



Dr. Omid Rafeie

Assistant Professor of Polymer Engineering
Faculty of Chemical & Petroleum Engineering
Tabriz University, P.O. Box: 51666-16471 Tabriz, IRAN

EDUCATION

Doctor of Philosophy in Chemical Engineering –Polymer field

Sahand University of Technology- Tabriz, Iran, 2012-2019

Master of Science in Chemical Engineering–Polymer field

Sahand University of Technology - Tabriz, Iran, 2010-2012

Bachelor of Science in Chemical Engineering–Petrochemical field

Tabriz University- Tabriz, Iran, 2006-2010

❖ Membership in the National Elite Foundation, 2019 up to now



O_rafeie@Tabrizu.ac.ir

Omidrafeie67@gmail.com



+989141302798

+984133392532



<https://www.linkedin.com/in/omid-rafeie-24a023287/>



<https://scholar.google.com/citations?user=BhKTenYAAAAJ&hl=en>



<https://www.researchgate.net/profile/Omid-Rafeie>



<https://orcid.org/0009-0009-8343-0770>

MY THESIS TITLE

Doctoral thesis title: Correlation with rheological behavior and electrical properties of ternary systems of polyvinylidene fluoride/polyethylene/graphene under the guidance of Dr. Mir Karim Razavi Aghjeh

Master's thesis title: In-situ compatibilization of polyolefin/polystyrene alloys in the presence of nanometer particles. Under the guidance of Dr. Mir Karim Razavi Aghjeh

The title of bachelor's thesis: Improving the conductivity coefficient and heat transfer coefficient using Nano-fluid under the guidance of Dr. S. H. Hosseini

INDUSTRIAL EXPERIENCE

- ❖ Carrying out an alternative to military service plan at Imam Hussein University, 2019-2021
- ❖ R&D manager of Shani Plastic Innovative Company, Tabriz, Iran, from 2016 to 2021

Responsibility:

- Develop new compound and master-batch
- Work with product managers to understand
- Troubleshoot and fix frontend issues
- Stay up-to-date on the latest new technologies

Skill

- Design and development of new polymeric material
- Problem Solving
- Communication
- Quality assurance
- Measuring Un-certainty
- Database Management

- ❖ QC manager of Hofmann Company, Tabriz, Iran Dates From 2021 – To 2024

Responsibility:

- Design and Develop new formulation
- Quality control of UPVC Profile line
- Testing and analysis various formulation
- Work with product managers to understand
- Troubleshoot and fix frontend issues
- Stay up-to-date on the latest new technologies
- Work with standard

SOFTWARES

- Microsoft Office
- X-Pert
- Matlab
- Corel-draw

- ❖ Advisor of Hofmann Company (Tabriz, Iran) from 2023 up to now

INDUSTRIAL SUCCESS PROJECTS

- ✚ changing the polycarbonate sheet production line to carton-plastic (PP) sheets - Shani Plastic Innovative Company, Tabrizu, Iran.
- ✚ Design and innovation of diffuser sheets with GPPS based plastic for use in light industry - Shani Plastic Company, Tabrizu, Iran.
- ✚ Acquisition and implementation international Ral GZ-716 certificate, Hofmann co.,Tabrizu, Iran



COURSES

- ❖ Physical chemistry (BSC)
- ❖ Mass transfer (BSC)
- ❖ Heat transfer I (BSC)
- ❖ Kinetics and design of chemical reactions (BSC)
- ❖ Mechanical and physical properties of polymeric material (BSC)
- ❖ Polymer chemistry and technology (BSC)
- ❖ Chemistry and synthesis of polymerization (BSC)
- ❖ The principles and applications of nanotechnology (BSC)
- ❖ Advance Rheology of non-Newtonian fluid (MSC-PhD)
- ❖ Advance Rheology of Polymeric material (MSC-PhD)
- ❖ Characterization (MSC-PhD)
- ❖ Nanocomposites (MSC-PhD)
- ❖ Advance thermodynamics(MSC-PhD)

PROJECT AND FIELDS OF WORK

Researcher in polymer engineering and science. Specialties:

