Plasmonic graphene has been fabricated by G. Xu et al. using thermally assisted self-assembly of Ag nanoparticles on graphene. The localized surface-plasmonic effect is demonstrated with the resonance frequency shifting from 446 to 495 nm when the lateral dimension of the Ag nanoparticles increases from about 50 to 150 nm. Both the resonance frequency and amplitude decrease with increasing graphene thickness. In addition, plasmonic graphene shows much improved electrical conductance by a factor of 2–4 as compared to the original graphene.