



**School of Nutrition Sciences and Food Technology
Kermanshah University of Medical Sciences**

First Name: Maryam

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Academic Rank: Assistant professor of food science and technology department.

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Personal Information

Place of birth: Kermanshah

Date of birth: 1987/Dec/28

Marital Status: Married

Tertiary Education

- 2017-2021 • Tabriz University of Medical Sciences, Faculty of Health and Nutrition
Supervisor: Dr. Ali Ehsani and Dr. Babak Ghanbarzadeh
Thesis title: Design of nanobiocomposite of polyvinyl alcohol-gelatin-zeolite 4A containing metal nanoparticles (titanium dioxide and zinc oxide) and its application to increase the shelf life of shrimp
- 2011-2014 • Tabriz University of Medical Sciences, Faculty of Health and Nutrition
Supervisor: Dr. Mohammad Alizadeh
Thesis title: The effect of replacement of stevia and dates with sugar on physicochemical, sensory, rheological and glycemic index of ice cream
- 2007-2011 • Shahid Beheshti University of Medical Sciences, Faculty of Nutrition and Food

Academic Responsibilities

- 2021 • Member of the Cultural Council of the Faculty of Nutrition and Food science
- 2020 • Research Director of the Faculty of Nutrition and Food science
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- 2020
- Director of Student Research Committee of the Faculty of Nutrition and Food science
- Director of the "Virtual Examinations Committee "of Faculty of Nutrition and Food science

Key Areas of Research Expertise

- Food packaging (antimicrobial, smart, biodegradable and nanocomposite packaging)
- Investigation of food pollution and toxins with emphasis on seafood

Skills

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| • Language | • English (IELTS Certificate) – Farsi |
| • Technical | • Familiarity with “modern methods of sample preparation for analytical methods”
Familiarity with regression methods in food analysis
Passing the course of “establishment period of the laboratory quality management system based on the international standard IEC / ISO 17025” |
| • Software | Familiarity with SPSS, DOE, Endnote, Mendely software |

Articles

1. Mohammadi, K., Sani, M.A., Azizi-Lalabadi, M., McClements, D.J. Recent progress in the application of plant-based colloidal drug delivery systems in the pharmaceutical sciences. *Advances in Colloid and Interface Science*, 2022:307,102734.
2. Sadeghi, E., Akbari, M., Khanahmadi, M., Azizi-Lalabadi, M., Karami, F. Effect of Pistacia atlantica (Bane) Essential Oil on Oxidative Stability of Sunflower Oil. *Journal of Food Quality and Hazards Control*, 2023:10(1), 21-28.
3. Shima Jafarzadeh, Mehrdad Forough, Vahid Javan Kouzegaran, Masoumeh Zargar, Farhad Garavand, Maryam Azizi-Lalabadi, Mehdi Abdollahi, Seid Mahdi Jafari. Improving the functionality of biodegradable food packaging materials via porous nanomaterials. *Comprehensive Reviews in Food Science and Food Safety*, 2023:22(4), 2850-2886.
4. Reza Abedi-Firoozjah, Shamimeh Azimi Salim, Sara Hasanvand, Elham Assadpour, Maryam Azizi-Lalabadi, Miguel A. Prieto, Seid Mahdi Jafari. Application of smart packaging for seafood: A comprehensive review. *Comprehensive Reviews in Food Science and Food Safety*, 2023: 22(2),1438-1461.
5. Wanli Zhang a, Maryam Azizi-Lalabadi b, Swarup Roy c, Shamimeh Azimi Salim b, Roberto Castro-Muñoz d e, Seid Mahdi Jafari f. Maillard-reaction (glycation) of biopolymeric packaging films; principles, mechanisms, food applications. *Trends in Food Science and Technology*.2023: 138, 523-538.
6. Zhang, W., Azizi-Lalabadi, M., Jafarzadeh, S., Jafari, S.M. Starch-gelatin blend films: A promising approach for high-performance degradable food packaging. *Carbohydrate Polymers*, 2023:320,121266.
7. Garavand F, Cacciotti I, Vahedikia N, Rehman A, Tarhan Ö, Akbari-Alavijeh S, et al. A comprehensive review on the nanocomposites loaded with chitosan nanoparticles for food packaging. *Critical reviews in food science and nutrition*. 2022;62(5):1383-416.

