S.M.H. Mirbagheri

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EDUCATION

- **(1997–2003) Ph.D. in Materials Science and Engineering**
  Sharif University of Technology, Tehran, Iran
- **(1991–1993) M.Sc. in Metallurgical Engineering**
  Sharif University of Technology, Tehran, Iran
- **(1987–1991) B.Sc. in Materials Engineering**
  Isfahan University of Technology, Isfahan, Iran

PROFESSIONAL EXPERIENCES

- **(2020-Present) Metals Expert**
  Iranian association of official experts (IAOE), Tehran, Iran
- **(2006-Present) Associate professor**
  Mining and metallurgical Eng. Depart, Polytechnic University of Technology, Tehran, Iran
- **(2003-Present) Research Associate**
  Materials Science and Engineering, Sharif University of Technology, Tehran, Iran
- **(2002-2003) Scholar Visitor**
  Materials Processing Group, Department of Materials, Imperial College, London, UK.
- **(1998–2001) Research Associate**
  Razi Metallurgical Research Center, Simulation of EPC casting Process.
- **(1991–1994) Research Associate**
  Razi Metallurgical Research Center, 2-D Simulation of Fluid Flow in casting process.
- **(1990–2001) Research Engineer**
  Solidification Simulation Group of Metallurgical Engineering Department, Sharif University of Technology

RESEARCH INTERESTS

- *Metal foams*
- *Design of visual benchmark casting for lost foam casting in two categories including: High and low melting point by high-speed camera*
- *Modeling and Computer Simulation of Casing & Solidification Processes*
- *Diffusion and Solidification Process*
- *Simulation of Permeability in the Mushy Alloys*

PUBLICATIONS

BOOKS

- Book Chapter **Simulation of Liquid Flow Permeability for Dendritic Structures during Solidification Process** by S. M. H. Mirbagheri, H. Baiani, M. Barzegari and S. Firoozi in the book "Computational Fluid Dynamics Technologies and Applications" edited by Igor V. Minin and Oleg V. Minin, ISBN 978-953-307-169-5, InTech, July 7, 2011.
- Foundry processes simulation by SMH Mirbagheri et al, 2018 (Persian Book)
- Identification and selection of steel and iron: A manual to key to steel by SMH Mirbagheri et al, 2018 (Persian Book)
- Alloys solification, Volume 1, macroscopic segregations By SMH Mirbagheir, 2020(Persian Book)

ISI PAPERS

1. Fracture Mechanism During Uniaxial Compression of a Novel Metal/Metal Composite with 3D Single Integrated Reinforcement. Salar Rohani Nejad, **SMH Mirbagheri*** (Accepted on Journal of Materials Engineering and Performance on 02 Feb 2024)
2. Mechanical and Energy Absorption Properties of Multilayered ultra-light Sandwich Panels Produced by 3D-Printing and Electroforming. Mehrnoosh Hosseinpour, Salar Rohani Nejad, **SMH Mirbagheri***. (Published at the Transactions of Nonferrous Metals Society of China Journal on 26 Jan 2024 DOI: 10.1016/S1003-6326(23)66396-4)
3. Interface Characterization of Mg-7Al-1Ca Alloy Reinforced by Integrated 3D-Cu Open-Cell Foam. Salar Rohani Nejad, Mehrnoosh Hosseinpour, **SMH Mirbagheri*** (Published at Materials Characterization Journal on 23 Jan 2024 DOI: 10.1016/j.matchar.2024.113687)
4. Mechanical Response of Open-cell Metal foams with Single and Multi-layer Shell During Uniaxial Compression Test. Erfan Jalilzadeh, Salar Rohani Nejad, Arash Khiabani, **SMH Mirbagheri*** (Published at the Journal of Advanced Engineering Materials on 22 Jan 2024 DOI: 10.1002/adem.202301995)
5. Experimental and Simulation Investigation on Energy Absorption of Cu Casting Lattice Structure during Compression. Salar Rohani Nejad, Mehrnoosh Hosseinpour, **SMH Mirbagheri***. (Published at the Journal of Advanced Engineering Materials on 25 May 2023, DOI: 10.1002/adem.202300447)
6. Investigation of Energy Absorption Behavior of Light Sandwich Panel with Nickel/Polymer Open-Cell Foam Core during Compression. Salar Rohani Nejad, Mehrnoosh Hosseinpour, **SMH Mirbagheri***. (Published at the Journal of Advanced Engineering Materials on 18 Aug 2022, DOI: 10.1002/adem.202200663)
7. CM88Y superalloy blade metallurgical degradation in a gas turbine M Najmi, **SMH Mirbagheri** Engineering Failure Analysis 146, 107110
8. Production of A356/SiCp Composite using EPS/SiCp/CMC Mortar S Sookhtehsaraee, **SMH Mirbagheri**, P Davami Journal of Advanced Materials in Engineering (Esteghlal) 27 (2), 183-198
9. Effect of Cellular Structure of A356-10 vol.% SiC Composite Aluminum Foam on Progressive Quasi-Static Axial Buckling Behavior of Brass Crush-Box **SMH Mirbagheri**, M Daneshmand, Y Tabatabaie Journal of Advanced Materials in Engineering (Esteghlal) 33 (3), 105-124
10. Assessment of TiH2 and CaCO3 Blowing Agents on Structure and Properties of the Al-7% Si-3% SiC Composite Metal Foam **SMH Mirbagheri**, R Tafteh, K Sardashti Journal of Advanced Materials in Engineering (Esteghlal) 30 (1), 57-72
11. Investigating Alumina-Silicate Bauxite and Phenol-Formaldehyde Resin Embedded TiH2 as Foaming Agents for Producing A356 Foam R Vasfpour, **SMH Mirbagheri** Metals 12 (12), 2105
12. Investigation of Energy Absorption Behavior of Light Sandwich Panel with Nickel/Polymer Open-Cell Foam Core during Compression S Rohani Nejad, M Hosseinpour, **SMH Mirbagheri** Advanced Engineering Materials 24 (12), 2200663
13. Microstructure Characterization and Creep Behavior on the Casting CMM88Y Super Alloy turbine Blade M Najmi, **SMH Mirbagheri**, A Salehi Founding Research Journal 6 (2), 113-124
14. Intermediate temperature creep damage mechanisms of a directionally solidified Ni-based superalloy M Torfeh, **SMH Mirbagheri**, J Cormier, J Aghazadeh Mohandesi, ... Materials at High Temperatures 39 (3), 193-205
15. Experimental, Theoretical, and Numerical Investigations into the Compressive Behavior of Multi-layer Metallic Foam Filled Tubes M Salehi, **SMH Mirbagheri**, A Jafari Ramiani Journal of Materials Engineering and Performance 31 (5), 3723-3740
16. Complementary and normalized energies during static and dynamic uniaxial deformation of single and multi-layer foam-filled tube **SMH Mirbagheri**, M Salehi Journal of Sandwich Structures & Materials 24 (2), 1470-1490

