



Journal of Nanotechnology

Special Issue on
**Photocatalysis on Environmental Purification and
New Energy**

CALL FOR PAPERS

Photocatalysis is considered as a promising nanotechnology in the field of environmental protection since it has many advantages such as simple degradation process, low energy cost, easy obtaining of photocatalysts, complete degradation of organic pollutant, and no secondary pollution. It exhibits the bright application future and great economic and social benefits for controlling the pollutants in water, soil, and air. Moreover, the harvesting and conversion of solar energy into usable energy form are highly desirable to meet current and future human demand. Photocatalytic water splitting has become a promising strategy for converting solar energy into new clean energy, such as hydrogen fuel, which is of great significance for the solution of energy crisis.

However, there are still some remaining challenges such as low quantum yield and the difficulty in the suppression of recombination of photogenerated electron-hole pairs. Thus, the photocatalytic process is not economically feasible for practical application, especially in the decontamination of heavily industrial pollutants and production of hydrogen energy.

To develop new photocatalysts and technology, much efforts have been made on improving the photocatalytic efficiency for environmental purification and water splitting. In addition, it is urgent to engage in the practical application of photocatalysis technology such as purification of industrial waste gas and water. Herein, we invite investigators to contribute original research articles and review articles on photocatalysis nanotechnology for environmental purification and production of hydrogen energy.

Potential topics include, but are not limited to:

- ▶ Photocatalysts modified with various methods for degradation of pollutants
- ▶ Photocatalysts with various nanostructures for water splitting to produce H₂ or/and O₂
- ▶ Theoretical results based on computer simulations for photocatalysts
- ▶ Advanced equipment and technology for purification of industrial waste gas
- ▶ Application research on the purification of industrial waste water
- ▶ Long review articles on recent advances of aforementioned topics

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

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