

Next generation graphene sensors

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Abstract

Over the past several years, extensive research and development efforts have been dedicated to chemical vapour deposited (CVD) graphene-based applications. Consequently, several of these applications have reached an increased level of maturity and higher technology readiness levels (TRLs), most notably in the field of sensors.

CVD graphene's high charge carrier mobility, biocompatibility, large surface area, ease of functionalisation and intrinsic suitability for real-time, label-free biochemical sensing have positioned it at the forefront of advanced biosensor research. Biosensors based on graphene field effect transistors (GFETs) have shown great potential as a platform for future diagnostics.

During this talk, I will cover the fabrication of CVD graphene at wafer scale and the use of graphene in various types of sensors including ion sensors (ISFETs) [1-3], gas sensors [4] and biosensors [5].

References

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