Curriculum Vitae

Personal Information:

Name: Hamidreza Farnoush
Birth: 16/09/1983
Nationality: Iranian
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Academic Position: Assistant Professor
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Objectives and Major Interests:

Mechanical Behavior of Materials, Coatings & Surface Modifications, Biomaterials, Solid Oxide Fuel Cells, Synthesis of Nanomaterials, Powder Metallurgy, Corrosion Behavior, Tribology

Education:

2001-2005 **BSc** in Materials Science and Engineering, Department of Mining and Metallurgical Engineering, **Amirkabir University of Technology**, Tehran, Iran

2005-2008 **MSc** in Materials Science and Engineering, Department of Materials Science and Engineering, **Sharif University of Technology**, Tehran, Iran

2008-2013 **PhD** in Materials Science and Engineering, Department of Mining and Metallurgical Engineering, **Amirkabir University of Technology**, Tehran, Iran

Honors:

2008-2013 **Top 1st ranked PhD student** in Materials Science and Engineering, Amirkabir University of Technology

2005 Awarded facilities for educating in MSc at Amirkabir University of Technology without any entrance examination

2001-2005 **Top 1st ranked undergraduate student** in Materials Science and Engineering, Amirkabir University of Technology

Teaching Experiences:

2014-present	**Diffusion in Solids**, Department of Metallurgy and Materials Engineering, *University of Kashan*
2014-present	**Advanced Powder Metallurgy**, Department of Metallurgy and Materials Engineering, *University of Kashan*
2014-present	**Advanced Kinetics of Materials**, Department of Metallurgy and Materials Engineering, *University of Kashan*
2013-present	**Advanced Methods in Materials Characterization Lab.**, Department of Metallurgy and Materials Engineering, *University of Kashan*
2015-present	**Statics and Mechanics of Materials,** Department of Chemical Engineering and Industrial Engineering Department, *University of Kashan*
2014-present	**Statics**, Department of Mining Engineering and Department of Metallurgy and Materials Engineering, *University of Kashan*
2015-present	**Mechanical Behavior of Materials,** Department of Metallurgy and Materials Engineering, *University of Kashan*
2016-present	**Heat Treatment,** Department of Metallurgy and Materials Engineering, *University of Kashan*
2016-present	**Powder Metallurgy,** Department of Metallurgy and Materials Engineering, *University of Kashan*
2016-present	**Mechanical Behavior of Materials Lab.**, Department of Metallurgy and Materials Engineering, *University of Kashan*
2008- 2013	**Mechanical Behavior of Materials Lab.**, Department of Mining and Metallurgical Engineering, *Amirkabir University of Technology*
2008- 2013	Teaching Assistant of **Mechanical Properties of Materials I**, Department of Mining and Metallurgical Engineering, *Amirkabir University of Technology*
2008-present	**Materials Science**, Mechanical Engineering Department, *IAU (Central Tehran Branch)* and Industrial Engineering Department, *University of Kashan*
2008-present	**Engineering Graphics I & II**, Mechanical Engineering Department, *IAU (Central Tehran Branch)*

2005-2007 **Fabrication of Casting Models**, *Sharif University of Technology*

Research Experiences:

2016-present *Fabrication and High-temperature Performance of Solid Oxide Fuel Cell with Doped-Nanostructured Mn-Co Spinel Oxide Protective Coatings on Metallic Interconnects*, Niroo Research Institute

2016-present *Fabrication of Graded Electrophoretic Deposition Apparatus*, University of Kashan

2013-present *Designing and Manufacturing of SOFC Power Unit by Using Natural Gas*, Niroo Research Institute

2011-2013 PhD Thesis: "*Graded and Layered Electrophoretic Deposition of HA/TiO_2 Nanoparticles on Ti6Al4V Substrates with Refined Microstructure*", Department of Mining and Metallurgical Engineering, Amirkabir University of Technology

2012-2013 *Surface Modification of CP-Ti Substrate by Combining Micro-arc Oxidation and Electrophoretic Deposition*, Istanbul Technical University

2011-2013 *Fabrication of Ti–CaP Nanocomposite Layer by Friction Stir Processing*, Amirkabir University of Technology

2012-2013 *Biomimetic Synthesis of Nano-hydroxyapatite Coatings on Friction Stir Processed Ti-6Al-4V Substrates*, Amirkabir University of Technology

2012-2013 *Sol-gel Derived Nano-hydroxyapatite Film on Friction Stir Processed Ti-6Al-4V Substrate*, Amirkabir University of Technology

2008-2010 *Fabrication of Nanostructured Al-AlN Composite by Mechanical Alloying*, Materials & Energy Research Center (MERC)

2009-2010 *Thermokinetic Study on Oxidation Behavior of AlN Nanoparticles*, Materials & Energy Research Center (MERC)

2005-2008 MSc Thesis: "*The Effect of Dynamic Strain Aging on Fatigue Properties of Ferrite-Bainite Dual-Phase Steels*", Department of Materials Science and Engineering, Sharif University of Technology

2004-2005 BSc Thesis: "*Hot Deformation Characteristics of 2205 Duplex Stainless Steel Based on the Behavior of Constituent Phases*", Department of Mining and Metallurgical Engineering, Amirkabir University of Technology

Publications in ISI-indexed journals:

1. H. Farnoush, J. Aghazadeh Mohandesi, H. Cimenoglu, Micro-scratch and corrosion behavior of functionally graded HA-TiO_2 nanostructured composite coatings fabricated by electrophoretic deposition, *Journal of the Mechanical Behavior of Biomedical Materials* 46C (2015) 31–40.

