

# Science of Advanced Materials

(<http://www.aspbs.com/sam>)

## *A Special Issue on*

*“Advanced nanomaterials for water monitoring,  
treatment, and remediation”*

### **Call for Papers**

It is clear that the world has entered an era during which the available supplies of freshwater are decreasing due to the pollution of groundwater and surface water by a wide variety of industrial, municipal, and agricultural sources. For instance, the water contaminations caused by trace radioactive ions, heavy metal ions, organic contaminants, bacteria and viruses (when they exist in or are discharged into various water resources) may cause long-term problems that sometimes are serious threat to the health of a large population. Therefore, techniques must be developed for monitoring and removal of these toxic or carcinogenic substances. Although new methods are continually being examined, these need to be lower in overall cost, durable and more effective than current options for the removal of contaminants from wastewaters.

Over the past decade, nanomaterials, notable for their nanoscale dimensions ranging from 1 nm to 100 nm, have been the subject of enormous interest due to their potential for wide-ranging industrial, biomedical, and electronic applications. The merits of nanomaterials, such as large specific surface areas and high surface activity, are able to offer new opportunities in the areas of contaminants sensing and detection, water treatment, and remediation. For instance, nanostructured TiO<sub>2</sub> has been fabricated for Determination of chemical oxygen demand in wastewaters; sodium titanate nanofibers and nanotubes have been utilized as intelligent adsorbent to trap radioactive and heavy metal ions from water; functional alumina nanofibers have been developed as efficient sorbents to adsorb heavy metal ions and highly toxic organic contaminants from water. So this special issue covers all topics related to nanomaterials towards the monitoring, treatment, and remediation of surface water, groundwater and industrial wastewater streams. We invite submission of review chapters and original research articles covering the following topics but not limited to the following fields:

- *Nanosensors for the monitoring of the highly toxic species, such as radioactive ions, heavy metal ions, organic contaminants, bacteria, and viruses.*
- *Nano-adsorbents for the removal of contaminants in wastewater, particularly the highly toxic organic contaminants, heavy metal ions and radioactive ions.*
- *Nano-photocatalysts, driven by UV light or visible light, for the degradation of organic contaminants (such as phenols and synthetic dyes) and bacteria.*
- *Nanostructured inorganic membranes for wastewater treatment.*

- *Design and theoretical simulation of functional nanomaterials for wastewater treatment and energy application.*

## **GUEST EDITORS**

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## **Manuscript Submission:**

Manuscripts must be prepared according to Journal's guidelines, available at <http://www.aspbs.com/sam>. Submit your manuscripts in MS word or PDF format directly to the Guest Editor or one of the Co-Guest Editors related with the manuscript topic. The subject for each Editor is mentioned above.

All papers submitted to this issue will be subject to a strict peer review process to ensure high quality articles. Please make sure in the cover letter that the submitted paper has not been published previously and is not currently submitted for review to any other journal and will not be submitted elsewhere before a decision is made by this journal.

Please notify well in advance for your intension to submit a research paper.

## **KEY TIMETABLE DATES**

**Manuscript due: September 30, 2012**

**Authors' notification: October 30, 2012**

**Publication date: January-February, 2013**