



Safoora Farshid
PhD of biomedical engineering, Biomaterials
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EDUCATION

- May 2022 - October 2022, **Sabbatical leave** (research opportunity), **University of Palermo**, Biomaterials (electrochemistry), supervisor: Prof Dr Monica Santamaria
- 2018 -June 2023, **PhD of biomedical Engineering, biomaterials**, Isfahan University of technology, Isfahan, Iran
“Fabrication and characterization of nanocomposite coating based on Plasma Electrolytic Oxidation/ Hydroxyapatite/ Poly (Dopamine) on WE43 Magnesium alloy for orthopedic applications”
Supervisor: [Dr. Mahshid Kharaziha](#), Dr Hossein Salehi, Advisor: Dr. Masoud Atapour, Dr. Mazdak Ganjalikhani Hakemi
- 2016 – 2018, **M. Sc. in biomedical Engineering biomaterials**, University of Isfahan, Isfahan, Iran
Thesis: “Biphasic Calcium Phosphate/Graphene Nano-composite coatings fabricated by electrophoretic on Ti6Al4V for biomedical applications”
Supervisor: [Dr. Mehdi Ebrahimian](#). Advisor: Dr Mohammad Rafieinia
- 2012 – 2016, **B. Sc. in Metallurgy Engineering**, Golpayegan University of Technology (GUT), Golpayegan, Iran
Thesis: “Effect of heat treatment on *Synthesis of hydroxyapatite from bone*” Supervisor:
Dr. Taghi Isfahani

HONORS & AWARDS

- 2017-2018, (**PhD entrance examination**), known as konkoor, **Ranked 5th** in Biomaterials engineering konkoor test.
- 2016, **Selected 5 top Idea** “workroom of bio-ceramic synthesis from waste cow bone” of 21st Idea Show startup event, University of Isfahan
- 2013-2014, **Ranked 4th Top-Bachelor students**, Materials Engineering Department, Golpayegan university of technology.

RESEARCH INTERESTS

Tissue engineering
Immunomodulation
Biodegradable implant

Smart surface treatment
Composite coatings
Layer by layer coatings (LbL)
Synthesis of nano-composites
Polymer based composites
Nano-bio ceramics

PUBLICATIONS

- **Journals**

1. **Safoora Farshid**, Mahshid Kharaziha, Hossein Salehi, Mazdak Ganjalikhani Hakemi, The morphology-dependent immunomodulatory coating based on hydroxyapatite/PEO for magnesium-based bone implants, **ACS Applied Materials & Interfaces (IF:9.5)**, 2023, <https://doi.org/10.1021/acsami.3c11184>
2. **Safoora Farshid**, Mahshid Kharaziha, Masoud Atapour, "A self-healing and bioactive coating based on duplex plasma electrolytic oxidation/ polydopamine on AZ91 alloy for bone implants" , **Journal of Magnesium and Alloys (IF:17.6)**, 2022
3. **Safoora Farshid**, Mehdi Ebrahimian-Hosseiniabadi, Mohammad Rafienia, Electrophoretic deposition of Biphasic calcium phosphate/Graphene nanocomposite coatings on Ti6Al4V substrate for biomedical applications, **Journal of Alloys and Compounds (IF:6.2)**, 2021, ISSN 0925-8388, <https://doi.org/10.1016/j.jallcom.2021.162150>
4. **Safoora Farshid**, Mahshid Kharaziha, Micro and nano-enabled approaches to improve the performance of plasma electrolytic oxidation coated Magnesium alloys, **Journal of Magnesium and Alloys (IF:17.6)**, 2020, <https://doi.org/10.1016/j.jma.2020.11.004>.
5. **Safoora Farshid**, Mahshid Kharaziha, Masoud Atapour, Francesco Di Franco, Monica Santamaria, Duplex plasma electrolytic oxidation/ hydroxyapatite- polydopamine coating on WE43 alloy for bone implants: long-term corrosion resistance and biological properties, under submission.

- **Conferences**

1. **Safoora Farshid**, Mehdi Ebrahimian Hosseinabadi, Effect of electrophoretic composite coatings based on hydroxyapatite on mechanical, corrosion and biocompatibility properties of titanium substrate for medical applications, 14th CMAT, Shahrekord, Iran, 2017
2. **Safoora Farshid**, Taghi Isfahani, Effect of heat treatment temperature on the synthesis of nanostructured hydroxyapatite from cow hindquarter bones, 13th CMAT, Amirkabir University of Technology - Tehran Polytechnic, Iran, 2016

LABORATORY EXPERIENCES and SKILLS

- Almost 5 years of experience in metallurgy Engineering laboratory at Isfahan University of Technology (IUT) and Medical university of Isfahan.
- Almost 2 years of experience in biomedical Engineering laboratory at University of Isfahan (UI).
- Almost 1 years of experience in metallurgy Engineering laboratory at Golpayegan University of Technology (GUT)
- Experienced in synthesis of **nano-Ceramics** such as biphasic calcium phosphate and hydroxyapatite

