Curriculum Vitae

Maral Ghahramani

PERSONAL INFORMATION

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ACADEMIC POSITION

2020-Now

Member of Scientific Board (Assistant Professor)
Tarbiat Modares University
Chemical Engineering Faculty
Department of Polymer Engineering

RESEARCH INTERESTS

+ Lithium-Ion Batteries
+Design and Synthesis of Polymers for Advanced Applications
+Design and Preparation of Polymeric Membranes

PUBLICATIONS

Journals

+ Mobina Razani and **Maral Ghahramani**, Self-Healing Polymer Electrolytes used in Lithium-Ion Batteries, Iran Polymer Technology Research and Development, 2023.

+ **Maral Ghahramani**, Mehran Javanbakht, Seifollah Jamalpour, Susan Hamidi, Novel Single-Ion Conducting Gel Polymer Electrolyte with Honeycomb-Like Morphology Prepared Using Brush Copolymer for Lithium-Ion Battery Application, Journal of Electrochemical Society, 2023.

+ **Maral Ghahramani**, Susan Hamidi, Mahsa Mohammad, Mehran Javanbakht, Pooya Gorji, The Effect of Sulfonated Copolymer as a Binder on the Electrochemical Performance of LiFePO4 Cathode for Lithium-Ion Batteries, Journal of Electroanalytical Chemistry, 2023.

+ Nima Mahmoodi Esfanderani, Mohammad Amin Hooshmand, **Maral Ghahramani**, Mahdi Abdollahi, A review on Cellulose Nanofiber

Production Methods: Sources, Extraction, Preparation and Characterization (in Persian), Green Chemistry and Sustainable Technologies, 2022.

+ **Maral Ghahramani** and Mohammad Ali Semsarzadeh, Investigating the Effect of Polyurethane Substrate Morphology on the Gas Permeation Properties of Pol(dimethyl siloxane) Block Copolymer/Polyurethane Layered Membranes, Iranian Journal of Polymer Science and Technology, 2022.

+ Seifollah Jamalpour, **Maral Ghahramani**, Seyed Reza Ghaffarian, Mehran Javanbakht, "Improved performance of lithium ion battery by the incorporation of novel synthesized organic-inorganic hybrid nanoparticles SiO2-poly (methyl methacrylate-co-ureidopyrimidinone) in gel polymer electrolyte based on poly (vinylidene fluoride)", Polymer, **2021**. **(IF=4.43)**

+ Seifollah Jamalpour, **Maral Ghahramani**, Seyed Reza Ghaffarian, Mehran Javanbakht, "The effect of poly(hydroxyl ethyl methacrylate) on the performance of PVDF/P(MMA-co-HEMA) hybrid gel polymer electrolytes for lithium ion battery application", Polymer, **2020**. **(IF=4.43)**

+ Mohammad Ali Semsarzadeh and **Maral Ghahramani**, "The effect of poly(alkyl (meth)acrylate) segments on the thermodynamic properties, morphology and gas permeation properties of poly(alkyl (meth)acrylate)-*b*-poly(dimethyl siloxane) triblock copolymer membranes", Journal of Membrane Science, vol. 594, 117400, **2020. (IF=8.742)**

+ Mohammad Ali Semsarzadeh and **Maral Ghahramani**, "Surface Energy and Thermal Stability Studies of Poly(dimethyl siloxane)-Poly(alkyl (meth)acrylate) Copolymers", Polymer-Plastics Technology and Engineering, **2017**. (https://doi.org/10.1080/03602559.2017.1295316) **(IF=1.9)**

+ Mahdi Abdollahi, Mohammad Reza Yousefi, **Maral Ghahramani**, Heidar Ranjbar, Seyyed Fardin Najafi, "Synthesis of Polybutadiene Nanoparticles via Emulsion Polymerization: Effect of Electrolyte and Initiator Type on the Particle Size and Reaction Kinetics", Iranian Polymer Journal, vol. 26, pp. 1-10, **2017**. **(IF=1.707)**

+ Mohammad Ali Semsarzadeh, **Maral Ghahramani,** "Synthesis and Characterization of Poly (ethyl methacrylate)-b-Poly(dimethyl siloxane)-b-Poly(ethyl methacrylate) Triblock Copolymer: The Effect of Solvent on Morphology", Journal of Polymer Research, vol. 23, pp. 148-160, **2016**. **(IF=2.426)**

+ S. S. Hosseini, E. Bringas, N. R. Tan, I. Ortiz, **M. Ghahramani**, and M. A. Alaei Shahmirzadi, "Recent progress in development of high performance polymeric membranes and materials for metal plating wastewater treatment: **A review**," Journal of Water Process Engineering, vol. 9, pp. 78-110, **2016**. **(IF=5.485)**

