

Curriculum Vitae

FARAHNAZ BARAHUIE

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Research Interests:

1. Drug delivery and biosensing application of metal nanolayers, graphene, graphene oxide, activated carbon, fullerene, CNT, iron oxide magnetite and various nanoparticles, chitosan, liposome, polyethylene glycol etc. Key interests are nanomedicine in particularly drug delivery, bioimaging and biosensing for theranostic applications
2. Nanomaterials
3. Tissue engineering
4. Nanoenergy

Education

PhD Nanosciences Institute of Advanced Technology, University Putra Malaysia (UPM).	Aug 2015
Master of Science(M.Sc:) in Organic Chemistry Sistan and Baluchestan University, Zahedan, Iran	2008
Bachelor of Chemistry Sistan and Baluchestan University, Zahedan, Iran	2004

Awards

- **International Graduate Research Fellowship (IGRF)** in the year 2013
- **Best Poster Prize** in Workshop on Advanced Materials & Nanotechnology (Nanomedicine) 2014
- **Bronze Medal** in the Invention, Research and Innovation Exhibition (PRPI) 2014

Publications:

1. **Farahnaz Barahuie**, Effect of protocatechuic acid-layered double hydroxide nanoparticles on diethylnitrosamine/phenobarbital-induced hepatocellular carcinoma in mice.. **PloS One**. 2019; 74: 177-185. **Q1, IF=1.95**.
2. **Farahnaz Barahuie**, Graphene Oxide–PEG–Protocatechuic Acid Nanocomposite Formulation with Improved Anticancer Properties. **Nanomaterials**. 2018;14:e0217009. **Q1, IF=4.034**.
3. **Farahnaz Barahuie**, Activated carbon derived from pine cone as a framework for the preparation of n-heptadecane nanocomposite for thermal energy storage. **Journal of Energy Storage**. 2019; 24:100795. **Q2, IF=3.517**.
4. **Farahnaz Barahuie**, Graphene oxide as a nanocarrier for controlled release and targeted delivery of an anticancer active agent, chlorogenic acid. **Materials Science and Engineering C**. 2017; 74: 177-185. **Q1, IF=4.959**.
5. **Farahnaz Barahuie**, Sustained release of anticancer agent phytic acid from its chitosan-coated magnetic nanoparticles for drug delivery system. **International Journal of Nanomedicine**. 2017; 12: 2361-2372. **Q1, IF=4.30**.
6. Dena Dorniani, Bullo Saifullah, **Farahnaz Barahuie**, Palanisamy Arulselvan, Mohd Zobir Bin Hussein, Sharida Fakurazi and Lance J. Twyman. Graphene Oxide-Gallic Acid Nanodelivery System for Cancer Therapy. **Nanoscale Research Letters**. 2016; 11:491. **Q2, IF=2.584**.
7. Leili Mohammadi, Edris Bazrafshan, Meissam Noroozifar, Alireza Ansari-Moghaddam, **Farahnaz Barahuie**, Davoud Balarak. Adsorptive Removal of Benzene and Toluene from Aqueous Environments by Cupric Oxide Nanoparticles: Kinetics and Isotherm Studies. **Journal of Chemistry**. 2017. <https://doi.org/10.1155/2017/2069519>. **Q3, IF=1.300**.
8. Leili Mohammadi, Edris Bazrafshan, Meissam Noroozifar, Alireza Ansari-Moghaddam, **Farahnaz Barahuie**, Davoud Balarak. Removing 2, 4-Dichlorophenol from aqueous

- environments by heterogeneous catalytic ozonation process using synthesized MgO nanoparticles. **Water Science and Technology**. 2017; DOI: **10.2166/wst.2017.479**. **Q2, IF=1.197**.
9. **Farahnaz Barahuie**, Preparation and controlled release studies of a protocatechuic acid-magnesium/aluminium-layered double hydroxide nanocomposite. **International Journal of Nanomedicine**. 2013; 8: 1975-1987, **Q1, IF=4.30**.
 10. **Farahnaz Barahuie**, Drug delivery system for an anticancer agent, chlorogenate-Zn/Al-layered double hydroxide nanohybrid synthesised using direct co-precipitation and ion exchange methods. **Journal of Solid State Chemistry**. 2014; 217: 31-41, **Q2, IF=2.299**.
 11. **Farahnaz Barahuie**, Development of the anticancer potential of a chlorogenate-zinc layered hydroxide nanohybrid with controlled release property against various cancer cells. **Science of Advanced Materials**. 2013; 5: 1983-1993, **Q2, IF=1.671**.
 12. **Farahnaz Barahuie**, Development of drug delivery systems based on layered hydroxides for nanomedicine. **International Journal of Molecular Sciences**. 2014; 15: 7750-7786, **Q2, IF=3.226**. (review paper)
 13. **Farahnaz Barahuie**, Synthesis of protocatechuic acid-zinc/aluminium layered double hydroxide nanocomposite as an anticancer nanodelivery system. **Journal of Solid State Chemistry**, 2015, 221: 21-31, **Q2, IF=2.299**.
 14. **Farahnaz Barahuie**, Anticancer nanodelivery system with controlled release property based on protocatechuate-zinc layered hydroxide nanohybrid. **International Journal of Nanomedicine**. 2014; 9: 3137-3149, **Q1, IF=4.30**.
 15. **Farahnaz Barahuie**, Controlled in vitro release of the anticancer drug chlorogenic acid using magnesium/aluminium-layered double hydroxide as a nanomatrix. **Science of Advanced Materials**. 2016; 8: 501-513, **Q2, IF=1.671**.
 16. Reza Heydari, Malek Taher Maghsoodlou, Sayyed Mostafa Habibi-khorassani, Nourallah Hazeri, **Farahnaz Barahuie**, Mohsen Rostamizadeh. An efficient method for synthesis of stable phosphorus ylides and 1,4-diionic organophosphorus compounds in the presence of sodium dodecyl sulfate in aqueous media. **Arabian Journal of Chemistry**, 2010; 3: 229–232, **Q2, IF=4.553**.
 17. Reza Heydari, Nourallah Hazeri, Malek Taher Maghsoodlou, Sayyed Mostafa Habibi-khorassani, **Farahnaz Barahuie**, Ghasem Marandi. One-pot synthesis of stable phosphorus ylides using aldehyde phenylhydrazone derivatives. **ARKIVOC** 2009; vii: 86-97, **IF=1.165**.
 18. Malek Taher Maghsoodlou, Reza Heydari, Nourallah Hazeri, Sayyed Mostafa Habibi-khorassani, **Farahnaz Barahuie**, Javad Navidno, Mohsen Rostamizadeh, Seyed Sajad

