

Speaker:

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Title:

Plasmonic mid-IR sensing using graphene and related materials

Abstract:

In the talk, we will present our recent work on mid-IR molecular sensing using highly confined surface modes in graphene and related materials (GRMs) nanostructures. First, we will discuss our gas sensing experiments where ultrathin functional coatings are used to selectively concentrate the target gas molecules close to the 2D nanostructures, just like recognition elements are used in biosensors. Then, we will talk about the different sensing mechanisms that can be leveraged (e.g. plasmon tuning via chemical doping) and the possibility to extend this platform to other GRMs (e.g. hBN) and biological targets.