

# Model, Analyse and Test **5G** Communication Systems

## Abstract

In this presentation, you will learn the basics of the 5G New Radio physical layer and how MathWorks 5G Toolbox can help you generate and analyze 5G signals, model communication links, and verify your own designs. The presenters will showcase reference implementations including:

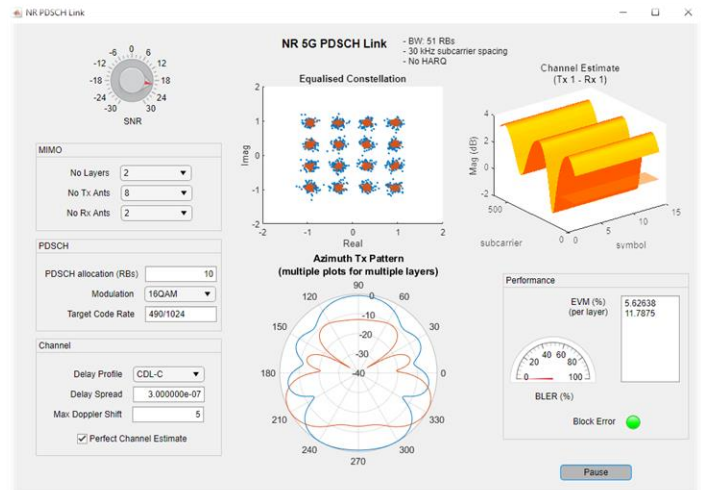
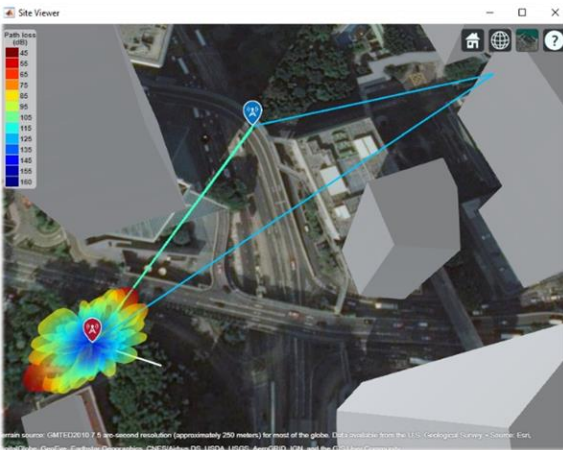
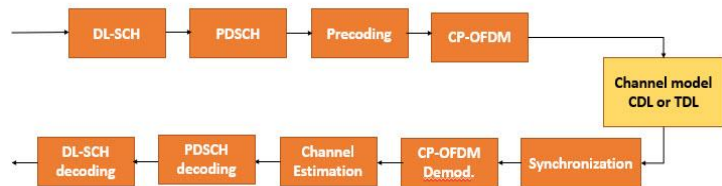
- 5G waveform generation
- Link-level simulation: throughput and BLER measurements
- Beam search for synchronization at mmWave frequencies
- Simulation of RF impairments over 5G signals in Simulink
- Capturing and demodulating real 5G/LTE signals using SDR

## Presenters



**Dr. Maria J. Sanchez**    **Dr. Carlos Lopez**  
**Software Engineers at MathWorks**

Drs. Maria J. and Carlos are both alumni of Heriot-Watt University, Edinburgh. Currently, they develop the LTE, 5G, and WLAN Toolboxes in the Wireless Standards team at MathWorks.



**Come and join us!**  
**Heriot-Watt University**  
Earl Mountbatten (EM), room 2.33  
Wednesday 11 March 2020  
11:00am - 12:30pm