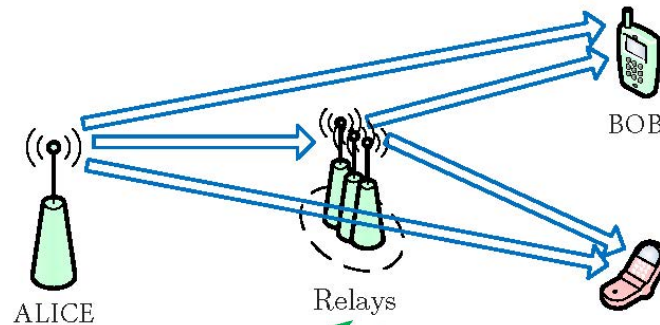
Challenge:

- Efficient use of system resources to achieve secrecy in wireless communications networks.

Solution:

- Design the physical layer security schemes based on the knowledge of encryption
- Making a bridge between physical layer security and cryptography

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Relays

Mutual Impact of Security Measures between PHY & APP Layers

Cross-Layer Security Solutions for Communications

Scientific Impact:

- The project will introduce a rigorous framework and create novel schemes to achieve efficient tradeoff of critical system resources, such as bandwidth and power
- The project will shed light on the interplay between security mechanisms at different layers of protocol stack

Broader Impact and Broader Participation:

- Achieve higher transmission rates while keeping the communication secure, better use of spectrum and resources
- Three PhD students and several undergraduate students are involved