

Curriculum Vitae



Personal Details

Name: Hassan jafari
Associate Professor, Materials Engineering Dep., Faculty of
Material Engineering and Modern, Technologies, Shahid Rajae
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Birth date: Apr. 21, 1969

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Academic Degree

Associate Professor, Scopus H index: 13
Google scholar H index: 15

Education

- **B.S.** in Materials Science and Engineering (Production of Non-Ferrous Metals), Material Science and Engineering Dept., Sharif University of Technology, Iran (1992).
- **M.S.** in Materials Science and Engineering (Corrosion and Production of Materials), Material Science and Engineering Dept., Sharif University of Technology, Iran (1995).
- **PhD** in Materials Engineering, Material Engineering Dept., Faculty of Mechanical Engineering, University technology of Malaysia (UTM), Malaysia (2012).
- **Post Doctoral Fellow** in Materials Engineering, Material Engineering Dept., Faculty of Mechanical Engineering, University technology of Malaysia (UTM), Malaysia (2013).

Experiences & Positions

1. *Lecturer*, Material Science and Engineering Dept., Faculty of Mechanical Engineering, Shahid Rajaei Teacher Training University, Iran (1995 until now).
2. *Director of Entrepreneurship and Industry Relations*, Shahid Rajaei Teacher Training University, Iran (2015 until now).
3. *Technical Editor*, Journal of Computational & Applied Research in Mechanical Engineering (from 2016)
4. *Technical and Executive Affairs Deputy*, Faculty of Mechanical Engineering, Shahid Rajaei Teacher Training University, Iran. (2013 – 2014).
5. *Academic & Research Deputy Dean*, Faculty of Mechanical Engineering, Shahid Rajaei Teacher Training University, Iran. (2008-2009)
6. *Head of Research and Industry Relations*, Shahid Rajaei Teacher Training University, Iran. (2005- 2008)
7. *Technical and Executive Affairs Deputy*, Faculty of Science, Shahid Rajaei Teacher Training University, Iran. (1998 – 2001)
8. *Head of Material Science and Engineering Dept.*, Faculty of Mechanical Engineering, Shahid Rajaei Teacher Training University, Iran. (1996-1998)
9. *Organizer*, 5th National Iranian Corrosion Congress, Material Science and Engineering Dept., Sharif University of Technology, Iran. (1997)
10. *Head & Instructor*, Metallurgical Lab.s', Material Science and Engineering Dept., Faculty of Mechanical Engineering, Shahid Teacher Training Rajaei University, Iran (1995 – 1996)
11. *Technical Assistant Corrosion & Coating Lab.*, Material Science and Engineering Dept., Sharif University of Technology, Iran. (1993-1995)

Research Background

1. Developing a Polymeric Coating Containing Bioactive Glass 45S5 on Magnesium by Dip Coating and Investigating Its Biocompatibility in the Simulated Body Fluid (2019)
2. Fabrication and Evaluation of Solidification Behavior and Mechanical Properties of Al₂O₃ Reinforced Magnesium-Calcium Composite (2017)
3. Casting Mg-5Zn-1Y-1Ca Alloy and Investigating the Effect of Post-Treatment of Extrusion Temperature on In-Vitro Biodegradation Behavior of the Alloy in SBF (2016)
4. Ceramic Shell Investment Casting of AZ91D Magnesium Alloy by In-situ Melting Technique (2012)
5. Effect of Calcium Content and Mechanical Working on Biodegradability of Mg-Ca Binary Alloys (2011)
6. Study on Corrosion Fatigue Behaviour of Wrought & Cast 17-4PH Alloy (2008)
7. Study on Corrosion behaviour of fuel injection system in ethylene blended gasoline by EIS, Saipa Automotive Manufacturer, Iran (2007)
8. Aluminising of Steel, in co-operation with the Tuba – Pardis Complex, Iran. (1995)
9. Design and Fabrication of Automobile Aluminium Radiators, Iranian Radiator production Company (1992-1993)

Publications

1. A. Ghanbari, **H. Jafari**, F Ashenai Ghasemi, Wear behavior of biodegradable Mg–5Zn–1Y–(0–1)Ca magnesium alloy in simulated body fluid, *Metals and Materials International*, 26, (2020) 395–407