2. H. Farnoush, G. Aldic, H. Cimenoglu, Functionally graded HA-TiO_2 nanostructured composite coating on Ti-6Al-4V substrate via electrophoretic deposition, *Surface and Coatings Technology* 265C (2015) 7–15.

3. H. Farnoush, F. Muhaffel, H. Cimenoglu, Fabrication and characterization of nano-HA-45S5 bioglass composite coatings on calcium-phosphate containing micro-arc oxidized CP-Ti substrates, *Applied Surface Science* 324C (2015) 765–774.

4. M. Salehi, H. Farnoush, A. Heydarian, J. Aghazadeh Mohandesi, Improvement of mechanical properties in the functionally-graded aluminum matrix nanocomposites fabricated via a novel multistep friction stir processing, *Metallurgical and Materials Transactions B* 46 (2015) 20–29.

5. M. Salehi, H. Farnoush, J. Aghazadeh Mohandesi, Fabrication and characterization of functionally graded Al-SiC nanocomposites by using a novel multistep friction stir processing, *Materials and Design* 63 (2014) 419–426.

6. H. Farnoush, A. Abdi Bastami, A. Sadeghi, J. Aghazadeh Mohandesi, F. Moztarzadeh, Tribological and corrosion behavior of friction stir processed Ti-CaP nanocomposites in simulated body fluid solution, *Journal of the Mechanical Behavior of Biomedical Materials* 20 (2013) 90–97.

7. H. Farnoush, J. Aghazadeh Mohandesi, D. H. Fatmehsari, Effect of particle size on the electrophoretic deposition of hydroxyapatite coatings: a kinetic study based on a statistical analysis, *International Journal of Applied Ceramic Technology* 10 (2013) 87–96.

8. H. Farnoush , A. Sadeghi, A. Abdi Bastami, F. Moztarzadeh, J. Aghazadeh Mohandesi, An innovative fabrication of nano–HA coatings on Ti–CaP nanocomposite layer using a combination of friction stir processing and electrophoretic deposition, *Ceramics International* 39 (2013) 1477–1483.

9. A. Abdi Bastami, H. Farnoush, A. Sadeghi, J. Aghazadeh Mohandesi, Sol-gel derived nano-hydroxyapatite film on friction stir processed Ti-6Al-4V substrate, *Surface Engineering* 29 (2013) 205–210.

10. H. Farnoush, J. Aghazadeh Mohandesi, D. H. Fatmehsari, F. Moztarzadeh, Modification of electrophoretically deposited nano-hydroxyapatite coatings by wire brushing on Ti–6Al–4Vsubstrates, *Ceramics International* 38 (2012) 4885–4893.

11. H. Farnoush, J. Aghazadeh Mohandesi, D. H. Fatmehsari, F. Moztarzadeh, A kinetic study on the electrophoretic deposition of hydroxyapatite-titania nanocomposite based on a statistical approach, *Ceramics International* 38 (2012) 6753–6767.

12. H. Farnoush , D. H. Fatmehsari, A. Ekrami, The effect of pre-straining at intermediate temperatures on the mechanical behavior of high-bainite dual phase (HBDP) steels, *Materials Science and Engineering A* 543 (2012) 224–230.

13. H. Farnoush, D. H. Fatmehsari, J. Aghazadeh Mohandesi, H. Abdoli, Evaluation of strengthening behavior of Al–AlN nanostructured composite by the use of modified Heckel model and response surface methodology, *Journal of Alloys and Compounds* 517 (2012) 45–53.

14. H. Abdoli, H. Farnoush, H. Asgharzadeh, S.K. Sadrnezhaad, Effect of high-energy ball-miling on compressibility of a nanostructured composite powder, *Powder Metallurgy* 54 (2011) 24–29.

15. H. Farnoush, A. Momeni, K. Dehghani, J. Aghazadeh Mohandesi, H. Keshmiri , Hot deformation characteristics of 2205 duplex stainless steel based on the behavior of constituent phases, *Materials and Design* 31 (2010) 220–226.

16. H. Abdoli, H. Farnoush, E. Salahi, K. Pourazrang, Study of the densification of a nanostructured composite powder, Part I: effect of compaction pressure and reinforcement addition, *Materials Science and Engineering A* 486 (2008) 580–584.

