Wednesday, April 7, 2021

Information Theoretic Security: Bridging the gap between the classical and quantum worlds (1:00 - 1:50 pm EST)

Demand-Side Cyber Security of Smart Grids (2:00 – 2:50 pm EST)

Mark your calendar and come join us for CAE Forum! CAE Forum is a live, real-time, online, academic forum where members of the CAE community give non-technical presentations on topics of value to the CAE community. CAE Forum is about sharing your ideas, knowledge, and expertise to empower and strengthen our community. It's that simple. CAE Forum presentations are normally held on the third Wednesday of each month during the Fall and Spring semesters.

Date: Wednesday, April 7, 2021

Time: 1:00 - 1:50 pm EST

Location: https://caecommunity.zoom.us/my/caeforum

Just log in as "Guest" and enter your name. No password required.

Title/Topic: Information Theoretic Security: Bridging the gap between the classical and quantum worlds

Audience: Students, Professors, Govt.

Presenter(s): Dr. Hesham El Gamal, The Ohio State University

Description: We will start with a brief overview of provable secrecy techniques that leverage the unique characteristics of wireless channels. We will then discuss the main ingredients of Quantum Key Distribution approaches and suggest avenues for utilizing the intersections between the two paradigms to enable provable secrecy for next generation wireless networks.

Time: 2:00 - 2:50 pm EST

Location: https://caecommunity.zoom.us/my/caeforum

Just log in as "Guest" and enter your name. No password required.

Title/Topic: Demand-Side Cyber Security of Smart Grids

Audience: Students, Professors, Govt.

Presenter(s): Dr. Samrat Acharya, New York University

Description: Urban power grids are experiencing a large volume of internet-connected, high-power demand-side appliances such as electric vehicles (EVs) and thermostatically controlled loads (e.g., air-conditioners). This presentation discusses two types of vulnerabilities and a defense scheme for this urban grid environment. First, it demonstrates how a remote attacker can compromise urban power grid operations leveraging public EV charging and power grid data using a case study of Manhattan, NY. Second, it investigates the possibility of causative attacks on residential demand response programs and the impacts caused for the power utility. On the defense side, it proposes a cyber insurance mechanism to transfer the cyber risks arising from demand-side appliances to financial risks.

A recording of the live presentation will be available within 48 hours of the presentation at: https://www.caecommunity.org/content/cae-forum-resources

Contact us at: caeforum@caecommunity.org