+ Mohammad Ali Semsarzadeh, **Maral Ghahramani**, "Synthesis and morphology of polyacrylate-poly(dimethyl siloxane) block copolymers for membrane application", Journal of Macromolecular Research, vol.10, **2015**. **(IF=2.047)**

+ Mahdi Abdollahi, Poorya Bigdeli, Mahmood Hemmati, **Maral Ghahramani**, Mohammad Barari, "Reverse Iodine Transfer Polymerization of Vinyl Acetate and Vinyl Benzoate: Synthesis and Characterization of Homo- and Copolymers", Polymer International, vol.8, **2015**. **(IF=2.574)**

+ Mohammad Ali Semsarzadeh, **Maral Ghahramani**, "Preparation, Characterization and Permeation Behavior of Poly(methyl acrylate)-Poly(dimethyl siloxane)-Poly(methyl acrylate) Block Copolymer /Poly(vinyl acetate) Blend Membranes", Iranian Journal of Polymer Science and Technology, vol.28, **2015**.

Conferences

+ M. Razani, M. Ghahramani, The Effect of Chain Extender on the Chemical Structure and Properties of Thermoplastic Polyurethanes, 2nd International Conference & 6th National Conference on Materials, Metallurgy, Mining, 2023. (Oral Session)

+ A.Ghezi, Maghsoudi, M. Ghahramani, Investigation the Role of Conductive Polymers in Progress of Lithium-Ion Battery Technology, 12th fuel cell conference of Iran, Tehran, Iran, 2023. (Poster session)

+ T. Gharib Yousefabad, M. Ghahramani, M. Javanbakht, Grafting of polystyrene and poly(sodium styrene sulfonate) on the surface of poly(vinylidene fluoride) via Atom Transfer Radical Polymerization: Synthesis and Characterization, 4 th International Biennial Conference on Oil, Gas, and Petrochemical Engineering, 2022. (Oral Session)

+ P. Gorji, M. Haghighi-Yazdi, and M. Ghahramani, Composite lithium-ion battery panels to be used as electric and hybrid car bodies, The 8th International Conference on Composites: Characterization,

Fabrication, and Application, (CCFA-8), Tehran, Iran, 2022. (Oral Session)

+ N. Mahmoodi Esfandarani , M. Ghahramani, M. Abdollahi, Preparation of Cellulose Microfibers from Corn Agricultural Waste using Ball-milling Method, 15th international seminar on polymer science and technology, 2022. (Poster session)

+ P. Gorji, M. Ghahramani , M. Haghighi-Yazdi, M. Javanbakht, Preparation of PVDF-HFP Gel Polymer Electrolytes with Honey Comb-Like Morphology Structure for Lithium-Ion Battery Application, 15th international seminar on polymer science and technology, 2022. (Orall Session)

+ P. Gorji, M. Ghahramani and M. Haghighi-Yazdi ,The effect of Electrolyte Solvent on the Performance of the LiMn2O4 Cathode for Lithium-ion Battery Application, 2nd International Conference on Industrial Application of Advanced Materials and Manufacturing, 2022. (Orall Session, selected paper of conference)

+ N. Mahmoodi Esfandarani, M. Ghahramani, M. Abdollahi, Extraction of Cellulose from Agriculture Waste without using Organic Solvent, The 1st National Conference on Environmental Challenges: Green Industry and Mining, 2022.

+ T. Gharib Yousefabad, M. Zendedel Haghighi, M. Ghahramani, M. Javanbakht and S. Jamalpour, Investigation and Calculation of the Lithium-Ion Diffusion Coefficient in the Electrode of Lithium-Ion Batteries Composed of Poly(vinylidene fluoride) Gel Polymer Electrolyte, 17th Iranian National Congress of Chemical Engineering, 2021.

+ M. Ghahramani, M. Zendedel Haghighi, T.Gharib Yousefabad, S. Jamalpour ,Investigation of the Effect of Solvent and Poly(ethylene glycol) on the Morphology of Poly(vinylidene fluoride) Membrane, 6th National Seminar on Polymer, 2021.

