

# Fall 2018 ECE Distinguished Seminar

## 5G Technology: status and challenges

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Research Hall 163

### Abstract

For the last several decades, mobile technologies have dramatically changed our lives and led a technological revolution. 3GPP has announced that the first 5G specification (a.k.a. 5G New Radio) is complete. As the first commercial 5G networks are expected in 2019, we are about to take another major step in transforming our mobile environments.

This seminar will discuss different aspects of 5G technology, starting with a quick overview of an evolutionary path of 5G technology, including completed and planned capabilities. The seminar will then discuss the 3GPP 5G standard and key 5G enabling technologies such as network slicing, massive MIMO & beamforming, and unlicensed spectrum. A Q&A session will follow with an outlook of future 5G technology challenges.

### Bibliography

**Esmael Dinan** is a founder and CEO of Ofinno Technologies. He has over twenty years of research and development experience in technology firms such as WorldCom, Bechtel Communications, Sprint, and Clearwire. He led research and development projects in various areas of wireless and wireline networking technologies, such as LTE Advanced, Evolved Packet Core, 5G New Radio, and 5G Core Networks. He is an inventor in over seven hundred granted or pending patent applications. He received his PhD in Electrical Engineering from George Mason University, Fairfax, Virginia in 2001.

**Hyoungsuk Jeon** is currently a senior researcher at Ofinno Technologies focusing on research and development of 5G air interface and backhaul transmission and reception. Prior to his current position, he developed self-organizing network algorithms, commercially tested and deployed in live networks of major cities. He is an inventor of over one hundred granted or pending patent applications and has authored over forty journal and conference papers. He received his PhD degree in Information and Communications Engineering from Korea Advanced Institute of Science and Technology in 2010.