Toward wafer-scale integration of graphene single crystals arrays

S. Pezzini, V. Miseikis, S. Pace, and C. Coletti

Center for Nanotechnology Innovation CNI @NEST, Istituto Italiano di Tecnologia, Pisa

The integration of graphene in technologically relevant architectures poses major challenges to the 2D materials community. A basic requirement is the ability of (i) growing, (ii) transferring and (iii) processing graphene over large scale without compromising its outstanding electronic properties. We will present the latest development of our research in these three areas: deterministic "seeded" CVD growth of graphene single crystals arrays on Cu, semi-dry transfer on arbitrary substrates and fabrication of opto-electronic devices.

Work supported by the European Union's Horizon 2020 research and innovation programme under the grant agreement No. 785219 "Graphene Core2".