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*
- *Noticeable courses:*
  - *Advanced Diffusion and Phase Transformation of Materials: 18/20*
  - *Electrical and magnetic ceramics: 19/20*

Babol Noshiravani University of Technology Babol, Iran

B.Sc. In Materials Engineering *September 2012*

Test Score

TOEFL (Feb 25, 2023) : 90 (Reading: 26 listening: 23 Speaking: 21 Writing: 20)

GRE (Nov 24, 2019) : 305 (Verbal Reasoning : 144 , Quantitative Reasoning: 161)

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, August 2018

- *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-precipitiation 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. Biomaterial Pasteur institute Laboratory (July 2021- Jan 2023)

- *3D printing Scaffold - Plasma Surface Modification*

3. Central Biomaterial Laboratory

Materials and Energy Research Center (MERC)

- *3D Cell Culture*

- *Extract Collagen from Natural Sources (like Rats Tail)*
- *Making Natural Scaffold Based on Collagen*

4. 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)*

SKILLS

- *Windows*
- *Mac OS*
- *Microsoft office*
- *Origin pro data analysis*
- *Image j*
- *Vesta*
- *Xpert*
- *Learning Python*

RESEARCH INTERSTS

- *Engineered Biomaterials*
- *Tissue Bioengineering*
- *Drug Delivery*
- *Scaffold*
- *Dental*
- *Machine Learning*

INTERESTS

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

PUBLICATIONS

- ***Journals Papers***

1. ***Under review in Additive Manufacturing Journal : Material extrusion additive manufacturing of Poly(lactic acid)/Ti6Al4V@Calcium Phosphate core-shell nanocomposite scaffolds for bone tissue applications (2023)***
2. ***Submitting : Enhanced Mechanical Properties and Biocompatibility of Hydroxyapatite Scaffolds by Magnesium and Titanium Oxides for Bone Tissue Applications (2023)***
3. ***Submitted in Advanced Healthcare Materials Journals: 3D Printed PU/TCP Scaffolds Coated with Collagen Under Oxygen Plasma Surface Modification for Bone Tissue Engineering. (2023)***

- ***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)***

- ***Book***

  - *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.*

REFRENCES

- ***Dr. Ali Nemati***

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- ***Dr. Adrine Malek Khachatourian***

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- ***Dr. Mahmood Rabiee***

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