+ S. Jamalpour, M. Ghahramani, S. R. Ghaffarian, M. Javanbakht, '' Effect of organic-inorganic hybrid nanoparticles for improving the electrochemical performace of PVDF as a gel polymer electolyte for lithium ion batteries'', **ISPST2020**. **(*Oral session)***

+ M. A. Semsarzadeh, **M. Ghahramani**, "Preparation of Layered Membrane of Poly(vinyl acetate) using Polyurethane Support for Gas Separation Application", Presented at 12th International Seminar on Polymer Science and Technology, **2016**. **(*Oral session)***

+ M. A. Semsarzadeh, **M. Ghahramani**, "Study on Correlation between Morphology and Surface Tension of Poly(dimethyl siloxane) Copolymers for Membrane Application", Presented at 12th International Seminar on Polymer Science and Technology, **2016**. ***(Oral session)***

+ S. Jamalpour, **M. Ghahramani**, S. A. Alavi, A. H. Haghighi, "Unsaturated Polyester Toughened Epoxy Hybrid Nanocomposites", Presented at 12th International Seminar on Polymer Science and Technology, **2016**. (*Poster session)*

+ M. A. Semsarzadeh, **M. Ghahramani,** "THE EFFECT OF SOLVENT ON SELF-ASSEMBLY OF THE PDMS BLOCK COPOLYMER", Presented at Third International Conference on Oil, Gas and Petrochemical Iran, **2015**. *(Poster session)*

+ M. A. Semsarzadeh, **M. Ghahramani,** "IMPROVED GAS PERMEATION WITH NEW POLYDIMETHYLSILOXANE BLOCK COPOLYMER MEMBRANES", Presented at Third International Conference on Oil, Gas and Petrochemical Iran, **2015**. **(*Oral session*)**

+ M. A. Semsarzadeh, **M. Ghahramani**, "Synthesis of Poly(dimethylsiloxane) Triblock Copolymer with Poly(methyl acrylate) and Preparation of It's Blend with Polyvinyl acetate for Membrane Application", Presented at the The 8th International Chemical Engineering Congress & Exhibition (IChEC 2014), Kish, Iran **2014**.***(Oral session)***

+ M.A. Semsarzadeh, **M. Ghahramani.,** "An Investigating on the Importance of Flory-Huggins Binary Interaction Parameters in Membrane Formation", Presented at 11th International Seminar on Polymer Science and Technology, **2014**. **(*Oral session)***

+ M.A. Semsarzadeh, **M. Ghahramani.,**"The Effect of PVAc on the CO_2 Permselectivity of PMA-PDMS-PMA block copolymer/PVAc Blend Membranes', Presented at 11th International Seminar on Polymer Science and Technology, **2014**. (*Poster session)*

Chapter Books

+ M. Ghahramani, M. Karimi, Fluoropolymer Nanocomposites for Photocatalytic Applications, Book title : Advanced Fluoropolymer Nanocomposites: Fabrication, Processing, Characterization and Applications, Elsevier (Accepted 2022).
+ Maral Ghahramani, Pooya Gorji, et. al., Conducting Polymer Nanocomposites for Lithium-Ion batteries: Fabrication, Characterization and Electrochemical Performance, Nanostructured Materials for Energy Storage, Wiley (Accepted 2022).

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THESIS

PhD **Controlling Morphology of Copolymers Synthesized by Molecular Design and Fabrication of Polydimethylsiloxane Copolymers/Polyurethane Layered Membranes for Gas Separation Application** Advisors: Prof. M. A. Semsarzadeh, 2015 – 2018

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MS **Investigation of microphase effects on gas permeation behavior of poly(dimethyl siloxane) block copolymer/ pol(vinyl acetate) blend membranes** Advisors: Prof. M. A. Semsarzadeh, 2013-2014.

TEACHING EXPERIENCES

+Instructor, **Experimental Design,** Department of Polymer Engineering, Tarbiat Modares University, Tehran, Iran, 2020-Now. (Master of Science)

+Instructor, **Degradation and Stability of Polymers,** Department of Polymer Engineering, Tarbiat Modares University, Tehran, Iran, 2020-Now. (Master of Science)

+Instructor, **Polymerization Process Engineering**, Department of Polymer Engineering, Tarbiat Modares University, Tehran, Iran, 2020-Now. (Master of Science)

+Instructor, **General Chemistry Laboratory**, Department of Chemistry, Amirkabir University of Technology, Tehran, Iran, 2020-Now. (Bachelor of Science).

+ Instructor, **General Chemistry**, Department of Chemistry, Amirkabir University of Technology, Tehran, Iran, 2019-Now. (Bachelor of Science)

+Instructor, **Mass Transfer**, Department of Chemical Engineering, Islamic Azad University, Shiraz, Iran, 2015-2016. (Bachelor of Science)

PROJECTS

+ Project Assistant, "Revision and Update of National Roadmap for Development of Lithium-Ion Batteries Technology", Amirkabir University of Technology, 2020-2022.

+ Postdoctoral Researcher, "In situ polymerization of polymeric nanocomposites and preparation of highly porous gel polymer electrolytes for lithium-ion battery application", Department of Chemistry, Amirkabir University of Technology, 2019-2021.

+ Project Assistant, "Application of polymeric membranes for Lithium-ion battery application", Department of Polymer Engineering, Amirkabir University of Technology, 2018-2020.