

CURRICULUM VITAE

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Assistant Professor

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• Educational Background

PhD: Chemical Engineering, Chemical Engineering Faculty, Iran University of Science and Technology (IUST), Tehran, Iran

PhD Thesis: Synthesis of Electrically Conducting Polymerized High Internal Phase Emulsion (PolyHIPE) Poly (Styrene-co-Divinylbenzene) Foams

MSc: Polymer Engineering Group, Chemical Engineering Faculty, Sahand University of Technology (SUT), Tabriz, Iran

M. Sc. Thesis: Rheological Behavior and Stability of Bidispersed Nanometric Suspensions Used in Manufacturing of the Top Layer of Nanocomposite Membranes

BSc: Process Engineering Group, Chemical Engineering Faculty, Iran University of Science and Technology (IUST), Tehran, Iran

B. Sc. Thesis: Recycling of Polyethylene Terephthalate (PET)

• Publications

[1] H. Karimian and A.A. Babaluo, “**Halos Mechanism in Stabilizing of Colloidal Suspensions: Nanoparticles Weight Fraction and pH Effects**”, Journal of European Ceramic society, **27**, 19-25 (2007).

[2] H. Karimian and A.A. Babaluo, “**Effect of Polymeric Binder and Dispersant on the Stability of Colloidal Alumina Suspensions**”, Iranian Polymer Journal, **15** (11), 879-889 (2006).

[3] H. Karimian and A.A. Babaluo, “**Nanoparticle Halos Mechanism in Stabilizing of Ceramic Colloidal Suspensions: Polymeric Binder and Dispersant Effects**”, Journal of Dispersion Science and Technology, **33** (4), 457-464 (2012).

[4] H. Karimian, M. R. Moghbeli, “**Influence of Single-wall Carbon Nanotubes and Polypyrrole Thin Layer Coating on the Electrical Conductivity of PolyHIPE Foams**”, Polymer Plastic Technology and Engineering, **53** (4), 344-352 (2014).

[5] H. Karimian and M. R. Moghbeli, “**Conducting Polymerized High-Internal-Phase Emulsion/Single-Walled Carbon Nanotube Nanocomposite Foams: Effect of the Aqueous-Phase Surfactant Type on the Morphology and Conductivity**”, Journal of Applied Polymer Science, **133** (35), 43883 (2016).

- [6] H. Karimian, M.R. Moghbeli, **“Conducting Poly(Styrene-co-Divinylbenzene)/Polypyrrole PolyHIPE (Polymerized High Internal Phase Emulsion) Composite Foam Prepared by Chemical Oxidative Polymerization”**, Journal of Applied Polymer Science, 127, 804–811 (2013).
- [7] S. Mehmandoust, M. R. Moghbeli, M Dadban, H. Karimian, **“Modification of Montmorillonite and Prediction of Polymer/Clay Affinity Using Surface Properties and Lattice Model”**, Iranian Journal of Chemical Engineering, 12 (3), 69 (2015).
- [8] M. Maleki, M. Shokouhimehr, H. Karimian, A. Beitollahi, **“Three-dimensionally Interconnected Porous Boron Nitride Foam Derived From Polymeric Foams”**, RSC Advances, 56, 51426-51434 (2016).
- [9] A. Mokhtari, M. Keyvanfard, I. Emami, N. J. Delouei, H. F. Pishkhani, A. Ebrahimi, H. Karimian, **“Determination of Aspirin Using Chemiluminescence System of Tris(1,10 phenanthroline)Ruthenium(II)-Cerium(IV)”**, Journal of The Brazilian Chemical Society, 27 (3), 2016.
- [10] F. Mostaani, M. R. Moghbeli, H. Karimian, **“Electrical Conductivity, Aging Behavior, and Electromagnetic Interference (EMI) Shielding Properties of Polyaniline/MWCNT Nanocomposites”**, Journal of Thermoplastic Composite Materials, Published Nov 2017.
- [11] M. R. Moghbeli, H. Karimian, **“Electrical conductivity and electromagnetic shielding properties of PolyHIPE/SWCNTs/PPy hybrid nanocomposite”**, under review (Journal of Cellular Plastics)
- [12] M. Maleki, H. Karimian, **“Photo-Thermal conversion structure by infiltration of paraffin in three dimensionally interconnected porous polystyrene-carbon nanotubes (PS-CNT) PolyHIPE foam”**, Journal of Solar Energy Materials and Solar Cells, 191, 266-274 (2019)
- [13] H. Karimian, M. Maleki, **“Development of graphitic domains in carbon foams for high efficient electro/photo-to-thermal energy conversion phase change composites”**, Chemical Engineering Journal, 262, 469-481 (2019)
- [14] A. Mokhtari, H. Karimian et al., **“Synergistic effect of Chromotrope 2R as a novel sensitizer for CL reactions of potassium permanganate: determination of naproxen and naltrexone”**, Journal of Dyes and Pigments, *under review* (2019)
- [15] J. Neyazi, A. Mokhtari, H. Karimian, **“Stopped flow CL determination of anticancer drug capecitabine: application in pharmaceutical analysis and drug delivery systems”**, Journal of Biological and Chemical Luminescence”, *under review* (2019)

• Presentations

- [1] H. Karimian and A.A. Babaluo, **“Dispersion Behavior of Alumina Colloidal Suspensions via Nanoparticle Halo Mechanism in Presence of Polymeric**

Additives", 7th Pacific Rim Conference on Ceramic and Glass Technology, 11-14 November, 2007, Shanghai, China.

