Graphene-based materials are promising because of their electronic and thermal transport, mechanical properties, high specific surface area, that they can act as an atom thick layer, barrier, or membrane, among other reasons. Our micromechanical exfoliation approaches [1,2] conceived of in 1998 yielded multilayer graphene and one paper described in detail how monolayer graphene could be obtained [1]. Three main research areas of our group are: (i) Growth of large area graphene on metal substrates, characterization and physical properties, and studies of devices having graphene as a central component; (ii) Generation, study, and use of graphene-based platelets (typically derived from graphite oxide) including as dispersed in liquids, and powders derived from such colloids or generated by microwave or thermal treatment of graphite oxide; (iii) Generation and study of new types of carbon derived from graphene-based precursors, such as “activated microwave expanded graphite oxide”, or ‘aMEGO’[3]. I will briefly present each pioneering study (composites, thin films, transparent conductive films, electrical energy storage, large area monolayer CVD growth on copper, graphene as a protective coating, others) as well as discuss our on-going research in these areas.