Prof Liam Barry,

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16:00 N115, December 3rd 2015

Title: 'Generation, Characterization, and Applications of Optical Frequency Combs for Communications and Sensing".

***Abstract**:*

Optical frequency comb sources are currently attracting a lot of interest due to wide ranging applications such as optical arbitrary waveform generation, photonic microwave and THz signal generation, photonic based sensors, high precision optical clocks, optical signal processing, and multi-carrier spectrally efficient data transmission systems. Optical frequency comb sources with good spectral flatness, wide bandwidth, good stability, low phase and amplitude noise, and wavelength flexibility are highly desirable for such applications. This talk will cover some of the conventional and non-conventional techniques to generate optical frequency combs and also outline the detailed characterisation of the optical frequency combs generated. The talk will then go onto describe some of the applications of the optical frequency combs including the development of Terabit/s transmission systems, the implementation of all-optical signal processing technologies, and the generation of highly stable THz sources for sensing applications.