- [2] H. Karimian and A.A. Babaluo, "**The Optimum Volume Fraction of the Secondary Phase in Nanometric Bidispersed Suspensions**", International Seminar on Polymer Science and Technology (ISPST), 27-29 September, 2005, Amir Kabir University, Tehran, I.R.Iran.
- [3] H. Karimian and A.A. Babaluo, "**Stability of Colloidal Suspensions**", 5th National Iranian Student Chemical Engineering Congress, 10-12 March, 2005, Amirkabir University, Tehran, Iran.
- [4] H. Karimian and A.A. Babaluo, "**Stabilization of Colloidal Suspensions by nanometric particles**", 6th National Iranian Student Chemical Engineering Congress, September, 2006, Isfahan University, Isfahan, Iran.
- [5] H. Karimian and A.A. Babaluo, "**Stabilization of Bidispersed Suspensions that Used in Manufacturing of the Top-Layer of Nanocomposite Membranes**", 3rd National Iranian Nanotechnology Congress, 2007, Shiraz University, Shiraz, Iran.
- [6] H. Karimian and M. R. Moghbeli, "**Effect of Surface Nanopores on the PolyHIPE Foam Conductivity**", 8th International Conference on Nanoscience and Nanotechnologies, Greece, July 12-14, 2011.
- [7] H. Karimian, M. R. Moghbeli, "**Electrical Conductivity of Highly Open-Cell PolyHIPE Solid Foam Reinforced By Multiwall Carbon Nanotube (MWCNT)**", 7th MoDeSt Conference, Prague, 2012.
- [8] H. Karimian, M. R. Moghbeli, "**Effect of Surface Nanopores and Porosity Level on the Electrical Conductivity of Hybrid PolyHIPE Foam**", Conducting Polymers, Prague, 2010.
- [9] H. Karimian and M. R. Moghbeli, "**Tailoring the Microstructure of Electrically Conducting PolyHIPE/Single Wall Carbon Nanotube (SWCNT) Nanocomposite Foams Using a Gemini-like Surfactant**", 11th International Seminar on Polymer Science and Technology (ISPST), 2014, Tehran, Iran.
- [10] H. Karimian, M. R. Moghbeli, "**Electromagnetic Interference Shielding Properties of Novel Hybrid PolyHIPE/SWCNT/PPy Nanocomposite Foams**", 7th Seminar of Chemistry and Environment, 2015, Tehran, Iran.
- [11] H. Karimian, "**Potential Application of Polymerized High Internal Phase Emulsion (PolyHIPE)/Single Wall Carbon Nanotube (SWCNT) Foams as Gas Sensors**", 7th Seminar of Chemistry and Environment, 2015, Tehran, Iran.
- [12] J. Niazi Saei, A. Mokhtari, H. Karimian, "**Acidic Potassium Permanganate as a Chemiluminescence Reagent for Direct Determination of Capecitabine**", 1st International Conference on Modern Technologies in Sciences, 2017, Amol, Iran.

[13] H. Karimian, “**The Effect of Various Parameters on Chemical Modification of Clay Minerals for Preparation of Polymer/Clay Nanocomposites**”, 1st National Conference on Gas and Petrochemical Processes, Bojnourd University, 2017, Iran.

[14] H. Karimian, “**The Effect of Water/Oil Ratio on the Microstructure and Properties of Polymeric Foams Synthesized from High Internal Phase Emulsion**”, 1st National Conference on Gas and Petrochemical Processes, Bojnourd University, 2017, Iran.

[15] V. Parvin, H. Karimian, “**Investigation on the Electrical Characteristics of Highly Porous Polymeric PolyHIPE Foams in High Voltage Applications**”, 5th International Conference on Applied Research in Chemistry and Chemical Engineering, 2018, Tehran, Iran.

[16] H. Karimian, “**Prediction of Optimal Composition of Colloidal Suspensions for Preparation of Nanocomposite Ceramic Membranes by Fractional Collision Frequency Theory**”, 5th International Conference on Applied Research in Chemistry and Chemical Engineering, 2018, Tehran, Iran.

[17] H. Karimian, “**Dispersion of Carbon Nanotubes in Aqueous Media by Various Surfactants for Preparation of High Internal Phase Emulsions**”, 5th International Conference on Applied Research in Chemistry and Chemical Engineering, 2018, Tehran, Iran.

• **Research Interests**

- [1] Polymeric Foams
- [2] Conducting Polymers
- [3] Nanocomposite Membranes
- [4] Colloidal Processing
- [5] Polymer Processing

• **Courses**

1. Introduction to chemical engineering
2. Chemical reaction engineering
3. Unit operations I, II
4. Industrial chemistry I, II
5. Basic principles of calculations in industrial chemistry
6. Advanced chemical reaction engineering
7. Surface phenomena