

Curriculum Vitae

Behzad Niroumand



• Personal Details

Contact Address	Department of Materials Engineering, Isfahan University of Technology (IUT), Isfahan, Iran, 84156-83111
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• Academic Qualifications

<ul style="list-style-type: none">• Doctor of Philosophy, 1998 Department of Mechanical and Manufacturing Engineering, University of Melbourne, Australia. <i>Thesis:</i> Study of Solidification Behaviour and Microstructure of Primary Particles in Rheocast Al-Cu Alloys• Master of Engineering (Honour), 1993 Department of Materials Science and Engineering, University of Wollongong, Australia <i>Thesis:</i> Study of Flow Pattern and Mixing Time in a Gas Injected Vessel• Bachelor Of Engineering, 1990 Department of Materials Engineering, Isfahan University of Technology (IUT), Isfahan, Iran <i>Thesis:</i> Study of Industrial Slags

• Employment history and positions held

<ul style="list-style-type: none">• International affairs coordinator, Department of materials engineering, IUT, since 2021• Director of the merging plan for Golpayegan college of engineering, IUT, 2021• Deputy of academic affairs, Department of materials engineering, IUT, 2018-2020• Director of casting and pattern making workshops, Department of materials engineering, IUT, since 2017• Professor, Department of materials engineering, IUT, since 2014• Editor in chief, Journal of Advanced Materials in Engineering (JAME) published in Persian (Farsi), 2012-2016• Head, Department of materials engineering, IUT, 2013• Visiting associate professor, University of Wisconsin, Milwaukee (UWM), 2012• Deputy of research affairs, Department of materials engineering, IUT, 2010-2011• Member of IUT alumni association board of trustees, 2010-2014• Member of IUT internship committee, 2008-2013• Associate professor, Department of materials engineering, IUT, 2008-2015• Deputy of academic affairs, Department of materials engineering, IUT, 2004-2008• Director of casting and pattern making workshops, Department of materials engineering, IUT, 1999-2012• Assistant professor, Department of materials engineering, IUT, 1999-2008• Teaching assistant, Department of mechanical and manufacturing engineering, University of Melbourne, Australia, 1994-1998

• Awards and honors

<ul style="list-style-type: none">• Distinguished undergraduate advisor of IUT, 2017• Distinguished postgraduate supervisor of IUT, 2013• Sabbatical leave at University of Wisconsin, Milwaukee (UWM), 2012• Distinguished researcher of IUT and Isfahan province, 2011• Distinguished lecturer of IUT, 2009• Writing-up Award from University of Melbourne, 1998• Four months Postgraduate Research Experience Abroad Scholarship from the University of Melbourne to work at Pohang University of Science and Technology (POSTECH), South Korea, 1996• Full Ph.D. Scholarship from Ministry of Culture and Higher Education of Iran, 1993• Full Master Scholarship from Ministry of Culture and Higher Education of Iran, 1989

• **Courses taught**

Undergraduate	Solidification of metals, Solidification of materials, Casting 1 (Metal casting fundamentals and technologies), Casting 2 (Ferrous foundry metallurgy and technologies), Metal casting, Fundamentals of materials science, Manufacturing processes, Introduction to materials engineering, Scientific and technical communication skills, Casting and sand analysis laboratory, Solidification laboratory
Postgraduate	Advanced casting processes, Engineering design of castings, Advanced solidification processing, Special topics in solidification and casting, Cast metal matrix composites, Composite materials
Industrial training short courses	<ul style="list-style-type: none"> • Molding, core making and casting technology held jointly by the Department of materials engineering at IUT and Iran-Zob Casting Co. for Syrian engineers (in English), IUT, Iran, 2001 • Slab defects, Mobarekeh steel complex, Iran, 2006 • Casting and rapid prototyping processes, Borna Danesh Gostar Co., Iran, 2007 • Advanced solidification processing, Education Centre of Iranians House of Industry and Mine, Iran, 2010 • Ingot casting, Isfahan Alloy Steel Company (IASC), 2017 • Solidification and melting treatment of aluminum alloys, Iran Khodro Aluminum Casting Company, Abhar, Iran, 2024

• **Publications**

✓ **Publication citations, H-index and ranking (March 14, 2024)**

• Scopus	✓ H-index: 35 ✓ Citations: 3229
• Google scholar	✓ H-index: 37 ✓ Citations: 4124
• exaly.com ranking:	https://exaly.com/author/4783579/behzad-niroumand/rankings
Some citations in review papers	<ol style="list-style-type: none"> 1. Z. Fan, "Semisolid metal processing", International Materials Reviews, Vol. 47, 2002, pp. 49-85. 2. S. Nafisi and R. Ghomashchi, "The microstructural characterization of semi-solid slurries", The Journal of The Minerals, Metals & Materials Society (JOM), Vol. 58, 2006, pp 24–30. 3. M.S. Salleh, M.Z. Omar, J. Syarif, and M.N. Mohammed, "An overview of semisolid processing of aluminium alloys", ISRN Materials Science, Vol. 2013, pp. 1-9. 4. Pola, M. Tocci and P. Kapranos, "Microstructure and properties of semi-solid aluminum alloys: A literature review", Metals, Vol. 181, 2018, pp. 1-18. 5. Aakash Kumar, Prabhutosh Kumar, A review on the mechanical properties, tribological behavior and the microstructural characterization of Aluminium metal matrix composites (AMMCs), International Journal of Scientific & Engineering Research, Vol. 6, Issue 6, 2015, 1234-1245. 6. Suneesh Eacherath and Sivapragash Murugesan, Synthesis and characterization of magnesium-based hybrid composites – A review, International Journal of Materials Research, Vol. 109, No. 7, (2018) pp. 661-672. 7. C. Kannan, R. Ramanujam, Advanced liquid state processing techniques for ex-situ discontinuous particle reinforced nanocomposites: A review, Science and Technology of Materials, Vol. 30, Issue 2, August 2018, Pages 109-119. 8. Ashish Sharma, Sachin Mohal, Narender Panwar, Wear and Mechanical behavior of Aluminum matrix composites- A Review, International Journal of Management, Technology And Engineering, Vol. 8, Issue XI, 2018, pp/ 36-42. 9. Ramanathan, Arunachalam, Pradeep Kumar Krishnan, Rajaraman Muraliraja, A review on the production of metal matrix composites through stir casting – Furnace design, properties, challenges, and research opportunities, Journal of Manufacturing Processes, Vol. 42, June 2019, Pages 213-245. 10. Swarndeeep Singh, Rupinder Singh, Simranpreet Singh Gill, Development of Aluminium MMC with Hybrid Reinforcement - A Review", Materials Science Forum, Vol. 808, pp. 109-119, 2015. 11. Narender Panwar and Amit Chauhan, Development of aluminum composites using Red mud as reinforcement- A review, Recent Advances in Engineering and Computational Sciences (RAECS), 2014, India. 12. Satish Kumar Thandalam, Subramanian Ramanathan, Shalini Sundarajan, Synthesis, microstructural and mechanical properties of ex situ zircon particles (ZrSiO4) reinforced Metal Matrix Composites (MMCs): a review, Journal of Materials Research and Technology, Vol. 4, Issue

3, 2015, pp. 333-347.

13. Bala G Narasimha , Vamsi M Krishna , and Anthony M Xavior, A Review on Processing of Particulate Metal Matrix Composites and its Properties, International Journal of Applied Engineering Research, Volume 8, Number 6 (2013) pp. 647-666.
14. Ervina Efzan, Mohd Noor, Siti Syazwani N., Al Bakri Abdullah, Mohd Mustafa, "Fabrication Method of Aluminum Matrix Composite (AMCs): A Review", Key Engineering Materials, Vol. 700, pp. 102-110, 2016
15. Genlian Fan, Ziyun Yu, Zhanqiu Tan, Zhiqiang Li, Di Zhang, Evolution, Control, and Effects of Interface in CNT/Al Composites: A review, Acta Metallurgica Sinica (English Letters), Vol. 27, Issue 5, 2014, pp 839–843.
16. Miranda, N. Barekar, B.J. McKay, MWCNTs and their use in Al-MMCs for ultra-high thermal conductivity applications: A review, Journal of Alloys and Compounds, Vol. 774, 5 2019, pp. 820-840.
17. Mudasar B. A. Pasha, Mohammed Kaleemulla, Processing and Characterization of Aluminum Metal Matrix Composites: An overview, Rev. Adv. Mater. Sci., Vol. 56, 2018, pp. 79-90.
18. Seun Samuel Owoeye, Davies Oladayo Folorunso, Babatunde Oji, Sunday Gbenga Borisade, Zinc-aluminum (ZA-27)-based metal matrix composites: A review article of synthesis, reinforcement, microstructural, mechanical, and corrosion characteristics, The International Journal of Advanced Manufacturing Technology, 2019, Vol. 100, pp 373-380.
19. C.Kannan, R.Ramanujam, Advanced liquid state processing techniques for ex-situ discontinuous particle reinforced nanocomposites: A review, Science and Technology of Materials, Volume 30, Issue 2, 2018, Pages 109-119.
20. KGajalakshmi, N. Senthilkumar, A Critical Review of Wear and Machinability Studies of Aluminium Metal Matrix Composite, Journal of Advanced Engineering Research, Vol. 5, Issue 1, 2018, pp. 31-40.
21. Kawaljit singh Randhawa, Metal Matrix Composites Fabrication Difficulties and Remedies - Research and Review, JASC: Journal of Applied Science and Computations , Vol. 5, 2018, pp. 158-164.
22. Sajjad Amir Khanlou & Shouxun Ji, A review on high stiffness aluminum based composites and bimetals, Critical Reviews in Solid State and Materials Sciences, (2019).
23. M. Azwan, M. A. Maleque & M. M. Rahman, TIG torch surfacing of metallic materials – a critical review, Transactions of the IMF, The International Journal of Surface Engineering and Coatings, Vol. 97, 12-21, 2019.
24. Jaswinder Singh, Amit Chauhan, A review of microstructure, mechanical properties and wear behavior of hybrid aluminium matrix composites fabricated via stir casting route, Sādhanā, 2019, 44:16.
25. S. Deepak Kumar, A. Mandal, M. Chakraborty, Cooling Slope Casting Process of Semi-solid Aluminum Alloys: A Review, International Journal of Engineering Research & Technology (IJERT), Vol. 3 Issue 7, 2014, pp. 269- 283.
26. Himanshu Kala, K.K.S.Mer, Sandeep Kumar, A Review on Mechanical and Tribological Behaviors of Stir Cast Aluminum Matrix Composites, Procedia Materials Science, Vol. 6, 2014, pp. 1951-1960.
27. Yashpal, Sumankant, C.S. Jawalkar, Ajay Singh, Verma, N.M. Suri, Fabrication of Aluminium Metal Matrix Composites with Particulate Reinforcement: A Review, Materials Today: Proceedings, Vol. 4, Issue 2, Part A, 2017, pp. 2927-2936
28. Ajay Singh Verma, Sumankant, Narender Mohan Suri, Yashpal, Corrosion Behavior of Aluminum Base Particulate Metal Matrix Composites: A Review, Materials Today: Proceedings, Vol. 2, Issues 4–5, 2015, Pages 2840-2851.
29. J. Joel, M. Anthony Xavior, Aluminium Alloy Composites and its Machinability studies; A Review, Materials Today: Proceedings, Vol. 5, Issue 5, Part 2, 2018, Pages 13556-13562.
30. Alaa Mohammed Razzaq, Dayang Laila Abang Abdul Majid, M.R. Ishak and Uday M. B, A Brief Research Review for Improvement Methods the Wettability between Ceramic Reinforcement Particulate and Aluminium Matrix Composites, IOP Conference Series: Materials Science and Engineering, 203 (2017) 012002.
31. Drub Prasad, Sanatan Ratna, Decision support systems in the metal casting industry: An academic review of research articles, Materials Today: Proceedings, Vol. 5, Issue 1, Part 1, 2018, Pages 1298-1312.
32. S. Venkatesan, M. Anthony Xavior, Analysis of Mechanical Properties of Aluminum Alloy Metal Matrix Composite by Squeeze Casting – A Review, Materials Today: Proceedings, Vol. 5, Issue 5,