8. Sani MA, Tavassoli M, Salim SA, Azizi-lalabadi M, McClements DJ. Development of green halochromic smart and active packaging materials: TiO₂ nanoparticle-and anthocyanin-loaded gelatin/ κ -carrageenan films. *Food Hydrocolloids*. 2022;124:107324.
9. Azimi-salim S, Azizi Lalabadi M, Tavassoli M, Alizadeh-Sani M. Design of nanocomposite packaging based on gelatin biopolymer containing titanium dioxide nanoparticles and saffron extract for use in food packaging. *Journal of food science and technology (Iran)*. 2022;18(121):25-37.
10. Sani MA, Tavassoli M, Azizi-Lalabadi M, Mohammadi K, McClements DJ. Nano-enabled plant-based colloidal delivery systems for bioactive agents in foods: Design, formulation, and application. *Advances in Colloid and Interface Science*. 2022:102709.
11. Azizi-Lalabadi M, Jafari SM. Bio-nanocomposites of graphene with biopolymers; fabrication, properties, and applications. *Advances in colloid and interface science*. 2021;292:102416.
12. Azizi-Lalabadi M, Garavand F, Jafari SM. Incorporation of silver nanoparticles into active antimicrobial nanocomposites: Release behavior, analyzing techniques, applications and safety issues. *Advances in colloid and interface science*. 2021;293:102440.
13. Sani MA, Azizi-Lalabadi M, Tavassoli M, Mohammadi K, McClements DJ. Recent advances in the development of smart and active biodegradable packaging materials. *Nanomaterials*. 2021;11(5):1331.
14. Azizi-Lalabadi M, Pirsahab M. Investigation of steroid hormone residues in fish: A systematic review. *Process Safety and Environmental Protection*. 2021;152:14-24.
15. Azizi-Lalabadi M, Rahimzadeh-Sani Z, Feng J, Hosseini H, Jafari SM. The impact of essential oils on the qualitative properties, release profile, and stimuli-responsiveness of active food packaging nanocomposites. *Critical Reviews in Food Science and Nutrition*. 2021:1-24.
16. Moradi M, Azizi-Lalabadi M, Motamedi P, Sadeghi E. Electrochemical determination of T2 toxin by graphite/polyacrylonitrile nanofiber electrode. *Food science & nutrition*. 2021;9(2):1171-9.
17. Mohsenzadeh M, Alizadeh-Sani M, Maleki M, Azizi-lalabadi M, Rezaeian-Doloei R. Fabrication of biocomposite films based on sodium caseinate reinforced with gellan and Persian gums and evaluation of physicomechanical and morphology properties. *Journal of food science and technology (Iran)*. 2021;18(113):187-96.
18. Azizi-Lalabadi M, Hashemi H, Feng J, Jafari SM. Carbon nanomaterials against pathogens; the antimicrobial activity of carbon nanotubes, graphene/graphene oxide, fullerenes, and their nanocomposites. *Advances in Colloid and Interface Science*. 2020;284:102250.
19. Alizadeh-Sani M, Rhim J-W, Azizi-Lalabadi M, Hemmati-Dinarvand M, Ehsani A. Preparation and characterization of functional sodium caseinate/guar gum/TiO₂/cumin essential oil composite film. *International journal of biological macromolecules*. 2020;145:835-44.
20. Azizi-Lalabadi M, Ehsani A, Ghanbarzadeh B, Divband B. Polyvinyl alcohol/gelatin nanocomposite containing ZnO, TiO₂ or ZnO/TiO₂ nanoparticles doped on 4A zeolite: Microbial and sensory qualities of packaged white shrimp during refrigeration. *International journal of food microbiology*. 2020;312:108375.
21. Azizi-Lalabadi M, Alizadeh-Sani M, Divband B, Ehsani A, McClements DJ. Nanocomposite films consisting of functional nanoparticles (TiO₂ and ZnO) embedded in 4A-Zeolite and mixed polymer matrices (gelatin and polyvinyl alcohol). *Food Research International*. 2020;137:109716.
22. Alizadeh-Sani M, Hamishehkar H, Khezerlou A, Maleki M, Azizi-Lalabadi M, Bagheri V, et al. Kinetics analysis and susceptibility coefficient of the pathogenic bacteria by titanium dioxide and zinc oxide nanoparticles. *Advanced pharmaceutical bulletin*. 2020;10(1):56.

