



Electroactive and Optoelectronically Active Graphene Nanofilms

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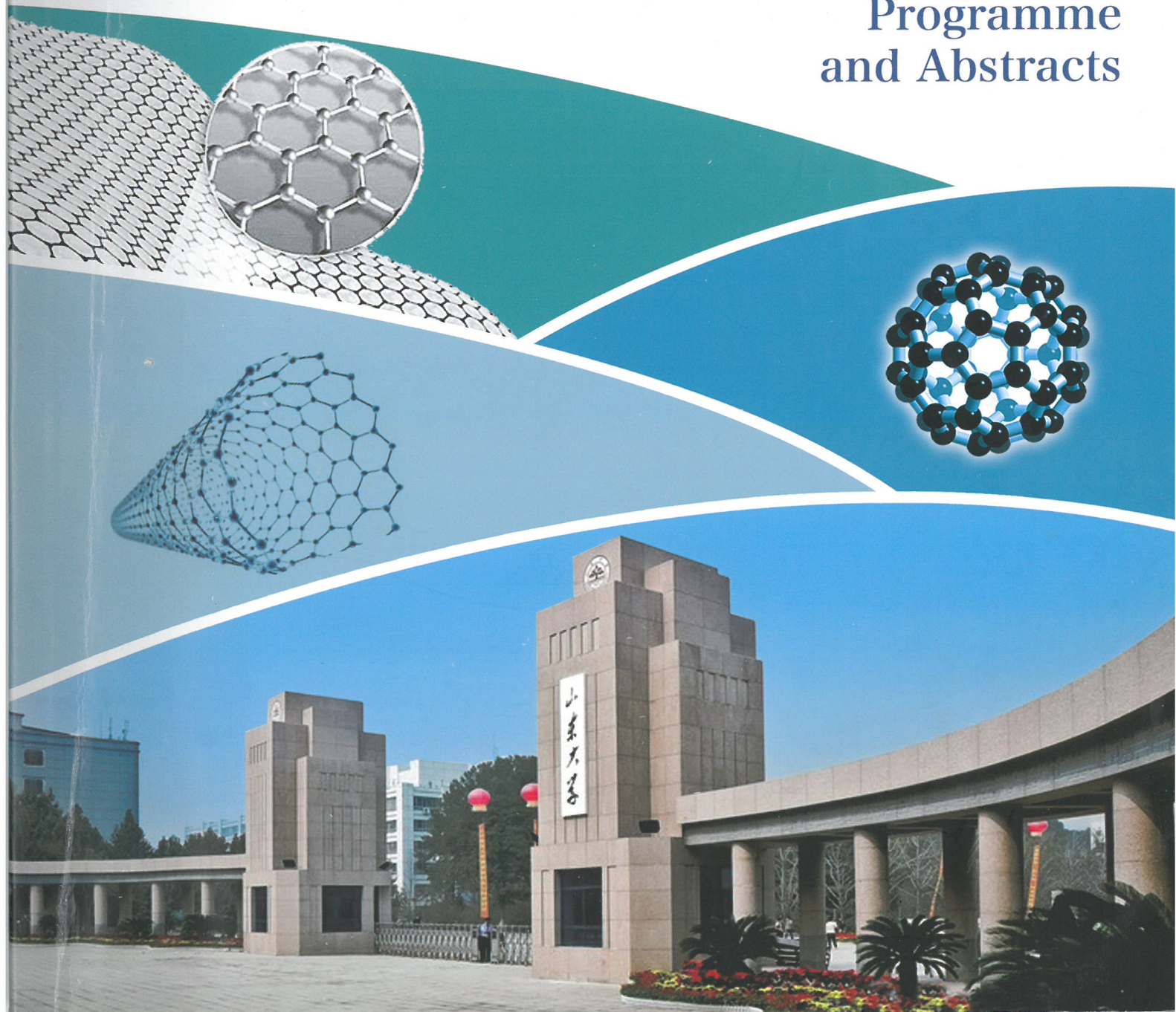
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Electroactive and Optoelectronically Active Graphene Nanofilms

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As an atomic-scale-thick two-dimensional material, graphene has emerged as one of the most miracle materials and has generated intensive interest in physics, chemistry and even biology in the last decade [1, 2]. Nanoscale engineering and functionalization of graphene is a crucial step for many applications ranging from catalysis, electronic devices, sensors to advanced energy conversion and storage [3]. This talk highlights our recent studies on electroactive and optoelectronically active graphene ultrathin films for chemical sensors and energy technology. The presentation includes a general theme for functionalization of graphene nanosheets, followed by showing several case studies. Our systems cover redox-active nanoparticles, electroactive supramolecular ensembles and redox enzymes which are integrated with graphene nanosheets as building blocks for the construction of functional thin films or graphene papers [4-8].

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