Part 2, 218, Pages 11175-11184.

33. J.A. Sekhar, Tunable coefficient of friction with surface texturing in materials engineering and biological systems, *Current Opinion in Chemical Engineering*, Vol. 19, 2018, pp. 94-106.
34. Sivaprakash, S. Sathish, Investigation of Microstructure and Mechanical Properties of Squeeze Cast LM6 Alloy with Varying Contents of Al₂O₃ and Si₃N₄- A Review, *International Journal of Current Engineering and Technology*, 2014, pp. 207-212.
35. Sallahuddin Attar, Madeva Nagaral, H N Reddappa and V Auradi, A Review on Particulate Reinforced Aluminum Metal Matrix Composites, *Journal of Emerging Technologies and Innovative Research (JETIR)*, 2015, Volume 2, pp. 225-229.
36. A Bachmaier, R Pippan, Generation of metallic nanocomposites by severe plastic deformation, *Journal of International Materials Reviews*, Vol. 58, 2013 - Issue 1, Pages 41-62.
37. H. Nath, "A Review on In Situ Synthesis of Al/TiC and Al/SiC-Composites", *Key Engineering Materials*, Vol. 684, pp. 287-292, 2016.
38. H. Nath, A. P. Amosov, SHS amidst other new processes for in-situ synthesis of Al-matrix composites: A review, *International Journal of Self-Propagating High-Temperature Synthesis*, 2016, Volume 25, Issue 1, pp 50-58.
39. Williams S. Ebhota, Akhil S. Karun, Freddie L. Inambao, "Principles and Baseline Knowledge of Functionally Graded Aluminium Matrix Materials (FGAMMs): Fabrication Techniques and Applications", *International Journal of Engineering Research in Africa*, Vol. 26, pp. 47-67, 2016.
40. Roohollah Jamaati, Mohammad Reza Toroghinejad, Hossein Edris, Mohammad Reza Salmani, Fabrication of Nano/Ultra-Fine Grained IF Steel via SPD Processes: a Review, *Transactions of the Indian Institute of Metals*, 2014, Vol. 67, pp 787-802.
41. Chang-Soo Kim, Kyu Cho, Mohsen H. Manjili, Marjan Nezafati, Mechanical performance of particulate-reinforced Al metal-matrix composites (MMCs) and Al metal-matrix nano-composites (MMNCs), *Journal of Materials Science*, Volume 52, Issue 23, pp 13319-13349, 2017.
42. Himanshu Kala, K.K.S Mer, Sandeep Kumar, A Review on Mechanical and Tribological Behaviors of Stir Cast Aluminum Matrix Composites, *Procedia Materials Science*, 6, 2014, 1951-1960.
43. Amir Azarniya, Abolfazl Azarniya, Amir Abdollah-zadeh, Hamid Reza Madaah Hosseini, Seeram Ramakrishna, In Situ Hybrid Aluminum Matrix Composites: A Review of Phase Transformations and Mechanical Aspects, *Advanced Engineering Materials*, Vol. 21, 1801269, 2019.
44. Padmakumar A. Bajakke, Vinayak R. Malik & Anand S. Deshpande, Particulate metal matrix composites and their fabrication via friction stir processing – a review, *Materials and manufacturing processes*, 2019, Vol. 34, No. 8, 833-881.
45. Peng Zhang, Songbai Xue, Jianhao Wang, Peng Xue, Sujuan Zhong and Weimin Long, Effect of Nanoparticles Addition on the Microstructure and Properties of Lead-Free Solders: A Review, *Applied Sciences*, 2019, 9(10), 2044.
46. Hanxue Cao, Mengtao Huang, Chengcheng Wang, Siyuan Long, Jili Zha, Guoqiang You, Research status and prospects of melt refining and purification technology of magnesium alloys, *Journal of Magnesium and Alloys*, 2019, In press.
47. Hajo Dieringa, Processing of Magnesium-Based Metal Matrix Nanocomposites by Ultrasound-Assisted Particle Dispersion: A Review, *Metals* 2018, 8(6), 431.
48. A Prasad Reddy, P Vamsi Krishna, R Narasimha Rao, N V Murthy, Silicon Carbide Reinforced Aluminium Metal Matrix Nano Composites-A Review, *Materials Today: Proceedings* 4 (2017) 3959-3971.
49. A Prasad Reddy, P Vamsi Krishna, R Narasimha Rao, Al/SiCNP and Al/SiCNP/X nanocomposites fabrication and properties: A review, *Proceedings of the Institution of Mechanical Engineers, Part N: Journal of Nanomaterials, Nanoengineering and Nanosystems*, 2017, Vol. 231, pp. 155-172.
50. Pranav Dev Srivivas, M.S.Charoo, Role of Fabrication Route on the Mechanical and Tribological Behavior of Aluminum Metal Matrix Composites- A Review, *Materials Today: Proceedings*, Vol. 5, Issue 9, Part 3, 2018, pp. 20054-20069.
51. Ajay Kumar Yadav, Krishna Murari Pandey, Abhijit Dey, Aluminium Metal Matrix Composite with Rice Husk as Reinforcement: A Review, *Materials Today: Proceedings*, Vol. 5, Issue 9, Part 3, 2018, pp. 20130-20137.
52. Malaki, M., Xu, W.; Kasar, A.K.; Menezes, P.L.; Dieringa, H.; Varma, R.S.; Gupta, M. Advanced Metal Matrix Nanocomposites, *Metals* 2019, 9, 330.
53. Jarfors, A.E.W., "A Comparison Between Semisolid Casting Methods for Aluminium Alloys", *Metals*, 2020, 10, 1368. <https://doi.org/10.3390/met10101368>.