23. Moradi S, Azizi-Lalabadi M, Bagheri V, Sadeghi E. Fabrication of electrospun sensor based on a synthesized component doped into PAN (polyacrylonitrile) nanofibers for electrochemical detection of zearalenone mycotoxin in foods simulant. *Sensing and Bio-Sensing Research*. 2020;28:100321.
24. Alizadeh AM, Hashempour-Baltork F, Alizadeh-Sani M, Maleki M, Azizi-Lalabadi M, Khosravi-Darani K. Inhibition of *Clostridium botulinum* and its toxins by probiotic bacteria and their metabolites: An update review. *Quality Assurance and Safety of Crops & Foods*. 2020;12(SP1):59-68.
25. Azizi-Lalabadi M, Rafiei L, Divband B, Ehsani A. Active packaging for Salmon stored at refrigerator with Polypropylene nanocomposites containing 4A zeolite, ZnO nanoparticles, and green tea extract. *Food Science & Nutrition*. 2020;8(12):6445-56.
26. Azizi-Lalabadi M, Ehsani A, Divband B, Alizadeh-Sani M. Antimicrobial activity of Titanium dioxide and Zinc oxide nanoparticles supported in 4A zeolite and evaluation the morphological characteristic. *Scientific reports*. 2019;9(1):1-10.
27. Azizi-Lalabadi M, Alizadeh-Sani M, Khezerlou A, Mirzanajafi-Zanjani M, Zolfaghari H, Bagheri V, et al. Nanoparticles and zeolites: Antibacterial effects and their mechanism against pathogens. *Current pharmaceutical biotechnology*. 2019;20(13):1074-86.
28. Mohebbi Z, Azizi-Lalabadi M, Hosseini SJ, Nowrouzani SA, Alizadeh M, Homayouni A. The effects of prebiotic bread containing oat β -glucan and resistant starch on the glycemic index and glycemic load in healthy individuals. *Nutrition & Food Science*. 2019;49(6):1029-38.
29. Ebadi-Vanestanagh M, Azizi-Lalabadi M, Jahangiry L, Alizadeh M. Challenges of food insecurity indicators, diet quality and weight outcomes in women: a cross-sectional study. *Preventive nutrition and food science*. 2019;24(4):393.
30. Khezerlou A, Alizadeh-Sani M, Azizi-Lalabadi M, Ehsani A. Nanoparticles and their antimicrobial properties against pathogens including bacteria, fungi, parasites and viruses. *Microbial pathogenesis*. 2018;123:505-26.
31. Alizadeh-Sani M, Hamishehkar H, Khezerlou A, Azizi-Lalabadi M, Azadi Y, Nattagh-Eshtivani E, et al. Bioemulsifiers derived from microorganisms: Applications in the drug and food industry. *Advanced pharmaceutical bulletin*. 2018;8(2):191.
32. Aliabadi A, Mohammadi-Farni A, Azizi M, Ahmadi F. Design, synthesis and cytotoxicity evaluation of N-(5-Benzylthio)-4H-1, 2, 4-Triazol-3-YL)-4-fluorobenzamide derivatives as potential anticancer agents. *Pharmaceutical Chemistry Journal*. 2016;49(10):694-9.
33. Alizadeh M, Azizi-Lalabadi M, Kheirouri S. Impact of using stevia on physicochemical, sensory, rheology and glycemic index of soft ice cream. *Food and Nutrition Sciences*. 2014;2014.
28. Alizadeh M, Azizi-Lalabadi M, Kheirvari S. Physicochemical, sensory, rheological properties and glycemic index of fresh date ice cream. *Journal of Scientific Research and Reports*. 2014;3(4):621-9.
34. Alizadeh M, Azizi-lalabadi M, Hojat-ansari H, Kheirouri S. Effect of Stevia as a substitute for sugar on physicochemical and sensory properties of fruit based milk shake. *Journal of scientific research and reports*. 2014;3(11):1421-9.
35. Yousefi M, Azizi M, Mohammadifar MA, Ehsani A. Antimicrobial coatings and films on meats: A perspective on the application of antimicrobial edible films or coatings on meats from the past to future. *Bali Medical Journal*. 2018;7(1):87-96.

36. Khezerlou A, Firouzsalar NZ, Zolfaghari H, Azizi-lalabadi M, Ehsani A. Relationship between awareness and attitude with health and foodsafety among students of Urmia University, Urmia, Iran. *Journal of Research in Clinical Medicine*. 2019;7(1):7-11.
37. Mousavi M-M, Azizi-lalabadi M, Dehghan P. A review on the relationship between university and industry and the effect of significant parameters. *Journal of Food and Bioprocess Engineering*. 2019;2(2):163-70.
38. Khezerlou A, Azizi-Lalabadi M, Mousavi M-M, Ehsani A. Incorporation of essential oils with antibiotic properties in edible packaging films. *Journal of Food and Bioprocess Engineering*. 2019;2(1):77-84.

