

## **NATIONALITY**

Canadian citizen  
Iranian citizen



## **ACADEMIC RECORDS**

<b>Ph.D.</b> <b>Metallurgical Engineering – Hot Deformation /Physical Metallurgy</b> McGill University, Montreal, QC, Canada, Supervsir: Prof. Steve Yue	<b>2002-2007</b>
<b>M.Sc.</b> <b>Metallurgical Engineering – Identification and Selection of Materials</b> Isfahan University of Technology, Isfahan, Iran, Supervsir: Prof. Abbas Najafizadeh	<b>1996-1999</b>
<b>B.Sc.</b> <b>Metallurgical Engineering – industrial Metalurgy</b> Isfahan University of Technology, Isfahan, Iran	<b>1989-1993</b>

## **THESIS**

- PhD** “The Effect of Very High Temperature Deformation on the Hot Ductility of V-Microalloyed Steel”  
**M.Sc** “Thermomechanical & Grain Growth Behavior of HSLA Steel (DIN STE 380-19800) by means of Hot Compression Test”  
**B.Sc** “Effects of Alloying Elements and Heat Treatment on Austempered ductile iron”

## **WORK EXPERIENCE**

<b>Assistant Professor</b> Dept of materials engineering, Isfahan University of Technology, Isfahan, Iran	<b>2011- present</b>
<ul style="list-style-type: none"><li>- Supervised students on the field of mechanical properties of materials, Thermomechanical processing, TWIP steels and sever plastic deformation</li><li>- Accomplished industrial projects on production of IF steels in steel industry</li><li>- Industrial relation advisor</li><li>- Some lectures offered: Theory of dislocation, Hot deformation of metals, Advanced mechanical properties (fracture, Creep, Fatigue), Sever plastic deformation, Materials selection</li></ul>	

**Postdoctoral Fellow / lab manager****2007- 2011**

Hot Deformation lab manager, Dept.of Materials Eng., McGill University, Montreal, QC, Canada and also visiting researcher at Industrial Materials Institution (IMI), NRC , Beacherville, Canada

- Researcher on “*Cold Spray* of In718 and Ti6Al4V alloys in order to build up near-net-shape parts” project using strategic grant and with collaboration of National Research Council of Canada (NRC) and Pratt & Whitney (Canada)

In this project, taking advantage of the unique features of the cold spray process characteristics, it is possible to directly fabricate net shape or near net shape components. In this research, the effect of cold spray processing variables, and post-treatments on the properties of cold sprayed Ni and Ti aerospace alloys is investigated, ultimately to optimize the cold spray process for build up applications.

- Involved in “*cool deformation of microalloyed line pipe steels*” project, sponsored by IPSCO and Evraz Inc.
- Involved in “*hot deformation properties of Mg alloys*”, sponsored by GM.
- A member of team to prepare proposal on “Strain Aging of ASTM A500 Hollow Structural Sections”, Oct 2010.

**Research Assistant / Ph.D candidate****2002-2007**

Dept.of Materials Eng., McGill University, Montreal, QC, Canada

“Effect of Very High Temperature Deformation on the Incidence of Transverse Cracking of Continuously Cast HSLA Steels”, Sponsored by Natural Sciences and Engineering Research Council (NSERC) of Canada and IPSCO steel making company, USA

In this study, a peritectic steel was melted in-situ and the hot ductility trough was quantified at temperatures ranging from 700 to 1100 °C. It was also subjected to very high temperature deformation in the single phase austenite region (1400-1300 °C) during cooling from the solidus temperature. It was noticed that such deformation can improve the hot ductility, which could alleviate cracking problem during continuous casting.

**Teaching Assistant & lab instructor****2002-2006**

Department of Mining, Metals and Materials Engineering, McGill University, Quebec, Canada

Courses:

- Phase Transformation in Metals
- Structural Properties of materials

**Senior Process Engineer****1996-2001**

Foolad Technic Consulting Eng.Co. -FIE Co.- Iran

- Material selection for mechanical engineering department.
- Participated in Saba project (thin slab casting, 700,000 t/y)
- Project coordinator, Coke making Plant, expansion project of Isfahan steel plant, the country's largest steel complex (3.4 MT /Year)

## **Heat Treatment Engineer**

**1994-1996**

Mobarakeh Steel Complex, 2.8 MT/Y steel flat products, Iran

- Heat treatment of spare parts including gas carburizing, nitriding, vacuum hardening with fully computerized furnaces (Aichelin, Austria) for maintenance workshop of the plant, as well as private companies operating in Iran.
- Member of a team working on steelmaking shop cranes problems.

