

# In the name of God

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### Fields of Interest

- ▶ Thin Films Deposition
- ▶ Nanoparticles preparation
- ▶ Nanocomposites
- ▶ Membrane

### Education Ph.D. in Physical Chemistry

- ▶ January 2003 – March 2009, Tarbiat Moallem University, Tehran, Iran

### M.Sc. in Physical Chemistry

- ▶ 1997 – 1999, Iran University of Science and Technology (IUST), Tehran, Iran

### B.Sc. in Pure Chemistry

- ▶ 1993 – 1997, Shiraz University, Shiraz, Iran

### Publications

#### Journal Papers

- 1) Ebrahim Alipanahpour Dil, Mehrorang Ghaedi, Arash Asfaram, Shaaker Hajati, Fatemeh Mehrabi, **Alireza Goudarzi**: *Preparation of nanomaterials for the ultrasound-enhanced removal of Pb<sup>2+</sup> ions and malachite green dye: Chemometric optimization and modeling*. Ultrasonics Sonochemistry **2017**;34. DOI:10.1016/j.ultsonch.2016.07.001
- 2) Arash Asfaram, Mehrorang Ghaedi, Shaaker Hajati, **Alireza Goudarzi**, Ebrahim Alipanahpour Dil: *Screening and optimization of highly effective ultrasound-assisted simultaneous adsorption of cationic dyes onto Mn-doped Fe<sub>3</sub>O<sub>4</sub>-nanoparticle-loaded activated carbon*. Ultrasonics Sonochemistry **2017**; 34. DOI:10.1016/j.ultsonch.2016.05.011
- 3) M. Ghaedi, F. Nasiri Azad, K. Dashtian, S. Hajati, **A. Goudarzi**, M. Soylak: *Central composite design and genetic algorithm applied for the optimization of ultrasonic-assisted removal of malachite*

*green by ZnO Nanorod-loaded activated carbon*. Spectrochimica Acta Part A Molecular and Biomolecular Spectroscopy 05/2016; 167. DOI:10.1016/j.saa.2016.05.025

- 4) Arash Asfaram, Mehrorang Ghaedi, Mohammad Hossein Ahmadi Azqhandi, **Alireza Goudarzi**, Mehdi Dastkhooon: *Statistical experimental design, least square-support vector machine (LS-SVM) and artificial neural network (ANN) methods for modeling of facilitated adsorption of methylene blue dye*. RSC Advances 04/2016; 6(46). DOI:10.1039/C6RA01874B
- 5) Arash Asfaram, Mehrorang, Shaaker Hajati, **Alireza Goudarzi**: *Synthesis of magnetic  $\gamma$ -Fe<sub>2</sub>O<sub>3</sub>-based nanomaterial for ultrasonic assisted dyes adsorption: Modeling and optimization*. Ultrasonics Sonochemistry 04/2016; 32. DOI:10.1016/j.ultsonch.2016.04.011
- 6) Arash Asfaram, Mehrorang Ghaedi, **Alireza Goudarzi**: *Optimization of ultrasound-assisted dispersive solid-phase microextraction based on nanoparticles followed by spectrophotometry for the simultaneous determination of dyes using experimental design*. Ultrasonics Sonochemistry 04/2016; 32. DOI:10.1016/j.ultsonch.2016.04.009
- 7) Farshid Nasiri Azad, Mehrorang Ghaedi, Arash Asfaram, Arsalan Jamshidi, Ghasem Hassani, **Alireza Goudarzi**, Mohammad Hossein Ahmadi Azqhandi, Abdol Mohammad Ghaedi: *Optimization of the process parameters for the adsorption of ternary dyes by Ni doped AC using -NWs-FeO(OH) response surface methodology and artificial neural network*. RSC Advances 02/2016; 6(24). DOI:10.1039/C5RA26036A
- 8) Ali Mokhtari, **Alireza Goudarzi**, Mahboobeh Benam, Sanaz Mehdizadeh Langroodi, Shirvan Karimmohamad, Mohsen Keyvanfar: *Fabrication and Characterization of Cu(OH)<sub>2</sub>/CuO Nanowires as the Novel Sensitivity Enhancer of Luminol-H<sub>2</sub>O<sub>2</sub> Chemiluminescence System: Determination of Cysteine in Human Plasma*. RSC Advances 01/2016; 6(7). DOI:10.1039/C5RA21085B
- 9) Mehdi Ghaffari, Morteza Ehsani, Mojtaba Vandalvand, Ehsan Avazverdi, Abdollah Askari, **Alireza Goudarzi**: *Studying the effect of micro- and nano-sized ZnO particles on the curing kinetic of epoxy/polyaminoamide system*. Progress in Organic Coatings 12/2015; 89. DOI:10.1016/j.porgcoat.2015.08.016
- 10) Mehrorang Ghaedi, Masoomeh Yousefi-Nejad, Mohammad Safarpour, **Alireza Goudarzi**, Inderjeet Tyagi, Shilpi Agarwal, Vinod Kumar Gupta: *Investigation of phytochemical and antimicrobial properties of Linum usitatissimum in presence of ZnO/Zn(OH)<sub>2</sub> nanoparticles and extraction of euphol from Euphorbia microsciadia*. Desalination and water treatment 11/2015; DOI:10.1080/19443994.2015.1108877
- 11) Mehdi Dastkhooon, Mehrorang Ghaedi, Arash Asfaram, **Alireza Goudarzi**, Sanaz Mehdizadeh Langroodi, Inderjeet Tyagi, Shilpi Agarwal, Vinod Kumar Gupta: *Ultrasound assisted adsorption of malachite green dye onto ZnS: Cu-NP-AC: Equilibrium isotherms and kinetic studies- Response surface optimization*. Separation and Purification Technology 11/2015; 156. DOI:10.1016/j.seppur.2015.11.001
- 12) E. Alipanahpour Dil, M. Ghaedi, A.M. Ghaedi, A. Asfaram, **A. Goudarzi**, S. Hajati, M. Soylak, Shilpi Agarwal, Vinod Kumar Gupta: *Modeling of quaternary dyes adsorption onto ZnO-NR-AC artificial neural network: Analysis by derivative spectrophotometry*. Journal of Industrial and Engineering Chemistry 11/2015; DOI:10.1016/j.jiec.2015.11.010
- 13) Arash Asfaram, Mehrorang Ghaedi, **Alireza Goudarzi**, Mustafa Soylak, Sanaz Mehdizadeh Langroodi: *Magnetic nanoparticles based dispersive-solid-microphase extraction for the*

