

Curriculum Vitae

Name: Mahdi Khoeini

Place & Date of Birth: 16 January 1983, Tehran, Iran

Affiliation: Assistant Professor, Department of Materials Science and Engineering, Azad University, Saveh Branch, Nor-alibeyk Road, Saveh, Iran, P.O.BOX: 39187-366

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Education Background

(2010-2017) PhD in Advance Materials, Azad University, Science and Research Branch, Department of Materials Science and Engineering, Tehran, IRAN.
CGPA: 16.39/20

(2005-2007) MSc in Ceramic Engineering Azad University, Science and Research Branch, Department of Materials Science and Engineering, Tehran, IRAN.
CGPA: 18/15/20

(2001-2005) BSc in Ceramic Engineering, Azad University, Science and Research Branch, Department of Materials Science and Engineering, Tehran, IRAN.
CGPA: 15.08/20

(1997-2001) Diploma in Mathematics and Physics, Moalem High School, Tehran, IRAN.
CGPA: 17.58/20

Research

PhD Thesis (2013-2017) - *The Effects of SiC & TiC along additives on sintering, microstructure and properties of Ultra high temperature of ZrB₂ ceramics*

In this research, the effects of SiC, TiC and Carbon additive on the sintering behavior, microstructure and properties of Ultra High Temperature of ZrB₂ Ceramics was studied. The experimental results showed that the addition materials were found to enhance the sinterability of SHS produced ZrB₂ powder. The densification increased to 98% of the theoretical density and the addition materials on the properties of the composites had a positive effect.

MSc Research (2006-2007) - *Preparation and Morphology Study of Epoxy–Nanoclay Nanocomposites*

In this research Epoxy–clay nanocomposites have been produced using silane modified montmorillonite. The obtained results showed that interlayer spacing increases with increasing the amount of silane modifier. The interlayer spacing of clay in the nanocomposites increases and the 001 peak of the montmorillonite was shifted to smaller 2theta and in many cases disappeared. The XRD and TEM results demonstrate that the layers of clay were partially exfoliated.

Honors and Awards

- Ranked 3rd among all PhD. Advanced Materials Students based on overall GPA, summer 2017
- Ranked 1 among all MSc. Ceramic Engineering Students based on overall GPA, fall 2007
- Ranked 9th among all BSc. Ceramic Engineering student based on overall GPA, summer 2005
- Best lecturer based on students evaluation, Faculty of Engineering, Saveh, Iran(2011&2015)

Teaching Experience

- **Lecturer, Faculty member of Materials Science and Engineering**, Engineering Department, Azad University, Saveh Branch, (2008-Present).
- **Lecturer, Visiting Professor**, Department of Materials Science and Engineering, Faculty of engineering, Azad University, Science and Research Branch, (2007-Present)

- ✓ **Courses**
 - Materials characterization (Fall 2008 - Present)
 - Refractory Materials (Fall 2008 - 2016)
 - Electro-Optic Properties of ceramics (Summer 2009 – 2016)
 - Thermo-mechanical Properties of Ceramics (Summer 2009 – 2016)
 - Process of Ceramic manufacturing 1 (Raw Materials) (Winter 2007 – Present)
 - Process of Ceramic manufacturing 2 (Ceramics Forming) (Fall 2007 – Present)
 - Process of Ceramic manufacturing 3 (Ceramics Drying and Firing)(2009-2015)
 - Glass Theory and Glaze (Winter 2010 – 2015)
 - Semiconductors (Winter 2010 – Present)
 - Ceramic adhesives (Winter 2010 – Present)

- ✓ **Laboratories**
 - Materials characterization
 - Refractory Materials
 - Process of Ceramic manufacturing 1 & 2 & 3
 - Glass Theory and Glaze

- ✓ **Supervised MSc Thesis**
 - Synthesis of hollow mesoporous Silica nanocomposites via hard templating
 - Fabrication of Epoxy-Graphene nanocomposite with the aim of mechanical properties enhancement of polymeric matrix
 - Preparation of mesoporous TiO₂ nanoparticles on tile via polymer templating and its photocatalytic investigation
 - The effects of Al, Fe, Cu and Mo, on sintering behavior, microstructure and properties of Ultra high temperature of ZrB₂ ceramics
 - Investigation on sintering temperature on properties of Ultra high temperature of ZrB₂ ceramics