## **SUMMARY OF QUALIFICATIONS**

---

- Familiar with electron microscopy systems such as TEM, EBSD, FEGSEM, VPSEM, XPA, and AES
- Efficiency for software such as, Material Testing System (MTS), Image analyser, Microsoft Office, AutoCAD, Endnote.
- Software programming using FORTRAN and BASICA
- Teaching experience as a lab instructor and teaching assistant
- Creative, analytical, co-operative, and hard working
- Good communication skills in English

## **RESEARCH QUALITY AND CITATIONS**

---

<https://scholar.google.com/citations?hl=en&user=AHEMcfgAAAAJ>

## **RESEARCH INTEREST**

---

Development of nano- structured metals through sever plastic deformation, cryo-rolling and returned Martensite processes, Development of advanced, new generation steels developments, Thermomechanical processing in order to obtain ultra-fine grains.

## **BIOGRAPHY**

---

I was born in Iran, Isfahan in 1971. Spent my primary and high school in the same city. After passing konkour exam, I admitted at Isfahan University of Technology in Materials Engineering. I was first in ranking among the graduates. I had to spend 2 years as mandatory military service based on the Iranian government regulation. Then, I continued my academic studies as a master Engineering in the same field as my B.s., while I was working in the largest steel plant in Iran. After about 7 years working experience in steel industry, I was joined professor Steve Yue and John Jonas group at McGill University in the field of hot deformation (or Mechanical Metallurgy) as a PhD student. I worked in National Research Council (NRC) of Canada as part of my postdoctoral fellow. I was living in Canada for 10 years, after which I returned to the home country where I persuaded my carrier as a faculty member. I am about to be promoted as an associate professor shortly.

## PUBLICATIONS – JOURNAL PAPERS

---

1. **“Softening Behavior of a Cold Rolled High-Mn Twinning-Induced Plasticity Steel”**, P. Dastranjy Nezhadfar, A. Rezaeian, and M. Sojudi Papkiadeh
2. **“Hot Deformation Behavior of High Mn TWIP Steel Using the Processing Map”**, Majid Sojudi, Ahmad Rezaeian, Ghasem Dini and M. R. Toroghinejad, ISIJ International, Vol. 55 (2015), No. 3, pp. 691–696
3. **“Application of Accumulative Roll Bonding and Anodizing Process to Produce Al-Cu-Al<sub>2</sub>O<sub>3</sub> Composite”**, VY Mehr, A Rezaeian, MR Toroghinejad, Materials & Design, 2015
4. **“The effect of grain size and martensitic transformation on the wear behavior of AISI 304L stainless steel”**, RN Dehsorkhi, S Sabooni, F Karimzadeh, A Rezaeian, Materials & Design, 2014
5. **“Mechanical properties and microstructure evolutions of multilayered Al–Cu composites produced by accumulative roll bonding process and subsequent annealing”**, VY Mehr, MR Toroghinejad, A Rezaeian, Materials Science and Engineering: A, 2014
6. **“The effects of oxide film and annealing treatment on the bond strength of Al–Cu strips in cold roll bonding process”**, Vahid Yousefi Mehr, M. R. Toroghinejad, Ahmad Rezaeian, Materials and Design 53 (2014) 174–181
7. **“Study on the wear behavior of ultrafine grained 304L stainless steel”**, R. Nafar dehsorkhi, S.Sabooni, F.Karimzadeh, A.Rezaeian, M.H.Enayati, Advanced Materials Research Vol. 829 (2014) 177-181
8. **“A comparative study between Johnson-Cook and PTW models in simulation of cold spray process”**, Saeed Rahmati, Abbas Ghaei, Ahmad Rezaeian Pages 188-194, 2014
9. **“The Effect of Mo on Microstructure and Mechanical properties of TWIP steel”**, GRR Dehkordi, H Monajatizadeh, MR Toroghinejad, Majlesi Journal of Materials Engineering, 2013
10. **“Effect of deep cryogenic treatment on 80CrMo12 5 tool steel properties”**, International Journal of Minerals, Metallurgy and Materials, Volume 19, Number 1, Jan 2012, 30-37
11. **“The Effect of Deposition Conditions on Adhesion Strength of Ti and Ti6Al4V Cold Spray Splats”**, Dina Goldbaum, J. Michael Shockley, Richard R. Chromik, Ahmad Rezaeian, Stephen Yue, Jean-Gabriel Legoux, and Eric Irissou, Journal of Thermal Spray Technology, Volume 21 (2) March 2012, 288-303
12. **“The effect of chemical composition and austenite conditioning on the transformation behavior of microalloyed steels”**, S.H. Mousavi Anijdana, Ahmad Rezaeian, Steve Yue, Materials Characterization Volume 63, 2012, 27–38
13. **“The effect of deep cryogenic treatment on mechanical properties of 80CrMo12 5 tool steel”**, K.Amini, S.Nategh, A.Shafyei and A. Rezaeian, International journal of ISSI, Vol.7 (2010), No.2m, 12-17.

