

Education

- **PhD**, Materials Science, University of Toronto (U of T), Jun. 2009.
 - Design and deposition a thick multilayer thermal barrier coating and developing a numerical model for calculating internal stresses during deposition and in-service.
- **MSc.**, Ceramics Engineering, Materials and Energy Research Center (MERC), Nov. 1999.
 - Optimization of stainless steel fiber addition to refractory castables to increase mechanical behavior.
- **BSc.**, Ceramics Engineering, Iran University of Science and Technology (IUST), Sep. 1997.
 - Optimization of micro silica addition to refractory castables and measuring the setting and mechanical behavior.

Professional Work and Research Experience

2010/09-Now

- **Assistant Professor**, Science and Research Branch of Islamic Azad University
 - Teaching engineered ceramics, mechanical properties of ceramics, mechanical properties of materials, Characterization method of materials and Oxide ceramics.
 - Doing research on coatings, engineered ceramics and high temperature materials.

2003/09 – 2009/09

- **Researcher**, Center for Advanced Coating Technologies, Univ. of Toronto, Canada:
 - Developed multilayer thermal barrier coating based on $\text{Al}_2\text{O}_3\text{-SiO}_2\text{-MgO}$ ceramics.
 - Determined in-situ, residual and in-service stresses via curvature measurement.
 - Modeled and Analyzed stresses using Comsol Multiphysics[®].
 - Teaching assistant of introduction to materials science, pyrometallurgy, extractive metallurgy, powder metallurgy, engineered ceramics and phase transformation

2001/10 – 2003/09

- **Sales Engineer**, PARS Refractories Co., Tehran, Iran
 - Responsible for sales and after sales engineering services to Steel and Copper factories. After services included introducing new refractory layers and new materials for furnaces.
 - Redesigning the Refractory Lining in Esfahan Steel Complex L.D Converter (2003).
 - Lifetime Increase in Sarcheshmeh Copper Complex Converter (2002).

1997/09-2001/10

- **Technical Consultant**, G-Jey Refractories, Tehran, Iran
 - Setting up pre-shaped refractory line for steel ladles.
 - Alumina Based LCC for Steel Ladle Nozzle (1999).

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| Technical Skills | Experienced in: COMSOL multiphysics®, Microsoft Office, Auto CAD, MATLAB. |
| Activities & Memberships | <ul style="list-style-type: none"> • Member of Society of Automotive Engineers (2005- 07). • Member of American Ceramic Society (2003-now). • Member of National Standard Committee, Iran (2001-2003). • Member of Institute of Refractories Engineers, London (2001-04). • Member of Iran Ceram. Soc. (1995-now). |
| Honors & Awards | <ul style="list-style-type: none"> • Top Student (out of 6), MSc, MERC (1999). • Secured 4th position out of 130 applicants at national level for admission to MSc in materials science (1997). • Top 2% (out of 110,000 applicants) at national level for admission to BSc in Engineering (1993). |
| Technical Courses | <ul style="list-style-type: none"> • High pressure plasma processing of materials, ISPC-17 Summer School, Toronto, ON, Canada (2005). • Health and safety, University of Toronto, Toronto, ON (2005). • COMSOL multiphysics® structural mechanics module, COMSOL Ltd., Montreal, QC, Canada (2004). • Auto CAD, Alame University, Tehran, Iran (1998). |
| Publications | <p>Journal papers:</p> <ul style="list-style-type: none"> • H.R. Salimi Jazi, M. Hosseini, J. Mostaghimi, L. Pershin, T.W. Coyle, <u>H. Samadi</u> and A. Shafyei, “Plasma sprayed coating using mullite and mixed alumina/silica powders” <i>J. Therm. Spray Technol.</i> (2012) DOI: 10.1007/s11666-012-9766-x. • <u>H. Samadi</u>, L. Pershin, T. W. Coyle, “Effect of In-flight Particle Properties on Deposition of Air Plasma Sprayed Forsterite”, <i>Surf. Coat. Technol.</i> 204 (2010) 3300-3306. • <u>H. Samadi</u>, T. W. Coyle, “Modeling the Build-Up of Internal Stresses in Multilayer Thick Thermal Barrier Coatings”, <i>J. Therm. Spray Technol.</i>, 18 5-6 (2009) 996-1003. • <u>H. Samadi</u>, “Steel Fibers in Refractory Industry”, <i>Am. Ceram. Soc. Bull.</i> 82 3 (2003) 39-42. • <u>H. Samadi</u>, “The Effect of Particle Size Distribution on Physical Properties of Castables”, <i>Interceram</i> 52 5 (2003) 290-294. • <u>H. Samadi</u> “The Effect of Microsilica Addition on Iranian Based Chamotte Castables”, <i>The Refractories Engineers</i>, 9 (2002) 14-17. <p>Conference papers:</p> <ul style="list-style-type: none"> • <u>H. Samadi</u>, T. W. Coyle, “Design of a Thick Thermal Barrier Coating to Minimize In- |

Service Stresses” accepted to NAMIC 2012, Isfahan, Iran.

- H.R. Salimi Jazi, M. Hosseini, A. Shafyei, H. Samadi, L. Pershin, T.W. Coyle, J. Mostaghimi, “Study of plasma sprayed mullite coating using mullite and a mixture of alumina and silica powder particles” Proceedings of the 2011 Intl. Therm. Spray Conf. (2011), Hamburg, Germany.
- H. Samadi, L. Pershin, T. W. Coyle, “The Effect of Plasma Gas on Structure of Plasma Sprayed Forterite” Proceedings of the 2010 Intl. Therm. Spray Conf. (2010), Singapore.
- H. Samadi, T. W. Coyle, “Design of Alternative Multilayer Thick Thermal Barrier Coatings”, Proceedings of the 30th Intl. Conf. on Advanced Ceramics and Composites (2006), Cocoa Beach, FL, USA.
- H. Samadi, T. W. Coyle, “Mapping Deposition Parameters and Microstructures of Plasma Sprayed Spinel”, Proceedings of the 2006 Intl. Therm. Spray Conf. (2006), Seattle, WA, USA.
- R. Soltani, H.Samadi, E. García, T.W. Coyle “Development of Alternative Thermal Barrier Coatings for Diesel Engines”, SAE paper no. 2005-01-0650, Proceedings of the SAE World 2005, (2005), Detroit, MI, USA.
- H. Samadi, T. W. Coyle “Alternative Thermal Barrier Coatings for Diesel Engines”, Proceedings of the 5th Congress of Iran Ceramic Society (2004), Tehran, Iran.
- H. Samadi, F.Golestani Fard “The Effect of Fiber Addition on Low Cement Castables”, Proceedings of UNITECR '03 (2003) Nagoya, Japan.

Technical review:

- F.Golestani Fard, H.Samadi “Low Cement Castables”, Research Office, Iran Ministry of Mines and Metals, (1998).