Research Projects

- 1) Sensors based on nanomaterials for the detection of pathogens and microbial toxins in the food industry.
- 2) Comparison of physicochemical, functional and change to pH characteristics of chitosan/polyvinyl alcohol-based smart detectors containing black anthocyanin pigments and labio betacyanin in monitoring the freshness of food samples.
- 3) Production and comparison of new halochromic indicators based on gelatin-carboxymethyl cellulose and Abbasi tulip petal extract to monitor the freshness and spoilage of red meat, chicken and shrimp.
- 4) Optimizing the performance characteristics of gelatin/kappacarrageenan composite containing pH-sensitive smart detectors containing Abbasi tulip and barberry anthocyanin pigments in monitoring the freshness/spoilage of lamb meat.
- 5) Investigating the physicochemical, mechanical, and antioxidant properties of the PH-sensitive smart film with the combination of Panerak flower extract in the polyacrylonitrile matrix using the electrospinning method.
- 6) Investigating the physicochemical, antioxidant and antimicrobial characteristics of the biodegradable gelatin/polyvinyl alcohol (G/PVA) composite film reinforced with carbon dots obtained from beet pulp with sulfur functional groups.
- 7) Investigating the cytotoxicity of the food additive of savory plant extract in the human umbilical cord endothelial cell line (HUVEC) and comparing its interaction with the biological macromolecule human and bovine serum albumin (HAS and BSA).
- 8) Detection of antibiotic residues in dairy products by nanostructure-based sensors and kits
- 9) Designing multipurpose intelligent packaging based on natural gelatin/carrageenan biopolymers containing titanium dioxide nanoparticles and barberry extract in order to increase product shelf life, monitor, control and track freshness and spoilage of marine products (fish) using pH index.
- 10) Production of active anti-mold biocomposites based on chitosan-polyvinyl alcohol containing antimicrobial essences of cinnamon and rosemary to increase shelf life in toast.
- 11) Production of gelatin-carboxymethyl cellulose anti-mold coatings containing rosemary and cinnamon essences in order to increase the shelf life of nuts (almonds and pistachios).
- 12) Smart packaging design based on natural biopolymers containing titanium dioxide nanoparticles and saffron pigment in order to increase the shelf life of fish.
- 13) Designing active colorimetric smart indicators based on biodegradable biopolymers nanofibrchitin, gelatin containing lactoferrin and saffron pigment using electrospinning method for use in food packaging
- 14) Systematic review of steroid hormone contamination in fish.

- 15) Antimicrobial packaging design based on polyacrylonitrile/chitin nanofiber polymers containing antimicrobial and antioxidant compounds of natamycin and cinnamon essential oil in order to increase the shelf life of traditional and industrial breads.
- 16) Color indicator film based on gelatin/capcarrageenan with curcumin in active and smart food packaging
- 17) Systematic review and meta-analysis of the prevalence and concentration of arsenic, lead, mercury and cadmium in cereal-based baby food.
- 18) Assessing the risk of the presence of heavy metals in cheese samples in the world.
- 19) Production of smart and antimicrobial packaging film based on chitosan-polyvinyl alcohol polymers containing betanin extract and pleasant and thirst-quenching essential oils using electrospinning method and its investigation in meat samples.
- 20) Application of smart packaging for seafood: a comprehensive review.
- 21) Investigating the effects of gellan, guar and Persian gums on the physical and functional characteristics of edible films made from casein and gelatin.
- 22) Feasibility of producing bionanocomposite edible film of sodium caseinate, guar gum, titanium dioxide and cumin essential oil and investigating its physico-mechanical properties as a project manager.
- 23) Investigating the production and properties of whey protein nanocomposite film - Farsi gum - titanium dioxide nanoparticles as project manager.
- 24) Design of nanobiocomposite based on polyvinyl alcohol-gelatin-zeolite 4A containing metal nanoparticles (titanium dioxide and zinc oxide) and its application to increase the shelf life of shrimp as the main partner of the project.
- 25) Investigating the effect of replacing stevia with sugar on the physicochemical and sensory properties of fruit milkshake as the project manager.
- 26) Investigating the effect of replacing stevia and dates with sugar on the physicochemical, sensory, rheological and glycemic index properties of milk ice cream.