2. Z. Shahri, S.R. Allahkaram, R. Soltani, **H. Jafari**, Optimization of plasma electrolyte oxidation process parameters for corrosion resistance of Mg alloy, *Journal of Magnesium and Alloys* (2020) (In press)
3. M. Shiri, **H. Jafari**, Effect of extrusion temperature and extrusion ratio on microstructure and biodegradation behavior of Mg-4.5Zn binary alloy, *JOM* , 71 (2019) 4705-4714
4. **H. Jafari**, B. Mohammad Hassanizadeh, Influence of Zr and Be on microstructure and electrochemical behavior of AZ63 anode, *Materials and Corrosion* 70 (2019) 633-641
5. A.A. Vaezi, **H. Jafari**, Investigation of microstructure and mechanical properties of dissimilar friction welded martensitic stainless steel 410 to austenitic stainless steel 304, *Modares Mechanical Engineering (In Persian)* 19 (2019) 439-445
6. F. Doost Mohammadi, **H. Jafari**, Microstructure characterization and effect of extrusion temperature on biodegradation behavior of Mg-5Zn-1Y-xCa alloy, *Transactions of Nonferrous Metals Society of China* 28 (2018) 2199-2213.
7. S Naghdali, H Jafari, M Maleki, Cooling curve thermal analysis and microstructure characterization of Mg-5Zn-1Y-xCa (0-1 wt%) alloys, *Thermochimica Acta* 667 (2018) 50-58
8. Z. Shahri, S.R. Allahkaram, R. Soltani, **H. Jafari**, Study on corrosion behavior of nano-structured coatings developed on biodegradable as cast Mg-Zn-Ca alloy by plasma electrolyte oxidation, *Surface & Coatings Technology* 347 (2018) 225-234
9. L. Ghasemi, **H. Jafari**, A. Jafari , Optimizing experimental conditions in synthesizing WO₃ nanopowders through sol-gel method using Taguchi design, *Journal of the Australian Ceramic Society* 54 (2018) 483-492
10. **H. Jafari**, E. Heidari, A. Barabi, M.D. Kheirabadi, Effect of phase transformation during long-term solution treatment on microstructure, mechanical properties, and bio-corrosion behavior of Mg-5Zn-1.5Y cast alloy, *Acta Metallurgica Sinica (English Letters)* 31 (2018) 561-574
11. F. Doost Mohammadi, H. Jafari, The effect of calcium on corrosion behavior of biodegradable Mg-5Zn-1Y alloy, *Advanced Processes in Materials Engineering (in Persian)*11(2018) 133-142
12. S Naghdali, H Jafari, Effect of cooling rate on microstructure and corrosion behavior of biodegradable Mg-5Zn-1Y-0.1Ca alloy in simulated body fluid, *Advanced Processes in Materials Engineering (In Persian)*12 (2018) 97-106.
13. L. Ghasemi, **H. Jafari**, Morphological characterization of tungsten trioxide nanopowders synthesized by Sol-Gel modified Pechini's method, *Materials Research* 20 (2017), 1713-1721.
14. **H. Jafari**, F. Doost Mohammadi, Effect of extrusion temperature on microstructure and biodegradation behavior of Mg-5Zn-1Y-1Ca alloy, *International Journal of Chemical Engineering and Applications* 8 (2017), 299-304
15. L. Ghasemi, **H. Jafari**, Morphological characterization of tungsten trioxide nanopowders synthesized by Sol-Gel modified Pechini's method, *Materials Research* 20 (2017), 1713-1721
16. E. Sanatizadeh, **H. Jafari**, Effect of Silicon on Microstructure and Wear Resistance of Aluminum-Bearing Gray Cast Iron. *Metallurgical Engineering (In Persian)* 19 (2017) 285-294
17. **H. Jafari**, F. Doost Mohammadi, Effect of extrusion temperature on microstructure and biodegradation behavior of Mg-5Zn-1Y-1Ca alloy, *International Journal of Chemical Engineering and Applications* 8 (2017), 299-304
18. **H. Jafari**, F. Rahimi, Z Sheikhsoufa, M Khalilnezhad, Effect of minor yttrium on microstructure and mechanical properties of bioimplant Mg-5Zn alloy, *Journal of Materials Engineering and Performance* 26 (2017), 5590-5598

