

Mohsen Mohammadi

CONTACT INFORMATION	No. 10, 1 st alley, Saberi Street, Dehvanak Square, Tehran, Iran	Nationality: Iranian Email: mohammadi.mhn@Gmail.com Phone number: +98-912-5273755
EDUCATION	M.Sc., Materials Engineering Characterization and selection of metal materials, School of Materials Engineering and Metallurgy, Iran University of Science and technology, Tehran, Iran. (GPA: 15.67 out of 20) Thesis title: The Effect of Aluminum on Structure and Properties of SiO ₂ Based Porous Materials (Grade: 17 out of 20) Supervisor: Dr. Mehdi Divandari	Sep 2011 – Feb 2014
	B.Sc., Materials Engineering Industrial Metallurgy, Metallurgy and Materials Engineering Department, Faculty of Engineering, Ferdowsi University of Mashhad, Mashhad, Iran. (GPA: 15.21 out of 20) Thesis title: Fabrication of WC nanoparticles via mechano-chemical method in WO ₃ /Zn/C System (Grade: 20 out of 20) Supervisor: Prof. Jalil Vahdati Khaki	Sep 2007 – Aug 2011
RESEARCH INTERESTS	<ul style="list-style-type: none">❖ Biomedical applications of nanomaterials – drug delivery, biosensors, nanomedicine, therapy, drug discovery, 3d-bioprinting, X-ray computed tomography, imaging contrast agents, antimicrobial❖ Biomaterials; preparation, properties and applications❖ In Vitro and In Vivo studies of biomaterials❖ Tissue engineering and wound healing❖ Preparation (green, arc discharge, spark ablation, chemical, and mechano-chemical) and characterization of nanomaterials	
RESEARCH EXPERIENCE	<ul style="list-style-type: none">❖ Research Assistant Nanomedicine Lab, Materials Engineering Department, Tarbiat Modares University, Tehran, Iran. Supervisor: Dr. Hamid Delavari<ul style="list-style-type: none">• Evaluation of the PVA/Chitosan/Curcumin and PVA/Chitosan/Curcumin/Nisin compounds for wound healing• Contrast agents for X-ray computed tomography• Preparation of anti-CD3-conjugated iron oxide nanoparticles (chemical approach) for MRI of tumor-infiltrating lymphocytes• In vitro study of green synthesized silver nanoparticles against <i>Leishmania</i> majors, as well as their cell cytotoxicity• Synthesis of Selenium nanoparticles (chemical) as antifungal agents	Jan 2017 – Present

- ❖ **Research Assistant** Dec 2015 – Present
 Nanostructures Lab, Materials Engineering Department, Tarbiat Modares University, Tehran, Iran. Supervisors: Dr. Reza Poursalehi and Dr. Hamid Delavari
 - Preparation and characterization of following nanoparticles: silver (green), tungsten oxide (arc discharge), iron oxide (chemical), copper oxide (arc discharge), bismuth oxide (arc discharge)
 - Cell culture; Cell cytotoxicity study of silver nanoparticles and chitosan-coated bismuth oxide nanoparticles on HDF-1 cell line
 - Investigation of chitosan-coated bismuth oxide (Bi_2O_3) nanoparticles as a contrast agent for X-ray computed tomography
 - Synthesis and characterization of bismuth oxide (Bi_2O_3) and copper oxide nanoparticles via arc discharge method
 - Synthesis of tungsten oxide (WO_3) nanoparticles via arc discharge method for X-ray computed tomography contrast agent
 - Evaluation of antifungal activity of green synthesized silver nanoparticles against *Candida albicans* in comparison to *Fluconazole*

- ❖ **Research Assistant** Mar 2014 – Dec 2014
 Concrete Technology Lab, Iran University of Science and Technology, Tehran, Iran. Supervisors: Dr. Mehdi Divandari and Dr. Ali Akbar Shirzadi Javid. The evaluation of non-autoclaved aerated concrete air content based on packing theory