- **Teacher assistant**
 - Materials characterization, Azad University, science and research Branch, (Sep. 2003-June 2005)
 - Process of Ceramic manufacturing 1 & 2 & 3, (Sep. 2003-June 2005)
 - Refractory Materials, (Sep. 2004-June 2005)

Experience

- **Project Executor**, The effect of nanosilicate layered on Alumina-Graphite refractories, (Feb. 2010 – Apr. 2011) – Ceramic Lab, Azad university, Saveh Branch
- **Assistant Project Executor** (Jun. 2007- Sep. 2009) – Research Center for nanostructure and nanocomposites, Azad University, Science and Research Branch, IRAN,
Participated Projects:
 - Production of nanosilicate layered for use in polymeric nanocomposites
 - Production of modified nanoclay for use in polymeric nanocomposites
 - Synthesis and Properties of Aluminium Alloys reinforced with SiC particles

- **Graduate Research Assistant** (Feb. 2007- Aug. 2009) – Ceramic Lab, Materials and Energy Research Center, Karaj, IRAN. Participated Projects:
 - Investigation on the sintering behavior of ZrB₂ matrix composites with SPS method
 - Study on the effect of carbides on pressureless sintering of ultra high temp. ceramics
- **Apprentice** (summer 2005) – Ceramic Lab, Materials and Energy Research Center, Karaj, IRAN. Training in the center of design and manufacturing of ceramic composites

Publications

- **Journal papers**
 - **M. Khoeini**, A. Nemati, M. Zakeri, M. Tamizifar, H. Samadi, "Comprehensive study on the effect of SiC and carbon additives on the pressureless sintering and microstructural and mechanical characteristics of new ultra-high temperature ZrB₂ ceramics", *Journal of Ceramics International* 41 (2015) 11456–11463.
 - **M. Khoeini**, M. Zakeri, A. Nemati, M. Tamizifar, H. Samadi, "Effect of Silicon Carbide and graphite additives on the pressureless sintering mechanism and microstructural characteristic of Ultra-High Temperature ZrB₂ Ceramics Composites", *Journal of Advanced Materials and Processing*, (2018) *IN PRESS*
 - M.J. Khalaj, A. Khoshakhlagh, S. Bahri, **M. Khoeini**, M. Nazerfakhari, "Split tensile strength of slag-based geopolymer composites reinforced with steel fibers: Application of Taguchi method in evaluating the effect of production parameters and their optimum condition", *Journal of Ceramics International*, 41 (2015) 10697-10701.
 - G. Khalaj, **M. Khoeini**, M. Khakian, "ANN-based prediction of ferrite fraction in continuous cooling of microalloyed steels", *Journal of Neural Computing and Applications*, DOI 10.1007/s00521-012-0992-4, (2012)
 - T. Azimzadegan, **M. Khoeini**, M. Etaat, A. Khoshakhlagh, "An artificial neural-network model for impact properties in X70 pipeline steels", *Journal of Neural Computing and Applications*, DOI 10.1007/s00521--012-1097-9, (2012)
 - G. Khalaj, T. Azimzadegan, **M. Khoeini**, M. Etaat, "Artificial neural networks application to predict the ultimate tensile strength of X70 pipeline steels", *Journal of Neural Computing and Applications*, DOI 10.1007/s00521-012-1182-0, (2012)
 - H.R. Hafizpour, **M. Khoeini**, "Investigation on the consolidation behavior of Aluminium/nano SiC composite powder using non-linear", *Journal of American Science*, (2011) 7(6):1258-1262.
 - **M. Khoeini**, H. Rastegar, H.R. Hafizpour, "Preparation of layer nano-Silicate/Alumina Castable composites", *Journal of American Science*, (2011); 7(6):630-634.
 - H. Rastegar, **M. Khoeini**, H.R. Hafizpour, A. Nemati, "Improving the wettability and oxidation resistance of graphite by coating", *Journal of American Science*, (2011); 7(7):684-688.
 - H.R. Hafizpour, **M. Khoeini**, "Compaction behavior of aluminium matrix composite reinforced with nano/micro scale SiC particulates", *Journal of American Science*, (2011) 7(7):753-759.
 - **M. Khoeini**, S. Bazgir, M. Tamizifar, A. Nemati, K. Arzani, "Preparation and morphological study of Epoxy/Silane nanoclay nanocomposite", *Asian Journal of Chemistry*, Volume 22 No.1 (2010), 797-807.
 - **M. Khoeini**, S. Bazgir, M. Tamizifar, A. Nemati, K. Arzani, "Investigation of modification process and morphology of organosilane modified nanoclay", *Journal of Ceramics Silikaty*, 53(4) (2009) 254-259.
 - **M. Khoeini**, S. Bazgir, M. Tamizifar, K. Arzani, "Preparation of modified nanoclay for use in Epoxy-clay nanocomposite", *Journal of Iranian Ceramic Society*, 11 (2007) 43-50.