17. Modelling of metal–mould interface resistance in the Al-11.5 wt.% Si alloy casting process **SMH Mirbagheri** International journal of materials research 97 (9), 1285-1293
18. Investigation of the effect of misorientation grain growth on the creep behavior of nickel-based GTD111DS superalloy **SMH Mirbagheri**, M Torfeh, J Aghazadeh, S Nakhodachi Founding Research Journal 5 (2), 79-92
19. Micro-structure analysis of quasi-static crushing and low-velocity impact behavior of graded composite metallic foam filled tube Y Taraz Jamshidi, A Pourkamali Anaraki, M Sadighi, J Kadkhodapour, ... Metals and Materials International 27, 871-884
20. To Produce an Advanced Zamak5 Composite with a 3D-Open Cell Copper Foam by Casting Method **SMH Mirbagheri**, I Amini, E Abdi Bejandi Founding Research Journal 4 (3), 129-136
21. Experimental and numerical analysis of microstructure and high-temperature tensile behavior of a directionally solidified superalloy M Torfeh, **SMH Mirbagheri**, S Nakhodchi, J Aghazadeh Mohandesi Journal of Materials Engineering and Performance 30, 862-875
22. Efficient energy absorption of functionally-graded metallic foam-filled tubes under impact loading M Salehi, **SMH Mirbagheri**, AJ Ramiani Transactions of Nonferrous Metals Society of China 31 (1), 92-110
23. Deformation behavior and crashworthiness of functionally graded metallic foam-filled tubes under drop-weight impact testing M Salehi, **SMH Mirbagheri**, AJ Ramiani Metallurgical and Materials Transactions A 51, 5120-5138
24. Compressive and energy absorption behavior of multilayered foam filled tubes M Salehi, **SMH Mirbagheri**, M Arabkohi Metallurgical and Materials Transactions A 50, 5494-5509
25. Plastic Deformation Modeling of Foam-Filled Tubes with Multi-Layer Foams During Compression Loading **SMH Mirbagheri**, M Salehi, A Jafari Ramiani Iranian Journal of Materials Forming 6 (2), 62-81
26. Metallic Closed-Cell Foam Filled Tube Uniaxial Crushing Behavior Analysis Using Voronoi Approach Y Taraz Jamshidi, A Pourkamali Anaraki, M Sadighi, J Kadkhodapour, ... Amirkabir Journal of Mechanical Engineering 52 (8), 2135-2148
27. Multiphase aluminum A356 foam formation process simulation using lattice Boltzmann method M Barzegari, H Bayani, **SMH Mirbagheri**, H Shetabivash Journal of Materials Research and Technology 8 (1), 1258-1266
28. Multiphase Simulation of Aluminum A356 Metal Foam Formation Process by Lattice Boltzmann Method H Bayani, **SMH Mirbagheri** Amirkabir Journal of Mechanical Engineering 50 (4), 741-754
29. Production of Open Cell Copper Foam and Assessment of Foam Substructure M Shahsavan, **SMH Mirbagheri** journal of New Materials 8 (31), 1-16
30. Micro–macro analysis of closed-cell aluminum foam with crushing behavior subjected to dynamic loadings S Talebi, M Sadighi, MM Aghdam, **SMH Mirbagheri** Materials Today Communications 13, 170-177
31. A criterion for bubble merging in liquid metal: computational and experimental study M Barzegari, H Bayani, **SMH Mirbagheri** arXiv preprint arXiv:1708.01608
32. Effect of Heat Treatment and Reinforcements on the Mechanical Properties of Closed Cell Al-Cu Alloy Foam O Mirzaee, **SMH Mirbagheri**, N Movahedia, S Abdolkarimzadeha Metallic foams 1 (1), 49-53
33. Numerical evaluation of the stacking effect of spheres on the mechanics of tailor-made aluminum foams MJ Nayyeri, **SMH Mirbagheri**, DH Fatmehsari Composite Structures 159, 316-326
34. Heat treatment of closed-cell A356+ 4 wt.% cu+ 2 wt.% Ca foam and its effect on the foam mechanical behavior **SMH Mirbagheri**, H Vali, H Soltani Journal of Materials Engineering and Performance 26, 14-27
35. Evaluation of failure mechanisms of high strength tailor-made metallic foams (TMFs) MJ Nayyeri, **SMH Mirbagheri** Materials Letters 185, 89-91
36. Comparison of the energy absorption of closed-cell aluminum foam produced by various foaming agents N Movahedi, **SMH Mirbagheri** Strength of Materials 48, 444-449
37. Simulation of foaming and deformation for composite aluminum foams H Bayani, **SMH Mirbagheri** Iranian Journal of Materials Forming 3 (1), 38-54
38. Strain-hardening during compression of closed-cell Al/Si/SiC+(TiB2 & Mg) foam H Bayani, **SMH Mirbagheri** Materials Characterization 113, 168-179
39. Compressive behavior of tailor-made metallic foams (TMFs): Numerical simulation and statistical modeling MJ Nayyeri, **SMH Mirbagheri**, DH Fatmehsari Materials & Design 84, 223-230
40. High strength tailor-made metallic foams (TMFs): Development and characterization MJ Nayyeri, **SMH Mirbagheri**, S Amirkhanlou Materials Letters 154, 152-155
41. Deformation behavior of AA2017–SiCp in warm and hot deformation regions S Serajzadeh, SR Motlagh, **SMH Mirbagheri**, JM Akhgar Materials & Design 67, 318-323