14. **"The effect of deep cryogenic treatment on the mechanical and wear behavior of 80CrMo12 5 tool steel"**, K.Amini, S.Nategh, A.Shafyei and A. Rezaeian, *Materials and Manufacturing Processes*, 2012
15. **"Cold Spray Characteristics of Commercially Pure Ti and Ti-6Al-4V"**, W. Wong, A. Rezaeian, E. Irissou, J.G. Legoux, and S. Yue, *Advanced Materials Research Vols. 89-91* (2010) 639-644.
16. **"Mechanism of Hot Ductility Improvement of a Peritectic Steel Containing Vanadium Using Very High Temperature Compression"**, A. Rezaeian, F. Zarandi, and S. Yue, *Metallurgical and Materials Transaction A*, Volume 39, Number 11 / November, 2008
17. **"Effect of Deformation on Hot Ductility Behavior in the Peritectic Steel after Reheating and after in situ Melting"**, A. Rezaeian, F. Zarandi, D. Bai, and S. Yue, *Journal of the Iron and Steel Institute of Japan (ISIJ International)*, **Submitted**.
18. **"Evaluation of the Hot Ductility of a C-Mn Steel Produced from Scrap Recycling"**, Jessica calvo, José María Cabrera, Ahmad Rezaeian and Stephen yue, *ISIJ International*, Vol. 47, No. 10, 2007, 1518-1526
19. **"Effect of the Thermal Cycle on the Hot Ductility and Fracture Mechanisms of a C-Mn Steel"** J. Calvo, A. Rezaeian, J. M. Cabrera, S. Yue, *Engineering Failure Analysis*, 14 (2007), 374–383.
20. **"Effect of Cryogenic Treatment on the Mechanical Properties of 4340 Steel"**, S.Zhirafar, A. Rezaeian and M. Pugh, *Journal of Materials Processing Technology* 186 (2007) 298–303
21. **"Application of Deformation to Improve Hot Ductility in the Peritectic Steel"** A. Rezaeian, F. Zarandi, D.Q. Bai and S. Yue, *Materials Science Forum*, Vols. 500-501 (2005), 203-210.
22. **"Effect of Thermal Cycle on the Hot Ductility and Fracture Mechanisms of a C-Mn Steel"** J. Calvo, A. Rezaeian, J. M. Cabrera, S. Yue, *ANALES DE MECÁNICA DE LA FRACTURA* Vol. 22 (2005), 186-189
23. **"Effect of gas temperature on cold sprayed of Ti-6Al-4V alloy"**, Ahmad Rezaeian, E. Irissou, J.G. Legoux, and S. Yue, in preparation.
24. **"Microstructural Characterization of cold sprayed Ti-6Al-4V after annealing"**, Ahmad Rezaeian, E. Irissou, J.G. Legoux, and S. Yue, in preparation.

