

Curriculum Vitae



NAME & SURNAME: Mostafa Eskandari

DATE OF BIRTH: Feb 1984



ADDRESS, SUBURB, STATE, POSTAL CODE: Department of Materials Science and Engineering, Faculty of Engineering, Shahid Chamran University of Ahvaz, Ahvaz, Iran, Postal code: 6135783151.



PHONE/MOBILE NUMBER: +989166163982



E-MAIL ADDRESS: m.eskandari@scu.ac.ir

PROFESSIONAL PROFILE:

Assistant Professor of Materials Science and Engineering in Shahid Chamran University (SCU) of Ahvaz.

EDUCATION BACKGROUND:

Post-doctoral fellowships at University of Saskatchewan, Canada.

Project Title: “Lightweight steel for vehicle structure; Failure mechanism of pipeline steels X70, X60”

Ph.D. in Metallurgical Engineering & Materials Science, University of Tehran, Iran (2010 –2015)
(thesis at university of Saskatchewan, Canada, visiting scholar)

Thesis Title: “Effect of thermomechanical treatment on the microstructural evolutions and mechanical behavior of TRIP-TWIP steels”

Masters in Materials Science & Engineering, Isfahan University of Technology, Iran (2006 – 2008)

Dissertation Title: “Evaluation of effective Parameters in Thermomechanical Process of Hot rolling, Cold rolling and Annealing on the Formation Nanocrystalline Austenitic Stainless Steel 316L and 301.”

Bachelors in Materials Science & Engineering, Shahid Chamran University of Ahvaz, Iran (2002–2006)

Project Title: “Coarsening behavior of precipitation during long term annealing in super-alloy Rene 80”

TEACHING AND TRAINING EXPERIENCE:

- Hot Deformation of Materials
- Mechanical Properties of Materials
- Strength of Materials
- Creep in Materials
- Mechanical properties Lab of Metals
- Materials Design and Selection

INTERESTS AND RESEARCH FIELDS:

- Manufacturing & thermomechanical processing & welding
- Failure mechanisms and stress corrosion cracking
- Materials characterization by SEM-EBSD/TEM/XRD
- Structure-property relationships of materials
- Plastic deformation & mechanical behavior of new materials
- Texture

RESEARCH ACTIVITIES:

PUBLICATIONS:

1. M. Eskandari , A. Kermanpur , A. Najafizadeh , Formation of nano-grained structure in a 301 stainless steel using a repetitive thermo-mechanical treatment, *Materials Letters*, 63 (2009) 1442–1444.
2. M. Eskandari, A. Kermanpur, A. Najafizadeh, “Formation of Nanocrystalline Structure in 301 Stainless Steel Produced by Martensite Treatment”, *Metallurgical and Materials Transaction A*, 40 (2009) 2241-2249.
3. M. Eskandari, A. Najafizadeh, A. Kermanpur, “Effect of Strain-Induced Martensite on the Formation of Nanocrystalline 316L Stainless Steel after Cold Rolling and Annealing”, *Materials Science and Engineering A*, 519 (2009) 46-50.
4. M. Eskandari, A. Najafizadeh, A. Kermanpur, M. Karimi “Potential Application of Nanocrystalline 301 Austenitic Stainless Steel in Lightweight Vehicle Structure”, *Materials and Design*, 30 (2009) 3869–3872.
5. M. Karimi, A. Najafizadeh, A. Kermanpur, M. Eskandari, “Effect of Martensite to Austenite Reversion on the Formation of Nano/Submicron Grained AISI 301 Stainless Steel”, *Materials Characterization*, 60 (2009) 1220–1223.
6. A. Kermanpur, M. Eskandari, H. Purmohamad, M. A. Soltani, R. Shateri, “Influence of