42. The Effect of Fe Additive on Plastic Deformation for Crush-Boxes with Closed-Cell Metal Foams, Part II: Al-Composite Foam-Filled brass tubes Compression Response **SMH Mirbagheri**, J Khajehali Iranian Journal of Materials Forming 1 (2), 23-31
43. Effect of foaming temperature on the mechanical properties of produced closed-cell A356Aluminum foams with melting method N Movahedi, **SMH Mirbagheri**, SR Hoseini Metals and Materials International 20, 757-763
44. Effect of Fe additive on plastic deformation for crush-boxes with closed-cell metal foams, Part I: Al-composite foam compression response S Mirbagheri, MJ Khajehali Iranian Journal of Materials Forming 1 (1), 32-45
45. Simulation of unconstrained solidification of A356 aluminum alloy on distribution of micro/macro shrinkage H Bayani, **SMH Mirbagheri**, M Barzegari, S Firoozi Journal of Materials Research and Technology 3 (1), 55-70
46. Investigation of Effective Parameters in Production of A356/ TiB2p Composite using TiB2p/CMC/PPS Mortar M Hizombor, **SMH Mirbagheri**, A Rezaie, R Abdideh Processing and Properties of Advanced Ceramics and Composites IV 234, 11-20
47. Effect of Titanium Addition on As Cast Structure and Macrosegregation of High-Carbon High-Chromium Steel R Razavinejad, S Firoozi, **SMH Mirbagheri** steel research international 83 (9), 861-869
48. The effect of heat treatment parameters on microstructure and toughness of austempered ductile iron (ADI) A Abedi, SPH Marashi, K Sohrabi, M Marvastian, **SMH Mirbagheri** Advanced Materials Research 264, 409-414
49. Simulation of liquid flow permeability for dendritic structures during solidification process **SMH Mirbagheri**, H Baiani, M Barzegari, S Firoozi Computational fluid dynamics technologies and applications. Rijeka: InTech …
50. Behavior of generated gas in lost foam casting M Khodai, **SMH Mirbagheri** World Academy of Science, Engineering and Technology 5, 431-435
51. Assessment of the Slope and Cross-Section of In-Gate on the Pressure and Flow Pattern Using Finite Volume Method M Brzegari, MH Mirbagheri Journal Of Metallurgical and Materials Engineering 22 (2)
52. Effects of Addition of SiC and TiB2 Particles on Structural and Mechanical Properties of PM Al-Si Foams SM Seifi, Y Tabatabaei, **SMH Mirbagheri**, R Tafteh Proceedings of Materials Science & Technology Conference and Exhibition, 859-866
53. Erratum to: Modeling of the Equiaxed Dendrite Coarsening Based on the Interdendritic Liquid Permeability during Alloy Solidification **SMH Mirbagheri** Metallurgical and Materials Transactions B 41, 255-256
54. Casting of A356/TiB2p composite based on the TiB2p/CMC M Hizombor, **SMH Mirbagheri**, R Abdideh
55. PPS mortar roznov pod radhostem, Czech Republic 5, 18-20 Casting of A356/TiB2p composite based on the TiB2p/CMC/PPS mortar M Hizombor, **SMH Mirbagheri**, R Abdideh
56. Metal Thermal Fatigue Mechanism in the GG25 Gray Iron MH Mirbagheri, M Bari, NA Astani JOURNAL OF METALLURGICAL AND MATERIALS ENGINEERING (JOURNAL OF SCHOOL OF …
57. EFFECT OF COOLING RATE AND H2 GAS ON THE INTER-DENDRITIC DISTANCE AND MECHANICAL PROPERTIES OF COMPOSITES MIRBAGHERI, M MAJIDIAN JOURNAL OF METALLURGICAL AND MATERIALS ENGINEERING (JOURNAL OF SCHOOL OF …
58. Modelling and simulation of equiaxed dendritic structures permeability for Pb–Sn alloys **SMH Mirbagheri**, E Khajeh Materials Science and Technology 24 (12), 1444-1451
59. Production of A356–SiCP composite by an innovative casting process **SMH Mirbagheri**, S Sookhtehsaraee Journal of materials science 43, 6944-6951
60. Modeling of the equiaxed dendrite coarsening based on the interdendritic liquid permeability during alloy solidification **SMH Mirbagheri** Metallurgical and Materials Transactions B 39, 469-483
61. Modeling of effect of the ferrous chills and pressure on the heat transfer coefficient in metal-reheated chill interface **SMH Mirbagheri** Materials Letters 62 (6-7), 824-827
62. Modeling of permeability with the aid of 3D interdendritic flow simulation for equiaxed dendritic structures E Khajeh, **SMH Mirbagheri**, P Davami Materials Science and Engineering: A 475 (1-2), 355-364
63. Modeling of permeability with the aid of 3D interdendritic flow simulation for equiaxed dendritic structures, E Khajeh, **SMH Mirbagheri**, P Davami, Materials Science and Engineering: A 475 (1-2), 355-364
64. Modeling of effect of the ferrous chills and pressure on the heat transfer coefficient in metal-reheated chill interface **SMH Mirbagheri** Materials Letters 62 (6-7), 824-827
65. Modeling of the equiaxed dendrite coarsening based on the interdendritic liquid permeability during alloy solidification **SMH Mirbagheri** Metallurgical and Materials Transactions B 39, 469-483
66. Production of A356–SiCP composite by an innovative casting process **SMH Mirbagheri**, S Sookhtehsaraee Journal of materials science 43, 6944-6951

