

# From quantum transport to electron quantum optics

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In this talk, I will review recent developments in coherent nano-electronics based on the realization of single electron sources [1]. This recent breakthrough has led to the emergence of a new approach to electronic transport in ballistic quantum conductors inspired by a strong analogy with quantum optics which will be stressed during the presentation [2,3]. However, contrary to photon quantum optics, Coulomb interactions between electrons lead to strong decoherence effects in electron quantum optics [4] on which a combination of electron quantum transport [5] and quantum optics experiments [6] can provide a novel and deep insight.

## References:

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