19. **H. Jafari**, M. Khalilnezhad, S. Farahany, Computer-aided cooling curve thermal analysis and microstructural evolution of Mg–5Zn–xY cast alloys, *Journal of Thermal Analysis and Calorimetry*, 130 (2017) 1429-1437
20. R. Rahmany-Gorji, A. Alizadeh, **H. Jafari**, Microstructure and mechanical properties of stir cast ZX51/Al₂O₃p magnesium matrix composites, *Materials Science and Engineering: A*, 674 (2016) 413-418
21. **H. Jafari**, F. Rahimi, Z. Sheikhsofla, In vitro corrosion behavior of Mg-5Zn alloy containing low Y contents, *Materials and Corrosion*, 67(4) (2016) 396-405.
22. M. Assadian, **H. Jafari**, H. Hessam, S.M. Ghaffari Shahri, M.H. Idris, D. Almasi, Topography, wetting, and corrosion responses of electrodeposited hydroxyapatite and fluoridated hydroxyapatite on magnesium, *Bio-medical Materials and Engineering*, 27 (2016) 287-303
19. M. Mohamadi Ziarani, N. Bani Mostafa Arab, **H. Jafari**, Effect of welding current on microstructure, hardness and wear resistance of hardfacing deposit on carbon steel, *Modares Mechanical Engineering (In Persian)* 15 (2016) 183-188.
20. R. Rahmany-Gorji, **H. Jafari**, A. Alizadeh, Investigating physical properties of ZX51/Al₂O₃p magnesium matrix composites fabricated by stir casting and hot extrusion, *Metallurgical Engineering (in Persian)*, 58, (2015) 413-418
21. **H. Jafari**, P. Amiryavari, The effects of zirconium and beryllium on microstructure evolution, mechanical properties and corrosion behaviour of as-cast AZ63 alloy, *Materials Science and Engineering A*, 654 (2016) 161-168
22. **H. Jafari**, H. Hessam, S.M. Ghaffari Shahri, M. Assadian, S.H. Pour Shairazifard, M.H. Idris, Characterizing sintered nano-hydroxyapatite sol-gel coating deposited on a biomedical Ti-Zr-Nb alloy, *Journal of Materials Engineering and Performance*, 25 (2016) 901-909
23. S.M. Ghaffari Shahri, M.H. Idris, **H. Jafari**, B. Gholampour, M. Assadian, Effect of Solution Treatment on Corrosion Characteristics of the Biodegradable Mg-6Zn Alloy, *Transactions of Nonferrous Metals Society of China*, 25(5), (2015) 1490–1499
24. N. Yasavol, **H. Jafari**, Microstructure, Mechanical and Corrosion Properties of Friction Stir-Processed AISI D2 Tool Steel, *Journal of Materials Engineering and Performance*, 24(5) (2015) 2151-2157
25. M. Karimian, A. Ourdjini, M.H. Idris, **H. Jafari**, Effects of casting parameters on shape replication and surface roughness of LM6 aluminium alloy cast using lost foam process, *Transactions of the Indian Institute of Metals* 68(2) (2015) 211-217
26. **H. Jafari**, M. Assadian, S.M. Ghaffari Shahri, M.H. Idris, B. Gholampour, Corrosion resistance of EPD nano-hydroxyapatite coated 316L stainless steel, *Surface Engineering*, 30(11) (2014) 806-813
27. A. Arafat, M.H. Idris, M.R. Abdul Kadir, **H. Jafari**, Characterisation of Calcium Phosphate Coating on Investment Cast 316L Stainless Steel, *Materials Research Innovations*, 18 (2014) 886-891
28. **H. Jafari**, M.H. Idris, A. Ourdjini, An Alternative Approach in Ceramic Shell Investment Casting of AZ91D Magnesium Alloy: In Situ Melting Technique, *Journal of Materials Processing Technology*, 214 (2014), 988-997
29. **H. Jafari**, M.H. Idris, A. Ourdjini, Effect of Thickness and Permeability of Ceramic Shell Mould on In Situ Melted AZ91D Investment Casting, *Applied Mechanics and Materials* 465 (2014) 1087-1092
30. H. Safari, S. Sharif, S. Izman, **H. Jafari**, D. Kurniawan, Cutting Force and Surface Roughness Characterization in Cryogenic High-Speed End Milling of Ti–6Al–4V ELI, *Materials and Manufacturing Processes*, 29 (2014) 350-356
31. **H. Jafari**, M.H. Idris, A. Ourdjini, A Review of Ceramic Shell Investment Casting of

