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Internal Faculty Seminar

**Friday, Dec. 3, 2021 (TBD)**

**ZOOM Link:**

<https://usc.zoom.us/j/92417517950?pwd=WUkyYcy90cndVQko5R3RhQ1U3STBDdz09>

Meeting ID: 924 1751 7950

Passcode: 529946

**Speaker:**

Andreas Molisch (USC)

**Title:**

Sub-THz Channels and Communications Systems for 6G

**Abstract:**

Exploiting the frequency ranges above 6 GHz has become a hallmark of modern wireless systems. The use of 20-100 GHz spectrum was a key characteristic of 5G systems, and the 100-500 GHz frequency range will be an important component in 6G. This talk will first discuss the characteristics of wireless propagation channels in those frequency bands, reviewing the fundamentals, and then discussing our recent measurement results in outdoor environments, including ones in the larger than 100 GHz frequency range that show feasibility of high-rate data links at distances up to 100 m in both line-of-sight and many non-line-of-sight situations; yet at the same time these measurements also indicate that many common assumptions about such high-frequency channels, e.g., with respect to sparsity, might not hold under all circumstances. Based on the discussions of the channels, the talk will then investigate single- and multi-user capacity, signaling methods and transceiver structures that are especially suitable for ultra-high data rates at these high frequency bands