67. **S.M.H. Mirbagheri**, N. Varahram and P. Davami "3D simulation of melt flow and heat transfer in lost foam casting" International Journal Numerical Method in Engineering, Vol: 85, pp: 723-748,2003
68. **S.M.H. Mirbagheri**, H. Esmaeilian, S. Serajzadeh, N. Varahram, and P. Davami. "Simulation of Melt Flow in Coated Mould Cavity in the Casting Process" Journal of Materials Processing Technology. Vol: 142, pp: 493-507, 2003
69. **S.M.H. Mirbagheri**, N. Varahram and P. Davami. "Simulation of the mould filling in the lost foam casting process", the International Journal of Cast Metal. Vol: 16, No: 6, pp: 554-565, 2003
70. A.Z. Moshfegh, S.M.H. Mirbagheri and M. Shrinparvar "2D simulation of diffusion in solid Cu/Si and C/Fe system" Journal of Material and Manufacturing Processes, Vol. 12, No: 1, P: 95-105, 1997.
71. **S. M. H. Mirbagheri**, M. Dadashzadeh, N. Varahram, M. Ahmadian and P. Davami. "Simulation of the Mould filling in EPC process in the Casting Process", the International Journal Iranica Scientia. Vol. 11, No: 1&2, P: 69-80, 2004.
72. S. Serajzadeh, S.M.H. Mirbagheri and A. K.Taheri "Modeling the Temperature Distribution and Microstructural Changes During Hot Rod Rolling of a Low Carbon Steel" Journal of Materials Processing Technology, Vol. 126, P. 81-90, 2002.
73. **S.M.H. Mirbagheri**, J. Silk and P. Davami. "Modeling of foam degradation in the lost foam casting Process" Journal of Materials Science. **39** (2004) 4593 – 4603
74. **S.M.H. Mirbagheri**, M. Serajzadeh, A.K.Taheri and P. Davami. "Modeling the Effect of Mould Roughness on the Flow Pattern in die casting" Applied Mathematical Modeling, Vol: 28 (2004) 933–956
75. **S M. H. Mirbagheri,** H. Ashory, M. Shrinparvar, P. Davami**, "**Simulation of Surface Roughness on the Flow Pattern in the Casting Process**"** Journal of Materials & Design, Vol: 25, 8 (2004) 655-661.(**HOTEST PAPER 2004**)
76. S. Serajzadeh, **S. M. H. Mirbagheri**, A. Karimi-taheri and S. M. Zebarjad "Modeling of metal flow during hot forging with regard to micro structural aspects**",** International Journal of Machine Tools and Manufacture, Vol. 44, No. 14, 1537-1545, 2004.
77. **S.M.H. Mirbagheri**, H. Ashouri, N. Varahram, and P. Davami. "Mathematical modeling of the effect of foam degradation in on mould filling in the Grey Iron EPC Process" Iranian Journal of Materials Science & Engineering. Vol. 1, No. 2, 2-63, 2004
78. **S M. H. Mirbagheri**, S. Serajzadeh, N. Varahram, and P. Davami**,** "Modeling of foam degradation in lost foam casting process- part II" Journal of Materials & Design, Vol: 27 (2006) 115–124
79. **S M. H. Mirbagheri**, and J. silk "Simulation of Si concentration effect on the permeability for columnar dendrite structures during solidification of Al-Si alloy" Materials & Design, Volume 28, Issue 1, 2007, Pages 356-361
80. S Serajzadeh and **S M H Mirbagheri**, "A model for determination of austenite decomposition kinetics during continuous cooling on the run-out table" Modeling Simul. Mater. Sci. Eng. **14** (2006) 217–228.
81. **S.M.H. Mirbagheri** and Ali Chirazi "Simulation of interdendritic liquid permeability for low and high solid fractions during solidification of mushy alloys" journal: Materials Science & Engineering A427 (2006) 51–59
82. **S.M.H. Mirbagheri "**Simulation of interdendritic liquid permeability for low and high solid fraction during solidification of mushy alloy" Journal of scientia Iranica issue Civil and Mechanical Engineerin, vol: 13, No.3, sum. 2006, pp 316-325.
83. **S.M.H. Mirbagheri**, A. Chirazi, "Modeling of solute effect on the permeability for columnar dendrite structures during solidification of mushy alloy" Iranian journal of materials engineering, Vol: 2 Number: 3(2005) 13-19
84. **S.M.H. Mirbagheri**, M. Shirinparvar, and A.Chirazi" Modeling of metalo-static pressure on the metal-mould interface thermal resistance in the casting process" **Materials & Design**, Volume 28, Issue 7, 2007, Pages 2106-2112
85. **S.M.H. Mirbagheri** "Modeling of metal-mould interface resistance in the A356 aluminum alloy casting process", journal Communications in Numerical Methods in Engineering, Vol: 93 (2006), 1-21.
86. **S.M.H. Mirbagheri**."Modeling of metal-mould interface resistance in the Al-%11.5 Si alloy casting process" Int. J. Mat. Res. (formerly: Journal of Zeitschrift fur. Metallkunde). 97-9(2006)-1285-93.
87. **S. M. H. Mirbagheri**, M. Shrinparvar, P. Davami, Modeling of metal-mold interface resistance in the Al-11.5 wt% Si alloy casting process, Journal of scientia Iranica issue Civil and Mechanical Engineering, vol: 14, No.1 2007, pp46-55.
88. **S.M.H.Mirbagheri**,"Modeling of metal–mold interface resistance in the A356", COMMUNICATIONS IN NUMERICAL METHODS IN ENG, 23, 2007;295–312**, DOI: 10.1002/cnm.903.**
89. **S. M. H. Mirbagheri**, S. Sookhtehsaraee, "Production of A356–SiCP composite by an innovative casting process" Journal of Materials Science,2008, **DOI: 10.1007/s10853-008-2973-7.**
90. **S.M.H. Mirbagheri** , M. Shrinparvar , A. Chirazi, "Modeling of metalo-static pressure on the metal–mould" Materials & Design, Volume 28, Issue 7, 2007, Pages 2106-2112, **DOI:10.1016/j.matdes.2006.05.030.**