- **Conference Papers**

- **M. Khoeini**, S. Bazgir, M. Tamizifar, A. Nemati, K. Arzani, "Morphology and properties of organosilane modified nanoclay", The 11th International Conference and Exhibition of European Ceramic Society, 21-25 June 2009, Krakow, Poland.
- **M. Khoeini**, S. Bazgir, M. Tamizifar, A. Nemati, K. Arzani, "Preparation and morphological study of Epoxy-Silane modified nanoclay nanocomposite", The 1st Nano Today Conference, 2-5 August 2009, Biopolis, Singapore.
- **M. Khoeini**, S. Bazgir, M. Tamizifar, A. Nemati, K. Arzani, "Review paper of Epoxy/nanoclay nanocomposites: Synthesis, Morphology and properties", The 9th International seminar on polymer science and technology, Iran Polymer and Petrochemical Institute, 17-21 October 2009, Tehran, Iran.
- **M. Khoeini**, S. Bazgir, M. Tamizifar, A. Nemati, K. Arzani, "Synthesis of Modified nanoclay used in Epoxy-clay nanocomposite", The 2th International Congress on Nanoscience & Nanotechnology, 28-30 October 2008, university of Tabriz, Iran.
- **M. Khoeini**, S. Bazgir, M. Tamizifar, A. Nemati, K. Arzani, "Thermal properties of Epoxy/Silane modified nanoclay nanocomposites", The First International Conference on Composites: Characterization, Fabrication and Application, 15-18 December 2008, Kish Island, Iran.

Patents

- **M. Khoeini**, S. Bazgir, M. Tamizifar, K. Arzani, "Preparation of Epoxy-nanoclay nanocomposite modified with silane", The Office of Registration of Companies and Industrial Property of the State Registration and Property Registration Organization of Iran, ID Number: 43522, 2007.
- **M. Khoeini**, S. Bazgir, M. Tamizifar, K. Arzani, "Preparation of Epoxy-nanoclay nanocomposite modified with silane", The Office of Registration of Companies and Industrial Property of the State Registration and Property Registration Organization of Iran, ID Number: 43520, 2007.

Presentation

- Iranian Young Research Club, Azad University, Saveh Branch, 2014, "**Advanced Ceramics Materials**".
- Iranian Young Research Club, Azad University, Saveh Branch, 2016, "**Ultra high Temperature Ceramics**".
- Iranian Young Research Club, Azad University, Science and Research Branch, 2007, "**Epoxy-Nanoclay Nanocomposites**".

Affiliations

- Member of Iranian Ceramic Society (ICerS)
- Member of International Teacher/Professor Society (ITIC)
- Member of Iranian Young Research Club

Areas of research interests

- Advanced Materials
- Ultra High Temperature Ceramics Composites
- Nanoclay and Nanocomposites
- Polymeric Nanocomposites
- Al/SiC nanocomposites

Skills

- **Language** – Persian (native) & English (Fluent)
- **Lab Equipment**
 - Synthesis and Sintering of Ceramic Materials and Ceramic Composites
 - Synthesis and Preparation of Polymeric Nanocomposites
- **Application**
 - Matlab
 - AutoCAD
 - ANSYS
 - SPSS
 - Office

References

Prof. A. Nemati, Department of Materials Science and Engineering, Sharif University of Technology, Tehran, Iran, Nemati@sharif.edu

Prof. M. Zakeri, Ceramic Complex, Materials and Energy Research Center, Karaj, Iran, M_zakeri@merc.ac.ir

Prof. S. Baghshahi, Faculty of Technical & Engineering, Imam Khomeini International University, Qazvin, Iran baghshahi@ikiu.ac.ir

Prof. M. Tamizifar, Department of Metallurgy and Materials Engineering, Iran University of Science & Technology, Tehran, Iran, Tamizifar@iust.ac.ir