



[1]

Related Faculty:

[Deji Akinwande](#) [2]

Monday, January 14, 2013

UT ECE professor Deji Akinwande and his research group have made a breakthrough with state-of-the-art flexible graphene field-effect transistors with record current densities and the highest power and conversion gain ever. The transistors also show near symmetric electron and hole transport, are the most mechanically robust flexible graphene devices fabricated to date and can be immersed in a liquid without coming to any harm.

The researchers, led by Deji Akinwande and Rodney Ruoff, made their graphene field-effect transistors (GFETs) directly atop patterned dielectrics on plastic sheets using conventional microelectronic lithography. The devices have a novel structure, explains Akinwande, in which multi-finger metal gate electrodes are embedded in the plastic sheet. They are also made using graphene that has been grown by chemical vapour deposition (CVD), which is now as good as pristine graphene flakes obtained by exfoliation (the famous "sticky-tape" method).



Source URL: <http://www.mrc.utexas.edu/news/flexible-graphene-transistor-breaks-new-records>

Links

[1] <http://www.mrc.utexas.edu/sites/mrc.utexas.edu/files/images/news/Flexible-graphene-transistor-breaks-new.jpg>

[2] <http://www.mrc.utexas.edu/people/faculty/deji-akinwande>