

# Mehdi Arab

[Email](#) | [Google Scholar](#) | [LinkedIn](#)

## ACADEMIC BACKGROUND

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### **Sharif University of Technology | Tehran, Iran**

August 2017- February 2021

M.Sc. In Materials Science and Engineering, GPA: 3.75/4

M.Sc. Thesis: Formulation and Characterization of Scaffold Properties Based on Hydroxyapatite Composites Containing Titania and Magnesium Oxide

### **Babol Noshiravani University of Technology | Babol, Iran**

September 2012- March 2017

B.Sc. In Materials Engineering

## RECENT ACADEMIC HONORS

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- Executive Committee Member of The 13th Congress of the Iranian Ceramic Society & The 3rd International Conference on Ceramics 2022.
- Certificate of presenting a paper in The 13th Congress of the Iranian Ceramic Society in 2022 entitled :  
Synthesis and characterization of Hydroxyapatite-Magnesium Titanate nanocomposite
- Win prizes for 3rd rank of the best poster in the Materials Science and Engineering department in 2020
- Certificate of 3D Cell Culture from Materials and Energy Research Center in 2019
- National M.Sc. Entrance Exam: Ranked 72nd among more than 4600 participant in 2018

## ACADEMIC and WORK EXPERIENCE

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### **1. Ceramic Engineering Laboratory**

#### **Sharif University of Technology**

- Synthesis of Titanium Dioxide Nanoparticles via Sol-Gel method
- Synthesis of Magnesium oxide Nanoparticles via Sol-Gel method
- Synthesis of Hydroxyapatite Nanoparticles via Sol-Gel and Co-precipitation methods
- Making Scaffold via Gel-Cast method (using Agarose Gel)

#### **Research Assistant at Sharif University of Technology (Sep 2019- Now)**

- Synthesis of Hydroxyapatite / Chitosan Composite via Sol-Gel method
- Fabricate Hydroxyapatite / Chitosan scaffold via freeze-drying method.
- Synthesis of Modify Hydroxyapatite
- Synthesis of denture base MWCNTs / hydroxyapatite / PMMA composite

## 2. Central Biomaterial Laboratory (Training Course, Oct 2018)

### Materials and Energy Research Center (MERC)

- 3D Cell Culture
- Extract Collagen from Natural Sources (like Rats Tail)
- Making Natural Scaffold Based on Collagen

## PROFESSIONAL QUALIFICATIONS

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- Biocompatibility tests: MTT assay
- Cell Culture
- Experienced in Materials Characterization Methods (TEM, SEM, XRD (Xpert Software), XRF, FTIR, DTA, TGA, STA, DSC)

## PUBLICATIONS

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### Journals Papers

Accepted = 2 | Under Review = 0 | First Author = 1 | Last Author = 1

1. Material extrusion additive manufacturing of Poly(lactic acid)/Ti6Al4V@Calcium Phosphate core-shell nanocomposite scaffolds for bone tissue applications (2023)  
<https://doi.org/10.1016/j.ijbiomac.2023.128040>
2. Enhanced Mechanical Properties and Biocompatibility of Hydroxyapatite Scaffolds by Magnesium and Titanium Oxides for Bone Tissue Applications (2024)  
<https://doi.org/10.1016/j.heliyon.2024.e33847>.

### Book

1. Translate of the “Flexible and Stretchable Triboelectric Nanogenerator Devices. Edited by Mengdi Han et al., Weinheim, Germany, Wiley-VCH Verlag GmbH & Co. KGaA, 30 Sept. 2019.” to Persian.

## PRESENTATION

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### Conferences Papers

1. Synthesis and Characterization of Hydroxyapatite-Magnesium Titanate Nanocomposite. (*The 13th Congress of Iranian Ceramic Society – The 3rd International Conference on Ceramics, 2022*)
2. Preparation of Hydroxyapatite/Chitosan Composite Scaffolds. (*9th International Conference on Materials & Metallurgical Engineering ,iMat2020*)

### Selected Poster

1. Preparation of Hydroxyapatite/Chitosan Composite (Materials Science and Engineering Department, Sharif University of Technology, 2019)