- Experienced in synthesis of **Graphen reinforced ceramic composites**.
- Experienced in **electropolymerized coating**.
- Experienced in characterization of **Polymers**.
- Experienced in characterization of **Ceramics**.
- Experienced in Data processing by **Graphpad- Prism and Origin softwares**
- Experienced in analyzing **XRD** Data by Xpret.
- Experienced in analyzing **laboratory experimental results**.
- Experienced in analyzing **EIS** by using **Zview** and **Z-simp**.
- Experienced in analyzing **potentiodynamic** corrosion test Data.
- Experience of working in **Cell culture lab**.
- Experienced in **reviewing scientific articles**.
- Experienced in analyzing microscopic pictures (SEM) by **Image-J** and **Celmex**.
- Experienced in analyzing **nano indentation Data**.
- Experienced in analyzing **mechanical properties tests** Data.
- Experienced in working with both **static and dynamic contact angle measurement** apparatuses.
- Experience of working with **Electrophoretic and electrodeposition** apparatus.
- Experience of working with **PEO** apparatus.
- Experience of working with **metallography apparatus**.
- Experienced in analyzing **FTIR** and **Raman**
- Experience of working with **corrosion tests apparatus**.
- Experience of working with **Gass chromatography mass spectrometry apparatus**.
- Experienced in analyzing **MTT test** Data and Cell culture Data.

LICENCES & CERTIFICATIONS

Certification of completion online course ACS reviewer Lab, ACS publication, 10/18/2023

Certification of completion for phyton Basics, University of Michigan, Coursera website, 34h, 07/06/2023

Certificate of attendance (participated in CMAT conference by Article) -Amirkabir University of Technology - Tehran Polytechnic

key to steel – Nazeran Yekta, Isfahan, NY-9406-901-2

Certification of training for 3D Cell Culture - Materials and Energy Research Center (MERC) Cell

Culture on scaffold in tissue engineering - Royan Institute, 99/19235

EMPLOYMENT HISTORY

- **Academic Experiences**

2021-2023, **Research Assistant**, Medical University of Esfahan

Description: I participate as a research assistant on funded project “ Fabrication and characterization of Controlled morphology- immunomodulatory Hydroxyapatite /PEO ceramics coating on WE43 alloy”.

2022-2023, **Research Assistant, Isfahan university of technology**

Description: I participate as a research assistant of project “synthesis and characterization of ceramics composite of surface modified mesoporous bio-glass on anodized titanium”.

2020-2023, **Reviewer of scientific journal**

Description: reviewing 3 manuscripts for Journal of Biomaterials application.

2012-2016, **Membership of Studental Scientific Association:** Golpayegan University of Technology

Description: I worked as I play different role as public relations officer and scientific writer of Studental Scientific Association magazine of Golpayegan University of Technology.

2013-2016, **Teacher Assistant,** Golpayegan University of Technology

Description: I worked as a teacher assistant for two courses (Physical properties of materials and properties of materials) as I was a BSC student at Golpayegan university of technology.

• **Industrial Experiences**

October 2023-present, **Research and development, Tajhiz-Gostar-Tamin-Salam,** Iran, Tehran

Description: I worked on development of relevant products and surface treatment of degradable sutures and extrusion of urethral catheters.

July 2019 – May 2022, **Research and development, [Tara-coatings Sepanta Kian](#),** Iran, Isfahan

Description: I worked on several projects such as Ceramic composite bone grafts, surface treatments of Titanium implants, PEO coating on different substrates and so on, while I worked on my own PhD project.

RELEVANT COURSES

- PhD Comprehensive education examination (passed)
- PhD primary Comprehensive Research examination (proposal) (passed)
- Advanced bio ceramics (18)
- Implantable materials (17.8)
- Degradability of biomaterials in medicine (18.5)
- Engineering of Stem cells (16.75)
- Advanced biocompatibility (17.1)

COMPUTER AND PROGRAMMING SKILLS

- Python/ MATLAB / Microsoft office/ Key to material/ Z. View/ Xpert/ ImageJ/ Origin/ Design Expert/ Origin/ Graphpad- Prism.

LANGUAGE SKILLS

English: Fluent in all skills

Italian: conversational

Persian: Native

German, French: Basic knowledge

EXTRA-CURRICULAR ACTIVITIES

- Computer Programming • Teaching • Arts (playing Setar and Poets)

REFERENCES

- Prof Dr Mahshid Kharaziha. Associate professor of Materials Engineering, Isfahan University of Technology. kharaziha@cc.iut.ac.ir, ma.kharaziha@gmail.com Phone: +98-31-3391-5702, mobile: +98 913 327 5339
- Prof Dr mehdi Ebrahimian, Associate professor, Department of Biomedical Engineering, University of Isfahan. m.ebrahimian@eng.ui.ac.ir, mobile: +9891-316-97515
- Prof Dr. Masoud Atapour. Associate professor of Materials Engineering, Isfahan University of Technology. m.atapour@cc.iut.ac.ir, Phone: +98-31-3391-5735, mobile: +98913-408-1569
- Prof Dr Monica Santamaria, Full Prof. of Applied Electrochemistry, Department of engineering, University of Palermo, monica.santamaria@unipa.it, mobile: +39-320-432 8591