- Mould Design on the Solidification of Heavy Forging Ingots of Low Alloy Steels by Numerical Simulation”, *Materials and Design*, 31 (2010) 1096–1104.
7. M. Eskandari, A. Najafizadeh, A. Kermanpur, M. Karimi, “Effects of Homogenization Conditions and Hot Rolling Parameters on Grain Refinement of an As-Cast 301 Stainless Steel”, *International Journal of Iron and Steel Society of Iran*, 5 (2008), No.2 , 21-28.
 8. Mohsen Motamedi, Mostafa Eskandari, Mahdi Yeganeh, “Effect of Straight and Wavy Carbon Nanotube on the Reinforcement Modulus in Nonlinear Elastic Matrix Nanocomposites”, *Materials and Design*, 34 (2012) 603-608.
 9. M. Yeganeh, M. Motamedi, M. Eskandari, “Comparison of Corrosion Resistance of Nanostructured Copper Produced in Vacuum and Electrolytic in Neutral Chloride Media”, *Micro & Nano Letters*, 6 (2011) 402-404.
 10. M. Eskandari, M. Yeganeh, M. Motamedi, “Investigation in the corrosion behaviour of bulk nanocrystalline 316L austenitic stainless steel in NaCl solution”, *Micro & Nano Letters*, 7 (2012) 380-383.
 11. M. Eskandari, A. Zarei-Hanzaki, A. Marandi, “An Investigation into the Mechanical Behavior of a New TRansformation-TWinning Induced Plasticity Steel”, *Materials and Design*, 39 (2012) 279–284.
 12. A. Marandi, A. Zarei-Hanzaki, N. Haghdadi, M. Eskandari, “The prediction of hot deformation behavior in Fe–21Mn–2.5Si–1.5Al transformation-twinning induced plasticity steel”, *Materials Science and Engineering A*, 554 (2012) 72–78.
 13. M. Eskandari, A. Zarei-Hanzaki, H.R. Abedi, “An investigation into the room temperature mechanical properties of nanocrystalline austenitic stainless steels”, *Materials and Design*, 45 (2013) 674–681.
 14. M. Eskandari, A. Zarei-Hanzaki, “Effect of deformation temperature on the mechanical behavior of a new TRIP/TWIP steel containing 21% manganese”, *International Journal of Iron and Steel Society of Iran*, 8 (2011) 16-19.
 15. M. Eskandari, A. Zarei-Hanzaki, F. Pilehva, H.R. Abedi, S.M. Fatemi-Varzaneh, A.R. Khalesian, “Ductility Improvement in AZ31 Magnesium Alloy Using Constrained Compression Testing Technique”, *Materials Science and Engineering A*, 576 (2013) 74–81.
 16. F. Rajabi, A. Zarei-Hanzaki, M. Eskandari, S.H. Khoddam, “The effects of rolling parameters on the mechanical behavior of 6061 aluminum alloy”, *Materials Science and Engineering A*, 578 (2013) 90-95.
 17. A. Asghari, A. Zarei-Hanzaki, M. Eskandari, “Temperature dependence of plastic deformation mechanisms in a modified transformation-twinning induced plasticity steel”, *Materials Science and Engineering A*, 579 (2013) 150-156.
 18. M. Eskandari, A. Zarei-Hanzaki, M. Yadegari, N. Soltani, A. Asghari, “In situ identification of elastic-plastic strain distribution in a microalloyed transformation induced plasticity steel using digital image correlation”, *Optics and Lasers in Engineering*, 54 (2014) 79-87.
 19. M. Eskandari, A. Zarei-Hanzaki, A. R. Kamali, J. A. Szpunar, “Strain hardening during hot compression through planar dislocation and twin-like structure in low density high Mn steel”, *Materials Engineering and Performance*, 23 (2014) 3567-76.
 20. M. Eskandari, A. Zarei-Hanzaki, J. A. Szpunar, M.A. Mohtadi-Bonab, A. R. Kamali, M. Nazarian-Samani, “Microstructure evolution and mechanical behavior of a new microalloyed high Mn austenitic steel during compressive deformation”, *Materials Science and Engineering A*, 615 (2014) 424-435.