Sajadikhah. An efficient one-pot synthesis of C-alkylated phenols and benzofuran derivatives with phosphanylidene substituents, *Research on Chemical Intermediates* 2015; 41: 2609-2617, **Q3, IF=1.369**.

Conferences and Workshops:

1. Protocatechuic acid loaded chitosan coated iron oxide nanoparticles for cancer therapy. Nanomedicine & Healthcare, November 2017, New Orleans, USA.
2. Workshop on Advanced Materials and Nanotechnology 2014 (WAMN), Organized by Institute of Advanced Technology (ITMA), University Putra Malaysia (UPM), 2014
3. Protocatechuic acid-magnesium/aluminium-layered double hydroxide nanocomposite as anticancer delivery agent. *Invention, Research & Innovation Exhibition (PRPI) 2014*, University Putra Malaysia (UPM)
4. Synthesis of protocatechuic acid-zinc/aluminium layered double hydroxide nanocomposite as an anticancer nanodelivery system. *Fundamental Science Congress (FSC) 2014*, University Putra Malaysia (UPM).
5. Synthesis of protocatechuic acid-zinc/aluminium layered double hydroxide nanocomposite as an anticancer nanodelivery system. *International conference on chemical, biological and environmental science (ICCBES'14)*. 2014, Kuala Lumpur, Malaysia.
6. The 6th Nanotechnology cancer Asia-pacific (NCAP) Network Meeting (Healthcare session I of APAN 37th Video Conferencing meeting) IDEC
Alpha, University Putra Malaysia 2014
7. Workshop on Advanced Materials and Nanotechnology 2013 (WAMN), Organized by Institute of Advanced Technology (ITMA), University Putra Malaysia 2013
8. Preparation anticancer drug-Zn/Al- layered double hydroxide nanocomposites by using protocatechuic acid as the active agent and study the controlled release property. *Fundamental Science Congress (FSC) 2013*, University Putra Malaysia (UPM).
9. Synthesis and controlled release properties of antioxidant and anticancer drug, protocatechuic acid intercalated into Mg-Al layered double hydroxide. *Fundamental Science Congress (FSC) 2012*, University Putra Malaysia (UPM).

10. Animal Cell Culture Workshop 25-27th June 2012. Organized by Laboratory of Vaccines and Immunotherapeutics, Institute of Bioscience (IBS), University Putra Malaysia (UPM).
11. Workshop on Advanced Materials and Nanotechnology 2011 (WAMN2011). Organized by Institute of Advanced Technology (ITMA), Faculty of Engineering & Faculty of Science UPM, 2011.
12. In Vitro Controlled Release of an Anticancer Drug, Chlorogenic Acid using Magnesium/Aluminium Layered Double Hydroxide as Nanomatrix. International Conference on Life Science & Biological Engineering. November 2013, Osaka, Japan.
13. An efficient method for synthesis of stable phosphorous ylides in the presence of sodium dodecyl sulfate in aqueous media. 15th Iranian Seminar of Organic Chemistry. August 27-29, 2008, Razi University, Kermanshah, Iran.

Working Experience:

Lecturer (Feb 2016 – Present)

Faculty of Engineering, University of Sistan and Baluchestan, Zahedan, Iran.

Research Associate for 5 Months

Malaysian-Japan International Institute of Technology, UTM University

Research Associate for 4 years

Institute of Advanced Technology, University Putra Malaysia, Serdang Selangor 43400.

Research Associate for 2 years

Sistan and Baluchestan University, Zahedan, Iran.

Analytical Skills

1. Surface Area and porosity Analysis (ASAP)
2. VSM
3. X-ray diffraction
4. FTIR Spectroscopy
5. TEM
6. UV/Vis spectroscopy
7. Raman spectroscopy
8. SEM
9. CHNS Analysis

10. AFM
11. DLS
12. TGA/DTG
13. Inductively coupled Plasma (ICP)
14. NMR spectroscopy
15. Mass spectrometry
16. HRTEM
17. DSC