

The electronics industry has revolutionized almost every area of society from household application to communication and medical sector. Keeping exponential growth in progress and fabricating small and highly efficient devices following the Moore's law has lead researchers to pursue research on nanoscale materials and devices for smaller size and more possible functionalities and performance enhancement. In the beginning of 21st century a lot of nanomaterials and their synthesis methods have been developed thus enabling researchers to develop 0D, 1D and 2D nanomaterials. These nanomaterials have also been used to demonstrate electronics circuits, sensors etc. and have shown great potential for future devices. In this talk, I will introduce the ongoing research in the field of 2D nanomaterials including the large area and cost effective synthesise method, electronic and opto-electronic application, and finally I will wrap it up with the future road map for these nanomaterials.