	<p>54. Ferguson, J.B., Schultz, B.F., Cho, K., Rohatgi, P.K., "Correlation vs. Causation: The Effects of Ultrasonic Melt Treatment on Cast Metal Grain Size", <i>Metals</i>, 2014, 4, 2075-4701.</p> <p>55. Ogawa F., Masuda C., "Fabrication and the mechanical and physical properties of nanocarbon-reinforced light metal matrix composites: A review and future directions", <i>Materials Science and Engineering: A</i>, 820, 2021, 141542.</p> <p>56. Gomes, I.V., Puga, H., Alves, J.L., "Ultrasonic Treatment as the Route for Grain Refinement of Mg-Al Alloys: A Systematic Review", <i>Metals</i>, 2021, 11, 10.</p> <p>57. Ajay K.P., Rohatgi, P., Weiss, D., "50 Years of Foundry-Produced Metal Matrix Composites and Future Opportunities", <i>Inter Metalcast</i>, 2020, 14, 291-317.</p> <p>58. Singh, A.K., Soni, S. and Rana, R.S., "A Critical Review on Synthesis of Aluminum Metallic Composites through Stir Casting: Challenges and Opportunities", <i>Adv. Eng. Mater.</i>, 22, 2020, 2000322.</p> <p>59. Sahoo B.P., Das D., "Critical review on liquid state processing of aluminium based metal matrix nano-composites", <i>Materials Today: Proceedings</i>, 19, 2019, 493-500.</p> <p>60. Parthiban, K., and Lakshmanan Poovazhgan. "Ultrasonication Assisted Fabrication of Aluminum and Magnesium Matrix Nanocomposites - A Review", <i>Materials Science Forum</i>, 979, 2020, 63-67.</p> <p>61. Verma, J., Kumar, H., "Fly Ash, Rice Husk Ash as Reinforcement with Aluminium Metal Matrix Composite: A Review of Technique, Parameter and Outcome", In <i>Advances in Manufacturing and Industrial Engineering</i>, Singapore (2021).</p> <p>62. Karthick K., Bharathidhasan D., Ashok Kumar R., Jaffarsha F.M., Sreeraam M., Surya Prakash K., "Investigation on Mechanical Properties of Aluminum Metal Matrix Composites- A Review", <i>International Conference on Technological Advancements in Materials, Design, Manufacturing and Energy Sectors (ICTAMDMS'20) 2020, India</i>.</p> <p>63. Singh H., Singh K., Vardhan S., Mohan S., "A comprehensive review on the new developments consideration in a stir casting processing of aluminum matrix composites", <i>Materials Today: Proceedings</i>, 60, 2022, 974-981.</p> <p>64. Ning F., Cong W., "Ultrasonic vibration-assisted (UV-A) manufacturing processes: State of the art and future perspectives", <i>Journal of Manufacturing Processes</i>, 51, 2020, 174-190.</p> <p>65. Pola, A., Tocci, M., Kapranos, P., "Microstructure and Properties of Semi-Solid Aluminum Alloys: A Literature Review", <i>Metals</i>, 8, 2018, 181 (https://doi.org/10.3390/met8030181)</p>
<p>Some book citations</p>	<p>1. D.H. Kirkwood, M. Suéry, P. Kapranos, H.V. Atkinson, K.P. Young, "Semi-solid Processing of Alloys", Springer, 2010.</p> <p>2. "Comprehensive Materials Processing", Vol. 10, Ed. S. Masood, Elsevier Science Ltd, 2014.</p> <p>3. S. Jayalakshmi and M. Gupta, "Metallic Amorphous Alloy Reinforcements in Light Metal Matrices", Springer Int. Pub., 2015.</p> <p>4. S. Nafisi and R. Ghomashchi, "Semi-Solid Processing of Aluminum Alloys", Springer Int. Pub., 2016.</p> <p>5. L. Ceschini, A. Dahle, M. Gupta, A.E.W. Jarfors, S. Jayalakshmi, A. Morri, F. Rotundo, S. Toschi, R.A. Singh, "Aluminum and Magnesium Metal Matrix Nanocomposites", Springer, 2017.</p> <p>6. New trends in alloy development, characterization and application, Edited by Zaki Ahmad, InTech publisher, 2015.</p> <p>7. An overview of heat transfer phenomena, Edited by Salim Newaz Kazi, In Tech publisher, 2012.</p>

✓ **International journal papers**

<p>1. Niroumand, B., Xia, K. "3D Study of the Structure of Primary Crystals in a Rheocast Al-Cu Alloy", <i>Journal of Materials Science and Engineering</i>, A283 (2000) 70-75.</p>
<p>2. <u>Ahmadi, J.</u>, Monirvaghefi, M., Salehi, M., Niroumand, B. "Effect of Pearlite Interlamellar Spacing on Predominant Abrasive Wear Mechanism of Fully Pearlitic Steel", <i>Transactions of Materials and Heat Treatment</i>, 25, (2004) 1207-1213.</p>
<p>3. <u>Falak, P.</u>, Niroumand, B. "Rheocasting of an Al-Si alloy", <i>Scripta Materialia</i>, Vol.53/1, (2005) 53-57.</p>
<p>4. <u>Maleki, A.</u>, Niroumand, B. Shafeai, A. "Effects of Squeeze Casting Parameters on Density, Microstructure and Hardness of LM13 Alloy", <i>Journal of Materials Science and Engineering A</i>, 428, (2006) 135-140.</p>
<p>5. Mirzadeh, H., Niroumand, B., "Semi-Solid Casting of Al-7wt%Si Alloy in Expendable Molds" <i>Solid State Phenomena</i>, 116-117 (2006) 497-500.</p>
<p>6. Reisi, M., Niroumand, B., "Evolution of Primary Particles Morphology during Secondary Cooling in SSR@ Process" <i>Solid State Phenomena</i>, 116-117 (2006) 493-496.</p>
<p>7. Tahamtan S., Golozar M.A., Karimzadeh F., Niroumand B., "Microstructure and Tensile Properties of</p>

Thixoformed A356 Alloy”, <i>Journal of Materials Characterization</i> , (2008) 223-228.
8. Ghahremanian, M., Niroumand, B., “Compcasting of an Al-Si-SiC _p Composite Using Powder Injection Method” <i>Solid State Phenomena</i> , 141-143 (2008) 175-180.
9. Reisi, M., Niroumand, B., “Effects of Stirring Parameters on Rheocast Structure of Al-7.1wt%Si Alloy” <i>Journal of Alloys and Compounds</i> , 470 (2009) 413-419.
10. Mirzadeh, H., Niroumand, B., “ Effects of Rheocasting Parameters on the Microstructure of Rheo-Centrifuged Cast Al-7.1wt%Si Alloy” <i>Journal of Alloys and Compounds</i> , 474 (2009) 257-263.
11. Ashiri, R., Niroumand, B., Karimzadeh, F., Hamani, M., Pouranvari, M., “Effect of Casting Process on Microstructure and Tribological Behavior of LM13 Alloy” <i>Journal of Alloys and Compounds</i> , 475 (2009) 321-327.
12. Reisi, M., Niroumand, B., “Growth of Primary Particles during Secondary Cooling of a Rheocast Alloy” <i>Journal of Alloys and Compounds</i> , 475 (2009) 643-647.
13. Maleki, A., Shafyei, A., Niroumand, B. “Effects of Squeeze Casting Parameters on the Microstructure of LM13 Alloy” <i>Journal of Materials Processing Technology</i> , 209 (2009) 3790-3797.
14. Maleki, A., Meratian, M., Niroumand, B., Gupta, M., “Synthesis of In-situ Aluminum Matrix Composite Using a New Activated Powder Injection Method” <i>Metallurgical and Materials Transactions A</i> , 39, (2008) 3034-3039.
15. Mirzadeh, H., Niroumand, B., “Fluidity of Al-Si Semisolid Slurries during Rheocasting by a Novel Process” <i>Journal of Materials Processing Technology</i> , 209, (2009) 4977-4982.
16. Nasr Esfahani, M., Niroumand, B., “Design of Hot Tearing Test Apparatus for Cast Alloys” <i>Casting Technologies</i> , ۵۵, (2009) 42-45.
17. Niroumand, B., Mirzadeh, H., Reisi, M., “Evaluation of Cast-On-Strap Joints in Lead-Acid Batteries” <i>Journal of Materials Characterization</i> , 60 (2009) 1555-1560.
18. Nasr Esfahani, M., Niroumand, B., “Design of A New Hot Tearing Test Apparatus and Modification of its Operation” <i>Journal of Metals and Materials International</i> , 16 (2010) 35-38.
19. Nasr Esfahani, M., Niroumand, B., “Study of Hot Tearing of A206 Aluminum Alloy using Instrumented Constrained T-shaped Casting Method” <i>Journal of Materials characterization</i> , 61 (2010) 318-324.
20. Abasipour, B., Niroumand, B., Monir-Vaghefi, M., “Compcasting of A356-CNT Composite”, <i>Transactions of Nonferrous Metals Society of China</i> , 20, (2010) 1561-1566.
21. Amirkhanlou, S., Niroumand, B., “Synthesis and Characterization of 356-SiC _p Composites by Stir Casting and Compcasting Methods”, <i>Transactions of Nonferrous Metals Society of China</i> , 20, (2010) s788-s793.
22. Maleki, A., Panjepour, M., Niroumand, B., Meratian, M., “Mechanism of Zinc Oxide–Aluminum Aluminothermic Reaction”, <i>Journal of Materials Science</i> , 45, (2010) 5574-5580.
23. Firoozbakht, M., Monir-Vaghefi, M., Niroumand, B., “Electroless Composite Coating of Ni–P–Carbon Nanotubes on Magnesium Powder”, <i>Journal of Alloys and Compounds</i> , 509S,(2011) S496-S502.
24. Amirkhanlou, S., Niroumand, B., “Development of Al356/SiC _p Cast Composites by Injection of SiC _p Containing Composite Powders”, <i>Journal of Materials & Design</i> , 32, (2011) 1895-1902.
25. Amirkhanlou, S., Jamaati, R., Niroumand, B., Toroghinejad, M., “Fabrication and Characterization of Al/SiC _p Composites by CAR Process”, <i>Journal of Materials Science and Engineering</i> , A528, (2011) 4462-4467.
26. Amirkhanlou, S., Jamaati, R., Niroumand, B., Toroghinejad, M., “Manufacturing of High-Performance Al356/SiC _p Composite by CAR Process”, <i>Journal of Materials and Manufacturing Processes</i> , 26, (2011) 902-907.
27. Amirkhanlou, S., Jamaati, R., Niroumand, B., Toroghinejad, M., “Using ARB Process as a Solution for Dilemma of Si and SiC _p Distribution in Cast Al-Si/SiC _p Composites”, <i>Journal of Materials Processing Technology</i> , 211, (2011) 1159-1165.
28. Jamaati, R., Amirkhanlou, S., Toroghinejad, M., Niroumand, B., “Effect of Particle Size on Microstructure and Mechanical Properties of Composites Produced by ARB Process”, <i>Journal of Materials Science and Engineering A</i> , (2011) 2143-2148.
29. Jamaati, R., Amirkhanlou, S., Toroghinejad, M., Niroumand, B., “Significant Improvement of Semi-Solid Microstructure and Mechanical Properties of A356 Alloy by ARB Process”, <i>Journal of Materials Science and Engineering</i> , A528, (2011) 2495-2501.
30. Amirkhanlou, S., Rezaei, M., Niroumand, B., Toroghinejad, M., “High-Strength and Highly-Uniform Composites Produced by Compcasting and Cold Rolling Processes”, <i>Journal of Materials & Design</i> , 32, (2011) 2085-2090.
31. Amirkhanlou, S., Rezaei, M., Niroumand, B., Toroghinejad, M., “Refinement of Microstructure and Improvement of Mechanical Properties of Al/Al ₂ O ₃ Composite by Accumulative Roll Bonding Process”, <i>Journal of Materials Science and Engineering</i> , A528, (2011) 2548-2553.
32. Khosro Aghaiani, M., Niroumand, B., “Effects of Ultrasonic Treatment on Microstructure and Tensile Strength of AZ91 Magnesium Alloy”, <i>Journal of Alloys and Compounds</i> , 509, (2011) 114-122.

