

Special Issue on
**Applications of Micro- and Nanocrystals in
Heterogeneous Photocatalytic Degradation of Organic
Dyes**

CALL FOR PAPERS

In recent years, problems related to environmental issues have been one of the main concerns in the world. Water is a vital natural resource for all life-forms on Earth. Hence, there is an enormous interest of the modern society in the development of biological and physicochemical treatment techniques able to drastically reduce or remove the presence of harmful substances found in contaminated rivers, lakes, and groundwater. Particularly, organic dyes and pigments employed in leather or textile industries are considered environmental enemies when irresponsibly discharged in freshwater supplies. Generally, these types of contaminants are potentially toxic, carcinogenic, and nonbiodegradable, causing serious environmental damages to the fauna and aquatic botany of our planet. As an alternative route in order to minimize these problems, the heterogeneous photocatalysis (HP) has presented a high potential for the treatment of polluted water. HP is a physical-chemical process based on the acceleration of photoreaction in the presence of a semiconductor catalyst. This process has been scientifically explained by means of the reduction and oxidation of chemical species found in organic dyes by means of electron-hole pairs, generated between the valence band and the conduction band of the catalyst, during the absorption phenomenon of ultraviolet light or sunlight. Therefore, we invite authors to contribute with original researches as well as review articles in this special issue.

Potential topics include but are not limited to the following:

- ▶ Synthesis and characterization of novel catalysts at micro- and nanoscale with photocatalytic efficiency for the degradation of organic dyes
- ▶ Influence of the bulk and surface characteristics (crystallographic preferred orientation, roughness, defects, surface area, ion adsorption, etc.) of the micro- and nanocrystals catalyst in the photocatalytic activity
- ▶ Theoretical calculations and models focused on the explanation and interpretation of the mechanisms involved in the heterogeneous photocatalysis

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

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