determination of malachite green in water samples: *Optimized experimental design*. New Journal of Chemistry 10/**2015**; 39(12). DOI:10.1039/C5NJ01730K

- 14) Reza Sahraei, Sajad Noshadi, **Alireza Goudarzi**: *Growth of nanocrystalline CuS thin films at room temperature by a facile chemical deposition method*. RSC Advances 09/**2015**; 5(94). DOI:10.1039/C5RA12400J
- 15) Mehrorang Ghaedi, Ebrahim Alipanahpour Dil, arash asfaram, Alireza Goudarzi, ABDOLMOHAMMAD GHAEDI: *Synthesis and characterization of ZnO-Nanorods loaded on activated carbon and its application for efficient solid phase extraction and determination of BG from water samples by micro- volume spectrophotometry*. New Journal of Chemistry 08/**2015**; 39(12). DOI:10.1039/C5NJ02217G
- 16) M. Jamshidia, M. Ghaedia, K. Dashtiana, A. Ghaedib, S. Hajatic, **A. Goudarzi**, E. Alipanahpoura: *Highly efficient simultaneous ultrasonic assisted adsorption of brilliant green and eosin B onto ZnS nanoparticles loaded activated carbon: Artificial neural network modeling and central composite design optimization*. Spectrochimica Acta Part A Molecular and Biomolecular Spectroscopy 08/**2015**; 153. DOI:10.1016/j.saa.2015.08.024
- 17) Arash Asfaram, Mehrorang Ghaedi, **Alireza Goudarzi**, Shaaker Hajati: *Ternary dye adsorption onto MnO<sub>2</sub> nanoparticle-loaded activated carbon: Derivative spectrophotometry and modeling*. RSC Advances 08/**2015**; 5(88). DOI:10.1039/C5RA10815B
- 18) farshid nasiri azad, Mehrorang Ghaedi, kheibar dashtian, shaaker hajati, **Alireza Goudarzi**, mehdi jamshidi: *Enhanced simultaneous removal of malachite green and safranin O by ZnO Nanorod-loaded activated carbon; modeling, optimization and adsorption isotherm*. New Journal of Chemistry 07/**2015**; 39(10). DOI:10.1039/C5NJ01281C
- 19) Arash Asfaram, Mehrorang Ghaedi, **Alireza Goudarzi**, Maryam Rajabi: *Response surface methodology approach for optimization of simultaneous dye and metal ion ultrasound-assisted adsorption onto Mn doped Fe<sub>3</sub>O<sub>4</sub>-NPs loaded on AC: kinetic and isothermal studies*. Dalton Transactions 07/**2015**; DOI:10.1039/C5DT01504
- 20) Arash Asfaram, Mehrorang Ghaedi, **Alireza Goudarzi**, Maryam Rajabi: *Response surface methodology approach for optimization of ultrasound-assisted removal for simultaneous dyes and ions onto Mn doped Fe<sub>2</sub>O<sub>3</sub>-Fe<sub>3</sub>O<sub>4</sub>-NPs loaded on AC: Kinetic and isotherm study*. Dalton Transactions 07/**2015**; 44(33). DOI:10.1039/C5DT01504A
- 21) M. Ghaedi, H. Zare Khafri, A. Asfaram, **A. Goudarzi**: *Response surface methodology approach for optimization of adsorption of Janus Green B from aqueous solution onto ZnO/Zn(OH)<sub>2</sub>-NP-AC: Kinetic and isotherm study*. Spectrochimica Acta Part A Molecular and Biomolecular Spectroscopy 07/**2015**; DOI:10.1016/j.saa.2015.06.128
- 22) Ahmadreza Bagheri, Mehrorang Ghaedi, Shaaker Hajati, Abdolmohammad Ghaedi, **Alireza Goudarzi**, arash asfaram: *Random forest model for the ultrasonic assisted removal of chrysoidine G by copper sulfide nanoparticles loaded on activated carbon : Optimization by experimental design based response surface methodology approach*. RSC Advances 07/**2015**; 5(73). DOI:10.1039/C5RA08399K
- 23) Mohammad Javad Zanganeh, Mahmoud Ziarati, Nahid Khandan, **Ali Reza Goudarzi**: *Optical and Electrical Characteristics of Pyrite Films Prepared by a New Spray Method Using PVDF as a Polymeric Binder*. The European Physical Journal Applied Physics 06/**2015**; 70(3). DOI:10.1051/epjap/2015140482

