



Electroactive and Optoelectronically Active Graphene Nanofilms

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Publication date:
2015

Document Version
Publisher's PDF, also known as Version of record

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Citation (APA):
Chi, Q. (2015). Electroactive and Optoelectronically Active Graphene Nanofilms. Abstract from 1st International Workshop on Engineering and Application of Nanocarbon Materials 2015, Jinan, China.

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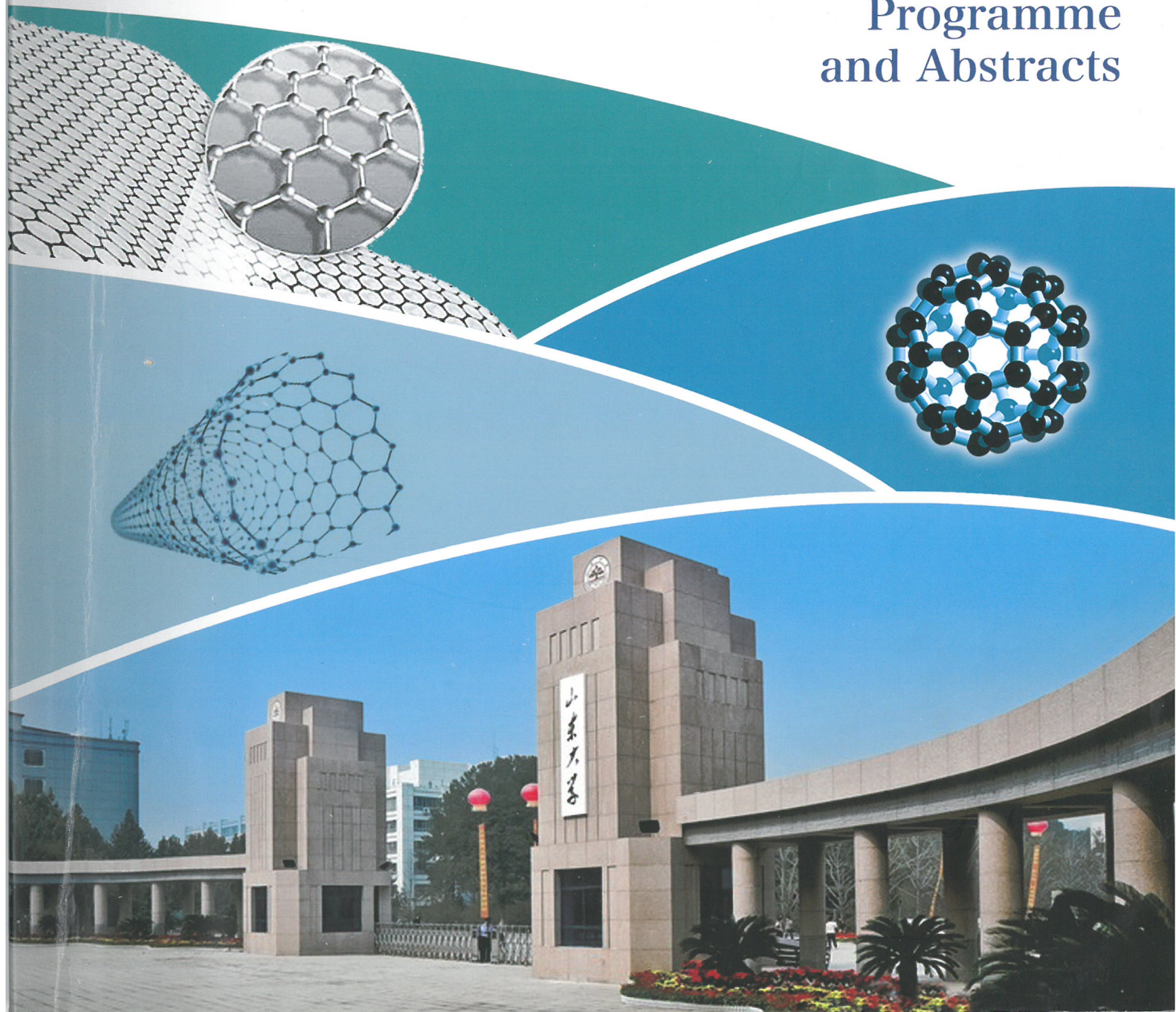
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1st International Workshop on Engineering and Applications of Nanocarbon Materials

1st-2nd February 2015, Jinan, Shandong

Programme
and Abstracts



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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Acknowledgements

This project is supported by the Danish Research for Technology and Product Science (Project No. 12-127447).