21. M.A. Mohtadi-Bonab, M. Eskandari, J.A. Szpunar, "Texture, local misorientation, grain boundary and recrystallization fraction in pipeline steels related to hydrogen induced cracking", *Materials Science and Engineering A*, 620 (2014) 97-106.
22. M. Eskandari, M.R. Yadegari-Dehnavi, A. Zarei-Hanzaki, M.A. Mohtadi-Bonab, R. Basu, J.A. Szpunar, "In-situ strain localization analysis in low density transformation-twinning induced plasticity steel using digital image correlation", *Optics and Lasers in Engineering*, 67 (2015) 1-16.
23. M. Eskandari, A. Zarei-Hanzaki, M.A. Mohtadi-Bonab, A.G. Odeshi, J.A. Szpunar, "Microstructure and texture evolution in 21Mn–2.5Si–1.6Al–Ti steel subjected to dynamic impact loading", *Materials Science and Engineering A*, 622 (2015) 160-167.
24. M. Eskandari, M.A. Mohtadi-Bonab, R. Basu, M. Nezakat, A. Kermanpur, J.A. Szpunar, S. Nahar, A.H. Baghpanah, "Preferred crystallographic orientation development in nano/ultrafine-Grained 316L stainless steel during martensite to austenite reversion", *Materials Engineering and Performance*, 24 (2015) 644-653.
25. M.A. Mohtadi-Bonab, J.A. Szpunar, R. Basu, M. Eskandari, "The mechanism of failure by hydrogen induced cracking in an acidic environment for API 5L X70 pipeline steel", *International Journal of Hydrogen Energy*, 620 (2014) 1-12.
26. Ritwik Basu, Jerzy Szpunar, Mostafa Eskandari, M.A. Mohtadi-Bonab, "Microstructural investigation on marforming and conventional cold deformation in Ni-Ti-Fe based shape memory alloys", *International Journal of Materials Research*, 106 (2015) 8.
27. Ritwik Basu, Mostafa Eskandari, Jerzy Szpunar, M.A. Mohtadi-Bonab, "A systematic investigation on the role of microstructure on phase transformation behavior in Ni-Ti-Fe shape memory alloys", *Journal of Alloys and Compounds*, 645 (2015) 94-101.
28. Ritwik Basu, M.A. Mohtadi-Bonab, Xu Wang, Mostafa Eskandari, Jerzy Szpunar, "Role of microstructure on phase transformation behavior in Ni—Ti—Fe shape memory alloys during thermal cycling", *Journal of Alloys and Compounds*, 652 (2015) 459-469.
29. M. Eskandari, M.A. Mohtadi-Bonab, J.A. Szpunar, "Evolution of the microstructure and texture of X70 pipeline steel during cold-rolling and annealing treatments", *Materials and Design*, 90 (2016) 618–627.
30. M. Eskandari, M.A. Mohtadi-Bonab, A. Zarei-Hanzaki, A.G. Odeshi, J.A. Szpunar, "High-resolution EBSD study of adiabatic shear band and neighboring grains after dynamic impact loading of Mn-steel used in vehicle structure", *Materials Engineering and Performance*, 25 (2016) 1611-20.
31. M.A. Mohtadi-Bonab, M. Eskandari, K.M.M. Rahman, R. Ouellet, J.A. Szpunar, "An extensive study of hydrogen-induced cracking susceptibility in an API X60 sour service pipeline steel", *International Journal of Hydrogen Energy*, 41 (2016) 4185-97.
32. M.A. Mohtadi-Bonab, R. Karimdadashi, M. Eskandari, J.A. Szpunar, "Hydrogen-Induced Cracking Assessment in Pipeline Steels Through Permeation and Crystallographic Texture Measurements", *Materials Engineering and Performance*, 25 (2016) 1781-93.
33. M. Eskandari, A. Zarei-Hanzaki, M.A. Mohtadi-Bonab, Y. Onuki, R. Basu, A. Asghari, J.A. Szpunar, "Grain-orientation-dependent of γ - ϵ - α' transformation and twinning in a super-high-strength, high ductility austenitic Mn-steel", *Materials Science and Engineering A*, 674 (2016) 514-528.
34. A.A. Tihamiyu, M. Eskandari, Majid Nezakat, Xu Wang, J.A. Szpunar, A.G. Odeshi, "A comparative study of the compressive behaviour of AISI 321 austenitic stainless steel under quasi-static and dynamic shock loading", *Materials and Design*, 112 (2016) 309–319.
35. A.A. Tihamiyu, M. Eskandari, Mohsen Sanayei, A.G. Odeshi, J.A. Szpunar, "Mechanical