91. **S.M.H. Mirbagheri**, "Modeling of effect of the ferrous chills and pressure on the heat transfer", Materials Letters 62 (2008) 824–827**, DOI: 10.1016/j.matlet.2007.06.069.**
92. **S.M.H. MIRBAGHERI**, "Modeling of the Equiaxed Dendrite Coarsening Based on theInterdendritic Liquid Permeability during Alloy Solidification", METALLURGICAL AND MATERIALS TRANSACTIONSVOLUME 39B- 2008-394- **DOI: 10.1007/s11663-008-9149-3.**
93. -E. Khajeh, **S.M.H. Mirbagheri**, P. Davami, "Modeling of permeability with the aid of 3D interdendritic", Materials Science and Engineering A 475 (2008) 355–364, **DOI:10.1016/j.msea.2007.04.076.**
94. **S. M. H. Mirbagheri** and E. Khajeh, "Modelling and simulation of equiaxed dendritic structures permeability for Pb–Sn alloys", Materials Science and Technology 2008 VOL 24 NO 12, **DOI:10.1179/174328407X236931.**
95. **-**S. Serajzadeh and **S. M. H. Mirbagheri**, "Study on microstructural events during hot rod rolling of steels using mathematical modeling" Ironmaking and Steelmaking, 2008 VOL 35 NO 2., **DOI 10.1179/030192307X233449**

