

SEYEDEH NARJES HOSSEINI

Personal Information

Sex: Female

Date of Birth: March , 1 , 1985

Marital status: Single

Contact Information

E-mail addresses: n.hosseini@pgu.ac.ir

n.hosseini@ma.iut.ac.ir

Phone: +987731222631

Address: Department of Mechanical Engineering, Persian Gulf University, Boushehr, Iran

Educations

High School Diploma: Mathematics-Physics

Farzanegan High School (SAMPAD¹), Boushehr, Iran, 1999-2002.

G.P.A.: 19 /20, Second place.

Bachelor of Science: Materials Science and Engineering

Department of Materials Engineering, Shahid Chamran University, Ahwaz, Iran, September 2003- August 2007.

Project Topic: "Preparation of a Computer Programme for Wire Drawing with Continuous Dies".

Advisor: Dr. E. Hajjari

G.P.A.: 16.39 /20, Top 10%.

Master of Science: Materials Selection and Characterization

Department of Materials Engineering, Isfahan University of Technology², Isfahan, Iran, September 2008- February 2011.

Thesis Topic: "Synthesis of CoAl/Al₂O₃ Nanocomposites and Their Thermodynamic and Kinetic Analysis".

Advisors: Dr. F. Karimzadeh, Dr. M.H. Enayati

G.P.A.: 18.55 /20, Third place among 38 graduated students.

PhD: Materials Engineering

Department of Materials Engineering, Isfahan University of Technology, Isfahan, Iran, September 2011- June 2016.

Advisors: Dr. F. Karimzadeh, Dr. M.H. Enayati

G.P.A.: 19.25 /20, First place among 14 PhD students.

¹ Iran's national organization for development of exceptional talents

² Isfahan University of Technology is among the best and top sets of universities of Iran.

Related Courses

Crystallography, Physical Metallurgy, Mechanical Metallurgy, Welding Metallurgy, Extractive Metallurgy, Powder Metallurgy, Metallography, Solidification, Metals Forming, Hot Deformation, Heat Treatment, Diffusion in Solids, Phase Transformations, Casting, Corrosion & Oxidation, Dislocations Theory, Polymers, Ceramics, Refractory Materials, Non-Iron Alloys, Advanced Electro-ceramics, Advanced Solidification of Metals, Advanced Welding Methods, Non-Destructive Testing (NDT), Materials Selection, New Methods of Materials Characterization, Methods of Bio-Materials Characterization & Selection, Coating & Surface Metallurgy, Nano-Structured Materials, Texture & Anisotropy, Advanced Thermodynamics, Calculation of Errors in Measurement, Advanced Engineering Mathematics, Solid-State Physics, Magnetism, Design of Experiments (DOE), Finite Elements.

School Projects and Seminars

- Comprehensive study on XRF (X-Ray Fluorescence)
- Study on thermomechanical processing of spring steels.
- Research about Laser Beam Welding (LBW)
- Study on Welding of Carbon Nanotubes
- Investigation of Diffusion in Nanomaterials
- Comprehensive Study on Nanocrystalline Powders Sintering, Compaction and Consolidation Methods
- Evolution of Stainless Steel Surface Microstructure after Laser Irradiation
- Comprehensive Study on Metaheuristic Algorithms
- Research about Quantum Dots
- Investigation of Texture in Ceramics

Workshops

- Attending workshop entitled “Characterization and Microanalysis of Materials” held in Isfahan University of Technology, Isfahan, Iran, 24th October, 2011 (5th Joint Conference of Iranian Metallurgical Engineers Society and Iranian Foundry men’s Society).
- Attending workshop entitled “How to Get Published in The Peer Reviewed Journals” held in Isfahan University of Technology, Isfahan, Iran, 24th October, 2011 (5th Joint Conference of Iranian Metallurgical Engineers Society and Iranian Foundry men’s Society).

Research Interests

- Advanced Materials (Processing and Manufacturing Technologies)
- Nanotechnology
- Powder Metallurgy
- Magnetic Materials
- Composites
- Fuel Cells
- Coatings
- Thin films

Research Experience

Isfahan University of Technology (IUT), Research Assistant, M.S. thesis (2008-2011)

Synthesis of CoAl/Al₂O₃ Nanocomposites and Their Thermodynamic and Kinetic Analysis
(under supervision of Dr. F. Karimzadeh and Dr. M.H. Enayati)

In this research, synthesis of the nanostructured CoAl intermetallic compound and CoAl/Al₂O₃ nanocomposites were investigated by mechanical alloying (MA). The phase transformations and microstructural changes were studied by X-ray diffraction (XRD), scanning electron microscopy (SEM), transmission electron microscopy (TEM) and differential thermal analysis (DTA). Thermodynamics analysis was carried out using Miedema model. The activation energies of reduction reactions, calculated using different model-free methods.

