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-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 (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

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)

RESEARCH INTERST

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

PUBLICATIONS

Journals Papers

Under Review = 3 | First Author = 2 | Last Author = 1

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

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

INTERESTS

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

REFRENCES

Dr. Ali Nemati

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Dr. Mahmood Rabiee

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