The **IEEE Ottawa Joint Chapter of Communications Society, Consumer Electronics Society, and Broadcast Technology Society** (**ComSoc/CESoc/BTS**), **IEEE Toronto Chapter (ComSoc/BTS), IEEE Communications Society Montreal Chapter (ComSoc), IEEE Communications Society Quebec Chapter, and IEEE Communications Society Kingston Section Chapter, IEEE Ottawa Educational Activities (EA), IEEE Ottawa Women In Engineering (WIE), IEEE Ottawa Young Professionals (YP), and Algonquin College Student Branch (ACSB) in conjunction with School of Advanced Technology, Algonquin College** are inviting all interested IEEE members and other engineers, technologists, and students to ComSoc Distinguished Lecture (webinar) on

Practical 5G channel and system modeling techniques

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IN-PERSON:
DATE: **Tuesday October 18, 2022**
TIME: Refreshments, Registration and Networking: 06:00 p.m.; Seminar: 06:30 p.m. – 07:30 p.m.
PLACE: **Ciena-Optophotonics Lab (Room T129),** T-Building, School of Advanced Technology, Algonquin College, 1385 Woodroffe Ave., Ottawa, ON Canada K2G 1V8
REGISTRATION: **https://events.vtools.ieee.org/event/register/326133**
Admission: Free Registration. To ensure a seat, please register by e-mail contacting: Wahab Almuhtadi

ONLINE:
PLACE: via Zoom
https://algonquincollege.zoom.us/j/96754037165?pwd=ak5DWWZDR1plVXNCWTNLR1ordWsyZz09
REGISTRATION: **https://events.vtools.ieee.org/event/register/326133**
ADMISSION: Free, but the registration in advance is strongly encourage
For any additional information please contact: Wahab Almuhtadi

Abstract

Channel link-level and system level modeling played a critical role in proper design and deployment of all generations of wireless network systems. Particularly, system level modeling has become an important task for network planning, network design, and network optimization of wireless cellular systems. System level simulations allow to evaluate the performance of an entire network containing many Evolved Node B (eNodeB) sectors serving a lot of user equipment (UEs) in urban, suburban, and rural environments. Design and performance of new technology features require to be accurately verified and improved before deployment into commercial systems. Therefore, real-world system performance modeling and predictions should be very reliable and should be based on repeatable measurements of how the model behaves in the actual environment. Both the wireless industry and academia have made a significant effort developing and defining new and updated channel models such as the 3GPP 3D channel model and the extended 3GPP extended channel model for milli-meter wave. New 3D geodata models with high-resolution and artificial intelligent (AI) algorithms are greatly enhancing the RF propagation modeling in line of sight (LOS) and non-line of sight (NLOS) beamformed signals and FD-MIMO antenna applications of 5G wireless network systems. In this talk, we will review some of the key 5G wideband wireless channel modeling including the 3rd Generation Partnership Project (3GPP), NYU SIM, and others. We will discuss some of the general practical use cases of 5G network system modeling scenarios. Additionally, we will describe some of the practical challenges of channel and system modeling in 5G wireless systems.

Speaker's Bio

Kafi Hassan works in the Advanced and Emerging Technology team at T-Mobile USA in Reston, Virginia. He is also an Adjunct Professor at the Electrical and Computer Engineering department at George Mason University in Fairfax, Virginia where he has been teaching graduate and undergraduate level courses since 2007. From 1995 to 2006, Hassan worked as a Member of Technical Staff at Bell Laboratories in Whippany, New Jersey, performing research and development in network wireless communication systems. He has been a recipient of many professional honors and recognitions, including the Bell Labs President's Gold Award, the Bell Labs President's Silver Award, and Sprint Network Development and Engineering Leadership award. His education background includes a Ph.D. degree in electrical engineering from the Graduate Center of the City University of New York, New York City, and BS and MS degrees majoring in electrical engineering from University of North Carolina at Charlotte, North Carolina.