



Education

- **Polytechnique Montreal, Montreal, QC, Canada** (2014–present)
M.Sc. Degree, Department of Chemical Engineering
Thesis: “Indirect Measurement of Inter-Particle Forces in a Gas-Solid Fluidized Bed at High Temperature with a Simple Approach”
- **University of Tehran, Tehran, Iran** (2013)
M.Sc. Degree, Department of Materials Engineering
Thesis: “Solution Combustion Synthesis and Characterization of Alumina and Related Compounds”
- **Amirkabir University of Technology, Tehran, Iran** (2010)
B.Sc. Degree, Department of Mining and Metallurgy Engineering
Thesis: “Influence of Gas Generating Agent on Mechanical Properties of Al-SiC-TiB₂ Metal Foam”

Research Interests

- Process Engineering
- Process Design, Development and Optimization
- Hydrodynamics of Multiphase Systems
- Ceramic and Metallic Materials Synthesis
- Composite Materials

Work Experience

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| • 4th UFGNSM Biennial Conference | Executive Member | 2013 |
| • Alborz Safe Welding Co.
Tehran, Iran | NDT coordinator | 2010-2012 |
| • Espriss Steel Co.
Tehran, Iran | Metallurgy Specialist | 2009-2010 |
| • Maya Internet Hosting Co.
Tehran, Iran | Marketing and online support | 2008-2009 |
| • 8th Iranian National Students Conference on Materials and Metallurgical Engineering
Amirkabir University of Technology, Tehran, Iran | Executive Member | 2008 |
| • Student Scientific Council of Materials and Metallurgical Engineering
Amirkabir University of Technology, Tehran, Iran | Public Relations Manager | 2007-2009 |
| • Kaveh Student Journal
Amirkabir University of Technology, Tehran, Iran | Public Relations Manager | 2006-2007 |

Expertise

- Fluidization Engineering
- Multiphase reactors
- Process operation and troubleshooting
- Materials science
- Materials characterization(XRD, TEM, SEM, TG, DSC)
- Mechanical behaviour of materials and mechanical testing
- Selection of Engineering Materials by the Use of Ashby Diagrams
- Welding
- NDT test of welded joints(UT Level I&II According to the Requirements from SNT-TC-1A of ASNT)
- Nanofabrication
- Nanocomposites and Ceramics
- Composites
- Powder metallurgy
- Casting
- Heat treatment of steel
- Marketing
- Public relations management
- Webpage design

Research Background

- Troubleshooting and operation of fluidized bed reactors under elevated pressures and temperatures
- Hydrodynamics of multiphase systems at high pressure and temperature
- Synthesis of Alumina based metallic foams
- Synthesis of nano-oxide ceramics and composites by solution combustion synthesis(SCS)
- Optimization of an industrial steel casting line
- Patent a new method to produce SiC reinforced Aluminum metallic foams by CaCO₃ foaming agent (2010)

Conference Publications

- **N. Elahipanah**, S. Heshmati-Manesh, "Synthesis of Alumina by a Novel Combustion Method", *Advanced Materials Research*, 829 (2013), pp. 126-130.
- N. Elahipanah, S. Heshmati-Manesh, "Synthesis and Characterization of γ -Alumina by Solution Combustion Synthesis", *The First International and the Sixth Joint Conference of Iranian Metallurgical Engineering Society and Iranian Foundrymen's Society*, Tehran, Iran, 6-8 December 2012

- **N. Elahipanah**, B. Jamal Abbasi, S. Heshmati-Manesh, M. Zakeri, S. A. Tayebifard, "Synthesis of $Al_2O_3-ZrB_2$ compounds by MASHS and SCS Methods", 4th International Congress on Nanoscience and Nanotechnology, Kashan, Iran, 8-10 September 2012
- Y. Tabatabaei, **N. Elahipanah**, S.M.H.Mirbagheri, "Production of aluminum foam by baking of precursor prepared by adding gas generating agent to ceramic powder reinforced liquid metal", the forth joint conference of the Iranian Metallurgical Engineering congress & Iranian Foundry Society, Kerman, Iran, 17-18 Nov 2009
- Y. Tabatabaei; S.M. Seifi; **N. Elahipanah**; M. Daneshmand; S.M.H. Mirbagheri, "The Influence of Magnesium Addition on the Structure and Compressive Behavior of Aluminium Foams Made by a P/M Technology", 8th international conference of magnesium alloys and their applications, Germany, Weimar, 26-29 Oct 2009
- S.M. Seifi, Y. Tabatabaei, M. Daneshmand, **N. Elahipanah**. "Manufacturing of metal foam compounds by multifunctional coatings", International Conference Hot Forming of Steels & Product Properties, Grado, Italy, 13-16 September 2009