JOURNAL PAPERS IN PERSIAN

1. **S.M.H. Mirbagheri**, P. Davami; "Computer Simulation of Foam degradation during of the LFC process" *J. of Iranian Society of Metallurgical Engineers, summer. 1382, p: 17.*
2. **S.M.H. Mirbagheri**, P. Davami; "Effect of gaiting system junction on the feeder junction by the castings simulation codes", *J. of Iranian Society of Metallurgical Engineers, No: 4, 1378, p: 15*
3. **S.M.H. Mirbagheri**, H. Ashuri, N. Varahram, P. Davami, " Modeling of foam degradation during the EPC process" *J. of Iranian Foundrymen's Society,* winter, No: 52, 1382, P: 25.
4. **S.M.H. Mirbagheri**, M. Shrinparvar, M. Ahmadian" Simulation of CCT diagram for heat treatment of the structural steel by FEM method" *J. of Steel, No: 2, 1378, P: 4.*
5. **S.M.H. Mirbagheri**, P. Davami, "Brain drain Part I: History" *The Academy of Sciences I.R. Iran, Eng. Division,* winter, No: 24, 1383. P:75-90
6. **S.M.H. Mirbagheri**, P. Davami, "Brain drain Part 2: Causes and motivations" *The Academy of Sciences I.R. Iran, Eng. Division*, Autumn, No: 31, 1385, P:1-24
7. V. Zakere-hendoabadi, **S.M.H. Mirbagheri**, P. Davami, "Effect of mold materials, pressure, and preheat temperature on the metal-mould interface heat resistance " *J. of Iranian Foundrymen's Society,* winter, No: 79, 1383, P: 2
8. **S.M.H. Mirbagheri**, " Simulation of Effect Si% in the Al-Si alloys on the morphology of dendrite and the interdendritic liquid permeability" *J. of Iranian Foundrymen's Society,* summer & falls, No: 81, 1384, P: 37-43
9. E. Khajeh, **S.M.H. Mirbagheri**, " Criteria for the formation and distribution of the micro-shrinkages in the mushy alloys according to the critical permeability" *J. of Iranian Foundrymen's Society,* summer, No: 84, 1385, P:17-26

CONFERENCES PAPERS

1. A. Z. Moshfegh, **S.M.H. Mirbagheri** and M. Shrinparvar "2D simulation of diffusion in solid system" *5th IHFS. Inter. Conf., Iesfahan,* 1995, p: 407.
2. **S.M.H. Mirbagheri**, P. Davami. "Modeling of mould roughness in Al alloys casting Process" *Conf. International Association of Science and technology for development*, Accepted by reference No: IASTED 410-42, 2003.
3. **S.M.H. Mirbagheri**, S. Serajzadeh, M.T. Ahmadian and P Davami" Modeling the Effect of Friction on the Flow Pattern in the Mould Filling Simulation*" International Conference Applied Simulation and Modeling* (ASM 2002), Accepted No. Ref.: 363-62, 2002.
4. **S.M.H. Mirbagheri**, P. Davami, " Simulation of fluid flow and heat transfer in the casting process" 6th *Annual Seminar of Iranian Foundrymen's Society, 1373*
5. **S.M.H. Mirbagheri**, P. Davami," Simulation of single-phase fluid flow during of the casting process" 3rd *Annual Conference of Mechanical Engineering, 1374, P: 1111.*
6. **S. M. H. Mirbagheri**, M. Shrinparvar, S. Zare, M. Ahmadian, "Simulation of CCT diagram for steels heat treatment by FEM method" 7th *Annual Conference of Mechanical Engineering, 1378, P: 143.*
7. **S. M. H. Mirbagheri**, M. Shrinparvar, M. Ahmadian, "Simulation of the nitrogen 2-D diffusion in the Aramco steels by FEM method" 5th *Annual Conference of Mechanical Engineering, 1376, P: 253.*
8. **S.M.H. Mirbagheri**, S. Hosseinpour, " Simulation of fluid flow during the casting process" 3rd *Annual Conference of fluxes dynamic, 1373, P: 291*

