

## **Building Uncooled Infrared Camera based on One Atom Thick Graphene**

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### **Abstract**

The talk will outline a novel strategy for uncooled, tunable, multispectral infrared detection. Due to the low photon energy, detection of infrared photons is challenging at room temperature. One atom thick graphene offers an alternative mechanism bypassing material bandgap restriction. Further, the ability of carrier concentration modulation on graphene via external voltage offers dynamic spectral selectivity for “color” night vision/sensing. The performance of preliminary demonstration compares favorably even with present cryogenically cooled detection schemes paving the path for commercial development.