



# CALL FOR PAPERS

Graphene, the well-publicized and now famous 2D carbon allotrope, is the most versatile material discovered on Earth. Its unique physical, optical, thermal, and electrical properties are correlated with its 2D ultrathin atomic layer structure. Therefore, the isolation of graphene as a monolayer has attracted an extraordinary amount of interest due to its potential application in the fastest growing scientific fields and especially in optoelectronic devices. Graphene major applications in photovoltaic devices include graphene-based transparent conductive electrodes, buffer layers, and additives in the photoactive layer. Several other 2D materials have also shown advantages in charge transport and light absorption over traditional semiconductor materials used in photovoltaic devices.

We invite investigators to submit original research articles as well as review articles on fundamental studies and photovoltaic applications of graphene and related 2D materials. We are particularly interested in articles describing the utilization of graphene and other 2D-based materials in various photovoltaic devices, including organic solar cells, Schottky junction solar cells, dye sensitized solar cells, quantum dot-sensitized solar cells, other inorganic solar cells, and perovskite solar cells. The materials functionalization methods, the device architectures, performance and stability potential, and challenges should also be explored in various components (transparent conductive electrodes, buffer layers, photoactive layers additives, back electrodes, etc.) of the aforementioned PV devices (organic solar cells, Schottky junction solar cells, dye sensitized solar cells, quantum dot-sensitized solar cells, other inorganic solar cells, perovskite solar cells, etc.).

Potential topics include, but are not limited to:

- ▶ Graphene-based molecules
- ▶ 2D  $\text{MX}_2$  type crystals ( $M = \text{Mo}, \text{W}, \text{Nb}, \text{Re}, \text{Ti}, \text{Ta}, \text{etc.}; X = \text{S}, \text{Se}, \text{and Te}$ )
- ▶ Phosphorene
- ▶ Transition oxides (e.g.,  $\text{MoO}_3, \text{La}_2\text{CuO}_4$ )
- ▶ Silicene
- ▶ Germanene

Authors can submit their manuscripts via the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/ijp/2dm/>.

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