- ❖ Property improvement (Physical and mechanical behaviour)
- ❖ Testing & characterization of polymeric materials
- ❖ Composites and polymeric blends nanocomposites
 - ✚ Melt rheological characterization of various nanocomposites
 - ✚ Multiphase polymer blends containing carbon nanostructures
 - ✚ Selective Localization of Nanoparticle in a polymeric blend
- ❖ Multiphase polymer blends
 - ✚ Influence of rheological and interfacial parameters of blend components on morphology development by melt mixing
 - ✚ Characterization of blend morphologies and phase stability (coalescence)
 - ✚ Relation between morphology and mechanical properties and electrical properties
- ❖ Modification of nanoparticles
- ❖ High performance Polymeric material insulator
- ❖ Energy Storage and Conversion (electro active polymer composites)
 - ✚ Influence of melt processing conditions on dielectric and mechanical performance
- ❖ UV protection of plastic material
- ❖ Ablative Heat protection Material (Insulation)
- ❖ Enhancement of Oil Recovery by polymer injection method

PUBLICATION ON JOURNALS

- ❖ Synthesis and Characterization of Graphene and Functionalized Graphene via Chemical and Thermal Treatment Methods, Behzad Dehghanzad, Mir Karim Razavi Aghjeh, Omid Rafeie, Akram Tavakoli and Amin Jameie Oskooie , RSC advance journal,2015, DOI: 10.1039/C5RA19954A
- ❖ Composition and compatibilization induced morphology alteration in PVDF/LLDPE blends: correlation between rheology and morphology, A. Jameie Oskooie& M. K. Razavi Aghjeh& O. Rafeie & A. Tavakoli, J Polym Res (2017) 24: 21. doi:10.1007/s10965-017-1183-x
- ❖ Conductive Poly(vinylidene fluoride)/Polyethylene/Graphene Blend-Nanocomposites; Relationship between Rheology, Morphology and Electrical Conductivity, O. Rafeie, M. K. Razavi Aghjeh, A. Tavakoli, M. Salami Kalajahi and A. Jameie Oskooie, Journal of Applied Polymer Science, DOI: 10.1002/app.46333-Feb.2018
- ❖ Effect of Graphene Nano-Platelets (GnPs) on Crystalline Structure of Poly(Vinylidene Fluoride)/Polyethylene (PVDF/PE) Blends, O. Rafeie, M. K. Razavi Aghjeh, A. Tavakoli, M. Salami Kalajahi , A. Jameie Oskooie,M. Ghayumi, Polymer Composites. 2019;1–14. DOI: 10.1002/pc.25302
- ❖ Design of new formulation for improving the ablative performance of the Ethylene Propylene Dien Monomer based on utilizing Fumed silica O.Rafeie & A. Kebritchi, submitted to journals of Advance polymer composites, 2025.
- ❖ APTES-functionalized bentonite for hierarchical reinforcement of gelatin films: enhanced mechanical, thermal, and barrier performance, Journal of Chemical Papers, 2026, DOI: 10.1007/s11696-025-04587-3
- ❖ Alyaa Ridha Kadhim AL-Ameri ,Omid Rafeie, Mohammad Ghorbanpour, The Effect of Synergy of Titanium dioxide (TiO₂) Nanoparticles and 3-amino-propyl-trie- thoxy-silane (APTES) on the various properties of the Gelatin-Based Films Used for Advanced Food Packaging Applications, submitted on journal of Polymers and Environment. 2026
- ❖ The Fabrication of a Nanocomposite based on improving the ablative performance of the Ethylene Propylene Dien Monomer, O.Rafeie & A. Kebritchi, submitted to journals of Material Science, 2026.

PUBLICATION ON THE CONFERENCE

- ❖ O. Rafeie, M.K. Razavi Aghjeh, A. Tavakoli Araghi, M.Mehrabi Mazidi , S.Hajbabazadeh, Effect of matrix and dispersed phase modification on the partitioning of clay in PP/PS blends, ISPST 2012 conference, Amirkabir University of Technology, Tehran, Iran, October, 2012. Accepted for **Oral presentation**
- ❖ S. Hajbabazadeh, M.K. Razavi Aghjeh, F. Abbasi, O. Rafeie, M. Mehrabi Mazidi, Rheology and morphology of in-situ compatibilized PP/PE/PS ternary polymer blends via Friedel-Crafts alkylation



reaction: PP-matrix. ISPST 2012 conference, Amirkabir University of Technology, Tehran, Iran, October, 2012. Accepted for **Oral presentation**