17. H. Abdoli, E. Salahi, H. Farnoush, K. Pourazrang, Evolutions during synthesis of Al-AlN nanostructured composite powder by mechanical alloying, *Journal of Alloys and Compounds* 461 (2008) 166–172.

Conference Publications:

Mechanical Properties of Nanostructured HA-YSZ Composite Coatings on Ti-6Al-4V, *6th International Congress on Nanoscience and Nanotechnology (ICNN 2016)*, **26-28 October 2016**, Kharazmi University, Iran

Synthesis and Characterization of Nanostructured Ce-modified $(Mn,Co)_3O_4$ Spinel for Solid Oxide Fuel Cell Application, *6th International Congress on Nanoscience and Nanotechnology (ICNN 2016)*, **26-28 October 2016**, Kharazmi University, Iran

Synthesis and Characterization of Nanostructured $Fe_xMn_{1.5-x/2}Co_{1.5-x/2}O_4$ Spinel for Solid Oxide Fuel Cell Application, *4th Nanotechnology Conference in Power and Energy*, **23-24 August 2016**, Niroo Research Institute, Iran

Synthesis and Characterization of Nanostructured $Y_xMn_{1.5-x/2}Co_{1.5-x/2}O_4$ Spinel for Solid Oxide Fuel Cell Application, *5th International Conference on Nanostructures (ICNS5)*, **7-10 March 2016**, Kish Island, Iran

Fabrication and Characterization of Mn-modified $MnCo_2O_4$ Spinel Coatings on Solid Oxide Fuel Cell Interconnects, *16th Iranian National Seminar on Surface Engineering*, **16-18 February 2016**, IHSRC Corporation, Iran

Cu-doped Nano- $La_{0.8}Sr_{0.2}MnO_3$ Protective Coatings on Metallic Interconnects for Solid Oxide Fuel Cell Application, *5th International Biennial Conference on Ultrafine Grained and Nanostructured Materials (UFGNSM15)*, **11-12 November 2015**, University of Tehran, Iran

Nano-45S5 Bioglass Coating on the Modified CP-Ti Substrate by MAO and EPD Processes, *5th International Biennial Conference on Ultrafine Grained and Nanostructured Materials (UFGNSM15)*, **11-12 November 2015**, University of Tehran, Iran

The Effect of Titania on the Micro-scratch Behavior of HA-TiO_2 Nanostructured Composite Coatings Fabricated by Electrophoretic Deposition, *1st International Conference on Advanced Ceramics*, **4-6 May 2015**, Materials & Energy Research Center (MERC), Iran.

Fabrication and Characterization of Electrophoretically Deposited Functionally Graded HA/TiO_2 Nanostructured Coatings, *1st International Conference on Advanced Ceramics*, **4-6 May 2015**, Materials & Energy Research Center (MERC), Iran.

Enhancements of Corrosion Behavior and Bioactivity in HA-TiO_2 Nanostructured Composite Coatings Fabricated by Electrophoretic Deposition, *1st International Conference on Advanced Ceramics*, **4-6 May 2015**, Materials & Energy Research Center (MERC), Iran.

Characterization and Corrosion Behavior of Electrophoretically Deposited HA-BG Nanostructured Composite on the Modified CP-Ti Substrate, *NCWNN1394*, **20-21 May 2015**, Kharazmi University, Iran.

Surface Modification of CP-Ti Substrate by Combining Micro-arc Oxidation and Electrophoretic Deposition, *9th Coatings Science International*, **24-28 June** 2013, Noordwijk, Netherlands.

Corrosion Behavior of the Sol-gel Derived Nano-hydroxyapatite Film on the Modified Titanium Substrate, *14th National Corrosion Congress*, **14-16 May 2013**, University of Tehran, Iran.

Fabrication of Ti–CaP Nanocomposite Layer by Friction Stir Processing, *11th Condensed Matter Physics Conference of Iran*, **7-8 January 2013**, Shahroud University of Technology, Iran.

Electrophoretic Deposition of Hydroxyapatite-Titania Nanocomposites on Ti-6Al-4V Substrates, *4th International Congress on Nanoscience and Nanotechnology*, **8-10 September 2012**, University of Kashan, Iran.

Biomimetic Synthesis of Nano-hydroxyapatite Coatings on Friction Stir Processed Ti-6Al-4V substrates, *4th International Congress on Nanoscience and Nanotechnology*, **8-10 September 2012**, University of Kashan, Iran.

An Oxidation Kinetic Model for AlN Nanopowders, *7th Iranian Ceramic Congress*, **28-29 April 2009**, University of Shiraz, Iran.

Thermokinetic Study on Oxidation Behavior of Aluminum Nitride Powders, *1st National Congress of Refractory*, **14-15 April 2009**, Materials & Energy Research Center (MERC), Iran.

Patents:

Fabrication of Ti-CaP Nanocomposite by Friction Stir Processing, National Patent, ID: 80062, **2013**.

Fabrication of Titania-Hydroxyapatite Nanocomposite by Friction Stir Processing, National Patent, ID: 80039, **2013**.

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