Pohang University of Science and Technology (POSTECH), Research Assistant, PhD. thesis (2014)

Study of Formation Mechanism and Properties of Nanostructured Cu-Fe-O/LaCrO₃ Spinel Composite Coatings for Application in Solid Oxide Fuel Cell Interconnects

(under supervision of Dr. N.M. Sammes, Dr. F. Karimzadeh and Dr. M.H. Enayati)

Industry Experience

- **Sadra Company**, Summer Intern (Summer 2007)
Quality Control and Quality Assurance Sections.
- **Institute of Standard and Industrial Research of Iran (ISIRI) -Boushehr**, (Summer 2008)
Laboratory of Mechanics
- **Esfahan Petrochemical Company and Esfahan's National Elites Foundation**, (Spring 2015-present)
Catalyst Design for Phthalic Anhydride Unit

Work Experience

- XRD operator at Isfahan University of Technology (1 year)

Teaching Experience

- **Isfahan University of Technology**, Teaching Assistant (Winter 2012)
 - Materials Science, Dr. M.H. Enayati
- **Instruction Center of Iranian House of Industry & Mine-Boushehr** (Fall 2012)
 - Welding Engineering Course, Welding Metallurgy
- **Elmi-Karbordi University of Boushehr**, (Winter 2011)
 - Mechanical Properties of Materials
 - Cutting & Preparation of Edges Methods
- **Payame Noor University of Boushehr**, (Fall 2014-present)
 - Crystallography
 - Materials Chemistry and Physics
 - Thermodynamics of Materials
 - Physical Properties of Materials

- Mechanical Properties of Materials
 - Castings
 - Extraction of Metals
 - Corrosion of Metals
 - Metals Forming
- **Persian Gulf University of Boushehr**, (present)
- Materials Production Methods
 - Materials Science

Professional Membership

- Board of Directors: Welding Engineering Company of Boushehr Province.
- Iranian Society of Surface Science & Technology.

Skills

Microsoft Office (Word, Excel and PowerPoint), MathType, Sigma Plot, Origin Pro., Xpert and MDI Jade (XRD Softwares), Img Tool.

Languages

Persian (Native)
English (Fluent in writing & listening)

Publications and Presentations

- S.N. Hosseini, T.Mousavi, F. Karimzadeh, M.H. Enayati, Thermodynamic Aspects of Nanostructured CoAl Intermetallic Compound During Mechanical Alloying, *Journal of Materials Science & Technology*, 2011, 27(7), 601-606.
- S.N. Hosseini, F. Karimzadeh, M.H. Enayati, Mechanochemical synthesis of Al₂O₃/Co nanocomposite by aluminothermic reaction, *Advanced Powder Technology*, 2012, 23, 334-337.
- S.N. Hosseini, F. Karimzadeh, M.H. Enayati, Development and characterization of CoAl-Al₂O₃ intermetallic matrix nanocomposite, *Journal of Materials Chemistry and Physics*, 2012, 136, 341-346.
- S.N. Hosseini, F. Karimzadeh, M.H. Enayati, Nano-scale grain growth behavior of CoAl intermetallic synthesized by mechanical alloying, *Bulletin of Materials Science*, 2014, 37 (3), 383-387.
- S.N. Hosseini, F. Karimzadeh, M.H. Enayati, N.M. Sammes, Synthesizing CuFe₂O₄ Spinel Powders by a Combustion-Like Process for Solid Oxide Fuel Cell Interconnects Coating, *International Journal of Chemical, Molecular, Nuclear, Materials and Metallurgical Engineering*, 2015, 9 (7), 787-790.
- S.N. Hosseini, F. Karimzadeh, M.H. Enayati, N.M. Sammes, Oxidation and electrical behavior of CuFe₂O₄ spinel coated Crofer 22 APU stainless steel for SOFC interconnect application, *Solid State Ionics*, 2016, 289, 95-105.
- S.N. Hosseini, M.H. Enayati, F. Karimzadeh, N.M. Sammes, Formation mechanism, crystallite growth and electrical conductivity of nano-crystalline Cu_xFe_{3-x}O₄ (0.75 ≤ x ≤ 1.25) spinels prepared by glycine-nitrate process, *Thermochimica Acta*, 2016, 639, 91-97.
- S.N. Hosseini, M.H. Enayati, F. Karimzadeh, N.M. Sammes, LaCrO₃/CuFe₂O₄ composite coated Crofer 22 APU stainless steel interconnect of SOFCs, *Journal of Metallurgical and Materials Transactions A*, Revised.