9. **S.M.H. Mirbagheri**, M. Gholafshani, P. Davami,“ 2-D simulation of fluid flow and heat transfer during of the casting processes” ” 7th *Annual Seminar of Iranian Foundrymen's Society, 1374.*
10. **S.M.H. Mirbagheri**, M. Shrinparvar, A. Karimi-taheri, P. Davami, “Computer simulation of carbon-steel heat treatment by FEM”, 2ed *Annual Congress of Iranian Society of Metallurgical Engineers, 1377, P: 255*
11. **S.M.H. Mirbagheri**, A. Changez-uf, P. Davami, “Modeling of friction loss of the melt into the gaiting systems“, 2ed *Annual Congress of Iranian Society of Metallurgical Engineers, 1377, P: 97.*
12. **S.M.H. Mirbagheri**, P. Davami,“ Status of the simulation codes for cast parts product process design”, 3rd *Annual Congress of Iranian Society of Metallurgical Engineers, 1378, P: 383*
13. **S.M.H. Mirbagheri**, J. Hosseinpour, P. Davami,“ 2-D simulation of the flow by FDM method”, 3rd *Annual Congress of Iranian Society of Metallurgical Engineers, 1378, P: 429*
14. J. Hosseinpour, **S.M.H. Mirbagheri**” Activation energy in supper plasticity for Al-5038” *2nd Annual Congress of Noun ferrous metallurgy, 1379, P: 507.*
15. **S.M.H. Mirbagheri**, N. Taghavinia, M. Shrinparvar, M. Ahmadian, “ Simulation of Co diffusion in carbon- steels“*2nd Annual Congress of Manufacturing Engineering, 1374.*
16. **S. M. H. Mirbagheri**, M. Shrinparvar, P. Davami, “Simulation of weld basin filling in the GTA welding process” 4th *Annual Conference of Inspection and Welding, 1376, P: 97.*
17. **S. M. H. Mirbagheri**, M. Shrinparvar, P. Davami, “Simulation of welding process by FDM method” 10th *Annual Seminar of Iranian Foundrymen's Society, 1377.*
18. **S. M. H. Mirbagheri**, M. Dadashzadeh, K. Asgari, P. Davami, “Computer simulation of mechanical propertied of Cast Iron” 14th *Annual Seminar of Iranian Foundrymen's Society, 1381.*
19. **S. M. H. Mirbagheri**, M. Dadashzadeh, K. Asgari, P. Davami, “Numerical simulation of casting for the EPC process” 7th *Annual Congress of Iranian Society of Metallurgical Engineers, 1382*,
20. **S. M. H. Mirbagheri**, P. Lee, M. Shrinparvar, ”Simulation of permeability for mushy alloy” 8th *Annual Congress of Iranian Society of Metallurgical Engineers*, 1383
21. A. Sharefi, M. Hizombor, **S. M. H. Mirbagheri**,” effect of powder mould on quality of low carbon steel ingots” *17th Annual Seminar of Iranian Foundrymen's Society*, 1384.
22. V. Zakere-hendoabadi, **S.M.H. Mirbagheri**, K. Asgari, P. Davami, ”Effect of mold materials on the metal-mould interface heat resistance with preheated moulds “*17th Annual Seminar of Iranian Foundrymen's Society*, 1384.
23. **S. M. H. Mirbagheri**, N. Varahram, P. Davami, "Mechanism of foam degradation in the Full Mould casting for Gray Iron”, *17th Annual Seminar of Iranian Foundrymen's Society*, 1384.
24. E. Khajeh, **S. M. H. Mirbagheri**, P. Davami, “Numerical modeling of the permeability in the equiaxed dendrites for mushy alloys”, *18th Annual Seminar of Iranian Foundrymen's Society*, 1384.
25. M. Mansor-abadi, **S. M. H. Mirbagheri**, N. Varahram, P. Davami, “Effect of controlling parameters on the mould filling of the EPC process” *18th Annual Seminar of Iranian Foundrymen's Society*, 1384.
26. M. Khodai, **S. M. H. Mirbagheri**, N. Varahram, P. Davami,” Effect of back pressure on the mould filing of EPC process for low carbon steels” *18th Annual Seminar of Iranian Foundrymen's Society*, 1384
27. E. Khajeh, **S. M. H. Mirbagheri**, P. Davami, “Simulation of formation and distribution of micro- shrinkage for the mushy alloys”, 10*th Annual Congress of Iranian Society of Metallurgical Engineers, 1385*
28. M. Mansor-abadi, **S. M. H. Mirbagheri**, N. Varahram, P. Davami, “Effect of gaiting system on the mould filling for EPC process” 10*th Annual Congress of Iranian Society of Metallurgical Engineers, 1385*
29. **S. M. H. Mirbagheri**, H. Eskandari, S. M. Sadroalsadat,” A new method for spherifying graphite for production of casting parts” 10*th Annual Congress of Iranian Society of Metallurgical Engineers, 1385*
30. **S. M. H. Mirbagheri**, M. Moharami, Ch. Abas-ufe, P. Davami; " Modelling of fluid flow in the gaiting systems for EPC process” , *Steel Symposium,1379., P:410.*

INDUSTRIAL PROJECTS

1. Conveyer Chain Failure Mechanism Study (Sarcheshmeh Copper Complex, Nov. 2022)
2. Shaft Pinion Fracture Mechanism (Asia Mavad, Sarchesmeh Copper Complex, Nov. 2022)
3. MS5002D Gas Turbine’s HP Disk Failure Mechanism(Pars Petrochemical – 2022)
4. Fabrication of Insulation Guards for GE Turbines(Pars Petrochemical – 2022)
5. Microbial corrosion of API-5L-X52 sweet gas line (Iran Gas Transmission Company – Region 1)