33. Amir Khanlou, S., Niroumand, B., "Effects of Reinforcement Distribution on Low and High Temperature Tensile Properties of Al356/SiCp Cast Composites Produced by a Novel Reinforcement Dispersion Technique", <i>Journal of Materials Science and Engineering A</i> , A528, (2011) 7186-7195.
34. Khodaverdizadeh, H., Niroumand, B., "Effects of Applied Pressure on Microstructure and Mechanical Properties of Squeeze Cast Ductile Iron", <i>Journal of Materials & Design</i> , 32, (2011) 4747-4755.
35. Ghahremanian, M., Niroumand, B., Panjepour, M., "Production of Al-Si-SiCp Cast Composites by Injection of Low Energy Ball-Milled Al-SiCp Powder into the Melt", <i>Journal of Metals and Materials International</i> , 18, (2012) 149-156.
36. Reisi, M., Niroumand, B., "On the Dilemma of Shear and Flow Requirements for the Evolution of Semisolid Microstructures", <i>Materials Letters</i> , 68, (2012) 317-319.
37. Reisi, M., Niroumand, B., "Modeling of Shear Induced Dendrite Coarsening During Semisolid Processing", <i>Journal of Materials and Technology</i> , 28 (2012) 1241-1245.
38. Jamaati, R., Amir Khanlou, S., Toroghinejad, M., Niroumand, B., "Comparison of the Microstructure and Mechanical Properties of As-Cast A356/SiC MMC Processed by ARB and CAR Methods", <i>Journal of Materials Engineering and Performance</i> , 21 (2012) 1249-1253.
39. Jamaati, R., Amir Khanlou, S., Toroghinejad, M., Niroumand, B., "CAR process: A Technique for Significant Enhancement of As-Cast MMC Properties", <i>Journal of Materials Characterization</i> , 62, (2011) 1228-1234.
40. Amir Khanlou, S., Niroumand, B., "Fabrication and Characterization of Al356/SiCp Semisolid Composites by Injecting SiCp Containing Composite Powders", <i>Journal of Materials Processing Technology</i> , 212 (2012) 841-847.
41. Abasipour, B., Monir-Vaghefi, M., Niroumand, B., "Electroless Ni-P-CNT Composite Coating on Aluminum Powder", <i>Journal of Metals and Materials International</i> , 18 (2012) 1015-1021.
42. Reisi, M., Niroumand, B., "Initial Stages of Solidification During Semisolid Processing of a Transparent Model Material", <i>Journal of Materials Chemistry and Physics</i> , 135 (2012) 738-748.
43. Amir Khanlou, S., Niroumand, B., "Microstructure and Mechanical Properties of Al356/SiCp Cast Composites Fabricated by a Novel Technique", <i>Journal of Materials Engineering and Performance</i> , 22 (2013) 85-93.
44. Kaskani, M., Niroumand, B., "On Non-Dendritic Microstructure Formation During Sand Casting of A356 Alloy", <i>Solid State Phenomena A</i> , 192-193 (2013) 433-440.
45. Jamshidi-Alashti R., Mohammadi Zahrani M., Niroumand B., "Use of Artificial Neural Networks to Predict the Properties of Replicated Open-Cell Aluminum Alloy Foam via Processing Parameters of Melt Squeezing Procedure", <i>Materials & Design</i> , 51 (2013) 1035-1044.
46. Shayan M., Niroumand B., "Synthesis of A356-MWCNT Nanocomposites Through a Novel Two Stage Casting Process", <i>Materials Science & Engineering A</i> , 582 (2013) 262-269.
47. Ashiri R., Niroumand B., Karimzadeh F., "Physical, Mechanical and Dry Sliding Wear Properties of an Al-Si-Mg-Ni-Cu Alloy Under Different Processing Conditions", <i>Journal of Alloys and Compounds</i> , 582,(2014) 213-222.
48. Ashiri R., Karimzadeh F., Niroumand B., "On Effect of Squeezing Pressure on Microstructural Characteristics, Heat Treatment Response and Electrical Conductivity of an Al-Si-Mg-Ni-Cu Alloy", <i>Journal of Materials Science and Technology</i> , 30, (20114) 1162-1169.
49. Jamshidi-Alashti R., Kaskani M., Niroumand B., "Semisolid Melt Squeezing Procedure for Production of Open-Cell Al-Si Foams", <i>Materials & Design</i> , 56 (2014) 325-333.
50. Saeidi, N., Ashrafizadeh F., Niroumand B., Barlat F., "Evaluation of Fracture Micromechanisms in a Fine-Grained Dual Phase Steel during Uniaxial Tensile Deformation", <i>Steel Research International</i> , 85 (2014) 1386-1392.
51. Saeidi, N., Ashrafizadeh F., Niroumand B., "Development of a New Ultrafine Grained Dual Phase Steel and Examination of the Effect of Grain Size on Tensile Deformation Behavior", <i>Materials Science and Engineering A</i> , 599 (2014) 145-149.
52. Hajhashemi M., Shamanian Esfahani M., Niroumand B., "Optimization and Utilization of Semisolid Casting Process for Semisolid welding of Al-6061 Alloy", <i>Journal of Advanced Materials and Processing</i> , 1 (2013) 19-26.
53. Saeidi N., Ashrafizadeh F., Niroumand B., Barlat F., "Damage Behavior in Modern Automotive High Strength Dual Phase Steels During Uniaxial Tensile Deformation", <i>International Journal of Iron and Steel Society of Iran</i> , 10 (2013) 37-42.
54. Nasresfahani M., Niroumand B., "A New Criterion for Prediction of Hot Tearing Susceptibility of Cast Alloys", <i>Metallurgical and Materials Transactions A</i> , 45 (2014) 3699-3702.
55. Hajhashemi M., Niroumand B., Shamanian Esfahani M., "Microstructural and Statistical Study of Semisolid Casting of 6061 Alloy Using a Miniature Cooling Slope", <i>Metallurgical and Materials Transactions B</i> , 45 (2014) 1804-1816.
56. Saeidi N., Ashrafizadeh F., Niroumand B., Forouzan, M.R., Barlat F., "Damage Mechanism and Modeling of Void Nucleation Process in a Ferrite-Martensite Dual Phase Steel", <i>Engineering Fracture Mechanics</i> , 127 (2014) 97-