- ❖ **Research Assistant** Dec 2012 – Feb 2014
 Master's degree, School of Materials Engineering and Metallurgy, Iran University of Science and Technology, Tehran, Iran. Supervisor: Dr. Mehdi Divandari
 - The investigation of Aluminum powder effects on Structure and Properties of SiO_2 Based Porous Materials (Non-autoclaved Aerated Lightweight Concrete)

- ❖ **Research Assistant** Sep 2010 – Aug 2011
 Bachelor's degree, Faculty of Engineering, Ferdowsi University of Mashhad, Mashhad, Iran. Supervisor: Prof. Jalil Vahdati Khaki
 - Fabrication and characterization of WC nanoparticles by mechano-chemical method in $\text{WO}_3/\text{Zn}/\text{C}$ System

PUBLICATIONS
 REFEREED JOURNAL
 PAPERS

- ❖ **Mohsen Mohammadi**, Amir KarimiPourSaryazdi, Leila Zaki, Pooya Tavakoli, Atiyeh Tavajjohi, Reza Poursalehi, Hamid Delavari H, Fatemeh Ghaffarifar, “Efficacy of green synthesized silver nanoparticles via ginger rhizome extract against *Leishmania major* in vitro”, PLOS ONE, DOI: 10.1371/journal.pone.0255571
- ❖ **Mohsen Mohammadi**, Atiyeh Tavajjohi, Azin Ziashahabi, Negin Pournoori, Samad Muhammadnejad, Hamid Delavari H, Reza Poursalehi “Toxicity, morphological and structural properties of chitosan-coated Bi_2O_3 - $\text{Bi}(\text{OH})_3$ nanoparticles prepared via DC arc discharge in liquid: a potential nanoparticle-based CT contrast agent”, Micro and Nano

REFEREED JOURNAL
PAPERS

- Letters, 2019. DOI: [10.1049/mnl.2018.5145](https://doi.org/10.1049/mnl.2018.5145)
- ❖ **Mohsen Mohammadi**, Sabrieh Assadi Shahisaraee, Atiyeh Tavajjohi, Negin Pournoori, Samad Muhammadnejad, Shahla Roodbar Mohammadi, Reza Poursalehi and Hamid Delavari H, “Green synthesis of silver nanoparticles using Zingiber officinale and Thymus vulgaris extracts: characterization, cell cytotoxicity and its antifungal activity against Candida albicans in comparison to Fluconazole”, IET nanobiotechnology, 2018. DOI: [10.1049/iet-nbt.2018.5146](https://doi.org/10.1049/iet-nbt.2018.5146)
 - ❖ **Mohsen Mohammadi**, Ali Akbar Shirzadi Javid and Mehdi Divandari, “Introducing a Method to Determine Nonautoclaved Aerated Concrete Air content Based on Packing Theory”, Journal of Materials in Civil Engineering, 2017, 30(3): 04017312. DOI: [10.1061/\(ASCE\)MT.1943-5533.0002180](https://doi.org/10.1061/(ASCE)MT.1943-5533.0002180)

REFEREED
CONFERENCE PAPERS

- ❖ [Farsi] **Mohsen Mohammadi**, Mehdi Divandari, Bijan Eftekhari Yekta and Ali Akbar Shirzadi Javid, “Feasibility of Producing Gas Aerated Lightweight Concrete on Non-Autoclaved Atmosphere”, 8th National Congress on Civil Engineering, Babol, Noshirvani University of Technology, Babol, Iran, May 2014.
https://www.civilica.com/Paper-NCCEo8-NCCEo8_0968

- ❖ [Farsi] Arman Hoseinpur, Jalil Vahdati Khaki, Maryam Marashi, **Mohsen Mohammadi**, “Fabrication of WC nanoparticles by mechano-chemical method in WO₃/Zn/C System”, National Conference on Materials Science, Malayer University, Malayer, Iran, July 2012.
<https://profdoc.um.ac.ir/paper-abstract-1032236.html>

