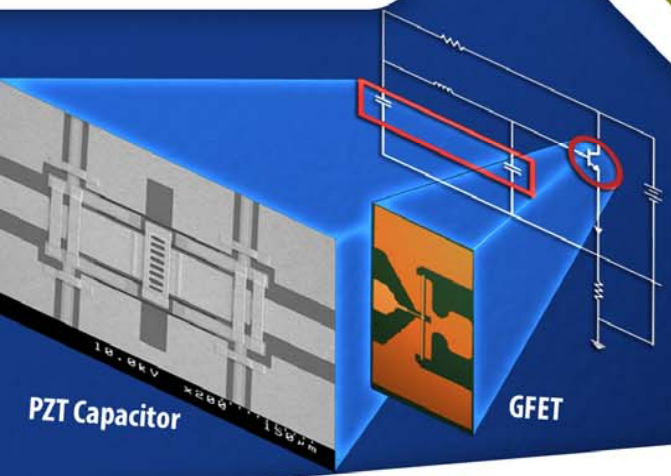
# Director's Strategic Initiative
# Graphene Nanoelectronics

US ARMY RDECOM

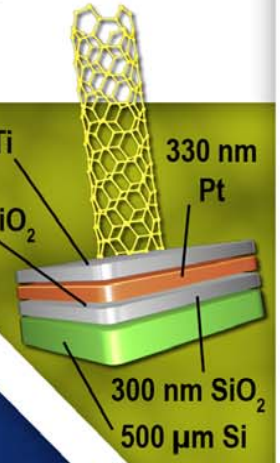
ARL

## GFET FOR RF

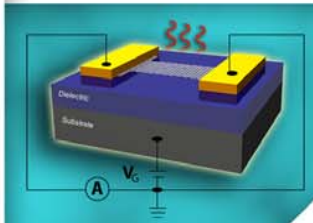
Tunable RF Oscillator using tunable GFET+PZT Capacitor

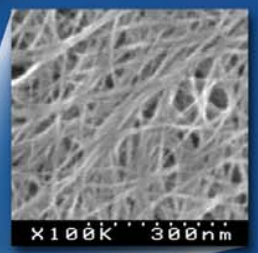



## CNT RECTENNA DEVICE



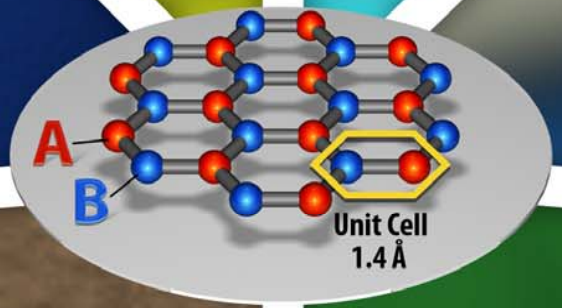

## GRAPHENE PHOTONIC DEVICE





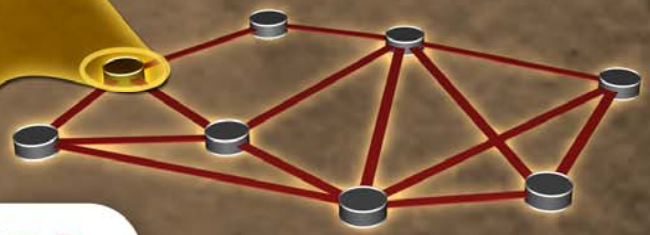
Flexible supercapacitor electrode fabricated from G/CNTs

## GRAPHENE FOR POWER/ENERGY




## GFET SENSORS

Graphene-based sensor/ transmitter



## RECTENNA SYSTEM

Portable energy harvesting system

1. Multi-wall CNT Antenna
2. Graphene/ graphite oxide graphene diode
3. GNR/graphene ultra-capacitor solid electrolyte