- Magnesium Alloys and Mold-Metal Reaction Suppression, *Materials and Manufacturing Processes*, 28 (2013) 843-856
32. **H. Jafari**, M.H. Idris, A. Shayganpour, Evaluation of Significant Manufacturing Parameters in Lost Foam Casting of Thin-Wall Al-Si-Cu Alloy Using Full Factorial Design of Experiment, *Transactions of Nonferrous Metals Society of China (English Edition)*, 23 (2013) 2843-2851
 33. **H. Jafari**, M.H. Idris, A. Ourdjini, M.R. Abdul Kadir, An Investigation on Interfacial Reaction Between In-Situ Melted AZ91D Magnesium Alloy and Ceramic Shell Mold During Investment Casting Process, *Materials Chemistry and Physics*, 138 (2013) 672-681
 34. **H. Jafari**, M.H. Idris, A. Ourdjini, S. Farahany, In-Situ Melting and Solidification Assessment of AZ91D Granules by Computer-Aided Thermal Analysis during Investment Casting Process, *Materials and Design*, 50 (2013) 181-190
 35. **H. Jafari**, M.H. Idris, A. Ourdjini, M.R. Abdul Kadir, Influence of Flux on In-Situ Melting and Surface Quality of AZ91D Investment Casting, *Materials and Manufacturing Processes*, 28 (2013) 148-153
 36. S.E. Harandi, M. Mirshahi, S. Koleini, **H. Jafari**, M.H. Idris, M.R. Abdul Kadir, Effect of Calcium Content on the Microstructure, Hardness and In-vitro Corrosion Behaviour of Biodegradable Mg-Ca Binary Alloy, *Materials Research*, 16 (2013) 11-18
 37. **H. Jafari**, M.H. Idris, A. Ourdjini, S. Farahany, M.R. Abdul Kadir, Characterization of AZ91D Granules Covered with a Flux during In-situ Melting, *Particle & Particle Systems Characterization*, 29 (2012) 263-272.
 38. **H. Jafari**, R. Sadeghi, M.H. Idris, A. Ourdjini, Effect of Flux Composition on Mould-Magnesium Reaction during In-situ Melting, *AIP Conference proceeding*, 1440 (2012) 480-485.
 39. M. Karimian, A. Ourdjini, M.H. Idris, **H. Jafari**, Effect of Pattern Coating Thickness on Characteristics of Lost Foam Al-Si-Cu Alloy Casting, *Transactions of Nonferrous Metals Society of China (English Edition)*, 22 (2012) 2092-2097.
 40. H. Jafari, M.H. Idris, A. Ourdjini, S. Farahany, In-situ melting assessment of AZ91D granules by thermal analysis, *Advanced Science Letters*, 14 (2012) 295-298.
 41. M.H. Idris, **H. Jafari**, S.E. Harandi, M. Mirshahi, S. Koleyni, Characteristics of As-Cast and Forged Biodegradable Mg-Ca Binary Alloy Immersed in Kokubo Simulated Body Fluid, *Advanced Materials Research*, 445, (2012) 301-306.
 42. S. Izman, A. Shayganpour, M.H. Idris, **H. Jafari**, DOE Analysis of the Influence of Sand Size and Pouring Temperature on Porosity in LFC, *Applied Mechanics and Materials*, 121-126 (2012) 2661-2665.
 43. S. Koleini, M.H. Idris, **H. Jafari**, Influence of Hot Rolling Parameters on Microstructure and Biodegradability of Mg-1Ca Alloy in Simulated Body Fluid, *Materials & Design*, 33 (2012) 20-25.
 44. **H. Jafari**, M.H. Idris, A. Ourdjini, High Temperature Oxidation of AZ91D Magnesium Alloy Granule during In-situ Melting Technique, *Corrosion Science*, 53 (2011) 655-663.
 45. M. Karimian, A. Ourdjini, M.H. Idris, T. Chuan, **H. Jafari**, Process Control of Lost Foam Casting Using Slurry Viscosity and Dipping Time, *Journal of Applied Physics*, 11 (2011) 3655-3658.
 46. **H. Jafari**, M.H. Idris, A. Ourdjini, S. Farahany, Oxidation and Melting Characterizations of AZ91D Granules during In-situ Melting, *Advanced Materials Research*, 311-313 (2011) 631-634.
 47. H.R. Bakhsheshi Rad, A. Monshi, M.H. Idris, M.R. Abdul Kadir, **H. Jafari**, Premature Failure Analysis of Forged Cold Back-up Roll in a Continuous Tandem Mill, *Materials & Design*, 32 (2011) 4376-4384.