- S.N. Hosseini, M.H. Enayati, F. Karimzadeh, N.M. Sammes, Application of glycine nitrate process and screen-printing technique to synthesis copper-ferrite spinel on the AISI 430 ferritic stainless steel used for SOFC interconnect, *Journal of Electrochemical Society*, Under Review.
- S.N. Hosseini, M.H. Enayati, F. Karimzadeh, N.M. Sammes, Effect of fuel to oxidant molar ratio on the phase formation of nano-crystalline CuFe_2O_4 prepared by glycine–nitrate combustion, *Powder Diffraction*, Under Review.
- S.N. Hosseini, F. Karimzadeh, M.H. Enayati, In-situ synthesis of $\text{Al}_2\text{O}_3/\text{Co}$ ceramic nanocomposite by mechanical alloying, *3rd International Congress on Nanoscience and Nanotechnology (ICNN2010)*, 2010, Shiraz, Iran.
- S.N. Hosseini, F. Karimzadeh, M.H. Enayati, Synthesis and formation mechanism of Alumina/Cobalt nanocomposite by aluminothermic reaction and its kinetic studies using model-free methodes, *6th International Conference on Nanostructures (ICNS6)*, 2016, Kish, Iran.
- S.N. Hosseini, M.H. Enayati, F. Karimzadeh, Synthesis of Nanostructured CoAl Intermetallic Compound via Mechanical Alloying, *First National Congress on New Sciences and Technologies in Oil Purging Industry*, 2010, Isfahan, Iran.
- S.N. Hosseini, F. Karimzadeh, M.H. Enayati, Investigation of CoAl- Al_2O_3 Intermetallic Matrix Nanocomposite Prepared by Mechanical Alloying, *4th International Congress on Nanoscience and Nanotechnology (ICNN2012)*, 2012, Kashan, Iran.
- S.N. Hosseini, M.H. Enayati, F. Karimzadeh, Heat Treatment of CoAl- Al_2O_3 Intermetallic Matrix Nanocomposite prepared by Mechanical Alloying, *4th International Congress on Nanoscience and Nanotechnology (ICNN2012)*, 2012, Kashan, Iran.
- S.N. Hosseini, F. Karimzadeh, M.H. Enayati, Investigation of Nanostructured CoAl Intermetallic Compound Formation Enthalpy in Mechanical Alloying Process, *National Conference on Materials Engineering*, 2012, Malayer, Iran.
- S.N. Hosseini, F. Karimzadeh, M.H. Enayati, "Non-Isothermal Kinetic Studies on The Synthesis of $\text{Al}_2\text{O}_3/\text{Co}$ Nanocomposite by Aluminothermic Reaction", *3rd International Conference on Composites: Characterization, Fabrication, and Application (CCFA-3)*, 2012, Tehran, Iran.
- F. Karimzadeh, M.H. Enayati, S.N. Hosseini, Structural evolutions of nanostructured CoAl intermetallic compound during mechanical alloying and subsequent heat treatment, *Proceedings of the international conference Nanomaterials: Applications and Properties (NAP)*, 2012, 1(3), 03CNN15-1-03CNN15-5.
- S.N. Hosseini, F. Karimzadeh, M.H. Enayati, Characterization of copper ferrite spinel synthesized by glycine-nitrate combustion process for using as solid oxide fuel cell interconnects coating, *3rd National congress on Hydrogen and Fuel Cells*, 2015, Tehran, Iran.
- S.N. Hosseini, F. Karimzadeh, M.H. Enayati, N.M. Sammes, Synthesizing CuFe_2O_4 Spinel Powders by a Combustion-Like Process for Solid Oxide Fuel Cell Interconnects Coating, *17th International Conference on Electromaterials Science and Engineering (ICESE 2015)*, 2015, Istanbul, Turkey.
- S.N. Hosseini, F. Karimzadeh, M.H. Enayati, Evaluation of thermal stability and crystallite growth of nanostructured CuFe_2O_4 spinel produced by glycine-nitrate combustion synthesis, *3rd National Conference & 1st International Conference on Applied Researches in Chemistry & Chemical Engineering*, Tehran, Iran.

Awards & Achievements

- Among 10% top students in B.S., Shahid Chamran University
- Outstanding M.S. graduate award: Admission for PhD program without participation in the national entrance exam, IUT, 2011.
- Ranked 1th among the Ph.D students, Materials Science & Engineering, IUT.
- Iran's National Elites Foundation PhD prize, Sep 2014-Aug 2015.

Hobbies and Interests

- Mountain Climbing, Swimming, People, Different Cultures, Painting, Computer & Internet, Movie and Music.