103.
57. Saeidi N., Ashrafizadeh F., Niroumand B., Forouzan, M.R., Barlat F., "Influence of Bainite Morphology on Ductile Fracture Behavior in a 0.4C-CrMoNi Steel", <i>Steel Research International</i> , 5 (2015) 528-235.
58. Salehi Mobarakeh V., Atapour M., Niroumand B., Shamanian M., 'Effect of Bonding Temperature on Microstructure and Mechanical Properties of Dissimilar Joint Between Inconel 617 and Stainless Steel 310', <i>Metallography, Microstructure, and Analysis</i> , 10 (2021) 419–429, https://doi.org/10.1007/s13632-021-00748-4 .
59. Hajihashemi M., Niroumand B., Shamanian Esfahani M., "The Effect of Process Parameters on the Microstructure and Mechanical Properties of Semisolid Cast Al6061", <i>Metallurgical and Materials Transactions B.</i> , 46 (2015) 780-792.
60. Dehnavi M., Niroumand B., Ashrafizadeh F., Rohatgi P.K., "Effects of Continuous and Discontinuous Ultrasonic Treatments on Mechanical Properties and Microstructural Characteristics of Cast Al413-SiCnp Nanocomposite", <i>Materials Science and Engineering A</i> , 617 (2014) 73-83.
61. Borouni Mahmoudsalehi M., Niroumand B., Fathi M., "Effect of a Nano-Ceramic Mold Coating on the Fluidity Length of Thin-Wall Castings in AL4-1 Alloy Gravity Sand Casting", <i>Materiali in Tehnologije</i> , 48 (2014) 473-477.
62. Bagherpoor Torghabe H., Niroumand B., Karbasi M., "On the Effect of Gating System Type on Occurrence of Hot Tears in Al-4wt%Cu Castings", <i>International Journal of Advanced Manufacturing Technology</i> , 75 (2014) 677-685.
63. Nasresfahani M., Niroumand B., Kermanpour A., "Design, Fabrication and Testing of an Apparatus for In-Situ Investigation of Free Dendritic Growth Under an Applied Electric Field", <i>Journal of Crystal Growth</i> , 416 (2015) 169-174.
64. Saeidi N., Ashrafizadeh F., Niroumand B., Barlat F., "EBSD Study of Damage Mechanisms in a High Strength Ferrite-Martensite Dual Phase Steel", <i>Journal of Materials Engineering and Performance</i> , 24 (2015) 53-58.
65. Reisi M., Niroumand B., Shirani E., "Morphological Evolution of SCN Crystals in a Shear Flow", <i>Solid State Phenomena</i> , 217-2 (2015) 83-90.
66. Soltani M., Shamanian Esfahani M., Niroumand B., "Surface Characteristics Improvement of AZ31B Magnesium by Surface Compositing with Carbon Nano-tubes through Friction Stir Processing", <i>International Journal of Advanced Design and Manufacturing Technology (Majlesi Journal of Mechanical Engineering)</i> , 8 (2015) 85-95.
67. Esmailpour M., Niroumand B., Monshi A., Salahi E., Ramezanzadeh B., "The effects of Curing Condition on the Surface Characteristics of Two-pack Polyurethane Coatings Containing Low Surface Energy Additive", <i>Journal of Soft Materials</i> , 13 (2015) 144-149.
68. Baghi M., Niroumand B., Emadi R., "PVA Assisted Electroless Ni-P Coating of Carbon Fibers", <i>Transactions of the Indian Institute of Metals</i> , (2016) 1775-1781.
69. Saeidi N., Ashrafizadeh F., Niroumand B., Barlat F., "EBSD Study of Micromechanisms Involved in High Deformation Ability of DP Steels", <i>Materials & Design</i> , 87 (2015) 130-137.
70. Saeidi N., Ashrafizadeh F., Niroumand B., Forouzan M.R., Mohseni S., Barlat F., "Void Coalescence and Fracture Behavior of Notched and Un-Notched Tensile Tested Specimens in Fine Grain Dual Phase Steel", <i>Materials Science and Engineering A</i> , 644 (2015) 210-217.
71. Nasresfahani M., Niroumand B., Kermanpour A., "Effects of Applied Electric Current on the Tip Radius and the Universal Amplitude Coefficient of a Single Growing Dendrite", <i>Surface Review and Letters</i> , 23 (2016), 1550083 (1-8).
72. Melali P., Ashtijou P., Niroumand B., "Effect of Stirring Speed and Flow Pattern on the Microstructure of a Rheocast Al-Mg Alloy", <i>Metalurgija</i> , 21 (2015) 35-43.
73. Maleki, A., Niroumand B., Meratian M., "Effects of Processing Temperature on In-situ Reinforcement Formation in Al(Zn)/Al ₂ O ₃ (ZnO) Nanocomposite", <i>Metalurgija</i> , 21 (2015) 283-291.
74. Esmailpour M., Niroumand B., Monshi A., Ramezanzadeh B., Salahi E., "The role of Surface Energy Reducing Agent in the Formation of Self-Induced Nanoscale Surface Features and Wetting Behavior of Polyurethane Coatings", <i>Progress in Organic Coatings</i> , 90 (2016) 317-323.
75. Saeidi N., Ashrafizadeh F., Niroumand B., Forouzan M.R., Mohseni S., Barlat F., "Examination and Modeling of Void Growth Kinetics in Modern High Strength Dual Phase Steels During Uniaxial Tensile Deformation", <i>Materials Chemistry and Physics</i> , 172 (2016) 54-61.
76. Hajihashemi M., Shamanian Esfahani M., Niroumand B., "Microstructure and Mechanical Properties of Al-6061-T6 Alloy Welded by a New Hybrid FSW/SSW Joining Process", <i>Science and Technology of Welding and Joining</i> , 21 (2016) 493-503.
77. Saadati M.R., Maleki A., Niroumand B., Allafchian R., "A Novel Low Cost Method for the Synthesis of Ceramic Nano Silicon Oxycarbide Powder", <i>Ceramics International</i> , 42 (2016) 8531-8536.
78. Senemar M., Maleki A., Niroumand B., Allafchian R., "A Novel and Facile Method for Silica Nanoparticles Synthesis from High Temperature Vulcanization (HTV) Silicon", <i>Metallurgical & Materials Engineering</i> , 22 (2016) 1-8.
79. Raeissi M., Niroumand B., "Microstructural Evolution and Mechanical Properties of Rheocast Al-7.1Wt%Si

Alloy”, <i>Metallurgical & Materials Engineering</i> , 22 (2016) 155-164.
80. Rostamzadeh S., Niroumand B., Maleki A., “A Novel Method for Semi-Solid Casting of Hypereutectic Gray Cast Iron in Expendable Mold”, <i>Solid State Phenomena</i> , (2016), 237-242.
81. Nasr Esfahani M., Niroumand B., Kermanpour A., “Evaluation of Lipton-Glicksman-Kurz model for free dendritic growth under an applied electric field”, <i>JOM</i> , 69 (2017), 261-265.
82. Soltani M., Shamanian Esfahani M., Niroumand B., “Optimization and Characterization of Surface Mechanical Properties of AZ31B/CNT Nano-composite through Friction Stir Processing (FSP) using Response Surface Methodology (RSM) Design of Experiments”, <i>Metallovedenie I Termicheskaya Obrabotka Metallov</i> , (2017), Accepted.
83. Borouni Mahmoudsalehi M., Niroumand B., Fathi M., “Evaluation of Nano Ceramic Coating on Radiographic Defects of Thin-Walled AL4-1 Aluminum Alloy Sand Casting”, <i>Metallurgical & Materials Engineering</i> , 22 (2016), 193-204.
84. Fathian Z., Maleki, A., Niroumand B., “Synthesis and Characterization of Ceramic Nanoparticles Reinforced Lead-Free Solder”, <i>Ceramic International</i> , 43 (2017), 5302-5310.
85. Senemar M., Niroumand B., Maleki A., Rohatgi P.K., “Synthesis of In-Situ Aluminum Matrix Composite through Pyrolysis of High Temperature Vulcanization (HTV) Silicone”, <i>Journal of Composite Materials</i> , 52 (2018), 123-134.
86. Baghi M., Niroumand B., Emadi R., “Fabrication and Characterization of Squeeze Cast A413-CSF Composites”, <i>Journal of Alloys and Compounds</i> , 710 (2017), 29-36.
87. Borouni M., Niroumand B., Maleki A., “Synthesis and Characterization of In-situ Magnesium Based Cast Nano Composite Via Nano-SiO ₂ Addition to the Melt”, <i>Materials and Technology</i> , 51 (2017), 945-951.
88. Etemadi R., Wang B., Pillai K.M., Niroumand B., Omrani E., Rohatgi P., “Pressure Infiltration Processes to synthesis Metal Matrix Composites- A Review of Metal Matrix Composites the Technology and Process Simulation”, <i>Materials and Manufacturing Processes</i> , 33 (2018), 1261-1290.
89. Zare M., Niroumand B., Maleki A., Allafchian R., “Sol-gel Synthesis of Amorphous SiOC Nanoparticles from BS290 Silicone Precursor”, <i>Ceramics International</i> , 43 (2017), 12898-12903.
90. Soltani M., Shamanian Esfahani M., Niroumand B., “Structure and Properties of Magnesium Alloy Carbon Nanotubes Nanocomposite and Their Optimization Using Design of Experiments”, <i>Metal Science and Heat Treatment</i> , 36 (2017), 255-261.
91. Maleki A., Hosseini N., Niroumand B., ”A Review on Aluminothermic Reaction of Al/ZnO System”, <i>Ceramics International</i> , 44 (2018), 10-23.
92. Seiyed Beigi M.T., Niroumand B., “Liquid Segregation Behavior of a Semi-Solid Squeeze Cast A356 Cup-Shaped part”, <i>Materials Science and Technology</i> , 33 (2017), 2203-2211.
93. Pourmahmoodi H.R., Niroumand B., “Effect of Pressure on Graphite Morphology and Mechanical Properties of Squeeze Cast Hyper-Eutectic Grey Cast Iron”, <i>Transactions of the Indian Institute of Metals</i> , 71 (2018), 1401-1410.
94. Riahi S., Niroumand B., Dorri Moghadam A., Rohatgi, P.K., “Effect of Microstructure and Surface Features on Wetting Angle of a Fe-3.2Wt%C.E. Cast Iron with Water”, <i>Journal of Applied Surface Science</i> , 440 (2018), 341-350.
95. Borouni M., Niroumand B., Maleki A., “A study on crystallization of amorphous nano silica particles by mechanical activation at the presence of pure aluminum”, <i>Journal of Solid State Chemistry</i> , 263 (2018), 208-215.
96. Maleki A., Taherizadeh A.R., Issa H.K., Niroumand B., Allafchain A.R., Ghaei A., “Development of a new magnetic aluminum matrix nanocomposite”, <i>Ceramic International</i> , 44 (13), (2018), 15079-15085.
97. Sayyar N., Shamanian M., Niroumand B., “Arc weldability of Incoloy 825 to AISI 321 stainless steel welds”, <i>Journal of Materials Processing Technology</i> , 262 (2018), 562-570.
98. Tavakoli H., Niroumand B., Rezaeian A., “SIMA Processing of Cu34wt.%Zn2wt.%Pb Brass Alloy”, <i>Solid State Phenomena</i> , 285 (2018), 176-182.
99. Marani F. and Niroumand B., “Semisolid casting of short freezing range alloys”, <i>Solid State Phenomena</i> , 285 (2018), 247-252.
100. Babae M.H., Niroumand B., Maleki A., Lashani Zand M., “Simulation and experimental verification of interfacial interactions in a compound squeeze cast Al/Al-Cu macrocomposite bimetal”, <i>Transactions of Nonferrous Metals Society of China</i> , 29 (2019), 950-963.
101. Babae M.H., Maleki A., Niroumand B., “A novel method to improve interfacial bonding of compound squeeze cast Al-Al macrocomposite bimetals: Simulation and experimental studies”, <i>Transactions of Nonferrous Metals Society of China</i> , 29 (2019), 1184-1199.
102. Shayan, M., Eghbali B., Niroumand B., “Synthesis of AA2024-(SiO ₂ np+ TiO ₂ np) hybrid nanocomposite via stir casting process”, <i>Materials Science and Engineering: A</i> , 756 (2019), 484-491.
103. Nasr Esfahani, M.R., Niroumand, B., “Effect of degassing on hot tearing of A206 aluminum cast alloy”,

