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### **Graphene Oxide/ Ruthenium Oxide Composites for Supercapacitors Electrodes<sup>1</sup>**

FATIMA AMIR, Winthrop University

Supercapacitors are electrical energy storage devices with high power density, high rate capability, low maintenance cost, and long life cycle. They complement or replace batteries in harvesting applications when high power delivery is needed. An important improvement in performance of supercapacitors has been achieved through recent advances in the development of new nanostructured materials. Here we will discuss the fabrication of graphene oxide/ ruthenium oxide supercapacitors electrodes including electrophoretic deposition. The morphology and structure of the fabricated electrodes were investigated and will be discussed. The electrochemical properties were determined using cyclic voltammetry and galvanostatic charge/discharge techniques and the experiments that demonstrate the excellent capacitive properties of the obtained supercapacitors will also be discussed. The fabrication and characterization of the samples were performed at the Center of Functional Nanomaterials at Brookhaven National Lab. The developed approaches in our study represent an exciting direction for designing the next generation of energy storage devices.

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