IN PREPARATION
JOURNAL PAPER

- ❖ Leila Zaki, Amir KarimiPourSaryazdi, Fatemeh Ghaffarifar, **Mohsen Mohammadi**, Milad Badri, “In vitro activity of green synthesized silver nanoparticles via Thymus vulgaris extract against Leishmania major”, submitting.
- ❖ Sepideh Ebrahimpoor, Azadeh Asefnejad, **Mohsen Mohammadi**, “Fabrication and investigation of Chitosan-Polyvinyl Alcohol wound dressing containing Nisin”, submitting.
- ❖ Sepideh Ebrahimpoor, Azadeh Asefnejad, **Mohsen Mohammadi**, “Evaluation of the effect of Nisin on PVA/Chitosan/Curcumin nanofibers for wound healing”, submitting.

CHARACTERIZATION
SKILLS AND LAB
TECHNIQUES

- ❖ X-ray diffraction analysis (XRD)
- ❖ Inductively coupled plasma (ICP)
- ❖ X-ray fluorescence analysis (XRF)
- ❖ Scanning Electron Microscopy (SEM)
- ❖ Atomic absorption spectroscopy (AAS)
- ❖ Transmission Electron Microscopy (TEM)
- ❖ X-ray computed tomography (CT imaging)
- ❖ Fourier transform infrared spectroscopy (FTIR)
- ❖ Ultraviolet and Visible Absorption Spectroscopy (UV-Vis)
- ❖ Cell culture: Cell cytotoxicity evaluation based on MTT assay
- ❖ Antifungal assay according to Minimum inhibitory concentration (MIC)

LANGUAGE

- ❖ English: fluent

PROFICIENCY	❖ Persian: native	
COMPUTER SKILLS	<ul style="list-style-type: none"> ❖ Origin ❖ Image J ❖ Endnote ❖ AutoCAD ❖ ChemOffice ❖ Microsoft Office ❖ MATLAB (Basic) ❖ CrystalMaker (Basic) ❖ PANalytical X'Pert HighScore 	
HONORS AND AWARDS	<ul style="list-style-type: none"> ❖ Rank 1st at Olympiad of Physics Lab, Zahedan, Iran, 2005 ❖ Rank 4th at Olympiad of Physics Lab, Sistan and Baluchestan Province, Iran, 2005 	
WORK EXPERIENCE	<ul style="list-style-type: none"> ❖ Process Engineer Jan 2020 – Present Nipec Company, Tehran, Iran ❖ Researcher (part-time) Dec 2016 – Dec 2018 Teb Sanat Rahyab Company, Tehran, Iran ❖ R&D researcher (part-time) Nov 2011 – April 2013 Metrorasaneh company, Tehran, Iran ❖ R&D researcher (part-time) Feb 2012 – April 2013 Tasvir Aftab Shargh institute, Tehran, Iran 	
EXTRACURRICULAR ACTIVITIES	<ul style="list-style-type: none"> ❖ Playing ping pong, running and climbing ❖ Executive member of more than 10 events, 2008 - 2018 	
REFERENCES	<ul style="list-style-type: none"> ❖ Dr. Reza Poursalehi, Associate Professor Head of Nanostructures Lab, Materials Engineering Department, Faculty of Engineering, Tarbiat Modares University, Tehran, Iran. TEL: +98-21-82883997 Email: poursalehi@modares.ac.ir, pursalehi@gmail.com ❖ Dr. Hamid Delavari H, Assistant Professor Head of Nanomedicine Lab, Materials Engineering Department, Faculty of Engineering, Tarbiat Modares University, Tehran, Iran. TEL: +98-21-82883599 Email: hamid.delavari@modares.ac.ir, hamid.delavari@gmail.com ❖ Dr. Mehdi Divandari, Associate Professor M.Sc. supervisor, School of Materials Engineering and Metallurgy, Iran University of Science and Technology, Tehran, Iran. TEL: +98-21-73228859 Email: divandari@iust.ac.ir 	