## **PUBLICATIONS – INTERNATIONAL CONFERENCE PAPERS**

---

1. **“Thermomechanical and Grain Growth Behavior of DIN-1710 Steel”**, 4<sup>th</sup> International conference on HSLA steels “HSLA steels 2000”, October. 30-*November. 2*, 2000, China.
2. **“Determining of Critical Temperatures and Thermomechanical Behavior of HSLA Steel”**, 4th Iranian Metallurgical Engineering Congress, May 18-20, 2000, Tehran University, Iran.
3. **“Technical and Financial Feasibility Study of Replacment of Coke Dry Quenching (CDQ) Instead of Coke Wet Quenching CWQ) unit in Isfahan Steelmaking Plant, Iran”**, R. Adelzadeh and A. Rezaeian, Steel Symposium 80, March 1-2, 2002, Isfahan University of Technology, Iran.
4. **“Green Tax and Economical Justification of Reconstruction of Baterry No.1 Cokemaking Plant in Isfahan Steel Making Plant, Iran”**, Steel Symposium 81, March 2003, Alloy steel Making Plant, Yazd, Iran.
5. **“Effect of Very High Temperature Deformation on Hot Ductility of a Peritectic Steel Containing Vanadium”**, A. Rezaeian, F. Zarandi, D.Q. Bai and S. Yue, MS&T '03 Conference, Nov. 9-12, 2003, Chicago, USA, Vol. 41, Conference 45, 33-42.
6. **“Very High Temperature Compression to Improve Hot Ductility of a Peritectic Steel”**, A. Rezaeian, D.Q. Bai and S. Yue, 16th Canadian Materials Science Conference, 5-8 June 2004, Carleton University, Ottawa, Canada.
7. **“Hot Ductility Improvement in the Peritectic Steel Containing Vanadium by Application of High Temperature Deformation”**, A. Rezaeian, F. Zarand, D. Q. Bai and S. Yue, MS&T '04 Conference, September 26-29, 2004, New Orleans, LA, USA.
8. **"Thermal Effect of Cycle on the Hot Ductility and Fractures Mechanisms of a C-Mn Steel"** J. Calvo, A. Rezaeian, S. Yue, J. M. Cabrera, XXII Encuentro Del Grupo Espanol De Fractura, Parador de Almagro, Mar. 9-11, 2005, Spain - Annals of Mechanics of the Fracture, Vol. 22, 184-189.
9. **“Effect of the Thermal Cycle on the Hot Ductility and Fracture Mechanisms of a C-Mn steel”**, J. Calvo, A. Rezaeian, J.M. Cabrera and S. Yue., Anales de mecanica de la fractura, Spain, 22, 2005, 184-189.
10. **“ Hot Ductility Behavior in the Peritectic Steel after Reheating and after In-situ Melting”** A. Rezaeian, F. Zarand, D. Q. Bai and S. Yue, MS&T '05 conference, Sept. 25-28, 2005, Pittsburg, PA, USA.
11. **“Effect of Deformation in the Vicinity of the Solidus Temperature on the Recrystallization Behavior of In-Situ Melted microalloyed steels”**, A. Rezaeian, F. Zarandi, J. Calvo, and S. Yue, Oct. 15-19, 2006, Cincinnati, OH, USA.

12. **“Embrittlement Mechanisms at High Temperatures for a C-Mn Steel with High Residuals Content”**, J. Calvo, A. Rezaeian, J. Cabrera, S. Yue, MS&T '07 conference, Sept. 16-20, 2007, Detroit, MI, USA.
13. **“Characterization of cold-sprayed Ni, Ti and Cu coating properties for their optimizations”**, A. Rezaeian, E. Irissou, J.-G. Legoux, R. R.Chromik, and S. Yue, ITSC 2008, June 2-4, Maastricht, The Netherland, pp.854-859, 2008.
14. **“Mechanical Properties of Cold-sprayed Ti, Ni and Cu”**, R.Chromik, A. Rezaeian, S. Yue E. Irissou, and J.-G. Legoux, R., COM2008, Aug 24-27, 2008, Winnipeg, Manitoba Canada. (oral)
15. **“Characterization of cold-sprayed Ni, Ti and Cu coating properties for their optimizations”**, A. Rezaeian, E. Irissou, J.-G. Legoux, R. R.Chromik, and S. Yue, The 5th Symposium on Functional Coatings and Surface Engineering (FCSE), June 1-4, 2008, Montreal (POSTER).
16. **“Characterization of cold-sprayed Ni, Ti and Cu coating properties for their optimizations”**, A. Rezaeian, w. Wong, E. Irissou, J.-G. Legoux, R. R.Chromik, and S. Yue, COM2008, Aug 24-27, 2008 Winnipeg, Manitoba, Canada (POSTER).
17. **Hardness Mapping and Nanoindentation of Cold-Spray Coatings**, D. Goldbaum, T. Shariff, A. Rezaeian, E. Irissou, J.-G. Legoux, R. Chromik, S. Yue, 36th International Conference On Metallurgical Coatings And Thin Films, ICMCTF 2009, April 27-May 1, 2009, San Diego, California, USA-(Poster)
18. **“Structural transformation and mechanical properties of cold sprayed nickel coatings after annealing”**, Zou, Yu; Rezaeian, Ahmad; Szpunar, Jerzy A.; Irissou, Eric; Yue, Stephen, Materials Research Society Symposium, December 1-5, 2009, Boston, USA, Vol. 1151E
19. **“Effects of Gas Temperature, Gas Pressure, and Particle Characteristics on Cold Sprayed Pure Titanium Coatings”**, W. Wong, A. Rezaeian, E. Irissou, J.-G. Legoux and S. Yue, ITSC 2009, May 4-7, 2009, p 231- 236
20. **Cold Spray Characteristics of Commercially Pure Ti and Ti-6Al-4V**  
W. Wong, A. Rezaeian, E. Irissou, J.-G. Legoux and S. Yue, THERMEC'2009, August 25-29, 2009, Berlin, Germany
21. **Effect of Gun Traverse Speed on Microstructure and Bond Strength of Cold Sprayed Ti6Al4V and Ti Coatings**, A. Rezaeian, W. Wong, E. Irissou, J.-G. Legoux and S. Yue, MS&T 09, Oct. 25-29, 2009, pittsburg, PA, USA
22. **Effect of holding time before cool deformation on microstructure evolution and mechanical properties of microalloyed steels**, S.H.Mousavi Anijdan, A. Rezaeian, S. Yue, MS&T 09, Oct. 25-29, 2009, pittsburg, PA, USA

