



Mehdi Arab

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ACADEMIC BACKGROUND

Sharif University of Technology

Tehran, Iran

M.Sc. In Materials Science and Engineering

August 2017- February 2021

- GPA: 3.75/4
- Thesis Title: Formulation and Characterization of Scaffold Properties Based on Hydroxyapatite Composites Containing Titania and Magnesium Oxide

Babol Noshiravani University of Technology

Babol, Iran

B.Sc. In Materials Engineering

September 2012- March 2017

RECENT ACADEMIC HONORS

- 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

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- July 2021)

- 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

3. Sharif Advanced Polymer Materials (Aug 2021- March 2022)

Job Title: Production Expert (Aug 2021- March 2022)

PROFESSIONAL QUALIFICATIONS

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

RESEARCH INTERST

- | | |
|---------------------------|--------------------|
| • Engineered Biomaterials | • Scaffold |
| • Tissue Bioengineering | • Dental |
| • Drug Delivery | • Machine Learning |

PUBLICATIONS

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 (2023)
<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

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)

SKILLS

- | | |
|----------------------------|--------------------------|
| • Windows | • <i>Image j</i> |
| • Mac OS | • <i>Vesta</i> |
| • Microsoft office | • <i>Xpert</i> |
| • Origin pro data analysis | • <i>Learning Python</i> |

INTERESTS

- Sports
 - Fitness & Weight Training
- Traveling
- *Reading*
- *Personal Development*

REFERENCES

- **Dr. Ali Nemati**

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- **Dr. Adrine Malek Khachatourian**

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- **Dr. Mahmood Rabiee**

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- **Nafiseh Sohrabi**

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