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Title: Research Associate & Lecturer

Member ARA since: 2014

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Discipline: Material Science and Nanotechnology

INTERESTS

Nanomaterials, Nanostructured Solar Cells, electrochemical and photoelectrochemical systems, Renewable Technologies, Colloids, Self-assembly, Surface Functionalization of nanomaterials for biomedical applications

EXPERIENCE:

- 1) *Postdoctoral Researcher in University of California Davis 2012*
- 2) *Research Associate in California Solar Energy Collaborative 2013*

PUBLICATIONS (SELECTED):

BOOK

- ✓ **M. Rahman**, S. Laurent, N. Tawil, L. Yahia, M. Mahmoudi, *Protein-Nanoparticle Interactions: The Bio-Nano Interface*, [Springer Series in Biophysics](#) 15, Series Editor Boris Martinac, Springer, 2013, ISSN: 0932-2353.

SELECTED JOURNAL ARTICLES (more information available in my [google scholar](#))

- 1) M. Mahmoudi, J. Meng, X. Xue, X. Jie Liang, **M. Rahman**, C. Pfeiffer, R. Hartmann et al. "Interaction of stable colloidal nanoparticles with cellular membranes." [Biotechnology advances](#) (2013), Available online since 19 December 2013.
- 2) M. Karimi, A. Keyhani, A. Akram, **M. Rahman**, B. Jenkins, P. Stroeve, "Hybrid response surface methodology-genetic algorithm optimization of ultrasound-assisted transesterification of waste oil catalysed by immobilized lipase on mesoporous silica/iron oxide magnetic core-shell nanoparticles", [Environmental Technology](#), 2013, 34, 2201-2211.
- 3) S. Krol, R. Macrez, F. Docagne, G. Defer, S. Laurent, **M. Rahman**, M. J. Hajipour, P. G. Kehoe, M. Mahmoudi. "Therapeutic Benefits from Nanoparticles: The Potential Significance of Nanoscience in Diseases with Compromise to the Blood Brain Barrier." [Chemical Reviews](#) 113, no. 3, 2012, 1877-1903.
- 4) **M. Rahman**, F. Tajabadi, L. Shooshtari, N. Taghavinia, "Nanoparticulated hollow TiO₂ fibers as scatterers in dye sensitized solar cells: layer-by-layer self-assembly parameters and mechanism", [ChemPhysChem](#), 2011, 12(5), 966-973. (This article has been **cited 12 times** and the journal has an **impact factor of 3.349**)
- 5) L. Shooshtari, **M. Rahman**, F. Tajabadi, N. Taghavinia, "TiO₂ fibers enhance film integrity and photovoltaic performance for electrophoretically deposited dye solar cell photoanodes", [ACS applied material and interfaces](#), 2011, 3(3), 638-641. (This article has been **cited 7 times** and the journal has an **impact factor of 5.008**)
- 6) **M. Rahman**, N. Taghavinia, "TiO₂ thin films prepared by layer-by-layer self assembly using short chain polycation", [Eur. Phys. J. Appl. Phys.](#) 48, 10602 (2009).