Books

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| • 2022 | • Pasteurization in the food industry |
| • 2020 Years | • Nutritional quality and food processing
Chemistry and safety of food additives |
| • 2019 year | • Principles of microbial work in the microbiology laboratory |
| • 2018 year | • Familiarity with different types of hydrocolloids in the food science |

Inventions & Innovations

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| • 2021 | Propolis tablets in the treatment of fibrosis and non-alcoholic fatty liver |
| | Production of dietetic ice cream enriched with vitamin D. |
| • 2020 | |

Production of anti-mold coatings containing rosemary essential oil to increase the shelf life of strawberries

Date sugar flavored with mint extract and cinnamon

- 2019

Biodegradable antimicrobial packaging film to increase the shelf life of shrimp in the refrigerator

Production of biodegradable packaging based on sodium caseinate containing gums of Gilan, Guar and Zedo (*Amygdalus scoparia* spach) for food packaging

Biodegradable packaging of cow gelatin containing gels, guar gum and Persian gum for food packaging

Preparation and production of antimicrobial film using biodegradable gluten-carboxymethylcellulose biopolymers with cellulose fiber nanoparticles

- 2018

Antimicrobial film of titanium dioxide-nanocellulose-whey protein and rosemary essential oil nanocomposite to increase the shelf life of mutton in the refrigerator.

- 2017

Technology production of Stevia and date diet ice cream

Conferences

- 2018

Investigation of various methods for reducing microbial and fungal contaminants of raw milk entering factories. International Conference on Agriculture, Environment and Natural Resources in the Third Millennium. Gorgan.

Presentations & Published Abstracts

- 2019

Application of nano zeolite in food packaging. 5th international congress. Tabriz

Zeolite containing antibacterial coating for food-packaging substrates. 5th international congress. Tabriz

- 2018

Comprehensive Review on the Relationship Between University and Industry and the Effect of Significant Parameters. 7th international congress engineering and applied science. Paris, France

Effect of Fat Replacement by Nutriose on Textural and Sensory Properties of Free Gluten Biscuits. 7th international congress engineering and applied science. Paris, France.

The impact of different slaughter methods on product quality. 1th International Halal Food Congress. Mashhad

• 2017

Therapeutic effects of curcumin in turmeric as a natural extract. 3th International Congress and 6th Congress of Food Science and Technology of Iran. Sari

Application of natural rosemary extract in food industry. 3th International Congress and 6th Congress of Food Science and Technology of Iran. Sari

Application of natural extract of Persian gum in food industry. 3th International Congress and 6th Congress of Food Science and Technology of Iran. Sari

A review of the safety assessment of nanocomposites for food packaging. The 1th National Congress of Health and Food of Urmia

New methods of food processing and storage. The 1th National Congress of Health and Food of Urmia

• 2016

Microbial contamination of meat and its products in Tehran, Tabriz, Shiraz and Isfahan. The 2th National Conference on New Achievements in the Food and Healthy Nutrition Industry. Alborz Province

A review of the use of plant extracts in meat and meat products. The 2th National Conference on New Achievements in the Food and Healthy Nutrition Industry. Alborz Province

The Effect of Biosensor in Food Science Especially Dairy Food. 1st international NLRCS congress. Mashhad.

The effects of alginate supplementation with energy-restricted diet on weight loss in obese persons. 1st international NLRCS congress. Mashhad.

The effects of supplementation of di-acyl glycerol on weight loss by secretion of serotonin. 1st international NLRCS congress. Mashhad.

• 2015

A comparative study of methods for extracting and separating antioxidants from tea. 4th International Conference on New Findings in Science and Technology. Tehran

ISO22000: The role of implementing standards and ISOs. Congress of methods to increase the shelf life of food products. Tehran.

Edible films and coatings: effects and features. Congress of methods to increase the shelf life of food products. Tehran.

Production of a useful drink containing *Urtica dioica* L extract and study of its physicochemical, rheological and sensory properties. Congress of methods to increase the shelf life of food products. Tehran.

Comparison of the effect of sucrose, Stevia and on quality of ice cream during several days. 2nd international & 14th Iranian nutrition congress. Tehran. Iran.

Workshops

- 2021 The role of polymers, nanoparticles and zeolites in food packaging
- 2020 Application of biosensors in food science, especially dairy industry
CIP and the principles of equipment washing

Editorial Board and Reviewing Activities

- Reviewer Title of Journal: International Journal of Environmental Analytical Chemistry
Journal of Foodservice Business Research
Biocatalysts and Agricultural Biotechnolog

Professional Memberships

- Member of Iranian Food Science and Technology Association
- Member of the Iran's National Elites Foundation.
- Member of Iran Nanotechnology Innovation Council