

International Conference on

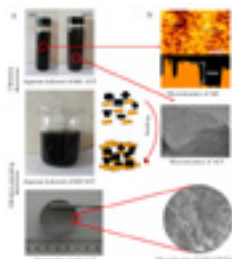
DIAMOND AND CARBON MATERIALS & GRAPHENE AND SEMICONDUCTORS

July 17-18, 2017 Chicago, USA

Porous full carbon film of graphene and activated carbon fiber for flexible supercapacitors**Guohua Sun**

Institute of Coal Chemistry, China

Binder-free and free-standing flexible carbon film with a high specific surface and bimodal porous structure was successfully prepared by a facile vacuum-assisted filtration and subsequent annealing process, in which two-dimensional graphene oxide and one-dimensional activated carbon fibres were employed as the basic building blocks. When the mass ratio of activated carbon fiber to graphene oxide was up to 2, the as-prepared flexible film exhibited a high energy density of 20 Wh kg⁻¹ at a power density of 11.3 kW kg⁻¹, with a good rate capability of 63.6% retention from 1 A g⁻¹ to 8 A g⁻¹ and excellent capacitance retention of 94.8% after 2000 cycles in a flexible supercapacitor with 1.0 M Et₄NBF₄/PC as the electrolyte.

**Biography**

Guohua Sun has his expertise in preparation of porous carbon materials and graphene, and application in storage components. He has developed high-performance activated carbon and graphene in a large scale, which exhibits excellent electrochemical performance for supercapacitors.

singuohua_1@sxicc.ac.cn

Notes: