

Curriculum Vitae

Marziyeh Aghazadeh

Cell Phone: (901) 648 8928

Google scholar:

https://scholar.google.com/citations?user=nR_XMvgAAAAJ

Email: maghazad@uthsc.edu

maghazadehbio@gmail.com

Education

Postdoctoral Fellow (2022-2023)

Department of Bioscience Research, University of Tennessee Health Science Center (UTHSC),
Memphis, Tennessee, USA

M.Sc. In Oral Medicine (2008 - 2012)

Department of Oral Medicine, Dentistry Faculty, Tabriz University of Medical Sciences
(TBZMED), Tabriz, Iran

Thesis: Serum level of interleukin 17 (IL-17) in patients with erosive and non-erosive oral lichen
planus

DOCTOR OF DENTAL SURGERY (DDS), DOCTOR OF MEDICAL DENTISTRY (DMD), (2001 - 2008)

Dentistry Faculty, Tabriz University of Medical Sciences, Tabriz, Iran

Thesis: Isolation and characterization of dental pulp stem cells

Employed

- **University of Southern California (2023- present)**
Research Lab Specialist
- **University of Tennessee Health Science Center 2022-2023**
Postdoctoral Fellow in Bioscience Department
- **Tabriz University of Medical Sciences 2012-2022**
Associate Professor in Oral Medicine Department

Professional Experiments:

- 1. Stem Cell research Center of TBZMED (2011-2013)**
 - Deputy Manager
 - Member of Research Scientific Board
- 2. Community Dentistry Department (Oct 2014-May 2016)**
 - Head of Department
 - Assistant Professor
- 3. Oral Medicine Department of TBZMED (November 2016- Match 2022)**
 - Director of the department
 - Associate Professor
- 4. Oral and maxillofacial Department of Kyoto University (May – Oct 2016)**
 - Research Scholar

Grants and Rewards:

- 1. Research Grants:**
 - Stem cell research center of TBZMED 1000,000,000 IRR
 - Stem Cell and Regenerative Medicine Institute of TBZMED 2000,000,000 IRR
 - Dentistry Faculty of TBZMED 700,000,000 IRR
 - Drug

Selected Publications:

1. Alipour M, Sharifi S, Samiei M, Shahi S, **Aghazadeh M**, Maleki Dizaj. **(Corresponding author)**. **“Hesperetin nanocrystals as an ideal material for regenerative dentistry: synthesis, characterization, and evaluation of anti-inflammatory, and osteogenesis effects”**. Scientific Reports. 13, 2076 (2023).
2. Alipour M, Ghorbani M, Johari khatoonabad, **Aghazadeh M**. **(Corresponding author)**. **“Novel injectable hydrogel containing polyetheretherketone (PEEK) for bone regeneration in the craniofacial region: in vitro and in vivo study”**. Scientific Reports 13, 864 (2023)
3. Divband B, **Aghazadeh M**, Al-Qaim ZH, Samiei M, Hussein FH, Shaabani A, et al. **(First Coauthor)** **“Bioactive chitosan biguanidine-based injectable hydrogels as a novel BMP-2 and VEGF carrier for osteogenesis of dental pulp stem cells”**. Carbohydrate Polymers. 2021;273:118589.
4. Alipour M, Pouya B, Aghazadeh Z, SamadiKafil H, Ghorbani M, Alizadeh S, **Aghazadeh M**, Dalir Abdolahinia E. **(Corresponding author)** **“The Antimicrobial, antioxidative, and anti-inflammatory effects of polycaprolactone/gelatin scaffolds containing chrysin for regenerative endodontic purposes”**. Stem Cells International. 2021 Sep 30;2021.
5. Alipour, M., Firouzi, N., Aghazadeh, Z., Samiei, M., Montazersaheb, S., Khoshfetrat, A., **Aghazadeh, M.** **(Corresponding author)**. **“The osteogenic differentiation of human dental pulp stem cells in alginate-gelatin/Nano-hydroxyapatite microcapsules”**. *BMC Biotechnol* 21, 6 (2021).
6. Hassanzadeh A, Ashrafihelan J, Salehi R, Rahbarghazi R, Firouzamandi M, Ahmadi M, Khaksar M, Alipour M, **Aghazadeh M**. **(Corresponding author)**. **“Development and biocompatibility of the injectable collagen/nano-hydroxyapatite scaffolds as in situ forming hydrogel for the hard tissue engineering application”**. Artificial Cells, Nanomedicine, and Biotechnology. 2021 Jan 1;49(1):136-46.
7. Alipour, M., Ashrafihelan, J., Salehi, R., Aghazadeh, Z., Rezabakhsh, A., Hassanzadeh, A., Firouzamandi, M., Heidarzadeh, M., Rahbarghazi, R., **Aghazadeh, M.** **(Corresponding author)**. **“In vivo evaluation of biocompatibility and immune modulation potential of poly(caprolactone)–poly(ethylene glycol)–poly(caprolactone)-gelatin hydrogels enriched with nano-hydroxyapatite in the model of mouse”**. Journal of biomaterials applications. On line published: doi.org/10.1177/0885328221998525

8. **Marziyeh Aghazadeh**, Mohammad Samiei, Vahideh Raeisdasteh Hokmabad, Effat Alizadeh, Neda Jabbari, Alexander Seifalian, Roya Salehi. **(First author)** “**The Effect of Melanocyte Stimulating Hormone and Hydroxyapatite on Osteogenesis in Pulp Stem Cells of Human Teeth Transferred into Polyester Scaffolds.**” *Fibers and Polymers*. 2018.19.11. 2245-2253.
9. **Marziyeh Aghazadeh**, Mohammad Samiei, Effat Alizadeh, Parisa Porkar, Mohsen Bakhtiyari, Roya Salehi. **(First author)** “**Towards osteogenic bioengineering of dental pulp stem induced by sodium fluoride on hydroxyapatite based biodegradable polymeric scaffold.**” *Fibers and Polymers*.2017. 18:8. Pages: 1468-1477.

Languages

English, Turkish, Persian

Teaching Experience

2012- 2014:

Preventive Dentistry Department

- Tutor undergraduate level course: Community Dentistry, Oral health, Public health, Preventive Dentistry
- Tutor undergraduate students in administering preventive dental care in theory and practice
- Provided students of primary schools of deprived areas with Volunteer seminars about oral health care and oral hygiene
- Negotiated an agreement between ” Mental and physical Health office of primary students and Preventive Dentistry Department ” in order to scheduled referee of students for Oral hygiene training and dental preventive treatments (Volunteer activity)

2014- March 2022:

Oral Medicine Department

- Supervisor of a mega project about data bank of 200 diabetic and 250 healthy referred patients to oral medicine department of Tabriz dentistry faculty. The data includes: oral health indexes, medical history, medications, level of salivary and serum biomarkers, nutrition habits and salivary function.
- Tutor undergraduate students in theoretical and clinical oral medicine courses
- Tutor post graduate students and residents in oral disease and dental considerations for medically compromised patients

Technical Experience

1. Scaffold preparation techniques including:

• Fabrication methods:

- o casting
- o Electrospinning and microtissue formation using hanging drop method and
- o Microcapsulation of scaffolds

• Characterization of 2D/3D scaffolds:

- o Tensile/Compressive tests
- o SEM, TEM, swelling/degradation tests
- o MTT and Live-Dead assay

2. Molecular and cellular biology techniques including:

• Gene expression evaluation:

- o RNA and DNA Extraction
- o RT-PCR and Real-Time qPCR and Data Analysis

- **Cell culture:**

- o Methods of Human, Mice and Rabbit Primary Cell Isolation
- o MTT and Live-Dead assay
- o Cell Culture Techniques
- o Differentiation of mesenchymal stem cells to different lineages
- o Histological Staining Techniques such as; Immunohistochemistry (IHC), Immunofluorescence (IFC), immunocytochemistry (ICC)
- o Western Blot
- o ELISA Technique
- o Flow cytometry

3. Animal handling and surgical techniques in small animal models:

- o Animal Anesthesia/Euthanasia
- o Partial/total rodent surgery technique

4. Decellularization of tissue/organ:

- o Human Amniotic Membrane
- o Human Umbilical Cord
- o Breast, skin, Adipose tissue
- o Dental pulp
- o Bone marrow
- o Human oral epithelium

Field of Research Interests

- Application of sustained released stimulators for in vivo bone and tooth regeneration

- Designing and developing bio-3Dprinted bone grafts containing cells and scaffolds as growth factors as bio-inks
- Developing cell and gene based therapies for hard tissue regeneration using multi-layer cellular systems

Conference publications

- 1- Member of Organization Committee and Chair of SESSION 4 in "HINMAN STUDENT RESEARCH SYMPOSIUM".

Oct 2022, UTHSC, Memphis

- 2- Chair of SESSION 1 in "STUDENT RESEARCH DAY" in UTHSC, celebrating student achievements in DENTAL RESEARCH.

Feb 2022, Memphis

- 3- Chair of panel of "Dental Treatments in immunocompromised patients". 18th Symposium of Iranian Academy of Periodontology.

Oct 2018, Tabriz, Iran

- 4- "Oral White lesions". Presented at the Second Dermatologic Congress in North West of Iran.

Sep 2014, Tabriz-Iran

- 5- "Overexpression of lentiviral vector-mediated human BMP2 gene in the mesenchymal dental pulp stem cells (DPSCs)". 8th World Congress and Expo on Cell & Stem Cell Research. March 20-22, 2017 Orlando, USA

- 6- Methods for culturing mesenchymal stem cells and osteogenic differentiation by osteogenic medium. "First workshop of mesenchymal stem cells culture and differentiation in in vitro condition" (May, 2013), Tabriz, Iran

Poster Presentation:

- 7- "Osteogenic effects of Melanocyte Stimulation Hormone on Dental Pulp Stem Cells". Presented at First National Festival & International Congress on Stem cell and Regenerative Medicine.

May 2016, Tehran-Iran

- 8- "Effect of Use of Propolis on Serum Levels of Il-17 and Clinical Symptoms and Signs in Patients with Ulcerative Oral Lichen Planus". Presented at 17th International Congress on Oral Pathology and Medicine. Abstract published in Oral Surgery, Oral Medicine, Oral Pathology Oral Radiology Journal.

May 2014, Istanbul-Turkey

- 9- "Effect of Mucoadhesive Form of Mycophenolate Mofetil on Oral Erosive Lichen Planus Lesions". Presented at 17th International Congress on Oral Pathology and Medicine. Abstract published in Oral Surgery, Oral Medicine, Oral Pathology Oral Radiology Journal.

May 2014, Istanbul-Turkey

- 10- "The role of Probiotics in Prevention of Dental Caries". Presented at 10th Congress of Iranian Academy of Restorative Dentistry.

November 2010, Tehran-Iran

Books

1- Book Chapter

Corresponding author of the chapter "Cell Microencapsulation" in Encapsulation Strategies and Materials in Translational Medicine: Volume One. Publisher: Elsevier, 2022 (in progress)

2- Book

"Common Infections in Dental Clinics and

Laboratories and their Prevention Protocols".
Volume One. Publisher: TBZmed (Tabriz University of Medical Sciences) Second
Volume is under revision process.