**Multifunctional nanomaterials an emerging area for biosensors**

**Akhtar Hayat**

Interdisciplinary Research Centre in Biomedical Materials (IRCBM), COMSATS University, Islamabad, Lahore Campus, 54000, Pakistan

**Abstract**

The recent years have witnessed a major influence of nanotechnology in the field of biosensors. The integration of nanomaterials in the construction of biosensors is aimed to achieve better analytical figures of merit in terms of limit of detection, linear range, assays stability, low production cost, etc. Nanomaterials can play a variety of roles in the development of responsive, easy-to-use, and field portable biosensors. In this line, significant research efforts have been made towards exploration and synthesis of various types of nanomaterials for subsequent use in the fabrication of biosensors. Nanomaterials can act as an immobilization support, signal generating probe, signal amplifier, signal quencher, mediator and artificial enzyme label…etc. The present work will define the key roles of nanomaterials and relate the nano-based features to the analytical performance of the biosensor design.