

# Thursday seminars

*Taking a Look at the Future:  
a cocktail hour event!*



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## **Manipulation and control of electromagnetic waves using programmable surfaces**

Spatiotemporal manipulation of electromagnetic (EM) waves using passive and reconfigurable electromagnetic surfaces is of prime importance in future communication, spectroscopy, imaging, holography, and sensing systems. Reconfigurable Intelligent (Meta)Surface (RIS) is a cutting-edge hybrid analogue/digital architecture capable of shaping and controlling the EM waves at the subwavelength scale. The presentation will focus on the actual state of the art on RIS technology with a focus on ad-hoc ray-tracing techniques used to model the surfaces. Synthesis techniques to design the phase gradient distribution on the RIS aperture will be also presented. Then, several recent developments for SATCOM and sub-THz communications will be discussed.