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Abstract for an Invited Paper
for the MAR12 Meeting of
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Creation and sculpting of graphene with ion and electron beams

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This talk will cover our recent work on the creation of graphene by ion implantation of carbon into copper substrates followed by a prescribed annealing procedure. We also discuss nanopore nucleation with ion beams and the direct observation of nanopore growth in an aberration corrected TEM. We discuss the cross-sections and knock-on energy transfers required for edge atom removal and demonstrate the controlled growth of monodisperse nanopores in graphene with atomic precision.