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“The future of microelectromechanical systems (MEMS) and the role graphene might play”

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With the introduction of the smart phone, the need for MEMS-based sensors is exploding. This was emphasized at the recent *Trillion (10¹²) Sensors Summit* held at Stanford University, October 2013. In this seminar, some of the highlights/predictions of that summit will be presented as well as sensors fabricated by students in our group. These include miniaturized resistive vacuum pressure sensors capable of sensing pressures ranging from 10⁻⁹ Torr to 10³ Torr and thermocouple-based energy harvesters. Preliminary work of using monolayer graphene films as sensing element for these vacuum pressure sensors, as well as for miniature switches and as gate-controlled electron sources will be presented.