

Keynote: Nanofibers Synthesis and Applications in Renewable Energy, Water desalination and Wastewater treatment fields

Nasser A. M. Barakat

Minia University, Egypt

Prof. Nasser A. M. Barakat obtained his PhD in Chemical Engineering from Hunan University, China in 2004. From 2007 to 2009 he was a postdoctoral Research Fellow at the Bionanosytem Engineering Department, Jeonbuk National University, Jeonju, South Korea. From 2010 to 2018, he was a faculty member in Organic Materials and Fiber Engineering Department, Jeonbuk National University, Jeonju, South Korea. Currently, he is working as a professor in Chemical Engineering Department, Minia University, Egypt. From 2013 to 2018, he was hired as a visiting professor in King Saud University, Riyadh, Saudi Arabia. He published more than 260 papers in SCI journals and owns H-index of 51 (Scopus). He was selected among the "World Ranking of Top 2% Scientists" created by experts at Stanford University, USA for three successive years. According to AD Scientific Index, in the field of chemical Engineering, Prof. Barakat' rank is 1, 1, 2 and 359 in Minia university, Egypt, Africa and world, respectively. His research interest is focusing on application of nanomaterials in renewable energy and wastewater treatment fields.



ABSTRACT

Among the different classes of nanostructures, the large axial ration provides the nanofibers special consideration due to the corresponding distinct improvement in physicochemical characteristics. Consequently, this class of nanomaterials shows fantastic activities in different hot applications including medical, automobiles and industries, renewable energy, water technology... etc. However, in the field of renewable energy, the excellent performance drew high attention for this nanostructure. Besides, in water desalination and wastewater treatment, the nanofibrous materials are considered promised functional materials. This lecture summarizes the history of nanofibers manufacturing and introduces some hot topics applications of the nanofibers in renewable energy fields such as microbial fuel cells and hydrogen generation from water splitting. In the field of water technology, a brief discussion about application of nanofibers in oily water treatment and water desalination will be also introduced in the lecture.