

Special Issue on
**Advanced Nanodot and Nanofiber- and
Nanosheet-Based Materials for Energy Storage and
Harvesting**

CALL FOR PAPERS

Nanomaterials can have various forms ranging from nanodots (NDs) to nanofibers (NFs) or nanosheets (NSs), each of which are actively studied for their intrinsic applications. First, semiconducting nanodots such as CdSe and ZnSe are actively studied as a light absorber in photovoltaic devices. Second, semiconductor- (silicon, germanium) and polymer-based (polyvinylidene fluoride) NFs find visibility in thermoelectric devices. Third, carbon-, metal dichalcogenide- (MoS_2 , WS_2), and phosphorous-based NSs are mainly being applied for energy-storage devices including high-performance lithium-ion batteries. Furthermore, hybrid nanomaterials synergistically combining NDs, NFs, or NSs account for a great part in nanoenergy field.

With extremely low thicknesses (< 5 nm), these nanomaterials converge upon zero-, one-, and two-dimensional structures (0D, 1D, and 2D STs). In the low dimensional STs, unique physical phenomena are observed: quantum confinement effect in the 0D ST for bandgap tunability and atomically thick 2D STs exhibit ballistic charge transport due to their unexceptionally high mobility. These unique features drive the modern technologies to fabricate low dimensional STs and their hybrid ST at low cost.

Researchers are invited to submit manuscripts in the topics related to energy applications of advanced nanomaterials. Review articles can be published after peer review processes.

Potential topics include but are not limited to the following:

- ▶ Low-cost fabrication of NDs, NFs, and NSs for energy storage and harvesting
- ▶ Novel fabrication/characterization for low dimensional STs: nanomaterials for lithium-ion and sodium-ion batteries
- ▶ Nanomaterials for polymer, perovskite, and hybrid solar cells
- ▶ Nanomaterials for efficient thermoelectric materials

Authors can submit their manuscripts through the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/jnm/annna/>.

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Manuscript Due

Friday, 28 July 2017

First Round of Reviews

Friday, 20 October 2017

Publication Date

Friday, 15 December 2017