



School of Nano Science



IPM Condensed Matter &
Statistical Physics Group

Weekly Seminar

Computational modeling of ion separation and water flow through carbon-based nano-membrane

Invited speaker: **Dr. Amir Lohrasebi**

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Abstract:

The lack of sufficient available freshwater resources is one of the most important problems in our world. Reverse osmosis (RO) desalination is one of the promising methods of membrane technology in freshwater production by removing salts and mineral from saline water. The research projects on designing the high-performance membranes (high water permeability and high salt rejection rate) were carried out, usually can be divided into two main categories; the membrane structure and the physical/chemical properties of membrane. In this seminar, I briefly present my studies about these two main subjects of designing the high-performance membranes. These investigations were performed via the application of the molecular dynamics simulations method, and we designed carbon-based nano-membranes and the effects of some key parameters on their performance were considered. The results of these studies could be helpful in developing the ultrathin film membrane technology in water purification.

Wednesday, 18 Mehr 1397 (Oct 10, 2018), 14:00-15:00

Seminar Room (classroom A), Farmanieh Building, IPM