International Journal of Metalcasting, (2019), https://doi.org/10.1007/s40962-019-00378-1 .
104. Abbasipour, B., Niroumand, B., Monir-Vaghefi, M., Abedi M., "Tribological behavior of A356-CNT nanocomposites fabricated by various casting techniques", Transactions of Nonferrous Metals Society of China, 29 (2019), 1993-2004.
105. Malaki M., Fadaei Tehrani A.R., Niroumand B., "Fatigue behavior of metal matrix nanocomposites", Ceramics International, 46, (2020), 23326-23336.
106. Shayan M., Eghbali B., Niroumand B., "The role of accumulative roll bonding after stir casting process in order to fabricating high-strength and nanostructured AA2024-(SiO ₂ +TiO ₂) hybrid nanocomposite", Journal of Alloys and Compounds, 845 (2020), 156281(1-10).
107. Shayan M., Eghbali B., Niroumand B., "Fabrication of AA2024-TiO ₂ nanocomposites through stir casting process", Transactions of Nonferrous Metals Society of China, 30 (2020), 2891-2903.
108. Mosallanejad M.H., Niroumand B., Aversa A., Manfredi D., Saboori A., "Laser Powder Bed Fusion in-situ alloying of Ti-5%Cu alloy: Process-structure relationships", Journal of Alloys and compounds, 857 (2021), 157558, pp. 1-7.
109. Sayyar N., Shamanian M., Niroumand B., Kangazian J., Szpunar J.A., "EBSD observations of microstructural features and mechanical assessment of INCOLOY 825 alloy/AISI 321 stainless steel dissimilar welds", Journal of Manufacturing Processes, 60 (2020), 86-95.
110. Shayan M., Eghbali B., Niroumand B., "Synthesis and characterization of AA2024-SiO ₂ nanocomposites through the vortex method", International Journal of Metalcasting, 15 (2021) 1427-1440 (doi.org/10.1007/s40962-021-00574-y).
111. Mosallanejad M.H., Niroumand B., Aversa A., Saboori A., "In-Situ Alloying in Laser-Based Additive Manufacturing Processes: A Critical Review", Journal of Alloys and Compounds, (2021), 159567 (doi.org/10.1016/j.jallcom.2021.159567).
112. Malaki M., Fadaei Tehrani A., Niroumand B., Gupta M., "Wettability in Metal Matrix Composites", Metals, 11 (2021) 1034: 1-24 (doi.org/10.3390/met11071034).
113. Zare M., Maleki A., Niroumand B., "In-situ Al-SiOC composite fabricated by in-situ pyrolysis of a silicone polymer gel in aluminum melt", International Journal of Metalcasting, (2021), 1-20 (doi.org/10.1007/s40962-021-00658-9).
114. Noohi Z., Niroumand B., Timelli G., "Numerical simulation of the effects of a Phase Change Material (PCM) on solidification path of gravity sand cast Al-Cu alloy", International Journal of the Italian Association for Metallurgy, 11 (2021), 25-30.
115. Mosallanejad M.H., Sanaei S., Atapour M., Niroumand B., Luliano L., Saboori A., "Microstructure and Corrosion Properties of CP-Ti Processed by Laser Powder Bed Fusion under Similar Energy Densities", Acta Metallurgica Sinica (English Letters), (2022), Accepted (doi.org/10.1007/s40195-022-01376-9).
116. Malaki, M., Fadaei Tehrani, A., Niroumand, B., Abdullah, A., " Ultrasonically stir cast SiO ₂ /A356 metal matrix nanocomposites", Metals, 11 (2021), 1-18 (doi.org/10.3390/met11122004).
117. Hosseini M., Niroumand B., Maleki A., Issa H.K., "Manufacturing and Characterization of Sn-Cu/SiO ₂ np Lead-free Nanocomposite Solder by Accumulative Roll Bonding (ARB) Process", Journal of Materials Science: Materials in Electronics, (2022), Accepted (doi.org/10.1007/s10854-022-08286-7).
118. Mosallanejad M.H., Niroumand B., Ghibardo C., Biamino S., Salmi A., Fino P., Saboori A., "In-situ alloying of a fine grained fully equiaxed Ti-based alloy via Electron Beam Powder Bed Fusion Additive Manufacturing process", Additive Manufacturing, 56 (2022), 102878 (doi.org/10.1016/j.addma.2022.102878).
119. Noohi Z., Nossohian S., Niroumand B., Timelli G., "Use of low melting point metals and alloys (T _m < 420 °C) as Phase Change Materials: A review", Metals, 12 (6) (2022), 945 (doi.org/10.3390/met12060945).
120. Sadeghi M., Niroumand B., "Design and characterization of a novel MgAlZnCuMn Low Melting point Light Weight High Entropy Alloy (LMLW-HEA)", Intermetallics, 151 (2022), 107658 (doi.org/10.1016/j.intermet.2022.107658).
121. Ebrahimi Dinani B., Ashrafi A., Salimijazi H.R., Niroumand B., Doostmohammadi, A., "Microstructural evolution and corrosion properties of Fe-based amorphous coating by laser cladding on 316L stainless steel", Transactions of the Institute of Metal Finishing- The International Journal of Surface Engineering and Coatings, 100 (2022), 283-292 (doi.org/10.1080/00202967.2022.2061169).
122. Noohi Z., Nossohian S., Niroumand B., Timelli G., "Innovative Application of Metallic PCMs in Metal Casting", Encyclopedia Entry, Entry ID: 24344, 2022, https://encyclopedia.pub/entry/24344 .
123. Salehi Mobarakeh V., Niroumand B., Atapour M., Shamanian M., "Effects of Transient Liquid Phase Bonding Time on Microstructure, Mechanical and Corrosion Properties During Bonding of Inconel 617/AISI 310 Stainless Steel", Metallography, Microstructure, and Analysis, 12 (2023) 714-729, (doi.org/10.1007/s13632-023-00986-8).
124. Niroumand, B., Jazini Dorcheh A., "Influence of Melt Infiltration Parameters on Structural and Mechanical Properties of Al-4.3wt.%Cu-EP Syntactic Foam", Metals, 13 (2023), 1345 (doi.org/10.3390/met13081345).

125. Karimi, A., Maleki, A., Taherizadeh, A., Niroumand, B., "Synthesis and characterization of Sn–Cu/SiO ₂ (np) lead-free nanocomposite solder through angular accumulative extrusion", <i>Journal of Materials Science: Materials in Electronics</i> , 34 (2023), 1455 (doi.org/10.1007/s10854-023-10783-2).
126. Salehi Mobarakeh V., Niroumand B., "Effects of homogenization heat treatment on microstructure, mechanical and corrosion properties of Transient Liquid Phase (TLP) bonded Inconel 617/ AISI 310 stainless steel", <i>Metallography, Microstructure, and Analysis</i> , 1 (2024) ?? (.....).
127. Talebi M., Razaghian, A., Saboori, A., Niroumand, B., "Effects of Cu addition and heat treatment on the microstructure and hardness of pure Ti prepared by Selective laser melting (SLM)", <i>Journal of Ultrafine Grained and Nanostructured Materials</i> , 56 (2023) 213-223.
128. Noohi Z., Niroumand B., Panjepour M., Timeli G., "A New Generation of Metal Chillers to Control the Solidification Structure of Al-4.5wt%Cu Alloy", <i>Journal of Materials Research and Technology</i> , 28 (2024) 2488-2503 (https://doi.org/10.1016/j.jmrt.2023.12.162).

✓ **International conference papers**

1. Niroumand, B., Xia, K. "Effect Of Mechanical Stirring on Microstructure of a Semisolid Cast Al Alloy" in <i>International Conference on Casting & Solidification of Light Alloys, Queensland, Australia (1995)</i> .
2. Niroumand, B., Xia, K. "Relationship between Microstructural Features in a Semisolid Processed Al-Cu Alloy" in <i>5th International Conference on Semi-Solid Processing of Alloys and Composites , USA (1998) 637-644</i> .
3. Niroumand, B., Koh, H. J., Tausig, G., Xia, K. "Observation of Microstructure in Al-Cu Rheocast Alloys by Transmission Electron Microscopy" in <i>6th International Conference on Semi-Solid Processing of Alloys and Composites , Italy (2000) 783-788</i> .
4. Niroumand, B., Xia, K. "Coarsening Behaviour of Primary Particles in a Rheocast Al-Cu Alloy" in <i>7th International Conference on Semi-Solid Processing of Alloys and Composites , Japan (2002) 317-322</i> .
5. Niroumand, B., Xia, K. "Effect Of Flow Pattern Inside the Processing Crucible on the Microstructure of a Rheocast Al-Cu Alloy" in <i>8th International Conference on Semi-Solid Processing of Alloys and Composites, Cyprus (2004) Paper 06-2</i> .
6. Falak, P., Niroumand, B., Najafzadeh, A. "Microstructure-Processing Relationship of a Rheocast Al-Si Alloy: Evaluation of a New Mechanism" in <i>8th International Conference on Semi-Solid Processing of Alloys and Composites, Cyprus (2004) Paper 11-1</i> .
7. Maleki, A., Niroumand, B., Shafyei, A., "Effects of Squeeze Casting Parameters on the Structure and Mechanical Properties of a LM13 Alloy" in <i>Euromat 2005, Prague, Czech Republic, (2005)</i> .
8. Mirzadeh, H., Niroumand, B., "Study of casting Fluidity of Rheocast Al-7.1wt%Si alloy in Sand Molds" <i>Proceedings of the 5th Decennial International Conference on Solidification Processing, Sheffield, (2007) 620-623</i> .
9. Maleki, A., Niroumand B., Meratian M., Gupta, M. "Effect of Melt Temperature on Microstructure of In-Situ Al-Al ₂ O ₃ Composites", <i>Proceedings of 16th International Conference on Processing and Fabrication of Advanced Materials (PFAM XVI), Singapore, (2007), 176-185</i> .
10. Maleki, A., Meratian, M., Niroumand, B., Gupta, M., Panjepour, M., "Effect of Reactants Ratio on the on the Microstructure of In-situ Processed Al/Al ₂ O ₃ Composite", <i>Proceedings of the 1st International Conference on Composites: Characterization, Fabrication and Application (CCFA-1), Kish Island, Iran, 2008, Article CCFA-64341</i> .
11. Vahabzadeh, S., Niroumand, B., "In-situ Observation of Solidification Using a Model Material", <i>Proceedings of the International Conference on Modeling, Simulation & Applied Optimization (ICMSAO'09), American University Of Sharjah, UAE, (2009) Paper 41-38327</i> .
12. Nasr Esfahani, M., Niroumand, B., "Effect of casting temperature on hot tearing of A206 aluminium alloy" <i>Proceedings of the 2nd international conference on Aluminium Casting, Moscow, (2009) Papre 26</i> .
13. Seiyed Beigi, M. T., Niroumand, B., "Effects of pouring temperature on the structural characteristics of a SSR processed aluminium part" <i>Proceedings of the 2nd international conference on Aluminium Casting, Moscow, (2009) Paper 27</i> .
14. Parvavian, A. M., Kermanpur, A., Niroumand, B., "Numerical simulation of effective parameters on fluidity of semisolid A356 aluminium alloy" <i>Proceedings of Iran International Aluminum Conference (IIAC2009), Tehran, (2009) 16-19</i> .
15. Nasr Esfahani, M., Niroumand, B., " Effect of melt super heat on hot tearing of A206 Aluminum alloy" <i>Proceedings of Iran International Aluminum Conference (IIAC2009), Tehran, (2009) 47-52</i> .
16. Seiyed Beigi, M. T., Niroumand, B., "Effects of pouring temperature on the structure, density, soundness and hardness of a Semi-Solid Rheocast part made of A356 alloy" <i>Proceedings of Iran International Aluminum Conference (IIAC2009), Tehran, (2009) 53-60</i> .
17. Khosro Aghayani, M., Niroumand, B., "Effect of ultrasonic treatment on the microstructure of AZ91 magnesium alloy" <i>Proceedings of Iran International Aluminum Conference (IIAC2009), Tehran (2009) 81-87</i> .

