

## عنوان مقاله:

A review of the application of carbon nanotube-based membranes in water treatment and desalination

## محل انتشار:

چهارمین کنفرانس بین المللی مطالعات میان رشته ای در نانو فناوری (سال: 1400)

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## خلاصه مقاله:

With the arrival and introduction of nanotechnology, many difficult challenges in various fields, especially in the water purification industry, are being solved. With the help of nanomaterials and the use of their unique properties, the efficiency of water treatment and desalination processes has increased. A carbon nanotube is one of the nanotechnology products that has the ability to separate impurities from water by forming membranes with pores and nanometer porosity on its surface. These nanotubes can be placed together uniformly and in the same direction with different techniques. The nanoporous size of these nanomaterials acts as a more selective nanofilter than other filtration processes. Carbon nanotubes are the best choice for making water-purifying membranes due to their good specific surface area, high electrical conductivity, and excellent mechanical strength. Due to the smooth inner surface, these nanotubes show higher current intensity than membranes with larger porosity. These types of membranes can be good options for microfiltration and ultrafiltration membranes.

## کلمات کلیدی:

Carbon Nanotube, Water treatment, Nanotechnology, Water Desalination, Nanomembrane, Electrochemical Membrane

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