- behavior and high-resolution EBSD investigation of the microstructural evolution in AISI 321 stainless steel under dynamic loading condition”, *Materials Science and Engineering A*, 673 (2016) 400–416.
36. M.A. Mohtadi-Bonab, M. Eskandari, H. Ghaednia, S. Das, “Effect of Microstructural Parameters on Fatigue Crack Propagation in an API X65 Pipeline Steel”, *Materials Engineering and Performance*, 25 (2016) 4933-40.
 37. M.A. Mohtadi-Bonab, M. Eskandari, J.A. Szpunar, “Effect of arisen dislocation density and texture components during cold rolling and annealing treatments on hydrogen induced cracking susceptibility in pipeline steel”, *Journal of Materials Research*, 31 (2016) 3390-3400.
 38. M.A. Mohtadi-Bonab, M. Eskandari, "A focus on different factors affecting hydrogen induced cracking in oil and natural gas pipeline steel", *Engineering Failure Analysis*, 79 (2017) 351-60.
 39. M. Yeganeh, M. Eskandari, S.R. Alavi-Zaree, "A Comparison Between Corrosion Behaviors of Fine-Grained and Coarse-Grained Structures of High-Mn Steel in NaCl Solution", *Journal of Materials Engineering and Performance*, 26 (2017) 2484-90.
 40. R. Joodaki, S.R. Alavi Zaree, K.h. Gheisari, M. Eskandari, "Effect of Annealing Treatments on the Microstructure and Texture Development in API 5L X60 Microalloyed Pipeline Steel", *Journal of Materials Engineering and Performance*, 26 (2017) 2003-13.
 41. R. Basu, J.A. Szpunar, M. Eskandari, "Marforming: A Novel Method for Grain Refinement in Ni-Ti Based Shape Memory Alloys", *Applied Mechanics and Materials*, 860 (2017) 46-51.
 42. M.A. Mohtadi-Bonab, M. Eskandari, R. Karimdadashi, J.A. Szpunar, "Effect of different microstructural parameters on hydrogen induced cracking in an API X70 pipeline steel", *Metals and Materials International*, 23 (2017) 726-35.
 43. M. Moallemi, A. Zarei-Hanzaki, M. Eskandari, A. Burrows, H. Alimadadi, "Comprehensive Deformation Analysis of a Newly Designed Ni-Free Duplex Stainless Steel with Enhanced Plasticity by Optimizing Austenite Stability", *Metallurgical and Materials Transactions A* 48 (2017) 3675-3691.
 44. J.I. Omale, E.G. Ohaeri, A.A. Tihamiyu, M. Eskandari, K.M. Mostafijur, J.A. Szpunar, "Microstructure, texture evolution and mechanical properties of X70 pipeline steel after different thermomechanical treatments", *Materials Science and Engineering A*, 703 (2017) 477–485.
 45. A.A. Tihamiyu, J.A. Szpunar, A.G. Odeshi, I. Oguocha, M. Eskandari, "Development of Ultra-Fine-Grained Structure in AISI 321 Austenitic Stainless Steel", *Metallurgical and Materials Transactions A*, 48 (2017) 5990-6012.
 46. M. Eskandari, "Texture of Ultrafine-Grained Austenitic Stainless Steels Produced by Martensite Treatment", *Research & Development in Material Science*, 6 (2018) 1-3.
 47. M.A. Mohtadi-Bonab, M. Eskandari, M. Sanayei, S. Das, "Microstructural aspects of intergranular and transgranular crack propagation in an API X65 steel pipeline related to fatigue failure", *Engineering Failure Analysis*, 94 (2018) 214-225.
 48. S.M. Fatemi, A. Zarei-Hanzaki, M. Eskandari, M. Haghshenas, "Alleviation of Mechanical Anisotropy in Ultrafine/Nano-grained AZ31 Magnesium Alloy", *Journal of Materials Engineering and Performance*, 27 (2018) 4270-4279.
 49. M. Yeganeh, M. Omid, M. Eskandari, "Superhydrophobic Surface of AZ31 Alloy Fabricated by Chemical Treatment in the NiSO₄ Solution", *Journal of Materials Engineering and Performance*, 27 (2018), 4270-4279.