18. Maleki, A., Niroumand, B., Meratian, M., Panjepour, M., "Optimization of reactants ratio in aluminothermic reaction of aluminum and zinc oxide", Proceedings of the 48th annual conference of Metallurgists of CIM, Canada (2009) 33-41.
19. Abbasipour B., Niroumand B., Monir-Vaghefi M., "Compcasting of A356-CNT Composite", Proceedings of 11th Conference on Semi-Solid Processing of Alloys and Composites (S2P 2010), China, (2010) 14-19.
20. Amirkhanlou S., Niroumand B., "Synthesis and Characterization of 356-SiCp Composites by Stir Casting and Compcasting Methods", Proceedings of 11th Conference on Semi-Solid Processing of Alloys and Composites (S2p 2010), China, (2010) 141-146.
21. Niroumand, B., Azarpira, H., "Semisolid Rheocasting of AZ91 magnesium alloy", Proceedings of 11 th . International Foundry Conference, Croatia, (2011) 127-137.
22. Niroumand, B., Karbasi, M., Bagherpoor Torghabe, H., "Effect of gating system design on hot tearing susceptibility of A206 alloy", Proceedings of 11th International Foundry Conference, Croatia, (2011) 119-126.
23. Abbasipour, B., Niroumand, B., Monir-Vaghefi, M., "Mechanical Properties of A356-CNT Cast Nano Composite Produced by a Special Compcasting Route", Proceedings of TMS 2012 Annual Meeting & Exhibition, USA, (2012) 733-740.
24. Firoozbakht, M., Niroumand, B., M., Monir-Vaghefi, "Production of Cast AZ91-CNT Nano-Composite by Addition of Ni-P-CNT Coated Magnesium Powder to the Melt", Proceedings of TMS 2012 Annual Meeting & Exhibition, USA, (2012) 741-748.
25. Shayan, M., Niroumand, B., Toroghinejad, M., "Effect of Applied Pressure on Mechanical Properties of Squeeze Cast Al-MWCNT Composites" Proceedings of Materials Science and Technology (MS&T) 2012, USA, (2012) 128-135.
26. Saeedi, N., Ashrafizadeh, F., Niroumand, B., "Bainitic Heat Treatment and Fracture Mode of a Ni-Cr-Mo Low Alloy Steel" Proceedings of 16th international Metallurgy & Materials congress (IMMC 2012), Turkey, (2012).
27. Nasr Esfahani M., Niroumand B., Kermanpour A., "An Apparatus for Real Time Study of Free Dendritic Growth: Design, Manufacture and Testing", Proceedings of Iran International Aluminium Conference 2014 (IAC2014), Tehran, (2014), Paper 2-577.
28. Emami Najafi Dehkordi S., Hosseini Kupae M., Niroumand B., "Effects Of Casting Parameters on Fluidity of Cast LM24 Aluminum Alloy", Proceedings of Iran International Aluminium Conference 2014 (IAC2014), Tehran, (2014), Paper 1-636.
29. Nosouhian S., Mirzaei M., Niroumand B., "Effect of Grain Size and Oxidation on the Contact Angle of Water with Pure Aluminum", Proceedings of Iran International Aluminum Conference 2016 (IAC2016), Tehran, (2016).
30. Hamani Jazi M., Niroumand B., "Effects of squeeze casting parameters on surface quality and mechanical properties of a LM13 cast component", Proceedings of 5th Iran International Aluminum Conference 2018 (IAC2018), Tehran, (2018).
31. Noohi Z., Niroumand B., Timelli G., "Numerical simulation of the effects of a Phase Change Material (PCM) on solidification path of gravity sand cast Al-Cu alloy", International conference on High Tech Die Casting, Italy, 2021.
32. Mosallanejad M.H., Niroumand B., Saboori A., "A feasibility study on the applicability of DED Additive Manufacturing method for repairing Copper Mold Tubes used for Continuous Casting of Steel", 2nd international conference on Steelmaking and Continuous Casting (ISCC2022), Hormozgan Steel Company (HOSCO), Bandar Abbas, Iran, 2022.

✓ **National journal and conference papers 108**

More than 130 papers published in national scientific journals and conferences in Persian (Farsi).

Contribution to scientific journals

• Editor in chief of journal of Advanced Materials in Engineering published in Persian (Farsi), 2013 -2017
• Review Editor, Mechanical Properties of Metals, Frontiers in Metals and Alloys (https://loop.frontiersin.org/people/1085514/overview)
• Member of editorial board of journal of Journal of Advanced Materials and Processing, Since 2022
• Member of editorial board of journal of Advanced Materials in Engineering published in Persian (Farsi), Since 2013
• Member of editorial board of journal of Welding Science and Technology of Iran published in Persian (Farsi), Since 2015
• Member of editorial board of journal of Material Engineering of Majlesi university published in Persian (Farsi), Since 2005
• Reviewer of numerous prestigious journals.

Contribution to international and national conferences

<ul style="list-style-type: none">• Scientific committee chairman of the 2nd international conference on Steelmaking and Continuous Casting (ISCC2022), Hormozgan Steel Company (HOSCO), Bandar Abbas, Iran, 2022.• Scientific committee chairman of the 3rd international conference on "Welding and Non Destructive Testing (ICWNDT 2021)", Isfahan University of Technology, Isfahan, Iran, 2021• Scientific committee chairman of the 1st conference on Continuous Casting (ICCC 2019), Hormozgan Steel Company (HOSCO), Bandar Abbas, Iran, 2019.
<ul style="list-style-type: none">• Scientific committee chairman of the 5th joint conference of Iranian Metallurgical Engineers Society and Iranian Foundry men's Society, Isfahan University of Technology, Isfahan, Iran, 2011
<ul style="list-style-type: none">• Chairman of Steel Symposium 84, Isfahan University of Technology, Isfahan, Iran, 2005
<ul style="list-style-type: none">• Member of the international scientific committee of:<ul style="list-style-type: none">✓ 4th International Forum on Engineering Materials and Manufacturing Technology (IFEMMT-AS 2018), 2018, China✓ 2nd International Conference on Green Composite Materials and Nanotechnology (GCMN 2018), 2018, China✓ 11th-17th international conferences on Semi-Solid Processing of Alloys and Composites (S2P2010-S2P2023), held in 2010-2023 in China, South Africa, Oman, USA, China, Austria and Italy.✓ 1st-12th International joint conferences of Iranian metallurgical engineering society and Iranian foundry men's society (IMat2012-IMat2023) held in 2012-2023 in different cities in Iran.
<ul style="list-style-type: none">• Member of referee committee of:<ul style="list-style-type: none">✓ 2nd international conference on Civil Engineering, Architecture and Building Materials (CEABM 2012), China, 2012.✓ International conference on Materials and Products Manufacturing Technology (MPMT 2011), China, 2011✓ 6th international conference on Mechatronics and its Applications 2009 (ISMA'09), United Arab Emirate, 2009✓ 7th international conference on Composite Science & Technology (ICCST/7), United Arab Emirate, 2009✓ 10th international conference on Semi-Solid Processing of Alloys and Composites (S2P 2008) • jointly in Germany and Belgium, 2008✓ 2nd international conference on manufacturing Engineering, Tehran, 2007✓ 1st-6th International Conferences on Welding and Non Destructive Testing (ICWNDT2014- ICWNDT2024) held in 2014-2024 in different cities in Iran.
<ul style="list-style-type: none">• Member of scientific and referee committees of several national conferences

