



# IEEE COMMUNICATIONS SOCIETY

## Cognitive Network Security Special Interest Group

**Chair:** Prof. K.P. (Suba) Subbalakshmi,  
Fellow National Academy of Inventors  
Director Stevens Institute for Artificial Intelligence

<http://www.stevens.edu/siai>

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Stevens Institute of Technology, [ksubbala@stevens.edu](mailto:ksubbala@stevens.edu);  
Jefferson Science Fellow



# News

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- Dr. Dola Saha joins as a Vice-Chair of Sec-IG
- Currently 201 members
- To join Sec-IG, use the LinkedIn group:
  - [http://www.linkedin.com/groups?home=&gid=5070076&trk=anet\\_ug\\_hm](http://www.linkedin.com/groups?home=&gid=5070076&trk=anet_ug_hm)
  - The group is also searchable under the name of IEEE Cognitive Network Security Special Interest Group in linkedin.
  - You can also send an e-mail to [ksubbala@stevens.edu](mailto:ksubbala@stevens.edu)

# Sec-IG Virtual Seminar Series

## SEC-IG's Monthly Virtual Seminar

**Speaker: Prof. Vincent Poor, Princeton University**

**Date:** November 17; **Time:** 9AM ET

**Registration Process:** Please register using the following link. You will receive a link in your email to attend the talk online.

<https://forms.gle/qUoBJtot6yMsCqKX6>

**Title:** Physical Layer Security in Wireless Networks

**Abstract:** The increasing deployment of wireless systems poses security challenges in emerging dynamic and decentralized networks consisting of very large numbers of low-cost and low-complexity devices. Over the last two decades alternative/complementary means to secure data exchange in wireless settings have been investigated in the framework of physical layer security (PLS), addressing jointly the issues of reliability and secrecy. PLS takes advantage of the inherent randomness of wireless communication channels and/or the unclonability of hardware fabrication processes, to harvest entropy and deliver authentication, confidentiality, message integrity, and privacy in demanding scenarios. In this talk, we review these issues from an information theoretic security perspective. PLS relies on information theoretic proofs of (weak or strong) perfect secrecy, a notion first introduced by Shannon in 1949. As such, PLS systems cannot be “broken” irrespective of the adversarial computational power, i.e., the proofs do not rely on any assumptions regarding the hardness of particular families of algebraic problems. There are some fundamental differences between information theoretic security and classical cryptography, and we will also discuss some of the pros and cons of each.

**Bio:** Dr. Vince Poor is the Michael Henry Strater University Professor of Electrical Engineering at Princeton University, where his interests include information theory, machine learning and network science, and their applications in wireless networks, energy systems and related fields. He is a member of the National Academy of Engineering and the National Academy of Sciences, and a foreign member of the Chinese Academy of Sciences and the Royal Society. Recognition of his work includes the 2009 ComSoc Edwin Howard Armstrong Award, the 2017 IEEE Alexander Graham Medal, and honorary doctorates from universities in Asia, Europe and North America.

### About the Monthly Virtual Seminar Series:

The IEEE TCCN Security Special Interest Group conducts a monthly virtual seminar series to highlight the challenges in securing the next generation (xG) wireless networks. The talks will feature cutting edge research addressing both technical and policy issues to advance the state-of-the-art in security techniques, architectures, and algorithms for wireless communications.

- Monthly virtual seminar series
- Inaugural lecture by Prof. Vince Poor on Nov 17<sup>th</sup>
  - Physical layer security in wireless networks
  - Nearly 200 registrants
- Upcoming seminars
  - Prof. Prof. Kaushik Chaudhury, Dec 16, 2020
    - Deep CNN for device identification
  - Prof. Rose Hu, title and date TBD
  - Prof. Wade Trappe, Rutgers, title and date TBD
  - Prof. Narayan Mandayam, Rutgers, title, TBD
- To access recorded talks contact:
  - Prof. Dola Saha, [dsaha@albany.edu](mailto:dsaha@albany.edu)
  - Prof. K.P. Subbalakshmi, [ksubbala@stevens.edu](mailto:ksubbala@stevens.edu)

- Current Sec-IG's Dola Saha is
  - the publicity chair for IEEE DySPAN 2021
  - Co-chair of Joint 7TH N2Women AND WICE Workshop
- Sec-IG Chair is on the steering committee of the ACM WiSEML
- Sec-IG members serve as AEs for
  - IEEE Transactions on Cognitive Networking
- Don't hesitate to reach out to us, if interested in being involved.