

Reviews in ADVANCED SCIENCES and ENGINEERING

Editor-in-Chief: Dr. Ahmad Umar

Reviews in Advanced Sciences and Engineering

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A Special Issue

on

**“Materials for chemical sensing and
renewable energy: Recent trends”**

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Call for review articles

The research activities on the chemical sensors as well as renewable energy sources are becoming very emerging in today's technology driven society.

Sensors are indispensable in chemical, environmental, pharmaceutical, food, biomedical, clinical, and indoor applications for monitoring the environmental hazards. These sensors are usually composed of two important components i.e. (i) receptor and (ii) transducer. Receptor part recognizes the target analyte/(s) and a transducer generates an equivalent signal. The performance of both the receptor as well as transducer are important ultimately to develop an efficient sensing system. Based on the physical phase of analytes, chemical sensors can be classified into gas, liquid, and solid state sensors. Depending on the operating principles, these sensors can be categorized further as optical, chemo-resistive, electrochemical, thermometric, colorimetric and gravimetric (mass sensitive) sensors. A wide range of materials including but not limited to organic, inorganic, carbon-based, semiconducting materials are being used for the development of different types of sensors. The electrical, optical, chemical properties as well as the phase, composition and micro-structural features of the materials play crucial roles in determining their performances for respective sensing applications. The review articles on the potential materials towards their utility in chemical sensing applications are of critically important to enrich the respective knowledge as well as to formulate the new experiments on the related topic.

The renewable energy sources are very demanding worldwide to make the sustainable development of a civilization with limited environmental hazard. To date, fossil fuels (coal, oil and gas) are the main source of energy to meet the demand of various industrial and domestic applications. However, the production of energy from such fossil fuels is neither sustainable nor environmentally friendly. The critical fact is that due to the fast growth of industries in different sectors, such finite natural fossil fuel sources (coal, gas and oil) are depleting at a rapid rate. In addition, during burning these emit various pollutants including the greenhouse gas (e.g. carbon dioxide) which expedites the process of global warming and impacts badly in changing the global climate. Therefore, we have an urgent need for efficient, sustainable and clean sources of energy, as well as new technologies associated with environmentally-friendly and cost-effective energy resources. To achieve the goal, the use of renewable energy can be considered as a prime step. Some of the popular forms of renewable energies are solar energy, hydropower, biomass, bio-fuel, geothermal, wind power etc. Review articles on the prospect and potential of various materials towards the development of renewable energy sources can significantly enrich the researchers for searching viable renewable energy solutions.

Viewing the demand of materials for sensing and renewable energy applications, we would like timely to announce a call for review articles to make a special issue entitled "**Materials for**

chemical sensing and renewable energy: Recent trends". This special issue will be published in the journal of "***Reviews in Advanced Sciences and Engineering***" (<http://www.aspbs.com/rase>) by American Scientific Publishers.

Any review articles within the scope of "Materials for chemical sensing and renewable energy: Recent trends" are encouraged to submit for consideration of publication in this special issue.

Manuscript preparation and submission

Authors must submit a single file consisting of all contents including text, figures and tables etc., in MS Word format directly to the Guest Editors via e-mail. The mail can be copied to the Chief Editor (Dr. Ahmad Umar; email: rase.asp@gmail.com) of the journal. It is also mandatory that authors must send a graphical abstract for each submitted manuscript. All manuscripts will be peer-reviewed to ensure high quality of publication. Please also indicate in your cover letter that the submitted manuscript is original and has not been published earlier and is not currently submitted to any other journal and will not be submitted elsewhere before a final decision is made by this journal. The necessary copyright permission for figures and tables should be taken by the authors wherever it is applicable. An early submission will get preference in terms of review and the process of publication. Author guidelines for preparation of manuscript as per the journal requirements are available at <http://www.aspbs.com/rase>.

Important Dates

Last date for submission of abstract: 31st December, 2015

Last date for submission of main article: 29th February, 2016

Publication date: March-April, 2016