Contribution to student competitions

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| <ul style="list-style-type: none">• Chair of the 1st National Student Foundry Competition (NSFC), IUT, 2011 (NSFC.ir)• Chair of the 4th National Student Foundry Competition (NSFC), IUT, 2016 (NSFC2016.ir) |
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Scientific research projects

<ul style="list-style-type: none">• Additive Manufacturing (AM)<ul style="list-style-type: none">✓ In-situ alloying of Ti-Cu alloys through AM methods✓ Selected Laser Melting (SLM) and Electron Beam Melting (EBM) of titanium, steel and aluminum base alloys (ongoing)✓ Simulation of microstructural formation in AM parts (ongoing)✓ EBM of 316L stainless steel and 316L reinforced with nano-ceramic particles (ongoing)✓ Transient Liquid Phase (TLP) bonding of AM parts (ongoing)✓ Heat treatment and surface modification of AM parts (ongoing)
<ul style="list-style-type: none">• High Entropy Alloys (LWHEA)<ul style="list-style-type: none">✓ Development of a new Low Melting point Light Weight HEA (LMLW-HEA) (ongoing)
<ul style="list-style-type: none">• Phase Change Materials (PCMs)<ul style="list-style-type: none">✓ Tailoring solidification structure of some aluminum and brass alloys using PCMs (ongoing)✓ Computer simulation and physical modelling of the effects of PCMs on solidification path, macrostructure and Columnar-Equiaxed Transition (CET) of a transparent model material (ongoing)

<ul style="list-style-type: none"> • Semisolid processing <ul style="list-style-type: none"> ✓ Semisolid ingot and shape casting of Al, Mg, Zn, Cu and grey cast iron alloys by mechanical stirring, SSR processing, gas injection, cooling slope, rheo-centrifuged casting, thermo-mechanical and other novel techniques ✓ Semisolid casting of Al and cast iron in expendable molds under gravitational and centrifugal forces ✓ Corrosion behavior of semisolid A356 alloy produced by casting and thermo mechanical methods ✓ In-situ study of evolution of primary solid particles in semisolid processing of a transparent model material (SCN) ✓ Welding of 6061 Aluminum plates using a hybrid semisolid-FSW (friction stir welding) method
<ul style="list-style-type: none"> ✓ Metal matrix composites ✓ Ex-situ fabrication of Al-SiC, Al-C_f, Al-CNT and Mg-CNT micro and nano-composites by vortex, compocasting, powder injection and gas pressure infiltration methods ✓ In-situ fabrication of Al-Al₂O₃, Al-SiO₂, Al-SiOC and Mg-Metal oxides micro and nano-composites ✓ In-situ fabrication of cast Al matrix composites by in-situ pyrolysis of organic materials in the melt ✓ Fabrication and characterization of Sn-Cu-SiO_{2(np)} lead free solders ✓ Macro-composite (compound) casting of Al-Al bimetals ✓ Ingot and shape casting of cast Al-CNT and Mg-CNT nano-composites ✓ Additive manufacturing of metal matrix composites
<ul style="list-style-type: none"> • Metal foams <ul style="list-style-type: none"> ✓ Production of Al and Al matrix composite foams by melt squeezing, semisolid melt squeezing and gas pressure infiltration processes using NaCl and ceramic sphere space-holders ✓ Fabrication of syntactic Al and Mg foams by gas pressure infiltration techniques using low cost minerals
<ul style="list-style-type: none"> • Hydrophobicity of materials <ul style="list-style-type: none"> ✓ Development of polymer and polymer matrix nano-composite hydrophobic coatings for ceramic substrates ✓ Effects of solidification structure on water contact angle of Al and grey cast iron
<ul style="list-style-type: none"> • Surface alloying and compositing <ul style="list-style-type: none"> ✓ In-mould surface alloying of grey cast iron with Al and Cu ✓ Friction Stir Processing (FSP) of Mg alloy with CNTs and other nano-particles ✓ Laser surface alloying of steel plates
<ul style="list-style-type: none"> • Squeeze casting <ul style="list-style-type: none"> ✓ Squeeze ingot and shape casting of Al alloys, Mg alloys, grey and ductile cast irons ✓ Squeeze casting of Al-Al₂O₃, Al-C_f and Al-Al bimetal composites
<ul style="list-style-type: none"> • Hot tearing <ul style="list-style-type: none"> ✓ Hot tearing susceptibility of A206 alloy and Al-SiC cast composite ✓ Effects of running and gating system design on hot tearing susceptibility of A206 alloy ✓ Designing an ICTC device and proposing a new criterion for evaluation of hot tearing susceptibility of cast alloys
<ul style="list-style-type: none"> • Other research areas <ul style="list-style-type: none"> ✓ Fabrication of lead free solders ✓ Ultrasonic melt treatment of AZ91 magnesium alloy ✓ In-situ study of the effects of electric field on dendritic growth morphology using a transparent model material ✓ In-mould eutectic modification of Al-Si alloys ✓ Effects of nano-ceramic coatings on microstructure, mechanical properties and casting fluidity of thin walled aluminum castings ✓ Casting optimization of HiSi cast iron for corrosive environments ✓ Study of heat transfer in a scaled-down continuous casting copper mold

- **Main industry founded research projects**

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| <ul style="list-style-type: none"> ✓ Improving the casting yield of an aluminium high pressure die cast auto-part, Iran Godakht Co. in collaboration with Supply of Automobile Parts Co. (SAPCO), Iran ✓ Improving the microstructure and properties of high pressure die cast oil pump housing of Pegout 206, Atlas Pump Co. in collaboration with SAPCO, Iran ✓ Reducing the under-surface micro-porosity of XU7 auto-pistons, Pouya Neiestanak Co. in collaboration with SAPCO, Iran ✓ Production of a defect free A356 component by squeeze casting, Sponsored by the ministry of science, research and technology, Iran ✓ Improving the strap-lug joint quality of lead-acid auto-batteries, Tavan Battery Co. in collaboration with SAPCO, Iran ✓ Squeeze casting of a piston-like component sponsored by the ministry of industries and mines and the ministry of science, research and technology of Iran, Iran ✓ Fabrication of Aluminium metal matrix nanocomposite by BS290 pyrolysis, Isfahan Industrial Estates Company (Isfahan IEC), Iran |
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- **Other external research funding**

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| <ul style="list-style-type: none"> ✓ Semisolid ingot casting of an Al alloy by mechanical stirring, Office of research and technology affairs, IUT ✓ Squeeze casting of LM13 Al alloy, Office of research and technology affairs, IUT ✓ Study of heat transfer in a scaled-down continuous casting copper mold, Center of excellence for steel, Iran • Production of a defect free A356 component by squeeze casting, Ministry of science, research and technology of Iran, Iran ✓ Fabrication and characterization of an aluminum-aluminum macrocomposite bimetal by compound squeeze casting process, Iran National Science Foundation (INSF), Iran ✓ Synthesis and characterization of lead-free Sn-Cu nano composite solder through severe plastic deformation, Entrepreneurship center of IUT, Iran ✓ In-situ alloying of NiTi shape memory alloy from the elemental powders by additive manufacturing method, Iran National Science Foundation (INSF), Iran |
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- **Other industry related activities**

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| <ul style="list-style-type: none"> ✓ Member of the managing board of Iranian institute of welding and nondestructive testing, Since 2018 ✓ Member of the project supervision committee for manufacturing of the first domestically made turbine runner for power plant of Dez dam in Khuzestan province, Owner: Tavanir Co., Contractor: Saya Steel Co. ✓ Member of the project supervision committee for manufacturing of Qom monorail switch bridge, Owner: Qom Urban Railway Organization, Iran, Contractor: Mapna Group, Iran ✓ Member of project team for study of "Self-cleaning materials for the water industry" at University of Wisconsin-Milwaukee (UWM), sponsored by National Science Foundation (NSF) and center for Water Equipment & Policy (WEP) IAB, USA |
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- ✓ **Workshops attended**

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| <ul style="list-style-type: none"> ✓ "Research in the Age of AI: Tools, Trends & Innovations", Zedy Co., 2024. ✓ Several workshops on "effective teaching practice", "emotional intelligence", "research conduct", "entrepreneurship", "team work", "scientometrics", "workplace safety", ..., IUT, 2000-2017. ✓ 10 hours workshop on "Responsible conduct of research", UWM Graduate School, Wisconsin, 2012. ✓ Two days workshop on "From micro to nano lithography" by Prof. F. Yaghmaie, IUT, 2010. ✓ One day workshop on "Production of high performance aluminium castings" by Prof. J. Campbell, Iran Aluminium Research Center, Tehran, 2009. ✓ Two days workshop on "Introduction to XRD" by Prof. M.H. Enayati and H. Edris, IUT, 2003. ✓ One day workshop on "Steel melting in induction furnaces" by Prof. A. Changizove, Centre for Education and Research of Iranian Industries, Tehran, Iran, 1999. ✓ Two days workshop on "Financial and general management for manufacturers" by Prof. E.J. Colville, University of Melbourne, Australia, 1997. ✓ One day workshop on "Semi-solid processing of materials" by Prof. K. Xia, Advanced Materials Center, |
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University of Melbourne, Australia, 1994.

Patents

- About 30 nationally registered patents

• Main research interests

- Anything related to solidification and casting of alloys and composites including but not limited to:
 - ✓ Additive manufacturing of alloys and metal matrix composites
 - ✓ Semi-solid processing of alloys and composites
 - ✓ Macro, micro and nano-metal matrix composites
 - ✓ Fabrication of metallic foams
 - ✓ Hydrophobicity of solid surfaces
 - ✓ Lead free solders
 - ✓ In-situ study of solidification using transparent model materials
 - ✓ Squeeze casting of automotive parts
 - ✓ Hot tearing of cast alloys
 - ✓ Ultrasonic treatment of the melt
 - ✓ Fabrication of thin walled parts
 - ✓ Improvement of casting yield
 - ✓ ...