



Journal of Chemistry

Special Issue on

Graphene: Synthesis, Chemistry, and Applications

CALL FOR PAPERS

Graphene has received much attention in the past ten years because of its extraordinary mechanical, electrical, and thermal properties that has placed it as a promising candidate for applications in numerous fields such as printable and flexible electronics, transparent conductors, nanobiodevices, and thin film technologies involving fuel cells, capacitors, and solar cells. This 2D carbon crystal is versatile enough to revolutionize many aspects of our life and has crossed the boundary of basic science to the cutting-edge nanotechnology applications.

Despite such supreme qualities of graphene, several core issues with pristine graphene make researcher's efforts to bring it into the platform of practical applications extremely difficult. Such that the absence of a band-gap in pristine graphene makes it unsuitable for its use in transistor devices and the lack of solution processability inhibits numerous technological applications. Chemical functionalization of graphene continues to prove itself as an effective route in solving the above issues. As current research and development on chemical functionalization is highly pursued, it urgently calls for contribution from the materials science community to develop scalable and cost-effective techniques to grow high quality graphene, chemical modification with atomic precision, and development of new characterization techniques in order to make further breakthrough needed for true commercialization of this technology.

This special issue will focus on the latest advances in the science, technology, and applications of graphene-based materials. We invite researchers from all over the world to contribute to this special issue with original research articles or review articles related to the various aspects of graphene growth, chemical modification, characterization, properties, and applications. Most importantly, graphene-based energy devices have great potential in meeting mankind's constant search for highly efficient renewable energy technologies including flexible solar cells, fuel cells, and supercapacitors.

Potential topics include, but are not limited to:

- ▶ Growth or synthesis of high quality graphene
- ▶ Exfoliation techniques to graphene and dissolution
- ▶ Chemical functionalization of graphene, surface and bulk functionalization, and spectroscopic and microscopic characterization
- ▶ Optical and electronic properties of pristine and functionalized graphene
- ▶ Theoretical studies on graphene growth and functionalization
- ▶ Device chemistry of graphene and magnetism in graphene
- ▶ Applications of graphene in electronics, spintronics, energy, and biodevices

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Friday, 26 June 2015

First Round of Reviews

Friday, 18 September 2015

Publication Date

Friday, 13 November 2015