23. **Effect of Temperature and Velocity on the Microstructure and Properties of Cold Sprayed Nickel and Copper Coatings**, Yu Zou, Ahmad Rezaeian, Wen Qin, Eric Irissou, Jean-Gabriel Legoux, Jerzy A Szpunar, Stephen Yue, MS&T 09, Oct. 25-29, 2009, pittsburg, PA, USA (oral)
24. **Characterization of mechanical properties of titanium cold spray coatings**, D. Goldbaum, R. Chromik, J. Ajaja, A. Rezaeian, W. Wong, S. Yue, E. Irissou, J. Legoux, ITSC 2010, May 3-5, 2010, Singapore
25. **Quality Improvement of Cold Sprayed Ti6Al4V Coating**, Ahmad Rezaeian, Eric Irissou, Jean-Gabriel Legoux, Steve Yue, 2nd Canadian Cold Spray Conference, June 15, 16, Industrial Materials Institute of the National Research Council of Canada, Boucherville, QC, Canada, 2010—(Poster)

## **PROFESSIONAL AFFILIATIONS**

---

**ASM international** - American Society for Metals

**TMS** - The Minerals, Metals & Materials Society

### **Conference session chair**

- MS&T 09 Copnference, Oct. 25-29, 2009, pittsburg, PA, USA
- TMS Conference, Feb. 27–Mar. 3, 2011, San Diego, CA, USA

## **AWARDS**

---

**Horace Young Scholarship**, Department of Mining, Metals and Materials Engineering, McGill University, Montreal, Quebec, Canada, 2003.

**Horace Young Scholarship**, Department of Mining, Metals and Materials Engineering, McGill University, Montreal, Quebec, Canada, 2002.

**The 2nd Rank** among the graduates in the B.Sc., Isfahan University of technology, Iran, 1993.

## **REFERNCES**

---

### **Professor Steve Yue**

Department of Mining and Materials Engineering, McGill University  
James McGill Professor, Lorne Trottier Chair in Aerospace Engineering

### **Professor John Joseph Jonas**

Department of Mining and Materials Engineering, McGill University  
Emeritus Professor

### **Professor Abbas Najafi-zadeh**

Department of Materials Engineering, Isfahan University of Technology

## **CONTACT INFORMATION**

---

Isfahan University of Technology  
Department of Materials Engineering  
Isfahan, Iran

Cell: (98)9134021350

Tel: (98)313-3915768

Fax: (98)313-3915743

Email: [a.rezaeian@cc.iut.ac.ir](mailto:a.rezaeian@cc.iut.ac.ir)  
[ahmad.rezaeian@mail.mcgill.ca](mailto:ahmad.rezaeian@mail.mcgill.ca)

<http://www.iut.ac.ir/en/>