6. Rejuvenation and coating of Damping Bolt parts of Alstom GT-11N2 gas turbine (Fajr Petrochemical Complex)
7. TR-772 Rotor and Casing Inspection (Pars Petrochemical Co.)
8. Design and manufacturing of 250 ton hydraulic jacks (Amirkabir University of Technology and Sarooj Bushehr Intl. Corporation)
9. GT-11 Gas Turbine Inspection Reports (Guilan Electric Supply)
10. Investigation of creep life of GE-5F gas turbine blades (Pars Petrochemical Complex)
11. Copper flash furnace(mes sarchashme)
12. Non-destructive inspection of HP, LP units of GE-MS5002D gas turbines (Pars Petrochemical Complex)
13. Failure Analysis of Pre-stator and Axial Compressor Rotor (Pars Petrochemical Complex)
14. Omidieh Gas Line Explosion Cause Analysis (Iranian Gas Transmission Company)
15. Failure Analysis of Connecting Rod of Hydraulic Jack (Sarooj Bushehr Intl. Corporation)
16. Strainer Connection Failure in Water Line (Sarcheshmeh Copper Complex)
17. APZ5L-X42 Pipe Failure Analysis and Assessment (Iranian Gas Transmission Company)
18. Simulation and Fabrication of U Channels for Copper Wheels in Furnaces (Khavar Rikhtegar)
19. Residual Stress Determination in Cylinders (Keyhan Sanat Ghaem)
20. Failure Analysis of mill bottom grating (Sarcheshmeh Copper Complex)
21. Investigating the Failure Mechanism of Sulfuric Acid Plant's Electromotor's Pins (Sarcheshmeh Copper Complex)
22. Failure Analysis of Steel Frame of Copper Matte Convertors (Sarcheshmeh Copper Complex)
23. Transversal Cracking of Copper Matte Ladle (Sarcheshmeh Copper Complex)
24. Fluid Flow Simulation in Sulfuric Acid Pipelines (Sarcheshmeh Copper Complex)
25. Failure Analysis of Ball Mill Shafts (Sarcheshmeh Copper Complex)
26. Failure Analysis of Steel Pipes (Lordegan Urea Fertilizer Co.)
27. Failure Analysis of Turbo Expanders (Ilam Refinery Plant)
28. Tension Chain Failure Analysis (Raja Rail Transportation Quality Control)
29. Fatigue Crack Growth Rate Prediction in Railway Parts and Its Simulation (The Railways of I.R. Iran)
30. Simulation, Design, and Supervision of Hub Coupling Production Line (Baffco)
31. Investigation on the cause of Female Screws' Breakage and Engraving in 151&152 Compressors
32. Quality Control and Inspection of Brazing of Impellers (Pars Petrochemical Complex)
33. Fracture Surface Analysis of Peugeot 206 Cylinder Bushings (Keyhan Sanat Ghaem Co.)
34. Roller Bearing Failure Analysis (Sarchesmeh Copper Complex)
35. Bucket Elevator Plate Chain Failure Analysis (Sarooj Bushehr Intl. Corporation)
36. Production of 250 Bar Hydraulic Jack Valve (Sarooj Bushehr Intl. Corporation)
37. Failure Analysis of Crane Bolts (Sarcheshmeh Copper Complex)
38. 4G-50 Piston Failure Analysis (Daghigh Sanat)
39. Failure Analysis of Hallow Shaft (Sarcheshmeh Copper Complex)
40. Simulation, Design, and Supervision of Production of Anodic Copper Mold (Sarcheshmeh Copper Complex)
41. Failure Analysis of Flash Furnace Burner Ring (Sarcheshmeh Copper Complex)
42. Investigating the cause of sedimentation in heat exchangers (Sarajeh Gas Storage Complex)

TRAINING COURSES OFFERED

- **Industry:**
  1. Ingot and Continuous Casting, Sarcheshmeh Copper Complex, Kerman, Iran
  2. Casting Defects of Alloy Steels, Yazd Alloy Steel Company, Yazd, Iran
  3. Characterisation and Control of Non-metallic Inclusions in Steels, Mobarakeh Steel Company, Isfahan, Iran
  4. Defects of parts casting, Mobarakeh Steel Company, Isfahan, Iran
  5. Selection of Metallic Materials, Steel Company, Ahvaz, Iran

- **University:**
  6. Solidification processes, U-grad students, Sharif University of Technology

7. Simulation of Casting and Solidification Processes, P-grad students, Sharif University of Technology
8. Mechanical properties, U-grad students, Sharif University of Technology and Ahvaz Azad Islamic University
9. Casting Workshop, U-grad students, Sharif University of Technology
10. Casting and Solidification Laboratories, U-grad students, Sharif University of Technology
11. Casting II, U-grad students, Polytechnic University of Technology
12. Simulation of casting processes by the CVM numerical method, PhD students, Polytechnic University of Technology
13. Advanced solidification, P-grad students, Polytechnic University of Technology