50. M. Eskandari, M.A. Mohtadi-Bonab, A. Zarei-Hanzaki, S.M. Fatemi, "Effect of Hot Deformation on Texture and Microstructure in Fe-Mn Austenitic Steel During Compression Loading", *Journal of Materials Engineering and Performance*, 27 (2018) 1555-1569.
51. M. Eskandari, M.A. Mohtadi-Bonab, A. Zarei-Hanzaki, J.A. Szpunar, L. Pentti Karjalainen, "EBSD Study of Deformation Microstructure of an As-Homogenized Austenitic Mn Steel after Hot Compression", *Advanced Engineering Materials*, 1800327 (2018)1-11.
52. M. Eskandari, M.A. Mohtadi-Bonab, A. Zarei-Hanzaki, J.A. Szpunar, R Basu, "Texture and Microstructure Development of Tensile Deformed High-Mn Steel during Early Stage of Recrystallization", *Physics of Metals and Metallography*, 120 (2019) 32-40.
53. M. Eskandari, M.A. Mohtadi-Bonab, M. Yeganeh, J.A. Szpunar, A.G. Odeshi, "High-strain-rate deformation behaviour of new high-Mn austenitic steel during impact shock-loading", *Materials Science and Technology*, 35 (2019) 77-88.
54. Dilip Kumar Singh, Vikram Sharma, Ritwik Basu, Mostafa Eskandari, "Understanding the effect of weld parameters on the microstructures and mechanical properties in dissimilar steel welds", *Procedia Manufacturing*, 35 (2019) 986-991.
55. M.H.S. Karimi, M Yeganeh, SRA Zaree, M Eskandari, Corrosion behavior of 316L stainless steel manufactured by laser powder bed fusion (L-PBF) in an alkaline solution, *Optics & Laser Technology* 138 (2021), 106918.
56. M. Khorasani, SRA Zaree, P Kamaei, M Eskandari, Addition of Silver to an Mg–Al–Zn Alloy Treated by Conventional and Chilled Solidification: A Microstructural Approach, *Physics of Metals and Metallography* 121 (2020), 1393-1399.
57. A. Rezaeian, M Shafiei, M Eskandari, Effect of Temperature on Mechanical Properties of Steel Bolts, *Journal of Materials in Civil Engineering* 32 (2020), 04020239.
58. N. Amirjani, M Ketabchi, M Eskandari, M Hizombor, Effect of Accelerated Cooling Rate and Finish Rolling Temperature on the Occurrence of Arrowhead Markings in Drop-Weight Tear Test of API 5LX70 Linepipe Nb–V–Ti Steel Plate, *Metals and Materials International* (2020) 1-12.
59. M. Eskandari, JA Szpunar, Microstructure and texture of high manganese steel subjected to dynamic impact loading, *Materials Science and Technology* 36 (2020) 1044-1056.
60. N. Amirjani, M Ketabchi, M Eskandari, M Hizombor, Effect of Cooling Rate and Finish Rolling Temperature on Structure and Strength of API 5LX70 Linepipe Steel Plate, *Journal of Materials Engineering and Performance* 29 (2020) 4275-4285.

CONFERENCE PRESENTATIONS:

1. M. Eskandari, A. Najafizadeh, A. Kermanpur, application of nanocrystalline 301 stainless steel for lightweight vehicle structure, International automotive conference, 19-21 May 2009, Germany.
2. M. Eskandari, A. Najafizadeh, A. Kermanpur, Production of ultrafine 301 stainless steel by advanced thermomechanical treatment, Second Joint conference of Metallurgical Engineering society and Iranian Casting society, Iran, 18-19- November 2008.
3. M. Eskandari, A. Kermanpur, A. Najafizadeh, production of nanocrystalline 316L stainless steel by advanced thermomechanical treatment, Second Joint conference of Metallurgical Engineering society and Iranian Casting society, 18-19- November 2008, Tehran, Iran.
4. M. Eskandari, A. Najafizadeh, A. Kermanpur, Effects of Homogenization Conditions and Hot Rolling Parameters on Grain Refinement of an As-Cast 301 Stainless Steel, 4th

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National Conference of Metals and Materials Forming, MATFORM'87, Sharif University of Technology, 3-4 Dec. 2008 - Tehran, Iran.

5. M. Eskandari, A. Kermanpur, A. Najafizadeh, Effect of martensite treatment parameters on the behavior of strain induced martensite in metastable austenitic stainless steel, symposium of steel, March 2009, Iran.
6. M. Karimi, A. Najafizadeh, A. Kermanpur, M. Eskandari, Evaluation of annealing behavior in 301 stainless steel in order to formation ultrafine grained structure, symposium of steel, March 2009, Iran.
7. R. Basu, J. Szpunar, M. Eskandari, M.A Mohtadi-Bonab, Marforming: A novel method for grain refinement in Ni-Ti based shape memory alloys, 26th Canadian Materials Science Conference, Saskatoon, June 1-4, 2014, Canada.
8. M. Eskandari, J. Szpunar, Deformation behavior of low carbon microalloyed Fe-21Mn-2.5Si-1.5Al-Nb-Ti steel used in vehicle structure, 26th Canadian Materials Science Conference, Saskatoon, June 1-4, 2014, Canada.
9. M. Eskandari, J.A Szpunar, EBSD Study on Martensitic Phase Transformation in a Microalloyed Fe-21Mn-2.5Si-1.5Al-Nb-Ti Steel, International Conference on Solid-Solid Phase Transformation in Inorganic Materials (PTM 2015), June 28 - July 3, Whistler, British Columbia, Canada.

RESEARCH PROJECTS:

1. Manufacturing of nano-grained stainless steels 310, 321, 316 and 301 used for arctic pipeline applications and marine structures: assessments of corrosion properties, mechanical behavior and weldability. Working with Prof. Szpunar, department of mechanical engineering, University of Saskatchewan, Canada.
2. Failure mechanisms related to hydrogen-induced cracking in X60 and X70 pipeline steels.

LANGUAGES:

PERSIAN: Native

ENGLISH: Good