48. H.R. Bakhsheshi Rad, A. Monshi, H. Monajatizadeh, M.H. Idris, M.R. Abdul Kadir, **H. Jafari**, Effect of Multi-Step Tempering on Retained Austenite and Mechanical Properties of Low Alloy Steel, *Journal of Iron and Steel Research, International*, 18 (2011) 49-56.
49. S. Eslami Harandi, M.H. Idris, **H. Jafari**, Effect of Forging Process on Microstructure, Mechanical and Corrosion properties of Biodegradable Mg-1Ca Alloy, *Materials & Design*, 32 (2011) 2596-2603.
50. **H. Jafari**, M.H. Idris, A. Ourdjini, H.R.B. Rad, S.S.K. Ardestani, V. Ahmadshoar, Effect of Mould Runner and Coating on Graphite Nodule Characteristics and Hardness of Thin Wall Ductile Iron, *Advanced Materials Research*, 264-265 (2011) 502-507.
51. **H. Jafari**, M.H. Idris, A. Ourdjini, H. Rahimi, B. Ghobadian, EIS Study of Corrosion Behaviour of Metallic materials in Gasoline Containing Ethanol and Water Contamination, *Fuel*, 90 (2011) 1181-1187.
52. **H. Jafari**, M.H. Idris, A. Ourdjini, H. Rahimi, B. Ghobadian, Effect of Ethanol as Gasoline Additive on Vehicle Fuel Delivery System Corrosion, *Materials and Corrosion*, 60 (2010) 432-440.
53. **Hassan Jafari**, Mohd Hasbullah Idris, Ali Ourdjini, Majid Karimian, Gholamhassan Payganeh, Influence of Gating System, Sand Grain Size, and Mould Coating on Microstructure and Mechanical Properties of Thin-Wall Ductile Iron, *Journal of Iron and Steel Research, International*, 17 (2010) 46-53.
54. **H. Jafari**, M.H. Idris, A. Ourdjini, H. Rahimi, B. Ghobadian, Corrosion Study of Metallic Materials of an Automotive Fuel Injection System in Ethanol Blended Gasoline, *The International Conference on Process Engineering and Advanced Materials 2010 (ICPEAM2010)*, Kuala Lumpur, Malaysia, 15-17 June 2010.
55. M. Karimian, M.H. Idris, A. Ourdjini, **H. Jafari**, Process Control of LFC by Use of Slurry Viscosity and Dipping Time, *The International Conference on Process Engineering and Advanced Materials 2010 (ICPEAM2010)*, Kuala Lumpur, Malaysia, 15-17 June 2010.

Research Interests

1. Biomaterials
2. Corrosion
3. Coating
4. Metal Matrix Composites

Teaching Courses

1. Corrosion and Oxidation
2. Advanced Corrosion
3. Thermodynamics of Materials (I & II)
4. Advanced Thermodynamics of Materials
5. Physical Chemistry of Materials
6. Surface Engineering and Coatings
7. Biomaterials

Honors & Awards

1. **Elected Research** of Shahid Rajaei Teacher Training University (2008, 2013, 2015-2018)
2. **Outstanding Reviewer Status**, The top 10th percentile in terms of the number of reviews completed for the journal of Materials and Design in 2012-2013
3. **Chancellor award**, University Technology Malaysia (UTM) (2013)
4. **Academic excellence award**, University Technology Malaysia (UTM) (2013)
5. **Post-Doctoral fellowship award**, Universiti Teknologi Malaysia (UTM) (2013)
6. **Best PhD student award**, Scientific Counselor and Director of Iranian Students Affairs in South East Asia (2013)
7. **Outstanding paper award**, The 4th International Meeting on the Advances of Thermofluids (IMAT 2011) Melaka, Malaysia (2011)
8. **Appreciation letter**, Iranian Embassy in Malaysia, Hardworking PhD student (2011)
9. **PhD Student Fellowship**, Universiti Teknologi Malaysia (UTM) (2010-2012)
10. **Bronze medal** in INATEX 2010, UTM, Reactive Materials Processing by In-situ Melting Investment Casting Technique (2010)

Reviewer

1. Materials & Design (from 2009)
2. Corrosion Science (from 2011)
3. Metal, Materials International (from 2011)
4. Journal of Materials Science (from 2013)
5. Journal of Materials Engineering and Performance (from 2016)
6. Journal of Computational & Applied Research in Mechanical Engineering (from 2013)