❖ امید رافعی دونیقی، میرکریم رضوی آقجه، اکرم توکلی عراقی، تاثیر اصلاح کننده های فاز ماتریس و پراکنده بر روی موقعیت قرارگیری نانوس در آلیاژهای پلی پروپیلن/پلی استایرن، همایش و کارگاه ملی علوم و فناوری نانو، اردیبهشت ۱۳۹۲. - پوستر

- ❖ Golabi, M.K. Razavi Aghjeh*, M. Salami Hosseni, O. Rafeie Effect of PE-g-MA on the Friedel–Crafts (FC) Alkylation Reaction in Polyethylene/Polystyrene Blends, H.R. The 8th international chemical engineering congress and exhibition, (ICHEC), February 2014.
- ❖ O. Rafeie, M.K. Razavi Aghjeh, A. Tavakoli Araghi, M.Mehrabi Mazidi, Compatibilization of PP/PS Blends via a Novel Acylation Reaction, ISPST 2014 conference. Tehran, Iran, October, 2014. Accepted for Oral presentation.
- ❖ O. Rafeie, A. Kebritchi ,The Effect of Chopped Carbon Fiber on Ablative Behaviour of EPDM Based Elastomeric Insulation, 15th International Seminar on Polymer Science and Technology, 2022, poster presentation
- ❖ Sanaz Saeedpour, Omid Rafeie, Saeed Zeinali Heris, 4Maedeh Jalilpour, An Ablative EPDM based nanocomposites : A Review Paper, The 9th International Conference on Composites: Characterization, Fabrication, and Application (CCFA-9), 2024, Oral presentation.
- ❖ Sima Ahmadbeygi, Seyed Jamaledin Peighambardoust, Omid Rafeie , MXene based polymeric nanocomposites as Promising Dielectric material: A Review Paper: A Review Paper, The 9th International Conference on Composites: Characterization, Fabrication, and Application (CCFA-9), 2024, Oral presentation.
- ❖ Maedeh Jalilpour, Omid Rafeie, Saeed Zeinali Heris and Sanaz Saeedpour A novel polymeric nanocomposite based on MXene toward EMI shielding material: a Review paper, The 9th International Conference on Composites: Characterization, Fabrication, and Application (CCFA-9), 2024, Oral presentation.
- ❖ Masoud naserifard, Omid Rafeie, and Seyed Jamaledin Peighambardoust Study on The Prevention of Laminated UPVC Profiles from Deformation by Simultaneous Decrease in Heat Buildup (HBU) and Enhancement of Their Heat Deflection Temperature (HDT), The 9th International Conference on Composites: Characterization, Fabrication, and Application (CCFA-9), 2024, Oral presentation.
- ❖ Maryam khishghar Omid Rafeie, Seyed Jamaledin Peighambardoust, Aligoli Niayi , Omid Rafeie, A review of the synthesis, characterization, and environmental impacts of perovskite oxides in electrochemically based supercapacitors, 10th National Conference on Chemical, Petroleum and Environmental Engineering " Poster presentation "
- ❖ Maedeh Jalilpour, Omid Rafeie, Saeed Zeinali Heris, Rheological properties of a typical Mxene based polymeric nanocomposites: a review paper, 4th international conference on Rheology, 2025" Poster presentation "



- ❖ Maedeh Jalilpour, Omid Rafeie, Saeed Zeinali Heris and Sanaz Saeedpour "A Review Study on Industrial Wastewater Treatment Based on MXene Nanoparticles" Poster presentation ", The 1th International Conference of green City Green university (ICGC2025),



CHAIR SCESSION

- ❖ Omid Rafeie, Chair scession of The 9th International Conference on Composites: Characterization, Fabrication, and Application (CCFA-9), 2024.
- ❖ Omid Rafeie, Chair scession of The 1th International Conference of green City Green university (ICGC2025), 2025.



THESIS

- 1- Alyaa Ridha Kadhim AL-Ameri, The Synergistic Effect: Combining Ag Doped TiO₂ particles and APTES on the Gelatin Film Performance in food packaging, 2025, MSc Thesis
- 2- Hasan Abdulzahra Challob, Numerical study enhanced oil recovery when polymer and nanoparticle injected into oil reservoir – in Iraqi reservoir, 2025, MSc Thesis