- 24) Arash Asfaram, Mehorang Ghaedi, **Alirezal Goudarzi**, Mustafa Soylak: *Comparison between dispersive liquid–liquid microextraction and ultrasound-assisted nanoparticles-dispersive solid-phase microextraction combined with microvolume spectrophotometry method for the determination of Auramine-O in water samples*. RSC Advances 04/2015; 5(1). DOI:10.1039/C5RA02214B
- 25) Arash Asfaram, Mehrorang Ghaedi, Shaaker Hajati, Mohammad Rezaeinejad, **Alireza Goudarzi**, Mihir Kumar Purkait: *Rapid removal of Auramine-O and Methylene blue by ZnS:Cu nanoparticles loaded on activated carbon: A response surface methodology approach*. Journal of the Taiwan Institute of Chemical Engineers 03/2015; 53. DOI:10.1016/j.jtice.2015.02.026
- 26) Arash Asfaram, Mehrorang Ghaedi, Shaaker Hajati, **Alireza Goudarzi**, Ali Akbar Bazrafshan: *Simultaneous ultrasound-assisted ternary adsorption of dyes onto copper-doped zinc sulfide nanoparticles loaded on activated carbon: Optimization by response surface methodology*. Spectrochimica Acta Part A Molecular and Biomolecular Spectroscopy 03/2015; 145. DOI:10.1016/j.saa.2015.03.006
- 27) **Alireza Goudarzi**, Azimeh Dorbeygi Namghib, Chang-Sik Ha: *Fabrication and Characterization of Nano-structured ZnS Thin Films as the Buffer Layers in Solar Cells*. RSC Advances 11/2014; 4(104). DOI:10.1039/C4RA12148A
- 28) R. Sahraei, A. Daneshfar, **A. Goudarzi**, S. Abbasi, M. H. Majles Ara, F. Rahimi: *Optical properties of nanocrystalline ZnS:Mn thin films prepared by chemical bath deposition method*. Journal of Materials Science Materials in Electronics 01/2012; 24(1). DOI:10.1007/s10854-012-0730-9
- 29) R. Sahraei, G. Motedayen Aval, A. Baghizadeh, M. Lamehi-Rachti, **A. Goudarzi**, M.H. Majles Ara: *Investigation of the effect of temperature on growth mechanism of nanocrystalline ZnS thin films*. Materials Letters 11/2008; 62(28). DOI:10.1016/j.matlet.2008.07.022
- 30) Reza Sahraei, Ghaffar Motedayen Aval, **Alireza Goudarzi**: *Compositional, structural, and optical study of nanocrystalline ZnS thin films prepared by a new chemical bath deposition route*. Journal of Alloys and Compounds 10/2008; 466(1-2-1-2). DOI:10.1016/j.jallcom.2007.11.127
- 31) **Alireza Goudarzi**, Ghaffar Motedayen Aval, Reza Sahraei, Hiva Ahmadpoor: *Ammonia-free chemical bath deposition of nanocrystalline ZnS thin film buffer layer for solar cells*. Thin Solid Films 06/2008; 516(15-516). DOI:10.1016/j.tsf.2007.09.051

## Teaching experience

### Teacher of courses:

- ▶ *General Chemistry*
- ▶ *Physical Chemistry I (for Applied Chemistry Students)*
- ▶ *Physical Chemistry of Chemical Engineering*
- ▶ *Physical Chemistry Lab for Chemical Engineering*
- ▶ *Quantum Chemistry II*
- ▶ *Statistical Thermodynamic*

## **Work experience**

- ▶ **2001-2003: Employed** for **Shahid Tondgoyan Petrochemical Company (STPC)** as a senior chemist in quality control lab. (STPC is a branch of National Petrochemical Company (NPC) of Iran.)

## **Research visitor**

- ▶ January 1, 2008 – August 31, 2010, Research Opportunity at Nano Information Material (NIM) Lab, Pusan National University (PNU), Busan, Korea

## **Workshops**

- ▶ The first joint Iran-Taiwan workshop on Nano&Energy, Sharif University of Technology, Tehran, Iran
- ▶ Study of Polymers by spectroscopy Techniques, Arak Petrochemical Company, Arak, Iran
- ▶ Gas Chromatography, Bandar-e-Emam, Mahshahr